Fermi 3 EGLE/USACE Joint Permit Application

October 28, 2021

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Binder 2 of 2

WETLAND PROJECT INFORMATION AND IMPACTS

Ducks Unlimited Wetland Report April 2011

Ducks Unlimited Wetland Report Appendix A

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Ducks Unlimited Wetland Report Appendix C

Ducks Unlimited_Wetland Report April 2011

DUCKS UNLIMITED

MICHIGAN

Detroit Edison Fermi Site, Monroe County Wetland Investigation Report

July 2008
Updated April 2011

Prepared for:
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1.0 INTRODUCTION

Detroit Edison Energy Company (DTE) contracted with Ducks Unlimited, Inc. (DU) to provide wetland delineation and functions and values assessment on 1,106 acres of undeveloped land at their Fermi II Nuclear Power Plant Site (Site). DU has completed the following services as reported herein:

1. Acquired and reviewed existing topographic maps, National Wetlands Inventory maps, soil surveys, technical publications, aerial photographs and other existing information necessary for determining the potential locations of wetlands within the project boundaries and for evaluating soil, hydrology, vegetation and related characteristics.

2. Conducted onsite investigations of soil, hydrology, flora and fauna characteristics of all wetlands.

3. Based on information derived from 1 and 2 above, delineated all wetlands using the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual for Vegetated Wetlands, cross referencing the Michigan Department of Environmental Quality (MDEQ) delineation methods.

4. Produced the following report with full size maps that includes:
    a. Surveyed and mapped boundaries of all wetlands. Classification of all wetlands according to Cowardin et al. (1979). Calculation of acreage figures for each delineated wetland.
    b. Fully documented data sheets for each sampling plot used in determining wetland boundaries.
    c. Narrative discussion of each delineated wetland, including Cowardin classifications and summaries of key soil, vegetation, and hydrology characteristics used in making wetland boundary determinations.
    d. Narrative discussion of functions and values associated with delineated wetlands.

5. Updated the 2008 Wetland Investigation Report with information provided from the USACE and MDEQ.

2.0 BACKGROUND AND SITE DESCRIPTION

The Site is located at Latitude: 41.961 and Longitude: -83.261 on the western shore of Lake Erie at Lagoona Beach, Monroe County, Michigan in the Ottawa-Stony watershed (HUC 04100001, Figure 1). The site encompasses 1,106 acres and is owned by DTE. The topography of the site has approximately 22 feet of relief from the upland fields to the wetlands adjacent to Lake Erie (Figure 2).

The majority of the Site is periodically to permanently inundated. An aerial view shows the interspersion of open water, emergent marsh, forested wetlands and upland fields, forests and fill areas across the Site (Figure 3). Multiple roadways bisect these wetland and upland cover types. The National Wetland Inventory map indicates the presence of palustrine forested (PFO1A), palustrine scrub-shrub (PSS1C), palustrine emergent (PEM1A and PEM1C), and open water (PUBHx) in this area (Figure 4). The State Wetland Inventory indicates that most of the site contains hydric soils and hydrophytic vegetation (Figure 5).

The Monroe County Soil Survey lists 10 - Lenawee Silty Clay Loam, ponded (hydric soil) and 21 – Lenawee Silty Clay Loam as the primary mapped soil types on the Site (Figure 6). Other soils found onsite include 57 – Urban land-Lenawee Complex on the southern edge of the Site, 33 - Pit-Aquents Complex and 13A - Blount Loam on the northwestern side of the Site, and 27 – Beaches along the western edge of the Site adjacent to Lake Erie.

Water is seasonally to permanently present throughout the majority of the Site. Average annual precipitation is 31.5 inches and generally well distributed throughout the year. The site receives direct, surface runoff from a 2,440-acre drainage basin with cropland, wetland and forestland as the primary cover types (Figure 7). Surface water is also received from Lake Erie during periods of high water and storm events.

In 2003 the Detroit River International Wildlife Refuge (DRIWR), managed by the U.S. Fish and Wildlife Service (USFWS), signed a cooperative management agreement with DTE for wildlife habitat management activities at the Site. Refuge staff work with DTE to maximize habitat conditions for wildlife by enhancing existing habitat, providing habitat structures and restoring native vegetation communities. The USFWS has identified the wetland resources at the Site to provide important habitat for wildlife with opportunity for further enhancement and restoration.

3.0 METHODS

Prior to field investigations, the Monroe County Soil Survey (USDA-SCS, 1981), the United State Geological Survey (USGS) topographic mapping (Stony Point, Estral Beach, MI 7.5 minute quadrangles), United States Fish and Wildlife Service (USFWS) National Wetland Inventory, Michigan Department of Environmental Quality (MDEQ) State Wetland Inventory and aerial photographs were reviewed to determine possible location, extent and types of wetlands on the Site.

3.1 Wetland Delineation

Flagging of wetland boundaries and data collection along the boundaries were performed by DU staff (Appendix E) between May 16, 2008 and June 13, 2008. The boundaries were delineated in accordance with procedures outlined in the USACE 1987 Wetland Delineation Manual. Delineation followed the Routine On-site Method described in Section D of Chapter IV in the 1987 Manual. Prior to initiating sampling, the property was traversed to identify general topographic conditions and drainage patterns, major plant communities and potential areas of disturbance. After examining plant communities and determining whether normal environmental conditions were present, a representative data point was selected in each plant community. Information on vegetation, soils and hydrology was collected at each data point using the federal criteria for vegetation, soils, and hydrology.

Ocular estimates of the percent area cover by plant species for each vegetation layer (tree, shrub, and herbaceous layers) were recorded. The presence of wetland vegetation was determined

when more than 50 percent of the dominant species in a sample plot had an indicator status of obligate (OBL), facultative-wet (FACW), or facultative (FAC+, FAC), excluding FAC-. The dominant species for each layer in a plot were determined by ranking the species in decreasing order of percent cover and recording those species which, when cumulatively totaled, immediately exceeded 50 percent of the total cover of that layer. Additionally, any plant species that comprised 20 percent or more of the total cover for each layer was considered to be a dominant species.

Soil and hydrology data were collected in soil pits to 18 inches within each sample plot. Soil characteristics were noted along the soil profile at the depth specified. The soil survey for Monroe County was reviewed. Soil colors were determined by using the Munsell color chart. Primary and secondary indicators of hydrology were also noted at each sample plot.

3.2 Functions/Values Assessment

Wetlands delineated on the 1,106 DTE property were evaluated using *Wetland Functions and Values: A Descriptive Approach.* (The New England Method) supplemented with vegetation community measurements for species richness, diversity and cover and wildlife observations. Thirteen functions and values typically considered by regulatory and conservation agencies when evaluating wetlands are used as part of the New England Method. These include: groundwater recharge/discharge, floodflow alteration, fish habitat, sediment/toxicant retention, nutrient removal, production export, sediment/shoreline stabilization, wildlife habitat, recreation, educational/scientific value, uniqueness/heritage, visual quality/aesthetics and endangered species habitat. Supporting documentation for the 13 functions and values used are presented in Appendix C.

The three main wetland types found on DTE were palustrine forested (PFO), palustrine scrub-shrub (PSS) and palustrine emergent marsh (PEM). Delineated wetlands representing each wetland type were visited during June 2008. Wetland Function-Value Evaluation Forms were completed for both woody (PFO and PSS) and non-woody (PEM) wetland types based on both office (existing data) and field (direct observation) evaluation (Appendix C). In addition,

vegetation community characteristics and wildlife observations were recorded. Vegetation characteristics were examined to support functions and values designations. Vegetation was sampled along transects that sampled the range of hydrologic regimes present in DTE wetlands. Aerial coverage and species were recorded in 1 m^2 plots along transects. Woody vegetation species were recorded in a circular radius up to 11.6 m from the center of each m^2 plot. In each m^2 plot total areal coverage was estimated for all species combined and for the three most dominant species. A total number of plant species in each plot was tallied. All identified species were associated with their respective wetland indicator status classification. During the course of conducting wetland delineation and assessment activities, all wildlife species observed were recorded along with evidence of wildlife use.

4.0 RESULTS/CONCLUSION

4.1 Wetland Delineation

DU identified 41 wetlands on the Site (Table 1). The boundaries between each type of wetland were identified and flagged with coded surveyor's ribbon to facilitate a functions and values assessment. The delineated wetlands were surveyed by DU staff and acreage was calculated for each wetland. The primary wetland type on the Site is PEM comprising 325 acres followed by PFO (168 acres) and PSS (16 acres). Approximately 45 acres of the site were designated as open water. The wetland delineation survey is shown in Appendix A. The sample plot data sheets are provided in Appendix B.

Table 1. Delineated Wetlands

Wetland Name	Area Designation	Total Acres	Report Map Location	Mapped NWI	Mapped MDEQ	USACE/MDEQ Jurisdiction
A	PEM/WM	1.88	3	Yes	Yes	Non Jurisdictional
B	PFO	0.76	4	Yes	Yes	USACE/MDEQ
C	PEM	48.18	5 & 6	Yes	Yes	USACE/MDEQ
D	PFO	1.37	4	Yes	Yes	USACE/MDEQ
E	PSS	4.71	4	Yes	Yes	USACE/MDEQ
F	PFO	31.07	7 & 8	No	Yes	USACE/MDEQ
G	PFO	5.29	9	No	Yes	USACE/MDEQ
H	PEM	0.1	10	No	Yes	MDEQ
H	Open Water	1.86	10	No	Yes	MDEQ

I	PFO	39.74	11	Yes	Yes	USACE/MDEQ
J	PEM	2.8	9	No	Yes	USACE/MDEQ
K	PSS	5.56	9	No	Yes	USACE/MDEQ
L	PFO	62.18	12 & 13	Yes	Yes	USACE/MDEQ
M	PEM	161.65	14 & 15	No	Yes	USACE/MDEQ
N	PEM	11.13	16	Yes	Yes	USACE/MDEQ
O	PFO	0.72	16	Yes	Yes	USACE/MDEQ
P	PFO	0.21	17	No	No	USACE/MDEQ
Q	PSS	2.04	17	Yes	No	USACE/MDEQ
R	PEM	1.97	18	No	No	USACE/MDEQ
S	PFO	1.41	18	No	No	USACE/MDEQ
T	PFO	5.71	17	No	No	USACE/MDEQ
U	PEM	0.15	10	No	No	USACE/MDEQ
U	Open Water	3.32	10	No	No	USACE/MDEQ
V	PFO	0.34	9	No	Yes	USACE/MDEQ
W	PEM/WM	4.59	19	No	No	MDEQ
X	PFO	3.37	19	No	No	MDEQ
Y	PFO	1.14	20	No	No	MDEQ
Z	PEM	0.39	20	Yes	No	USACE/MDEQ
AA	PEM	0.8	21	No	No	USACE/MDEQ
BB	PFO	11.8	22 & 23	Yes	Yes	USACE/MDEQ
CC & DD	PEM	86.38	24 & 25	Yes	Yes	USACE/MDEQ
EE	PEM	0.77	24 & 25	No	Yes	USACE/MDEQ
FF	PEM	0.39	22	No	Yes	USACE/MDEQ
GG	PFO/PSS/PEM	0.93	26	No	No	USACE/MDEQ
HH	PSS	2.47	27	Yes	Yes	USACE/MDEQ
II	PEM	0.52	21	No	No	MDEQ
JJ	PSS	1.37	21	No	No	MDEQ
KK	PFO	1.62	28	No	Yes	USACE/MDEQ
WW	PEM	0.26	29	No	No	MDEQ
XX	PEM	0.25	29	No	No	MDEQ
YY	PEM	0.21	29	No	No	MDEQ
ZZ	PEM	0.11	29	No	No	MDEQ
Northernmost Canal	OW	3.55	25	No	Yes	USACE/MDEQ
South Canal	PEM	1.97	6	No	Yes	USACE/MDEQ
Quarry Lake 1	OW	5.45	2	Yes	Yes	MDEQ
Quarry Lake 2	OW	13.07	2	Yes	Yes	MDEQ
Quarry Lake 3	OW	17.24	2	Yes	Yes	MDEQ
Along Quarry Lake Road	OW	0.55	20	Yes	Yes	USACE/MDEQ

Rainfalls during the field work period had a noticeable impact on the saturation of the soil. Data points taken on days shortly after a significant rainfall showed saturation to the surface, but no

free water in pits excavated to an 18" depth. The saturation level is greater than expected from capillary fringe effects and can be attributed to the recent rainfall. In these cases, saturation in the upper 12" may be misleading in the determination of wetlands. This information was taken into account during determinations that occurred shortly after a rainfall event. Significant rainfall events (>0.1") occurred on the following dates: May 11, 14, 18 and June 8, 9, 10, 13.

Wetland Descriptions

Palustrine Forested Wetland (PFO)

Wetlands with basal area dominated by woody vegetation larger than 3" diameter at breast height (dbh) were classified as PFO. Some herbaceous and woody vegetation with <3" dbh may be present, but contribute less than 50% combined of the basal area. Typical vegetation in the PFO wetlands include silver maple (Acer saccharinum), shellbark hickory (Carya laciniosa), swamp white oak (Quercus bicolor), American elm (Ulmus americana), and eastern cottonwood (Populus deltoides). The shrub layer in PFO wetlands was dominated by American elm saplings, silky dogwood (Cornus amomum), and green ash (Fraxinus pennsylvanica) saplings. Herbaceous vegetation was sparse during delineation. Common species included black raspberry (Rubus sp.), mayapple (Podophyllum peltatum), reed canary grass (Phalaris arundinacea), poison ivy (Toxicodendron radicans), and Virginia creeper (Parthenocissus quinquefolia). Due to the intermittent hydrology of these PFO wetlands, a significant proportion of herbaceous vegetation species were plants that favor upland areas. Soils are hydric and saturated with pockets of standing water throughout the PFO wetlands. Approximately 168 acres of wetland were delineated as PFO including: B, D, F, G, I, L, O, P, S, T, V, X, Y, BB, GG, and KK (Table 1, Appendix A).

PFO Photo – DTE Site – May 2008

PFO Photo – DTE Site – June 2008

PFO Photo – DTE Site – June 2008

PFO Photo – DTE Site – June 2008

Palustrine Scrub-Shrub Wetland (PSS)

Wetlands dominated by woody vegetation smaller than 3" dbh but greater than 3.2' in height were classified as PSS. PSS wetlands may have some woody plants >3" dbh or some herbaceous vegetation that, combined, contribute less than 50% of ground cover. Common shrub species in PSS wetlands include Silky Dogwood, Green Ash, and Hawthorn (Crataegus sp.). PSS wetlands on the Site were largely early successional woody communities located on the fringes of PFO and upland or PFO and PEM wetland habitats. Approximately 16 acres of wetland were delineated as PSS including: E, K, Q, HH, and JJ (Table 1, Appendix A).

PSS Photo – DTE Site – May 2008

PSS Photo – DTE Site – June 2008

PSS Photo – DTE Site – June 2008

Palustrine Emergent Wetland (PEM)

PEM wetlands are characterized by greater than 50% of the ground surface covered by herbaceous vegetation, or woody vegetation less than 3.2' tall. PEM wetlands were dominated by reed canary grass, common reed (Phragmites australis), sedge species (Carex sp.), narrow-leaf cattail (Typha angustifolia), water lily (Nymphaea sp.), and coontail (Ceratophyllum demersum). Approximately 325 acres of wetlands were delineated as PEM and include: A, C, H, J, M, N, R, U, W, Z, AA, CC, DD, EE, FF, II, WW, XX, YY, ZZ, and the South Canal. Wetlands delineated as PEM span a range of periodically inundated wet meadows to deep water marsh systems. Due to the well-developed stands of invasive plants including common reed and reed canary grass, vegetation diversity was relatively low in PEM wetlands. There is significant build up of plant duff in PEM wetlands primarily from large, persistent stands of common reed.

PEM Photo – DTE Site – May 2008

PEM Photo – DTE Site – June 2008

PEM Photo – DTE Site – June 2008

PEM Photo – DTE Site – June 2008

Open Water Habitat

Open water habitat is characterized by inundation to a depth greater than 4 feet with no emergent vegetation present. Several open water habitats are located within the delineation boundary. Some open water habitats were delineated with an aerial photograph. Most open water habitats are not flagged and do not have data points within their boundaries. There are approximately 45 acres of open water habitat on the Site. Open water habitats located include H, U, the Northernmost Canal, Quarry Lake 1, Quarry Lake 2, Quarry Lake 3, and Along Quarry Lake Road.

4.2 Functions/Values Assessment

With the exception of a few wetlands isolated by berms or roads the majority of wetland communities at the Site are hydrologically connected and thus, for the purposes of the functions-values assessment, considered one wetland system. A functions-values assessment form was completed for woody (PFO and PSS) and non-woody (PEM) wetland communities to provide distinctions in functions and values where necessary to complete an overall assessment for the wetland system at the site. The principal functions of the wetland system include floodflow alteration, sediment/toxicant retention, nutrient removal and fish and wildlife habitat. Additional functions and values this wetland system is suitable to provide, though not considered principal functions, are production export, sediment/shoreline stabilization, uniqueness/heritage and endangered species habitat. The wetland system was not considered well suited for groundwater recharge/discharge, recreation, educational/scientific value, or visual quality/aesthetics. Below is a summary of the principal functions of the wetland system. Appendix C includes a copy of the Wetland Function-Value Evaluation Forms for woody and non-woody wetland communities and a list of considerations/qualifiers for each function and value assessed.

Principal Functions and Values

Floodflow alteration, sediment/toxicant retention and nutrient removal: The Site's wetland complex is large relative to the watershed, relatively flat with storage potential and contains hydric soils and dense vegetation suitable to absorb and slow water flow. The wetland system is highly suitable to reduce flood damage by retaining and gradually releasing floodwater following

precipitation events. DTE's Fermi II Nuclear Plant including cooling towers and control centers are located downstream and in the floodplain of the wetland system. In the event of a large storm that results in floodflow from the watershed and excess water backing in from Lake Erie, the wetland system could slow and detain floodwaters for gradual release. The wetland system is highly suitable for trapping sediments, toxicants and pathogens as well as nutrient retention. There are potential sources of excess sediment, toxins, and nutrients upstream in the agriculturally dominated watershed. The Clean Water Act status for the Monroe County portion of the Ottawa-Stony watershed sites excessive nutrient levels as a documented impairment in waterbodies (http://cfpub.epa.gov/surf/huc.cfm?huc_code=04100001). There is opportunity for sediment trapping and nutrient uptake in diffuse, slow moving and deepwater areas of the Site's wetlands that are edged or interspersed with dense herbaceous and woody vegetation.

Fish and wildlife habitat: The deepwater PEM of the Site's wetland system is suitable to support fish habitat. There is an abundance of cover objects, the wetland is large and part of a larger, persistent, contiguous watercourse with slow velocity. The wetlands have sufficient size and depth to retain open water areas during the winter. Direct observation of fish species were observed in the wetland. The diverse wetland communities present across the entire wetland system provide suitable habitat for a significant number of wildlife species. While there has been notable direct and indirect disturbance in all wetlands observed, there remains significant abundance and diversity in habitat cover to support wildlife. With the exception of the buildings and roadways associated with the nuclear plant, the landscape is largely undeveloped with relatively large parcels of vegetated wetlands and uplands. The majority of the wetlands evaluated are connected hydrologically in spite of fragmentation by multiple roadways. The wetland system presents an interspersion of open water areas with dense emergent vegetation grading into shrub dominated and tree dominated communities. Some portions of the wetlands have a high degree of diversity in vegetation structure and species. The Clean Water Act Status Report for the Monroe County portion of the Ottawa-Stony watershed sites loss of aquatic life benefits as the most common impairment of waterbodies in the watershed (http://cfpub.epa.gov/surf/huc.cfm?huc_code=04100001).

There are several threatened and endangered species observed or potentially present as well as included in the table below:

Table 2. Threatened and Endangered Species

Common Name	Scientific Name	Status
Barn owl	Tyto alba	State endangered
Common tern	Sterna hirundo	State threatened
Eastern fox snake	Pantherophis gloydi	State threatened
Bald eagle	Haliaeetus leucocephalus	State threatened
Brindled madtom	Noturus miurus	Special concern
American lotus	Nelumbo lutea	State threatened
Arrowhead	Sagittaria montevidensis	State threatened
Frank's sedge	Carex frankii	State threatened
Trailing wild bean	Strophostyles helvula	Special concern

Appendix D lists all wildlife species observed during delineation and assessment field work.

CONCLUSION

For the purposes of delineating wetland boundaries and grouping wetland types on the Site, 37 individual wetland units were flagged. The primary wetland type on the Site is PEM comprising 325 acres followed by PFO (168 acres) and PSS (16 acres). Approximately 45 acres of the site were designated as open water. For the functions and values assessment, the majority of the delineated wetland units were considered one large wetland system, hydrologically connected by direct, contiguous water ways or culverts under roads. Wetland functions and values were assigned to woody and non-woody wetland communities. The primary functions and values of the wetland system are floodflow alteration, sediment/toxicant retention, nutrient removal and habitat for fish and wildlife.

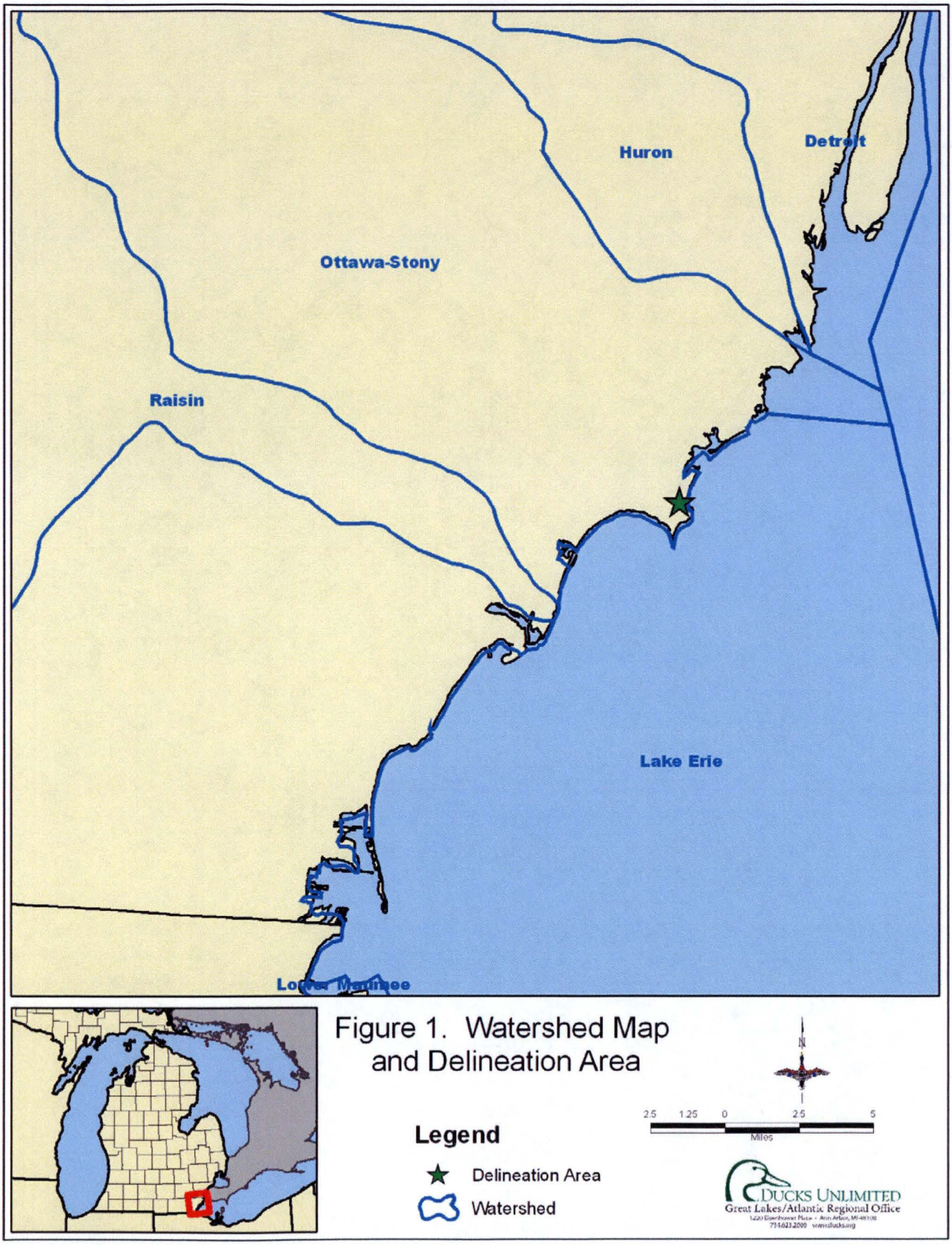

Figure 1. Watershed Map and Delineation Area

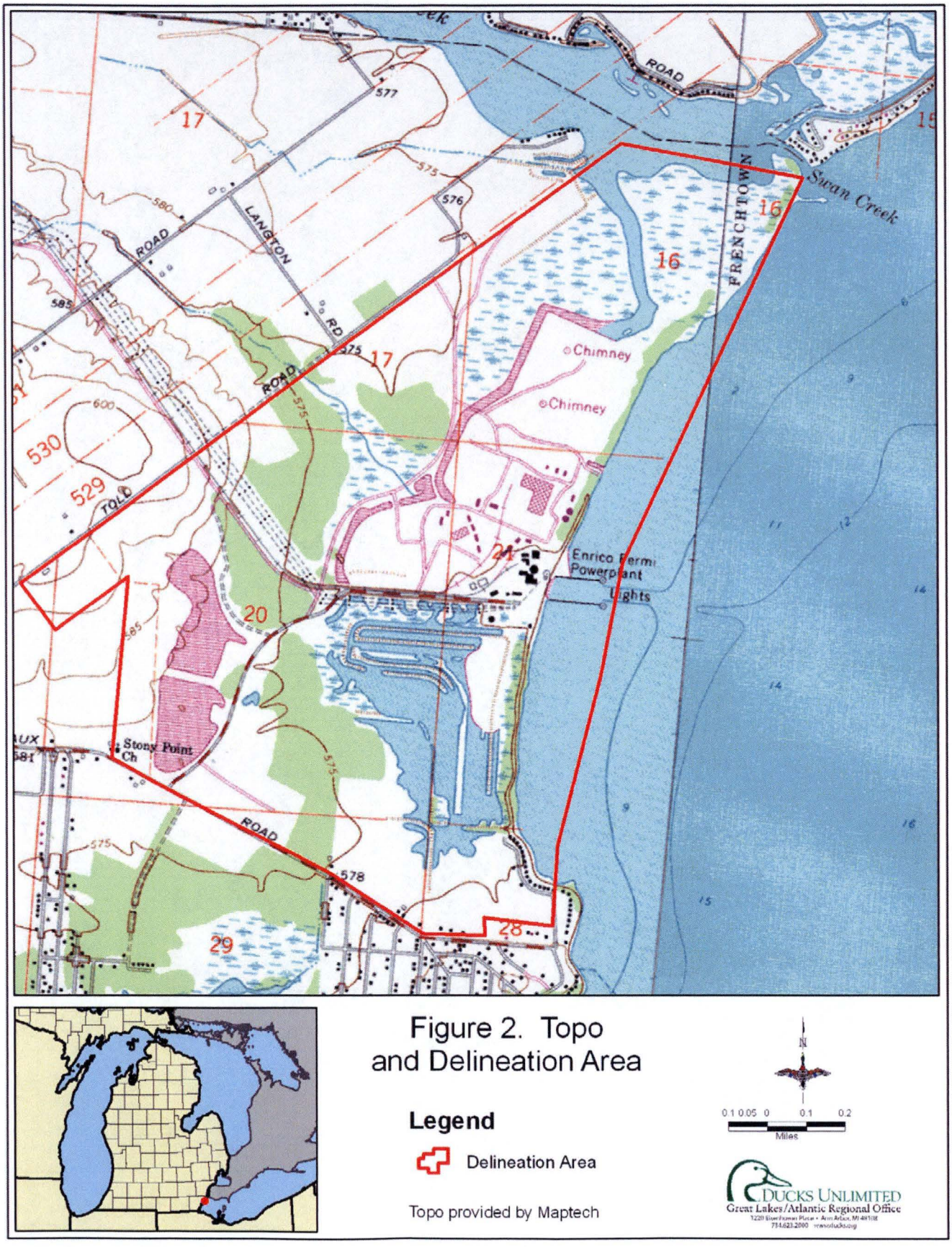

Figure 2. Topo and Delineation Area

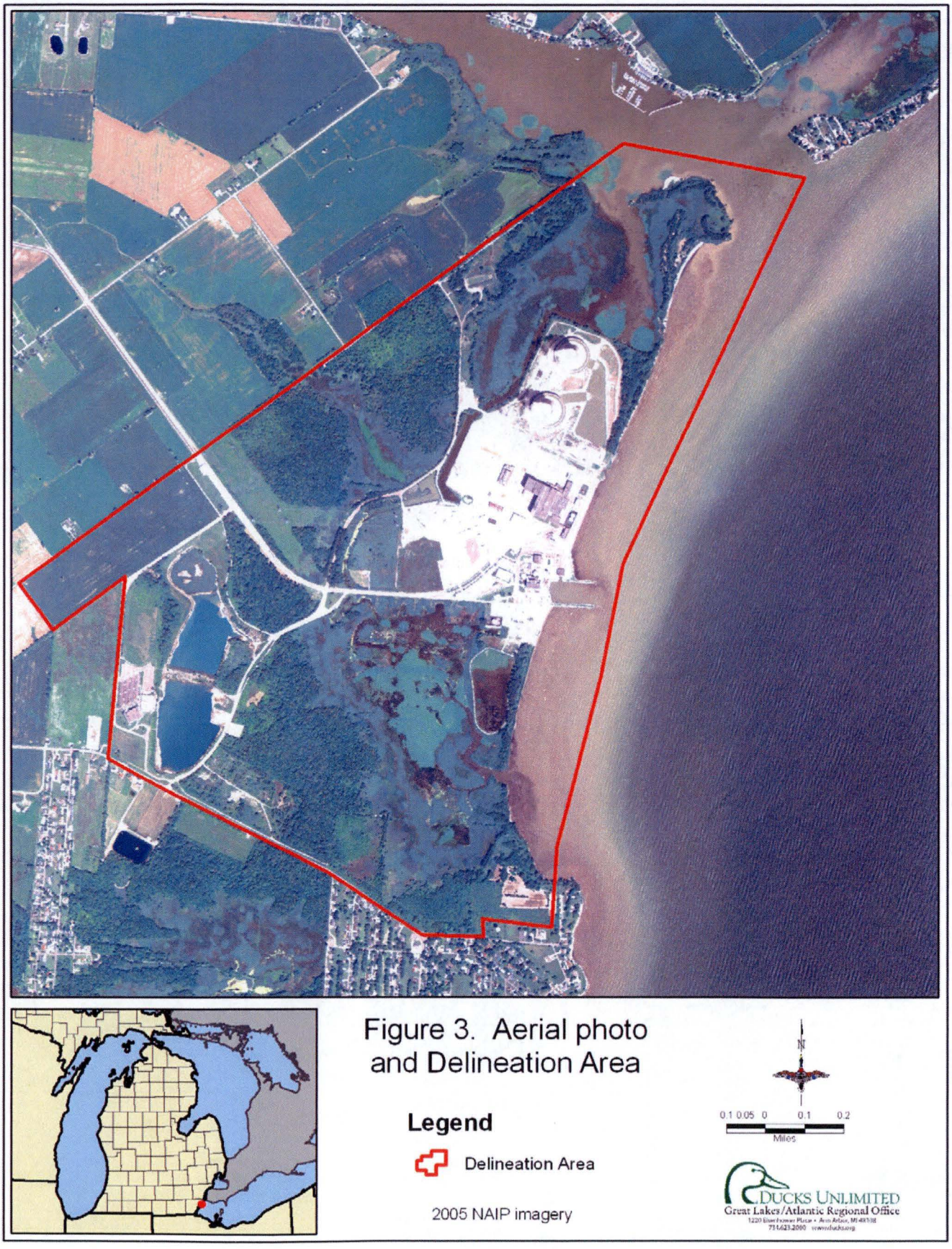
Figure 3. Aerial photo and Delineation Area
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Delineation Area
2005 NAIP imagery
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Miles
DUCKS UNLIMITED
Great Lakes/Atlantic Regional Office

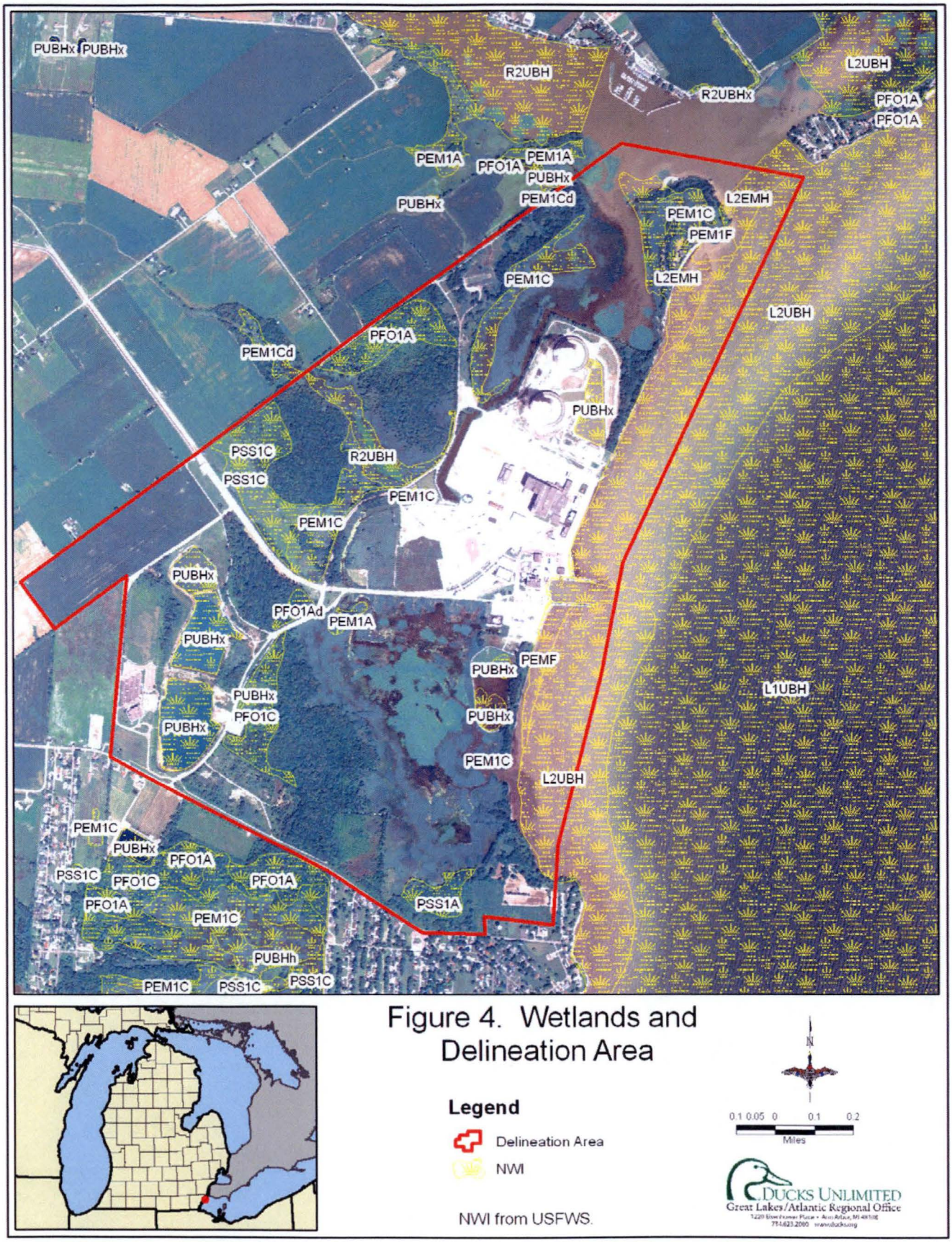

Figure 4. Wetlands and Delineation Area

Legend

Delineation Area

NWI

NWI from USFWS.

N

0.1 0.05 0 0.1 0.2

Miles

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Great Lakes/Atlantic Regional Office

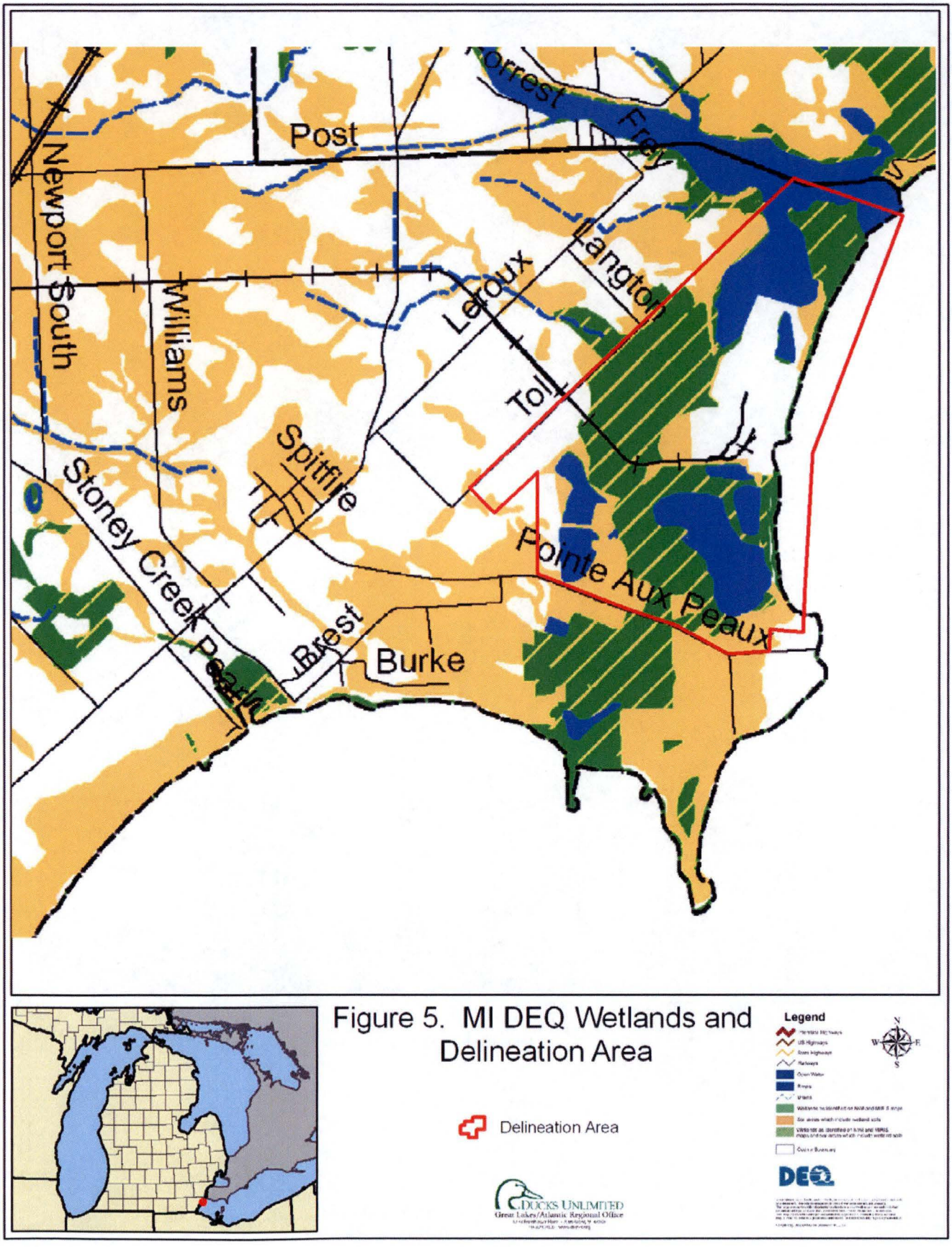
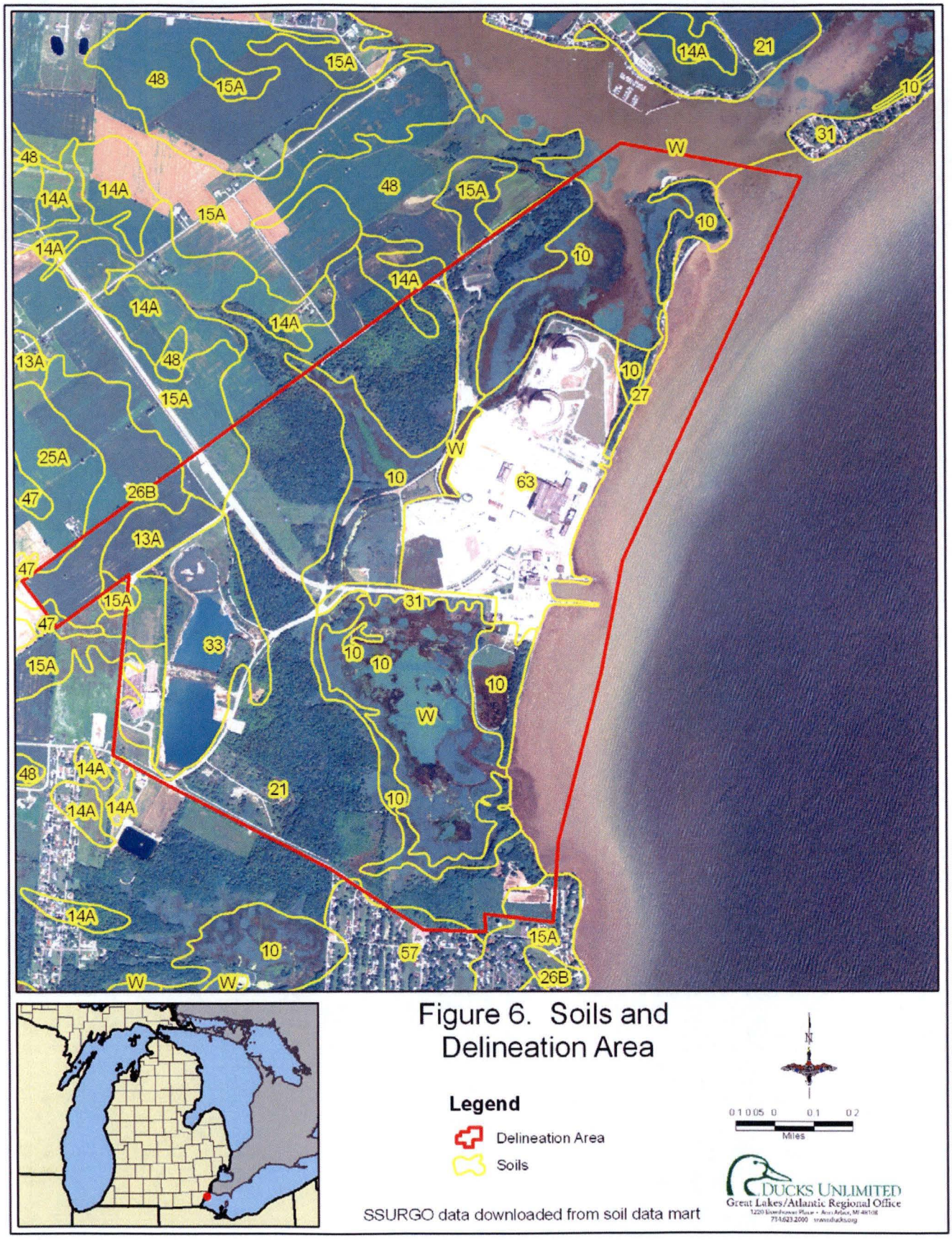


Figure 5. MI DEQ Wetlands and Delineation Area


48
15A
14A
21
10
31
W
13A
25A
26B
47
27
63
33
57
Figure 6. Soils and Delineation Area
Legend
Delineation Area
Soils
SSURGO data downloaded from soil data mart
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0 1 0.05 0 0.1 0.2
Miles
DUCKS UNLIMITED
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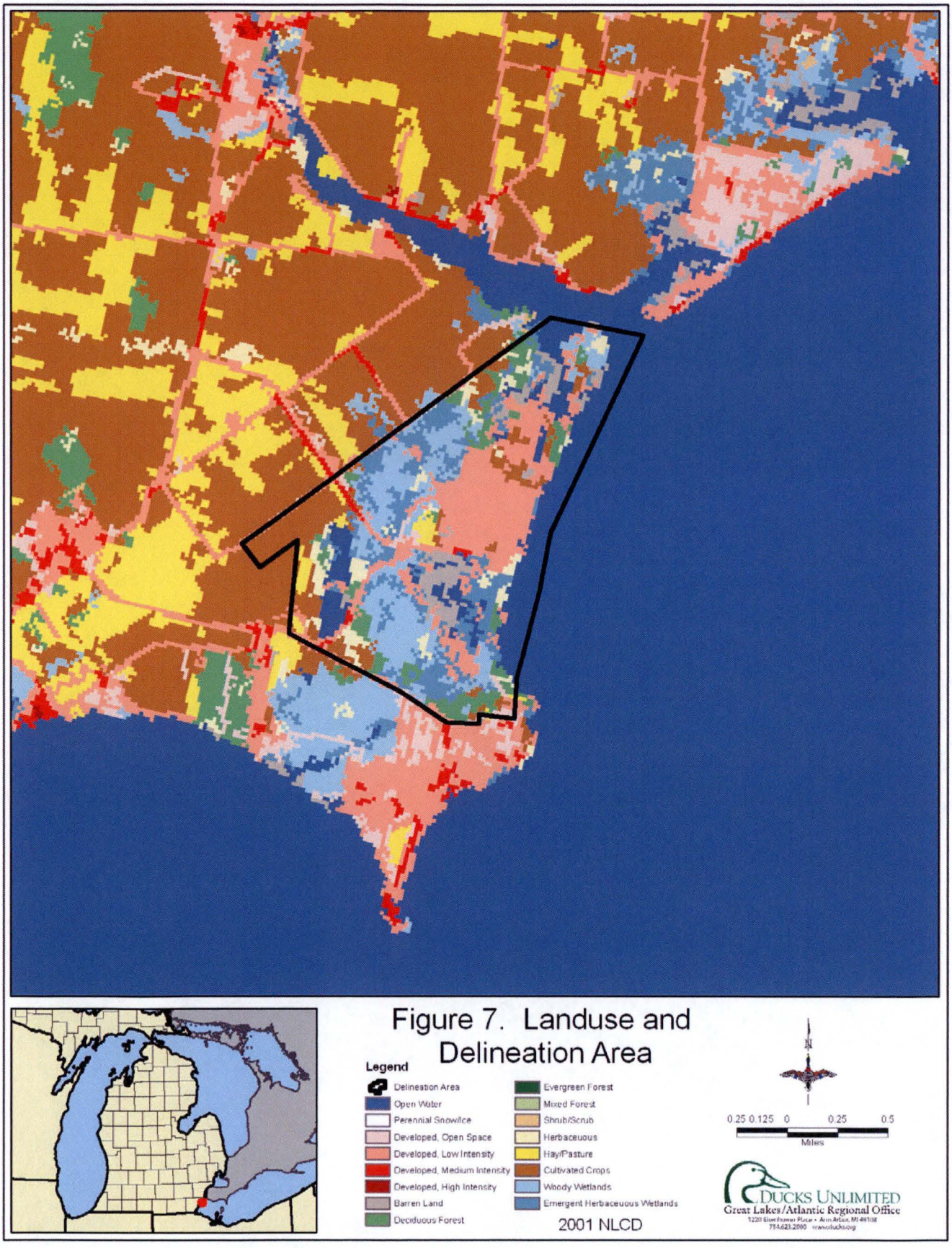


Figure 7. Landuse and Delineation Area

APPENDIX A

WETLAND DELINEATION MAP SET

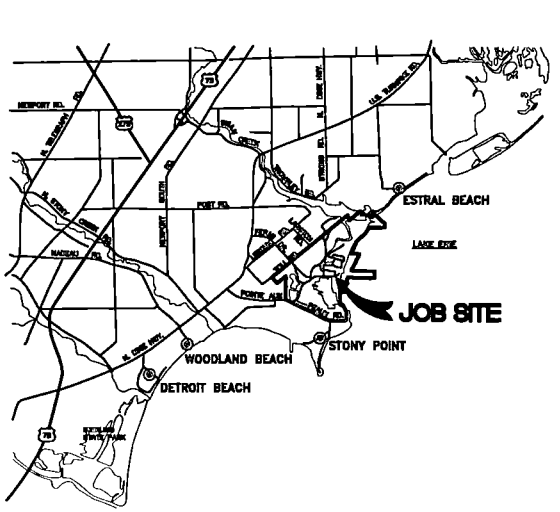
Ducks Unlimited_Wetland Report_Appendix A

DUCKS UNLIMITED INC.

DUCKS UNLIMITED INC.

DTE FERMI II PLANT
WETLAND DELINEATION

MONROE COUNTY, MICHIGAN



PROJECT LOCATION

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29. WETLAND ADDITIONS WW, XX, YY, ZZ

NOTICE:
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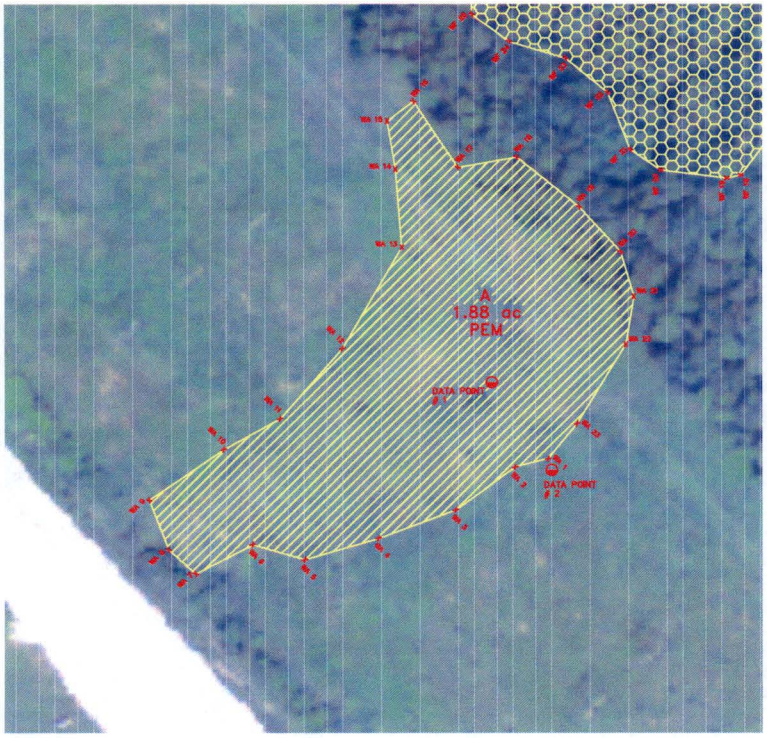
DUCKS UNLIMITED

COVER SHEET
WETLAND DELINEATION
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS

CAD FILE: COVER SHEET
DESIGNED BY: --
DRAWN BY: GBL, DA
SURVEYED BY: DR, WALPW
BOOK NO. & PG: PAGE 15-19
DATE: 7/7/01
PROJECT NO.: US-MI-185-1
GLARO-MI3-46-1

SWAN CREEK
LAKE ERIE
LAKE ERIE
OPEN WATER
OPEN WATER
OPEN WATER



GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:
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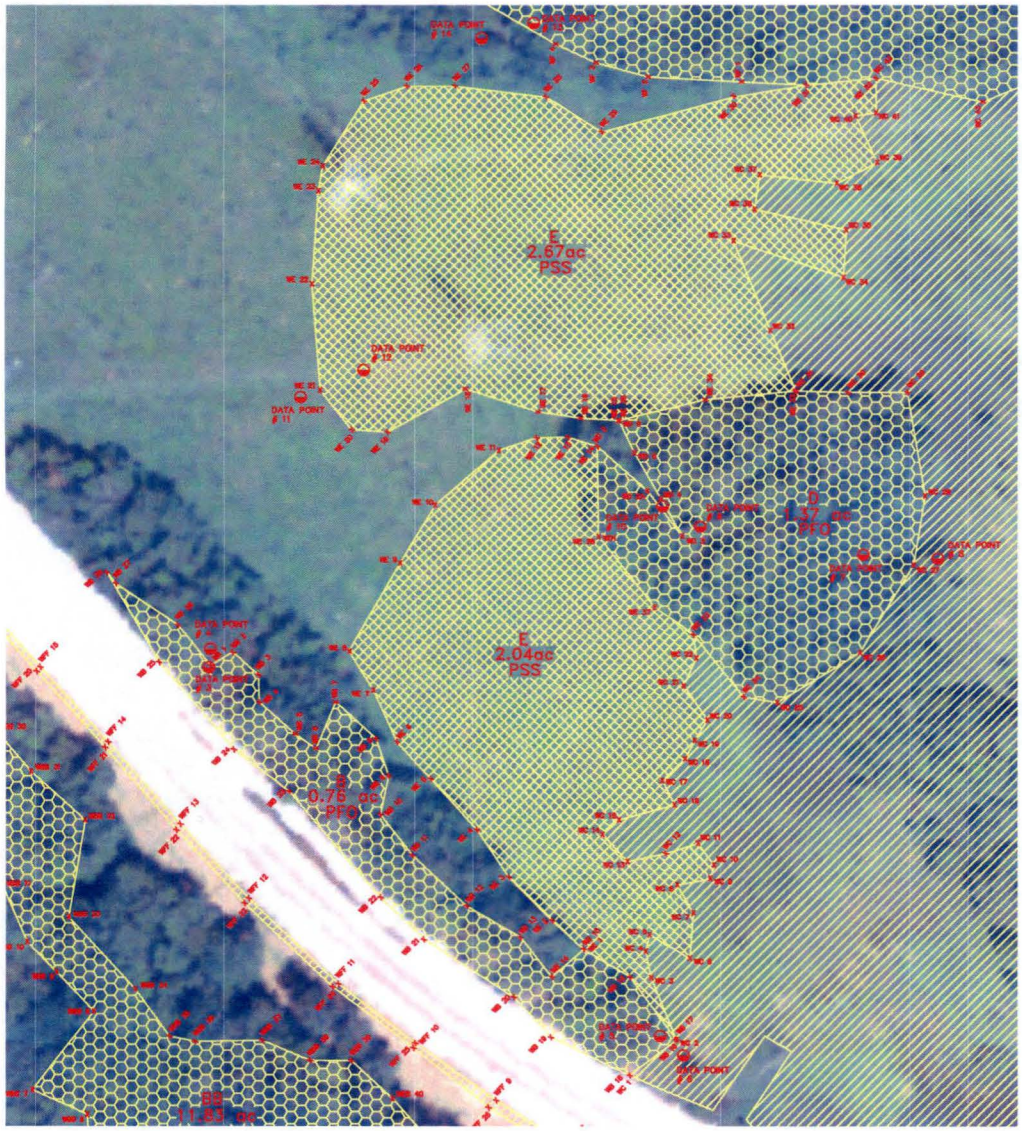
WETLAND DELINEATION A
DTE FERMI III PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/15/2011 PER CLIENT REQUEST PDN

CAD FILE:	Wetland Delineation SD
DESIGNED BY:	--
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WN,PW
BOOK NO. & PAGE:	13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

GLARO-MI3-48-3



N

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:

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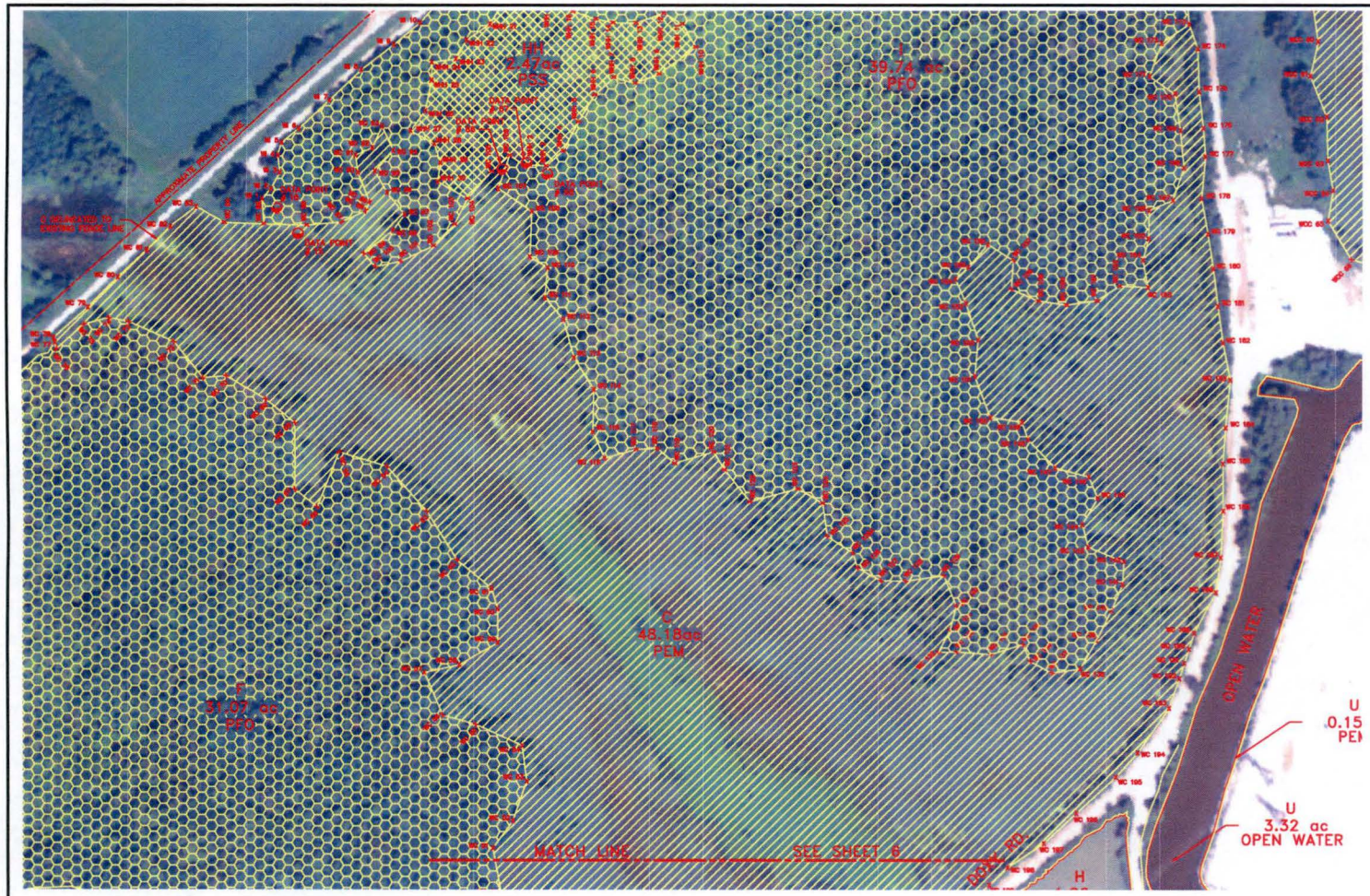
WETLAND DELINEATION B, D, E
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/15/2011 PER CLIENT REQUEST PCM

CAD FILE:
Wetland Delineation 50
DESIGNED BY: --
DRAWN BY: GB, DA
SURVEYED BY: GB,WK,PW
BOOK NO. # 16 PAGE 13-19
DATE:
7/7/08
PROJECT NO.:
US-MI-188-1
GLARO-MI3-48-4



N

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:
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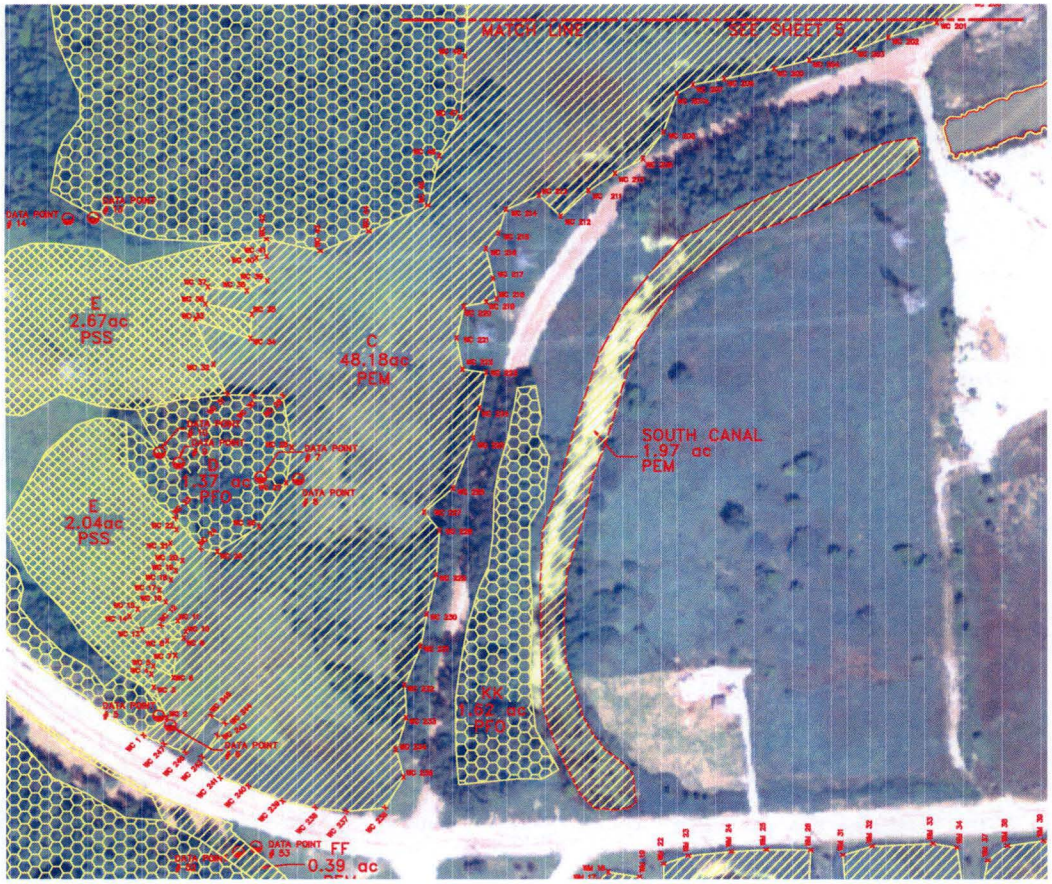
WETLAND DELINEATION C NORTH
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

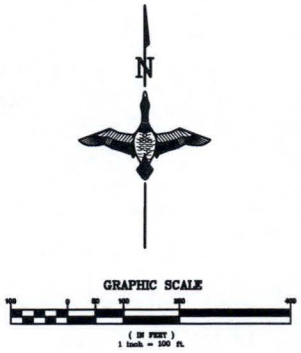
REVISIONS:

4/14/2011 PER CLIENT REQUEST POW

CAD FILE:	Wetland Delineation 100
DESIGNED BY:	--
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WN,PW
BOOK NO. & 16 PAGE:	13-16
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

GLARO-MI3-46-5





LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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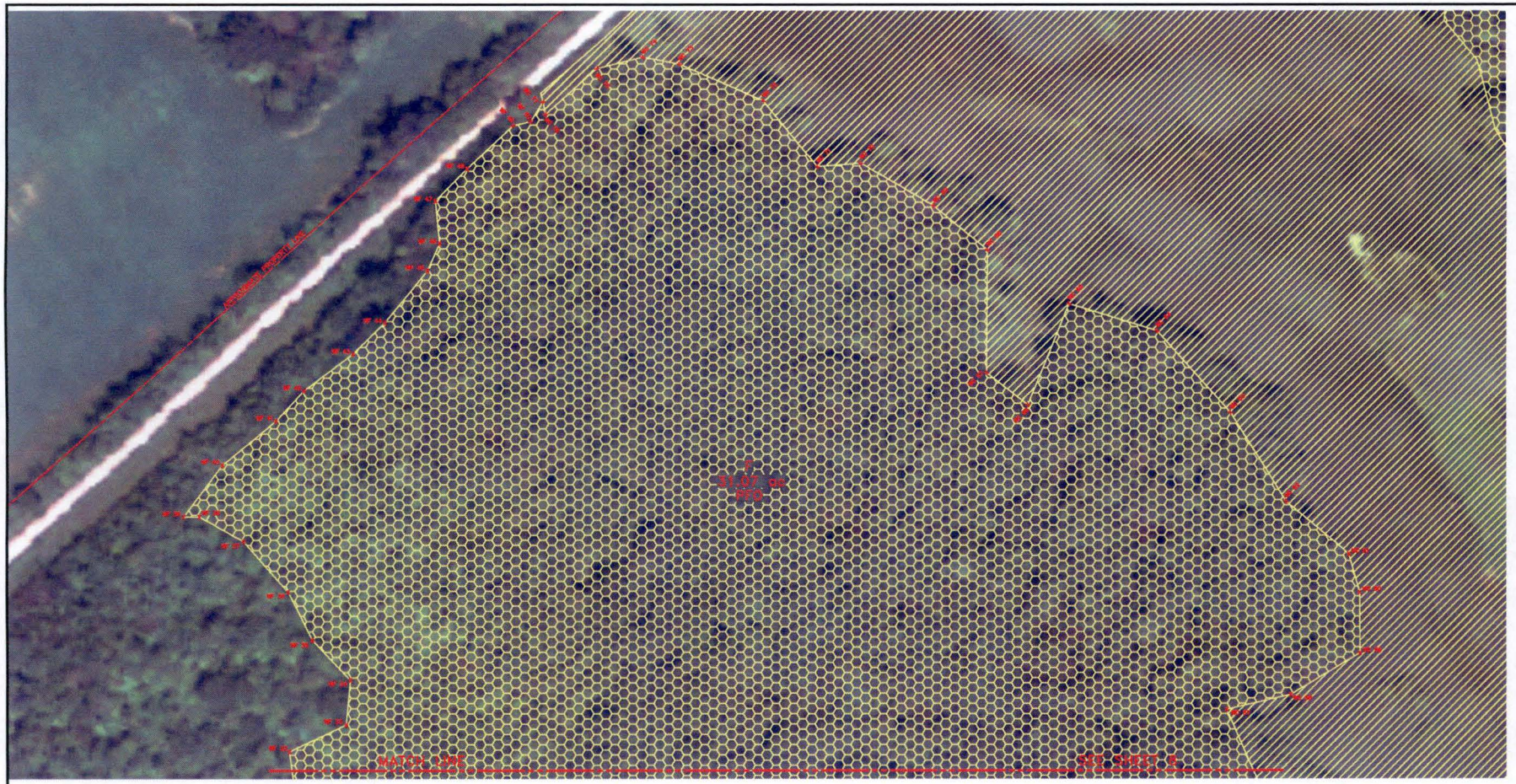
WETLAND DELINEATION C SOUTH
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/15/2011 PER CLIENT REQUEST PDW

CAD FILE:	Wetland Delineation 100
DESIGNED BY:	--
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WHLPW
BOOK NO. &	16 PAGE 13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

GLARO-MI3-48-8



N

GRAPHIC SCALE

50 0 50 100 200

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG (WA 25)
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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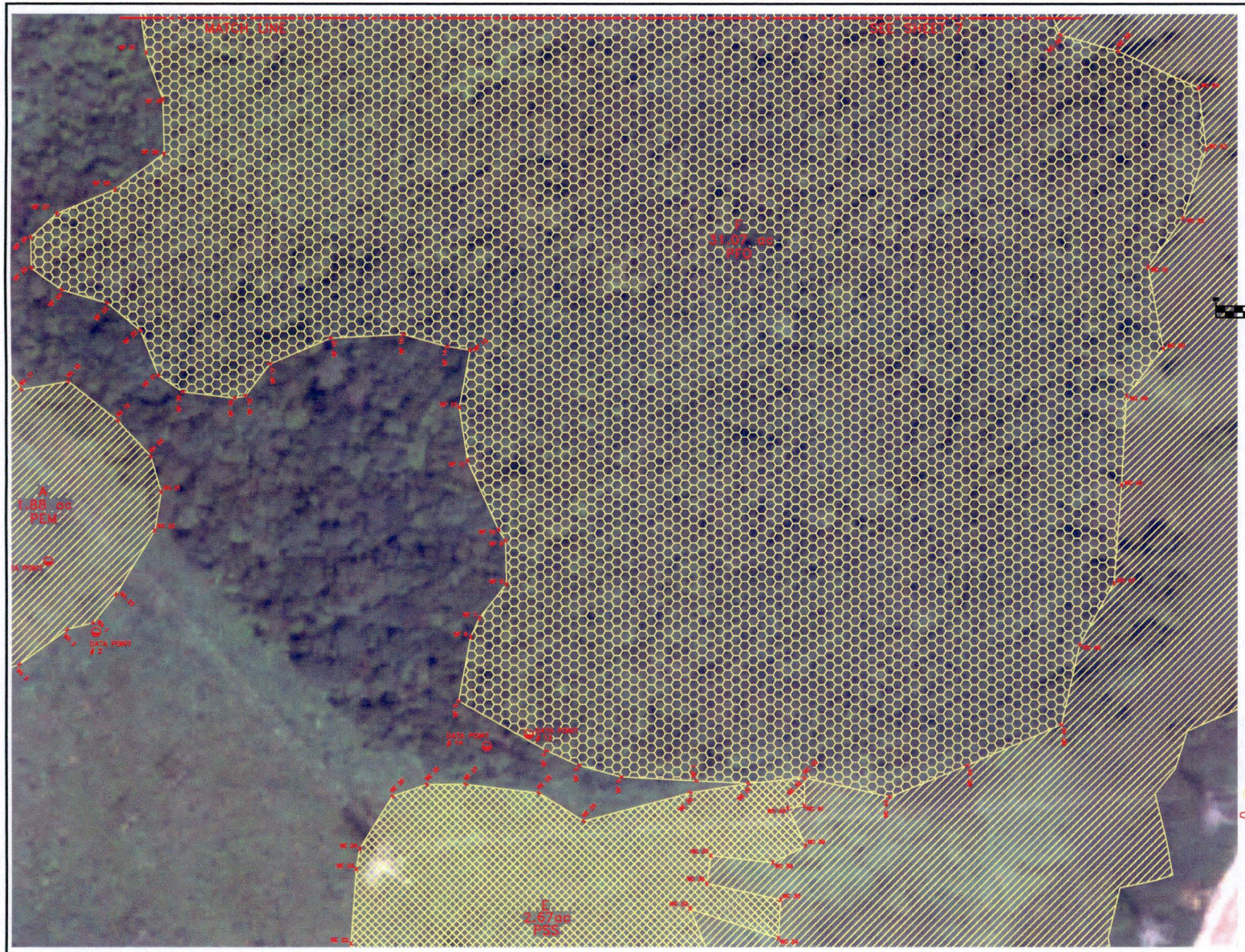
WETLAND DELINEATION F NORTH
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/15/2011 PER CLIENT REQUEST PDW

CAD FILE:	Wetland Delineation SD
DESIGNED BY:	–
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WM,PW
BOOK NO. & 16 PAGE	13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-168-1
	GLARO-MI3-46-7



N

GRAPHIC SCALE

(IN FEET)
1 inch = 60 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG (WA 25)
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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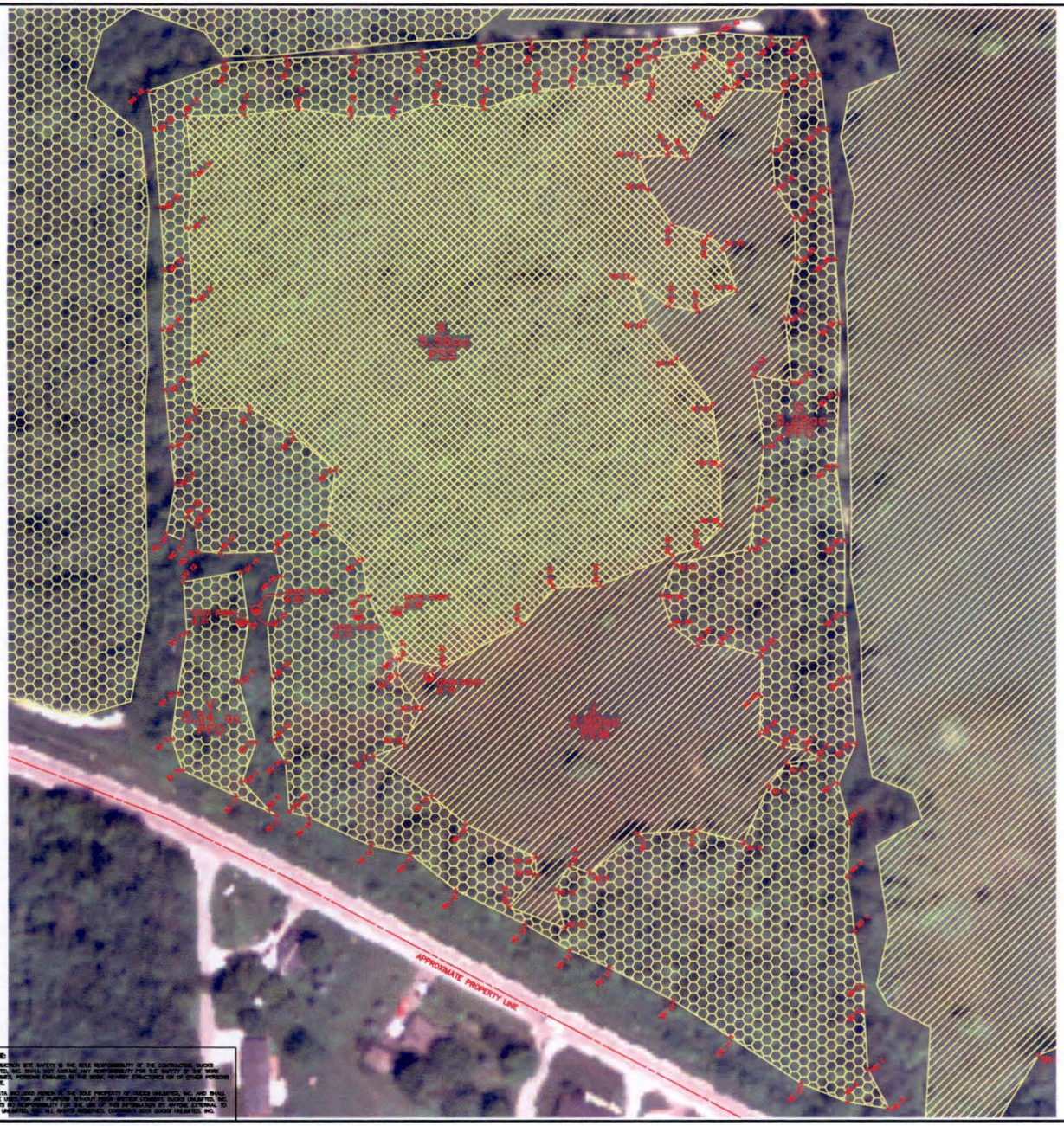
WETLAND DELINEATION F SOUTH
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/15/2011 PER CLIENT REQUEST PDN

CAD FILE:	Wetland Delineation SD
DESIGNED BY:	–
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WW,PW
BOOK NO. & 16 PAGE	13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1
	GLARO-MI3-46-8



N

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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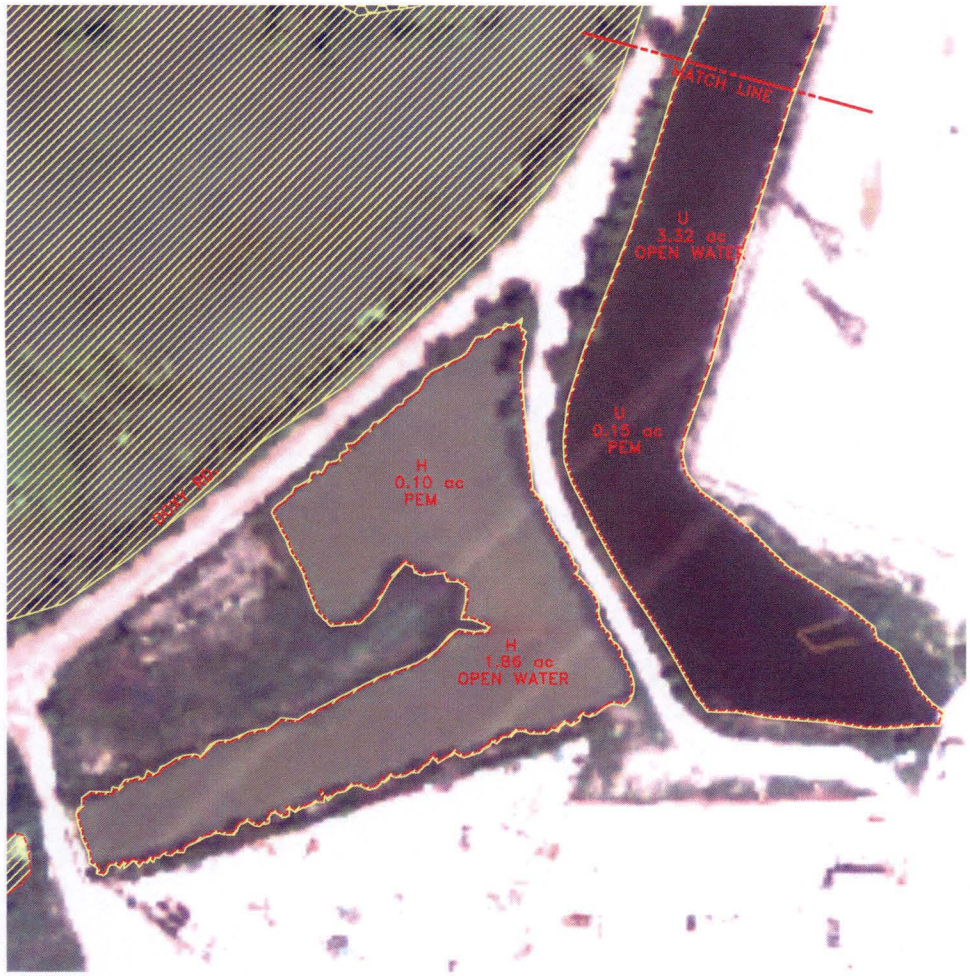
DUCKS UNLIMITED

WETLAND DELINEATION G, J, K, V
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST PCR

CAD FILE: Wetland Delineation SD
DESIGNED BY: -
DRAWN BY: GB, DA
SURVEYED BY: GB,WNL,PW
BOOK NO. & 18 PAGE 13-19
DATE: 7/7/08
PROJECT NO.: US-MI-166-1
GLARO-MI3-46-9



N

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG (WA 25)
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:

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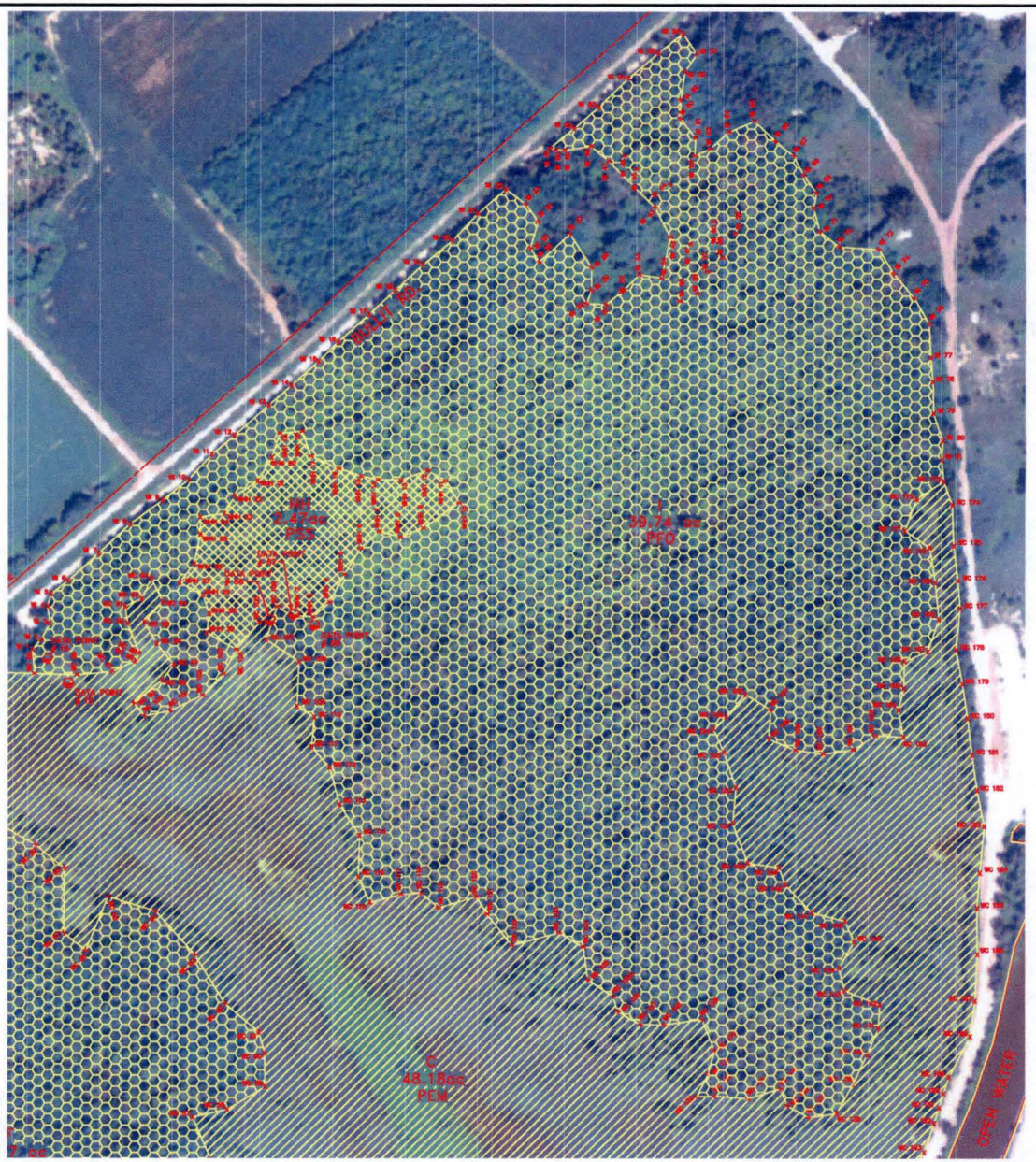
WETLAND DELINEATION H, U
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST POW

CAD FILE:	Wetland Delineation 50
DESIGNED BY:	-
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WM,PW
BOOK NO. & PG	18 PAGE 13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

GLARO-MI3-48-10



N

GRAPHIC SCALE

(IN FEET)
1 Inch = 100 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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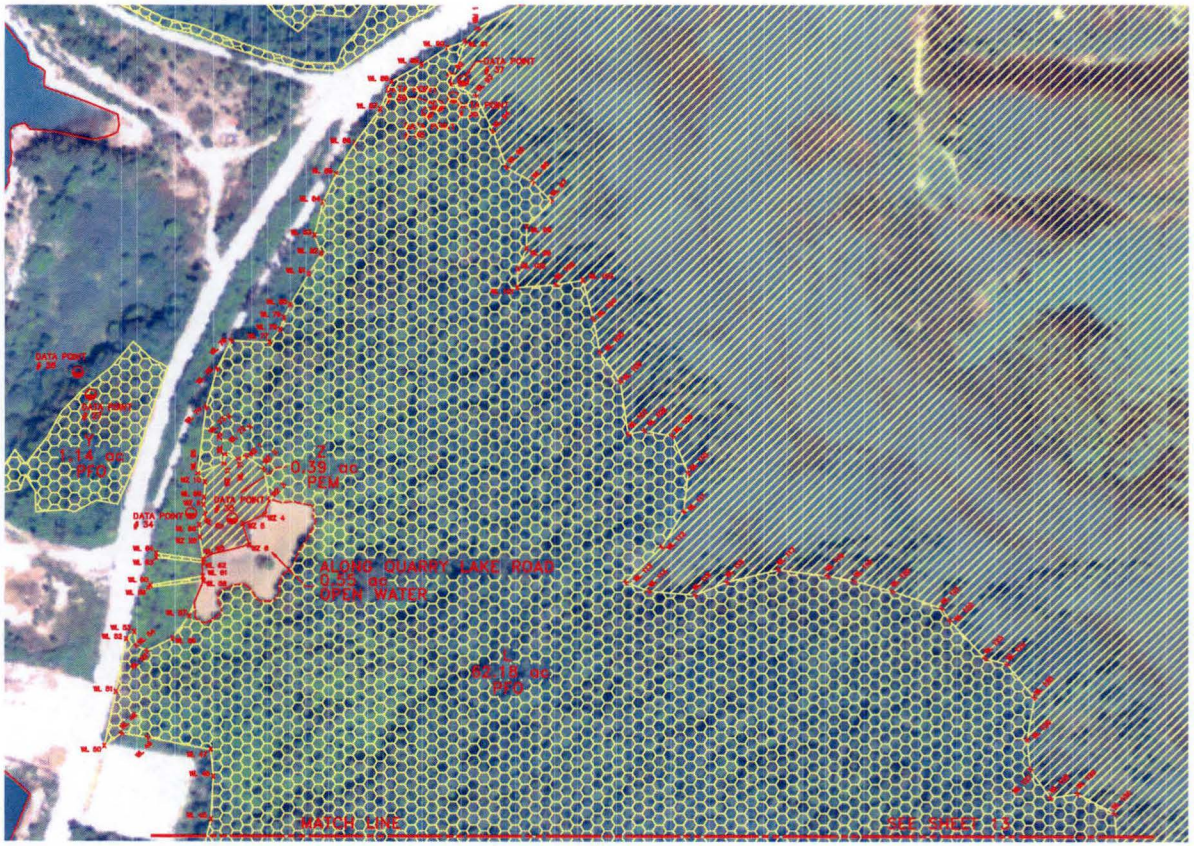
WETLAND DELINEATION I
SITE: FERM PLANT
MONROE COUNTY, MICHIGAN

REVISIONS

4/15/2011 PER CLIENT REQUEST POW

CAD FILE:	Wetland Delineation 100
DESIGNED BY:	--
DRAWN BY:	GB, DA
SURVEYED BY:	GB, WALPW
BOOK NO. &	16 PAGE 13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

GLARO-MI3-46-11



N

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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WETLAND DELINEATION L NORTH
SITE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/15/2011 PER CLIENT REQUEST POW

CAD FILE: Wetland Delineation 100
DESIGNED BY: --
DRAWN BY: GB, DA
SURVEYED BY: GB,WALPW
BOOK NO. # 16 PAGE 13-19
DATE: 7/7/08
PROJECT NO.: US-MI-188-1

GLARO-MI3-46-12

N

GRAPHIC SCALE

(IN FEET)

1 inch = 100 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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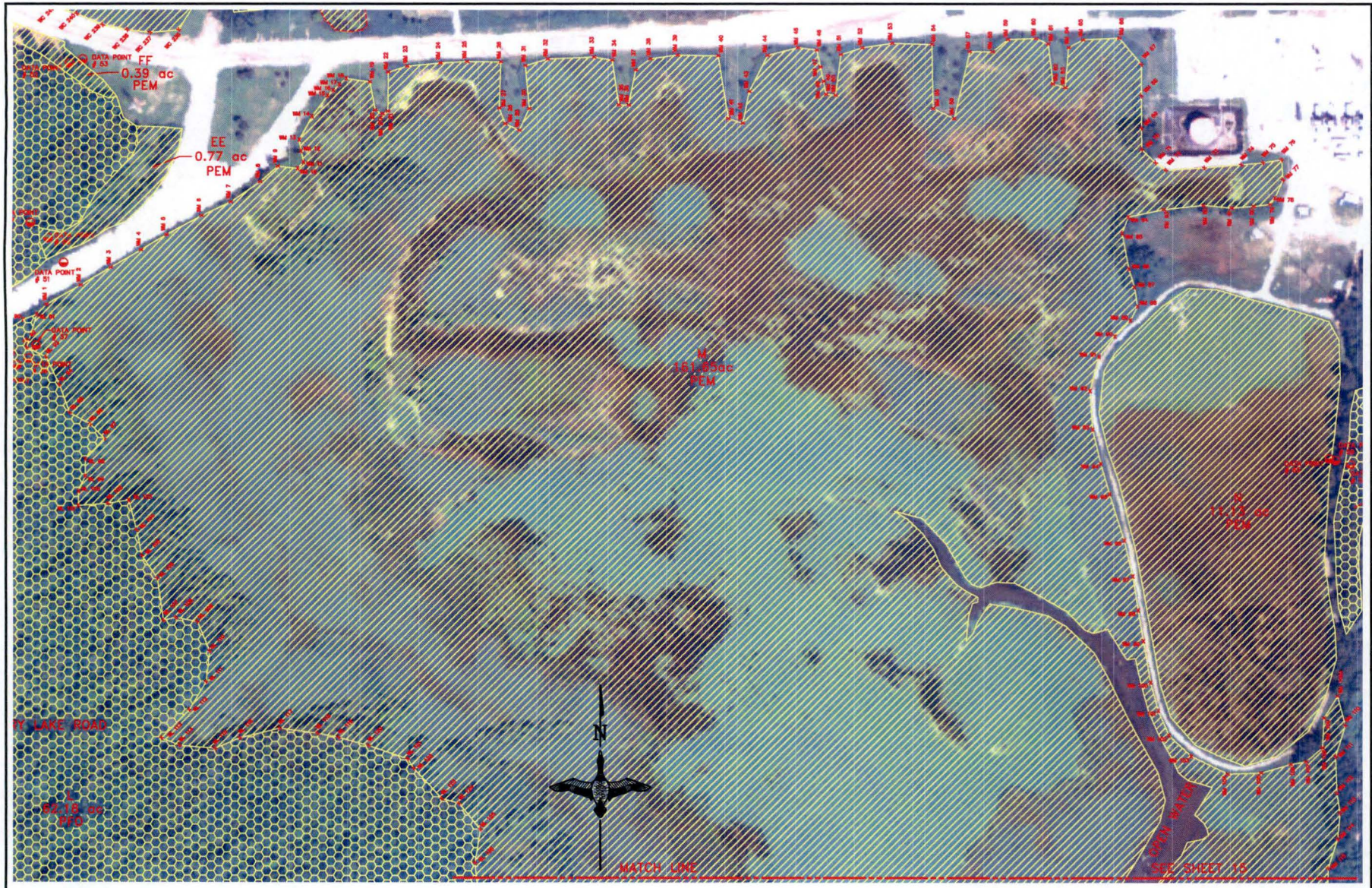
WETLAND DELINEATION L SOUTH
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST PCM

CAD FILE:	Wetland Delineation 100
DESIGNED BY:	-
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WNLPW
BOOK NO. & PAGE:	13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1
	GLARO-MI3-48-13



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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WETLAND DELINEATION M NORTH DTE FERMI II PLANT MONROE COUNTY, MICHIGAN

REVISIONS:

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CAD FILE:	Wetland Delineation 100
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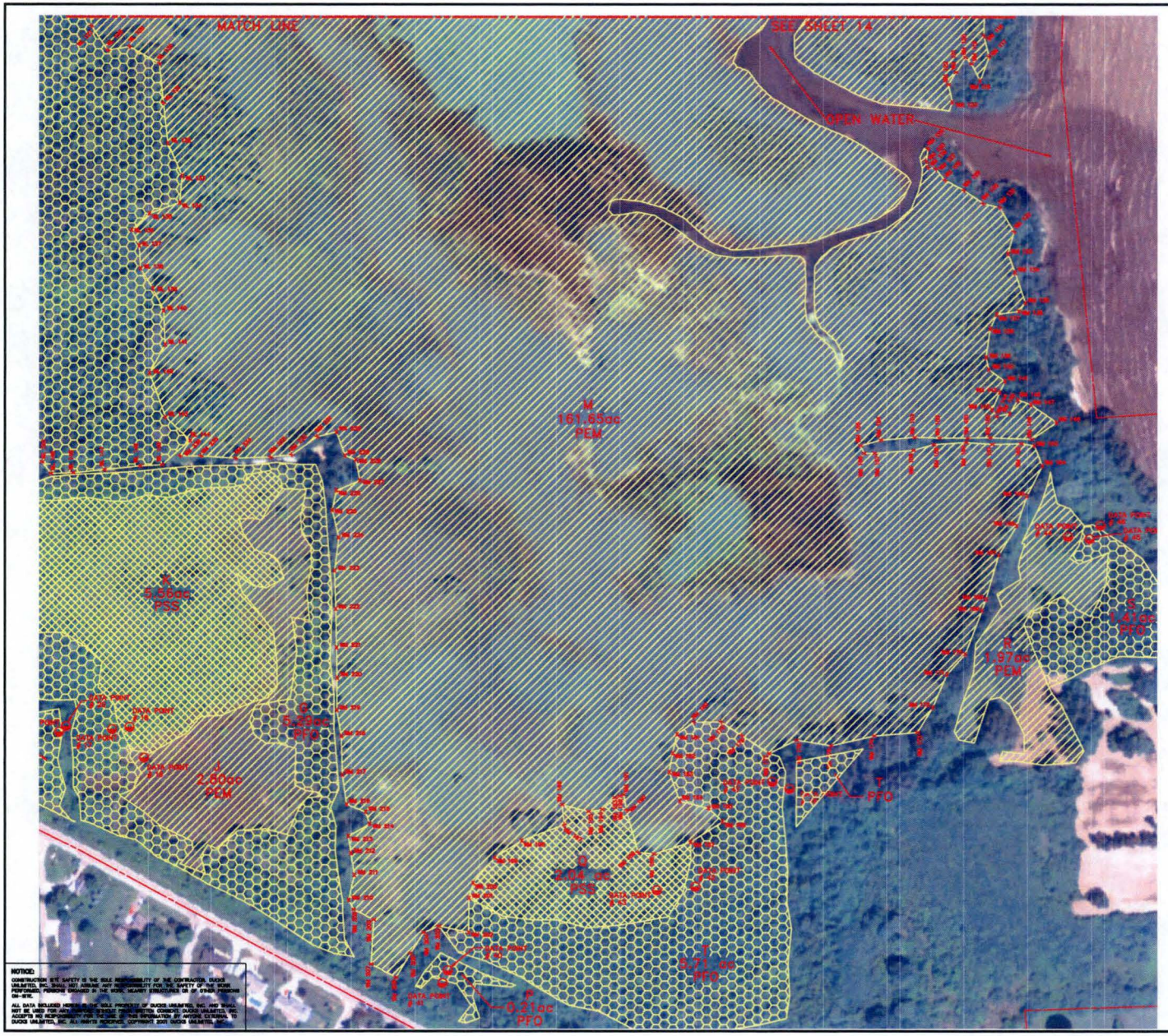
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WK,PW
BOOK NO. & PG:	18 PAGE 13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

GLARO-MI3-48-14



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DUCKS UNLIMITED

WETLAND DELINEATION M SOUTH
SITE: FERMI 2 PLANT
MONROE COUNTY, MICHIGAN

REVISIONS

4/15/2011 PER CLIENT REQUEST POW

CAD FILE: Wetland Delineation 100
DESIGNED BY: -
DRAWN BY: GB, DA
SURVEYED BY: GB, WALPW
BOOK NO. # 16 PAGE 13-19
DATE: 7/7/08
PROJECT NO.: US-MI-186-1

GLARO-MI3-46-15

N

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:
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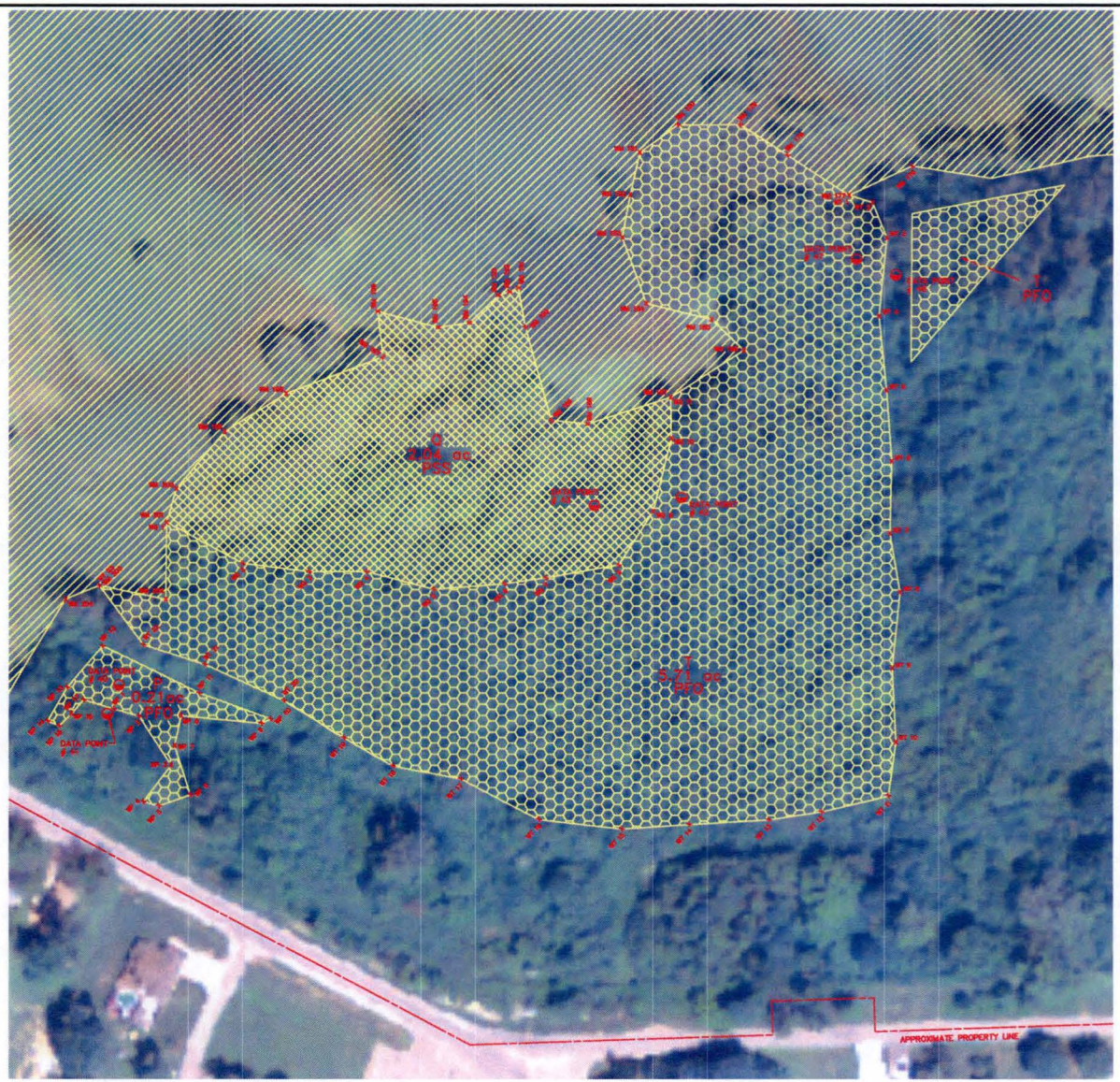
WETLAND DELINEATION N, O
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST PDW

CAD FILE:	Wetland Delineation SD
DESIGNED BY:	-
DRAWN BY:	GS, DA
SURVEYED BY:	GS,WN,PW
BOOK NO. & PG	18 PAGE 13-19
DATE:	7/7/08
PROJECT NO.:	US-46-188-1

GLARO-MI3-46-18



N

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:

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WETLAND DELINEATION P, Q, T
DTE FERM II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/16/2011 PER CLIENT REQUEST FOR 12/5/2012 ADDITIONAL ACREAGE INCORPORATE

CAD FILE:	Wetland Delineation 50
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DRAWN BY:	GB, DA
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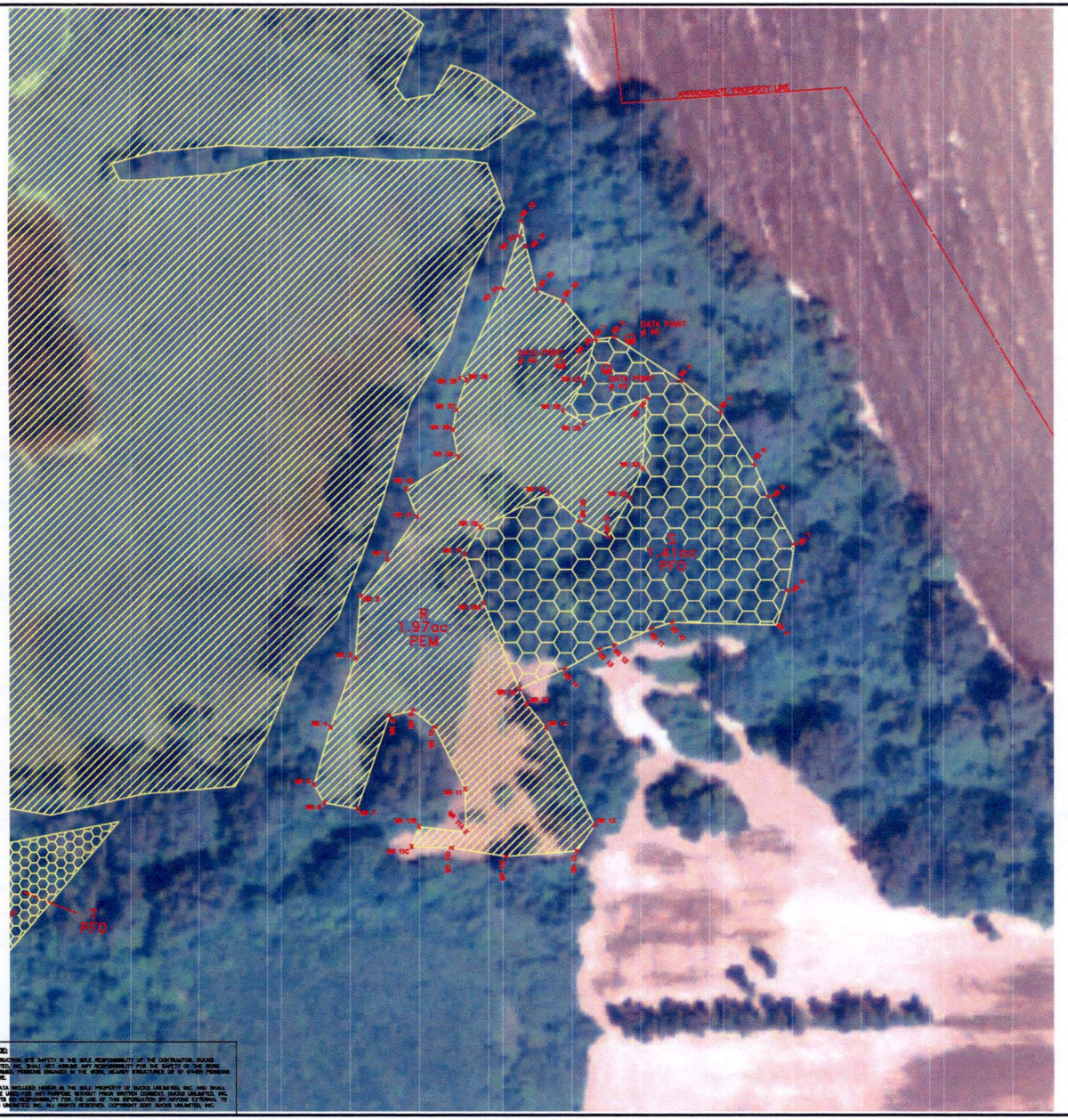
BOOK NO. & 16 PAGE	13-19
DATE:	7/7/05
PROJECT NO.:	US-MI-188-1

GLARO-MI3-46-17



N

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:

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WETLAND DELINEATION, R, S
SITE PERMIT PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

1/16/2001 PER CLIENT REQUEST POF

CAD FILE:
Wetland Delineation 50
DESIGNED BY: --
DRAWN BY: GB, DA
SURVEYED BY: GB,WALPW
BOOK NO. # 16 PAGE 13-19
DATE:
7/7/05
PROJECT NO.:
US-MI-186-1

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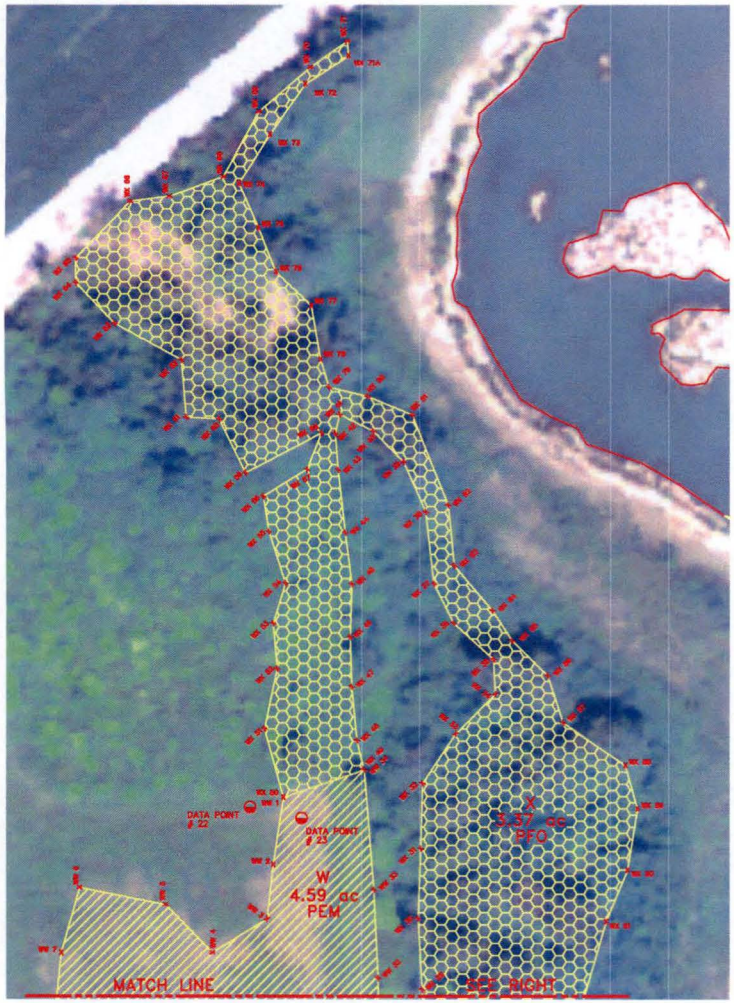

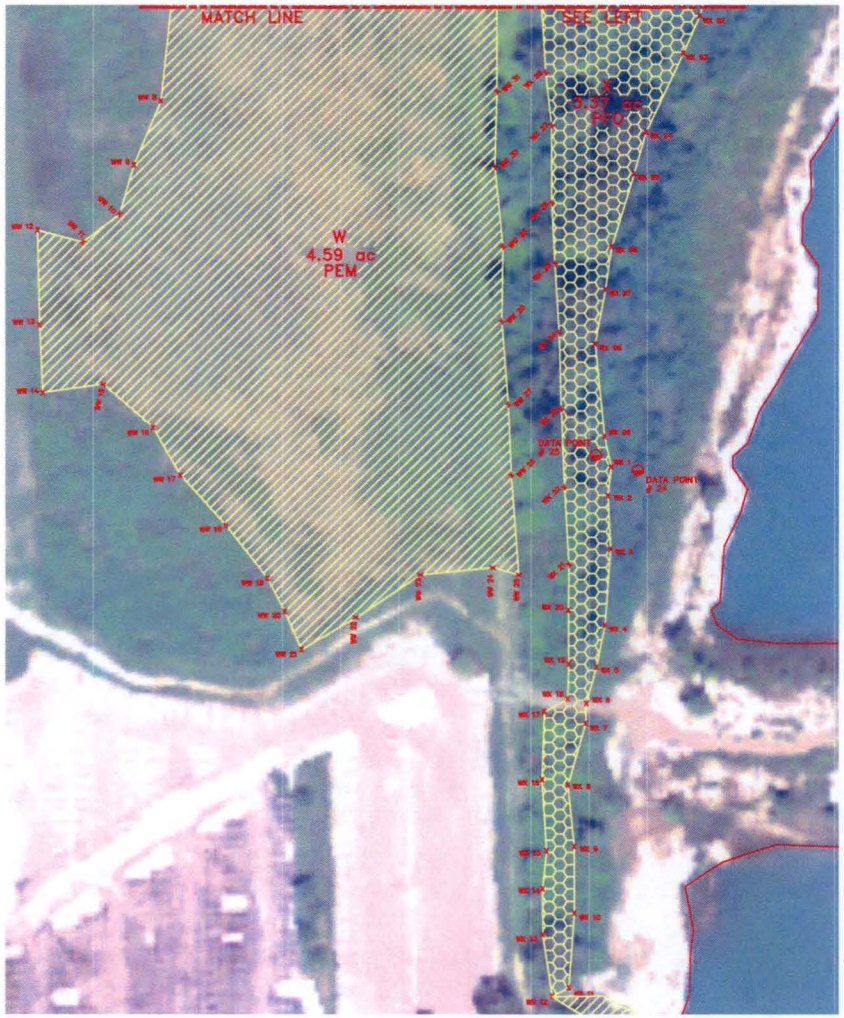

N

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:

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WETLAND DELINEATION W, X
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/10/2001 PER CLIENT REQUEST POW

CAD FILE:	Wetland Delineation SD
DESIGNED BY:	--
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BOOK NO. & PAGE	13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

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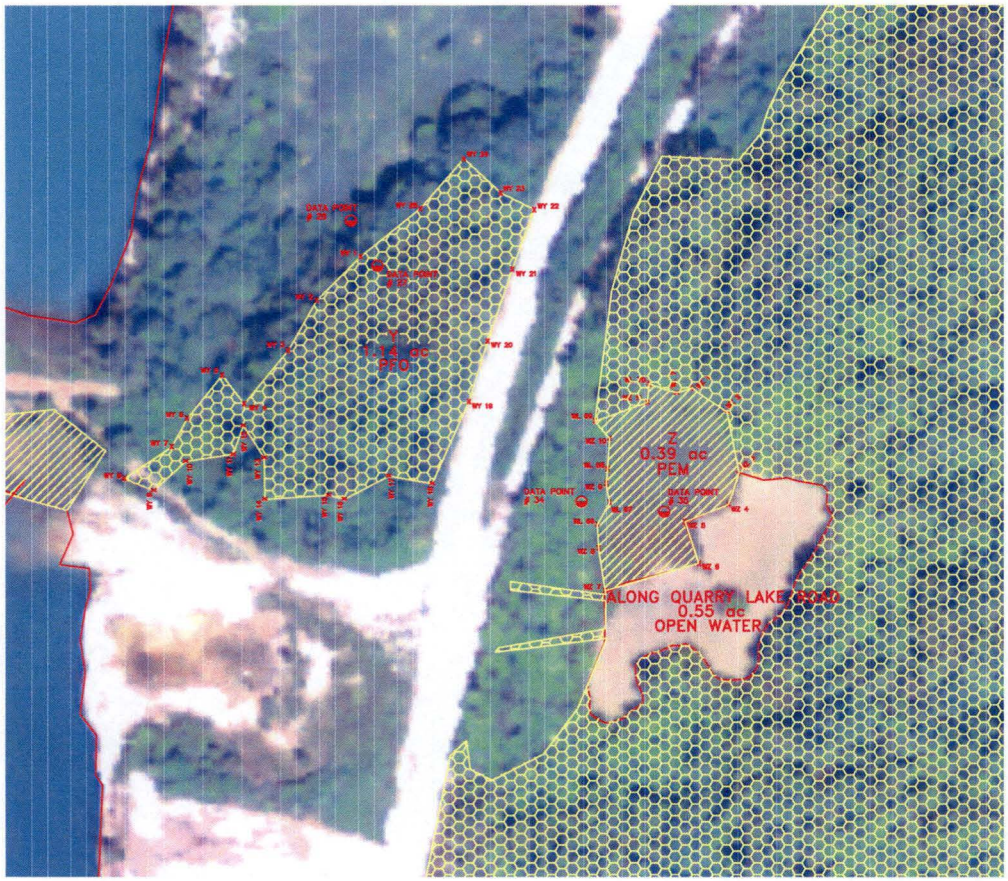

N

GRAPHIC SCALE

(IN FEET)
1 inch = 60 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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WETLAND DELINEATION Y, Z
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

1/15/2011 PER CLIENT REQUEST PCR

CAD FILE: Wetland Delineation 50
DESIGNED BY: --
DRAWN BY: GB, DA
SURVEYED BY: GB,WALPW
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DATE: 7/7/05
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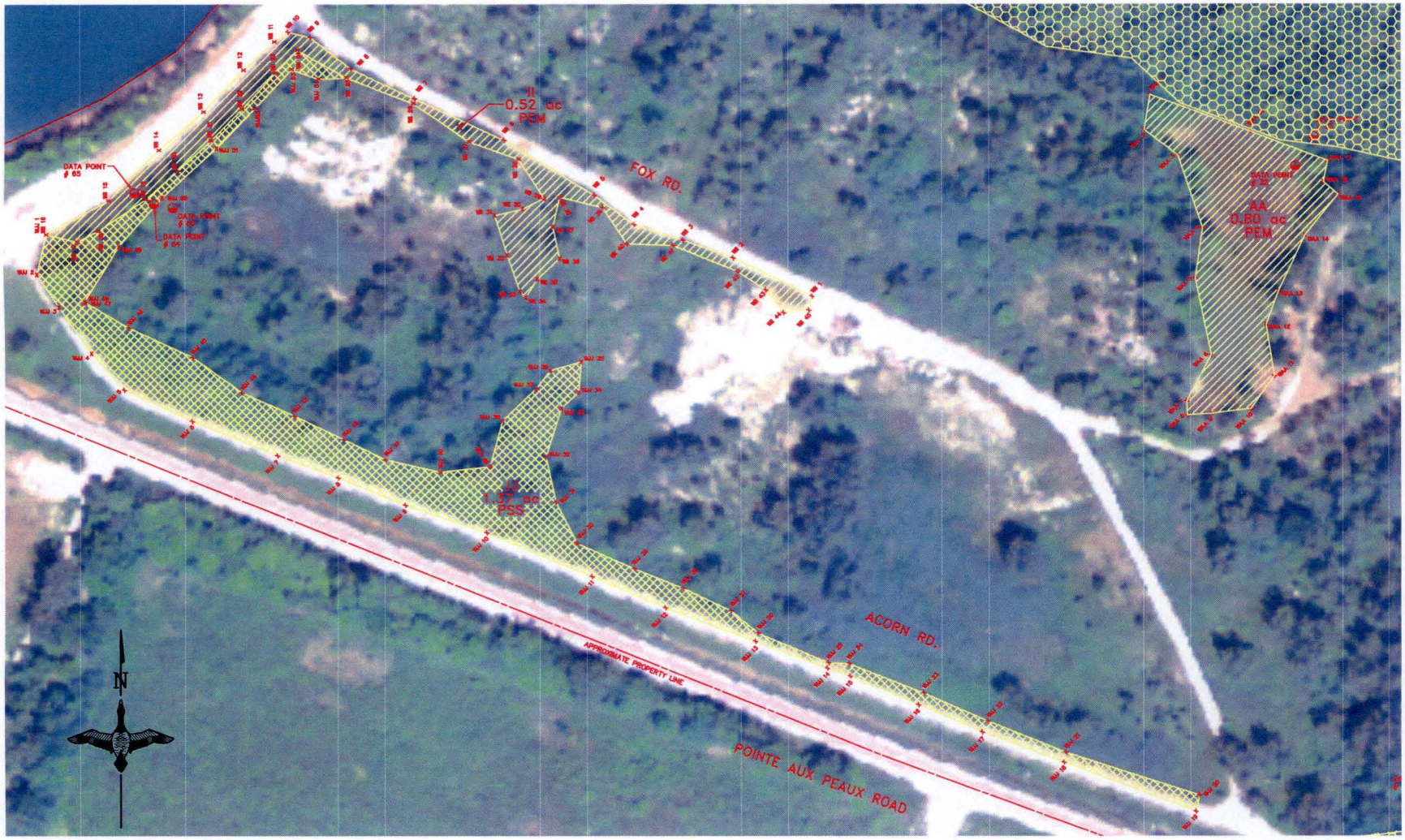

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG (xWA 25)
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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WETLAND DELINEATION AA, II, JJ
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

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DRAWN BY:	GB, DA
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BOOK NO. & 16 PAGE	13-19
DATE:	7/7/08
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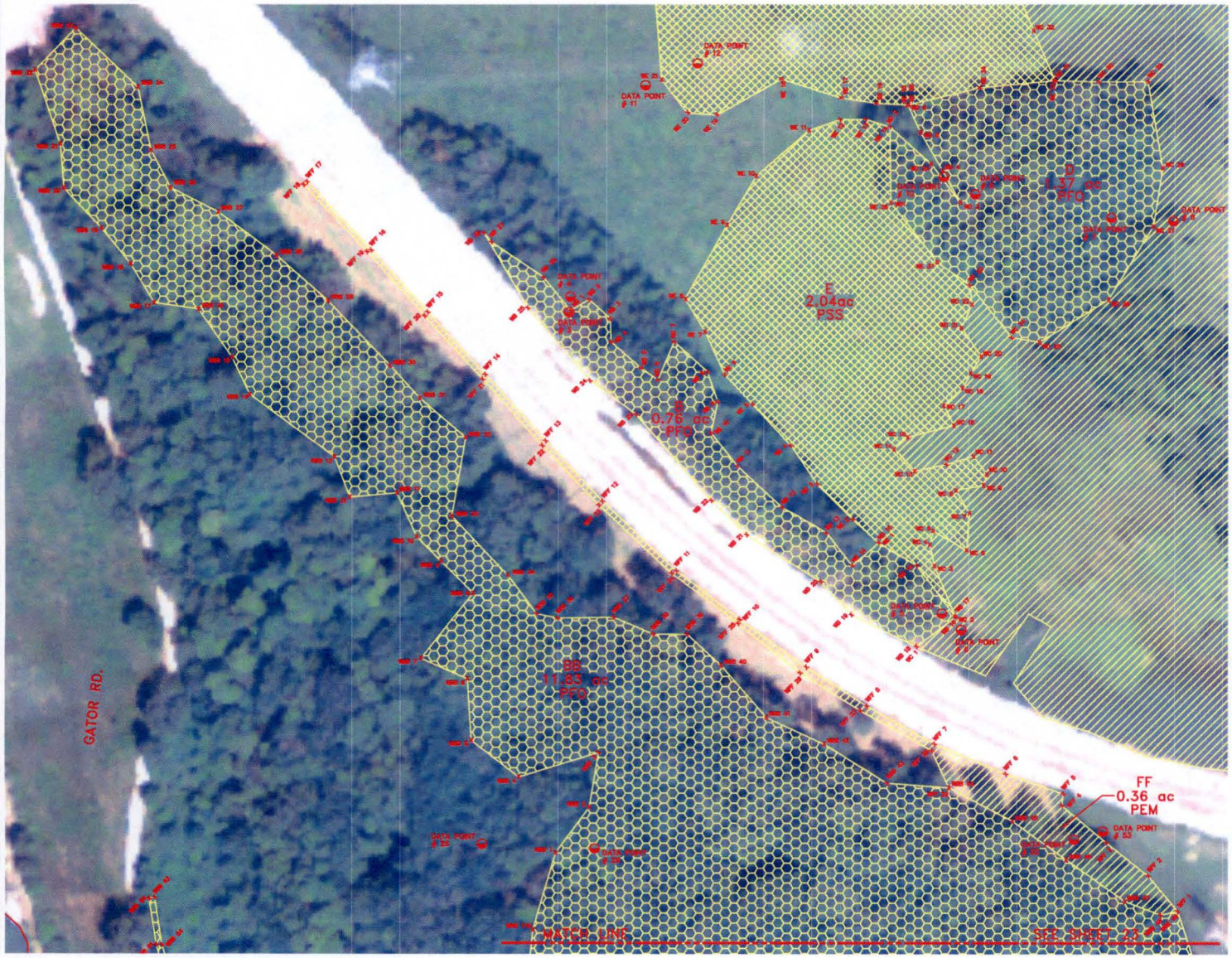

N

GRAPHIC SCALE

(IN FEET)
1 inch = 60 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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WETLAND DELINEATION BB NORTH, FF
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST POW

CAD FILE:	Wetland Delineation BD
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BOOK NO. & 18 PAGE	13-18
DATE:	7/7/06
PROJECT NO.:	US-MI-188-1

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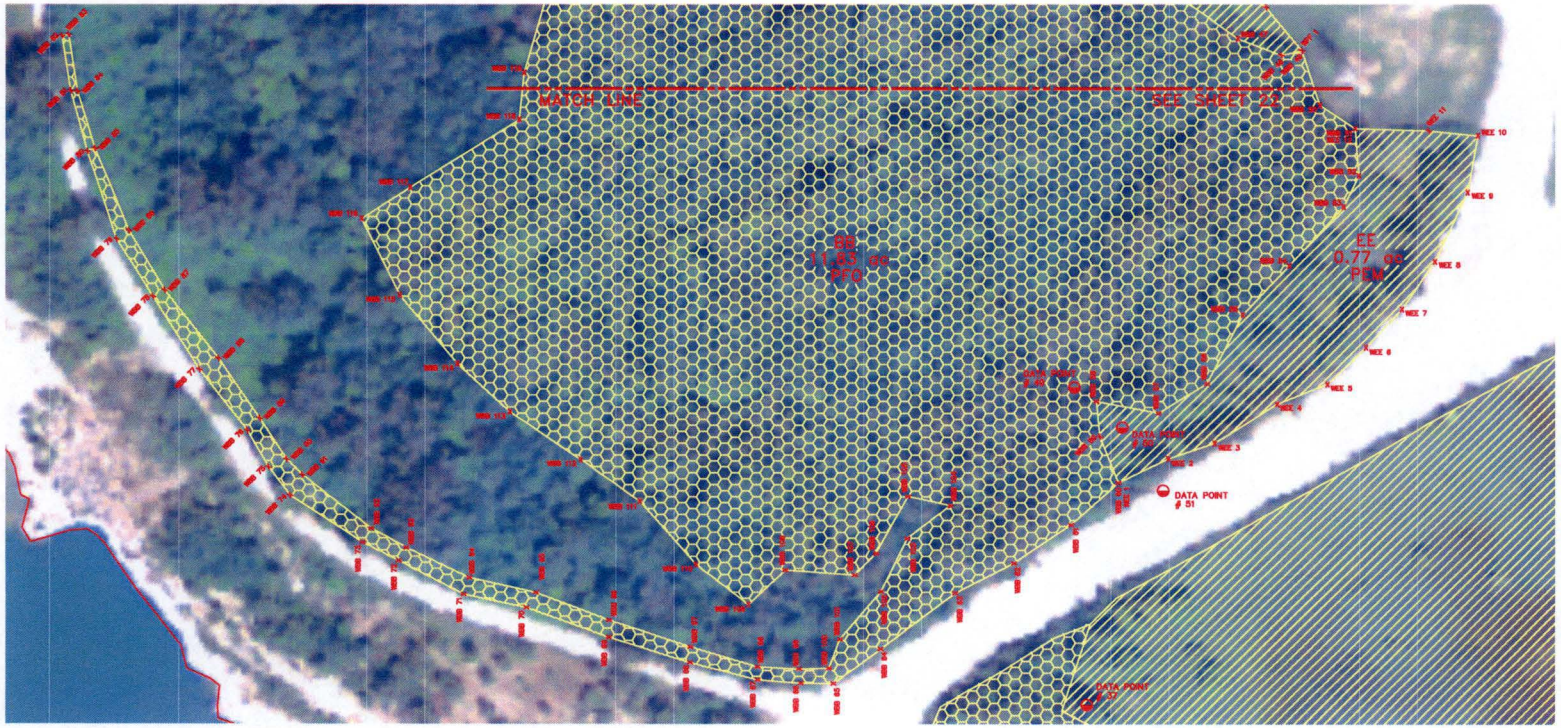

N

GRAPHIC SCALE

(IN FEET)
1 Inch = 60 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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WETLAND DELINEATION BB SOUTH, EE
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST POW

CAD FILE:	Wetland Delineation BD
DESIGNED BY:	--
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WN,PW
BOOK NO. # 16 PAGE 13-16	
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

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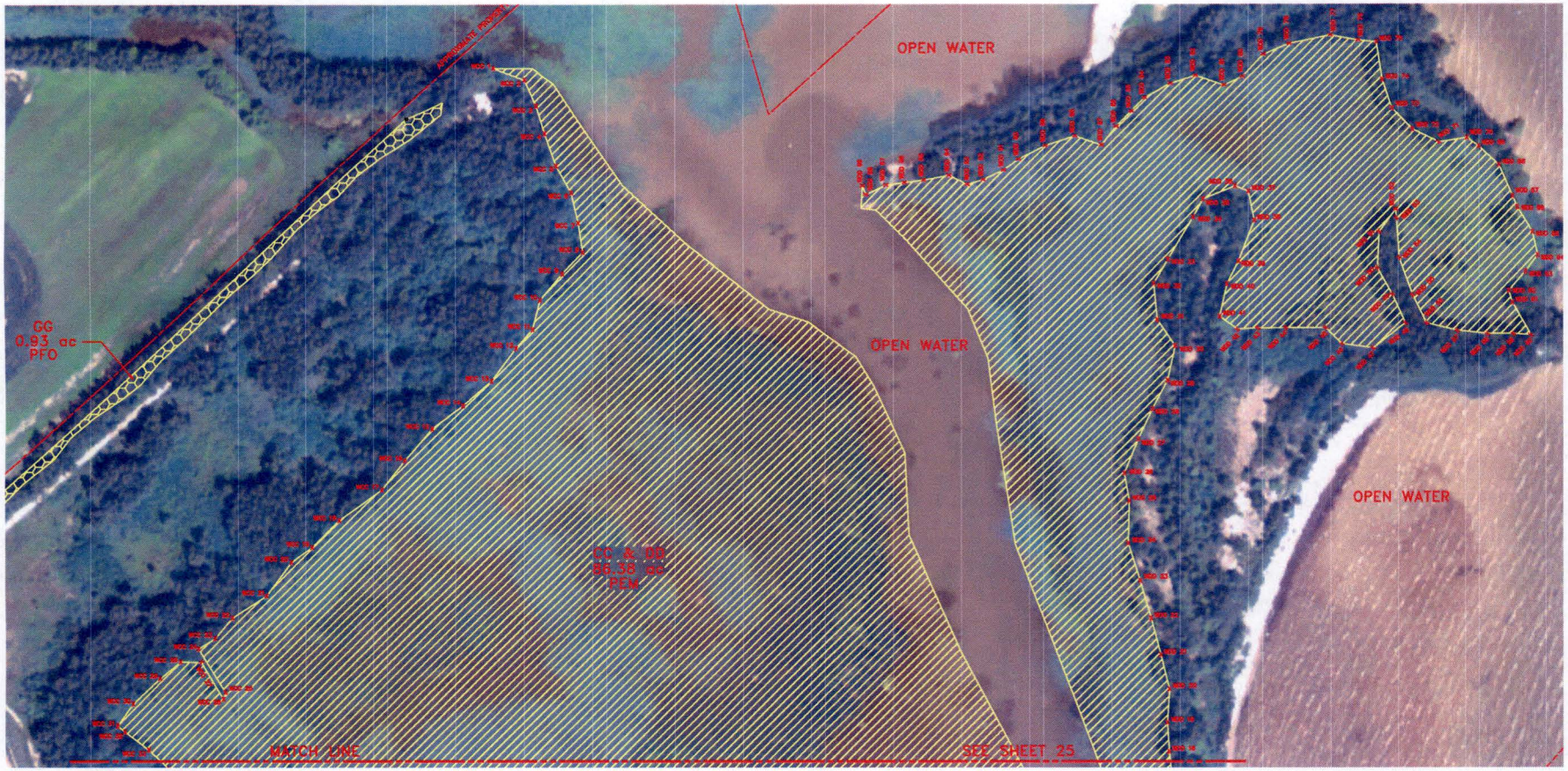

N

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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WETLAND DELINEATION CC DD NORTH
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST POW

CAD FILE:	Wetland Delineation 100
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SURVEYED BY:	GB,WW,PW
BOOK NO. & PAGE	13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

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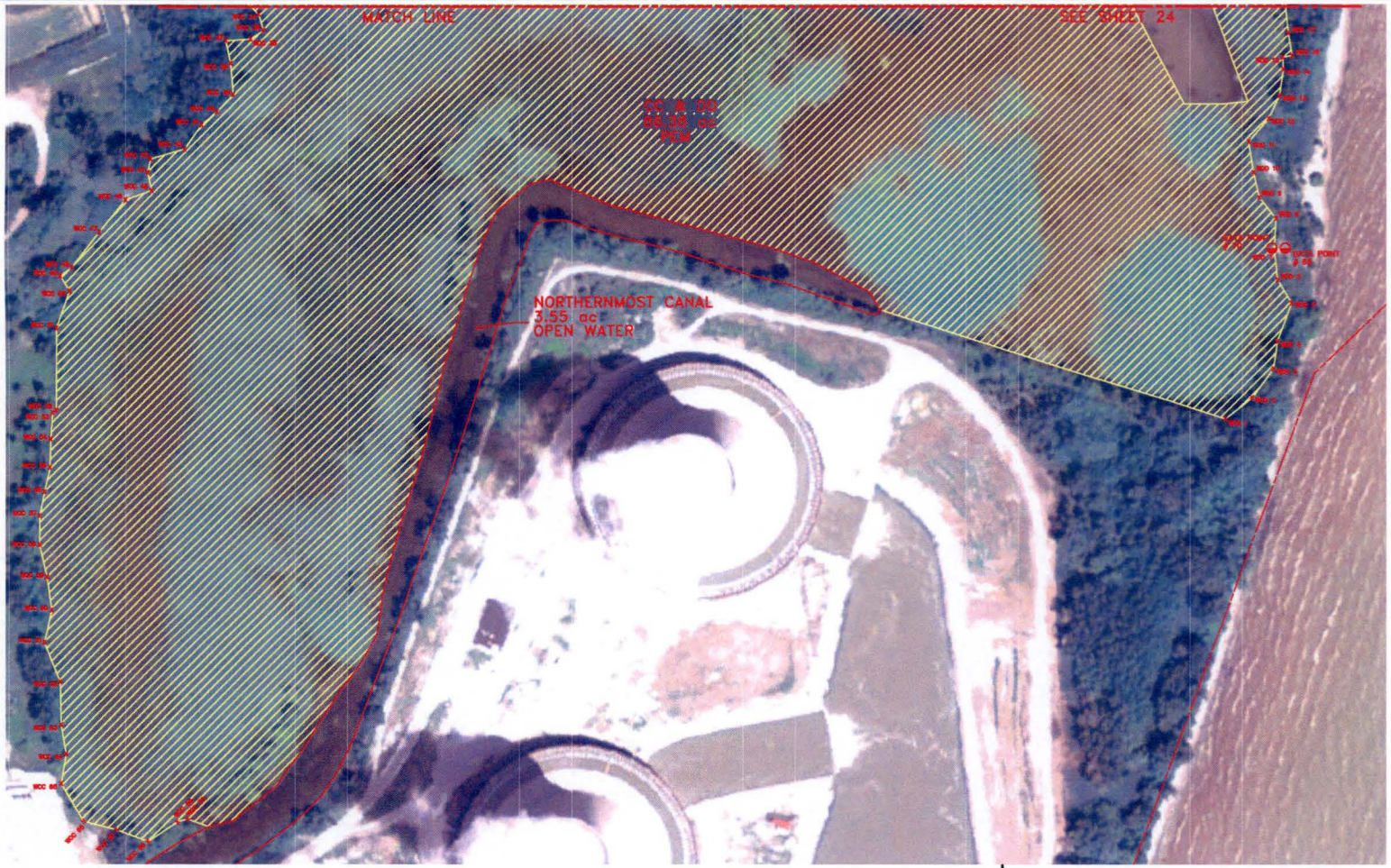

N

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

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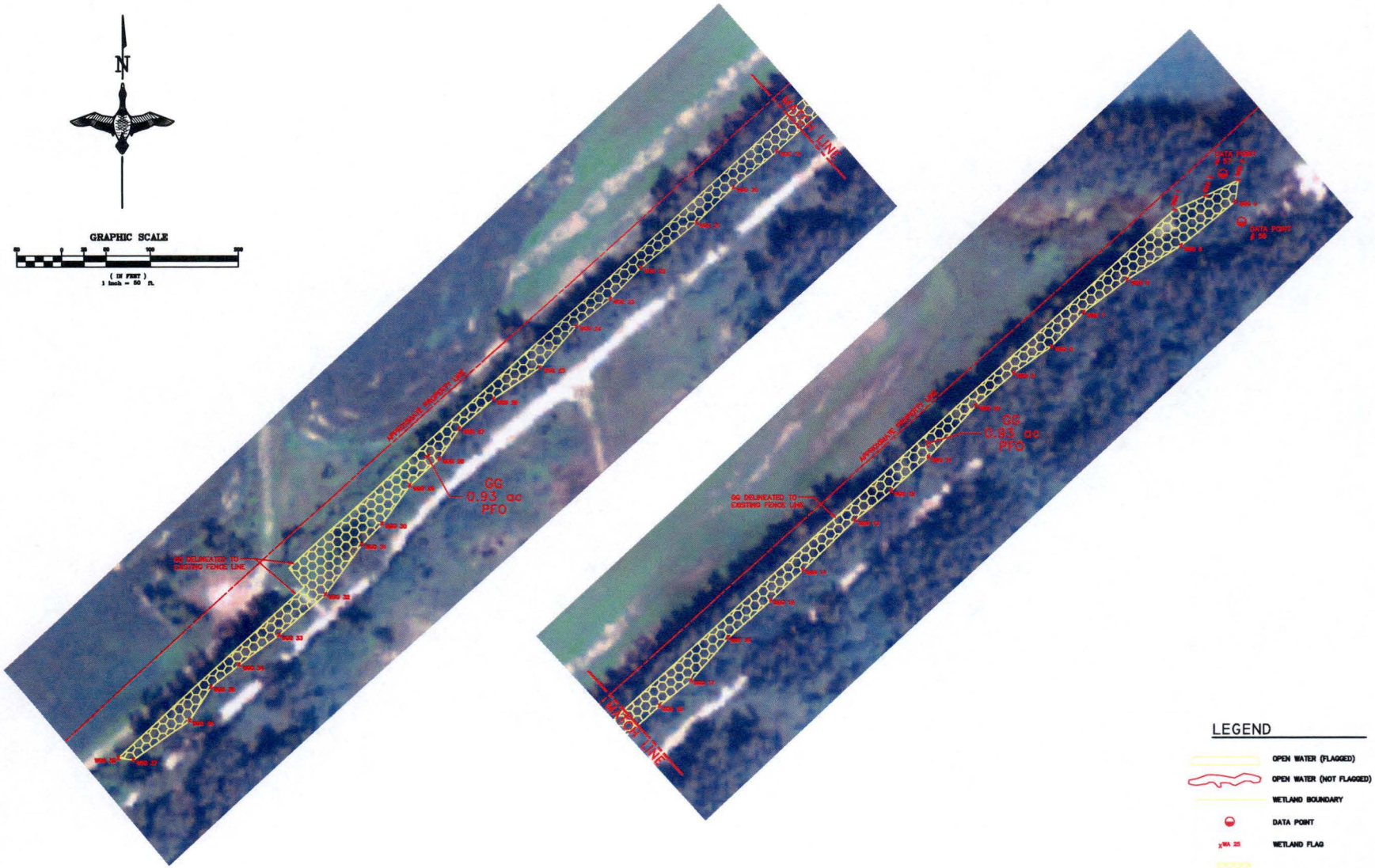
WETLAND DELINEATION CC DD SOUTH
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST PCW

CAD FILE:	Wetland Delineation 100
DESIGNED BY:	--
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WN,PW
BOOK NO. & 16 PAGE:	13-16
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1
	GLARO-MI3-46-25



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WETLAND DELINEATION GC
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS

4/15/2011 PER CLIENT REQUEST PCR

CAD FILE:	Wetland Delineation GC
DESIGNED BY:	--
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WNJPW
BOOK NO. & PG:	16 PAGE 13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

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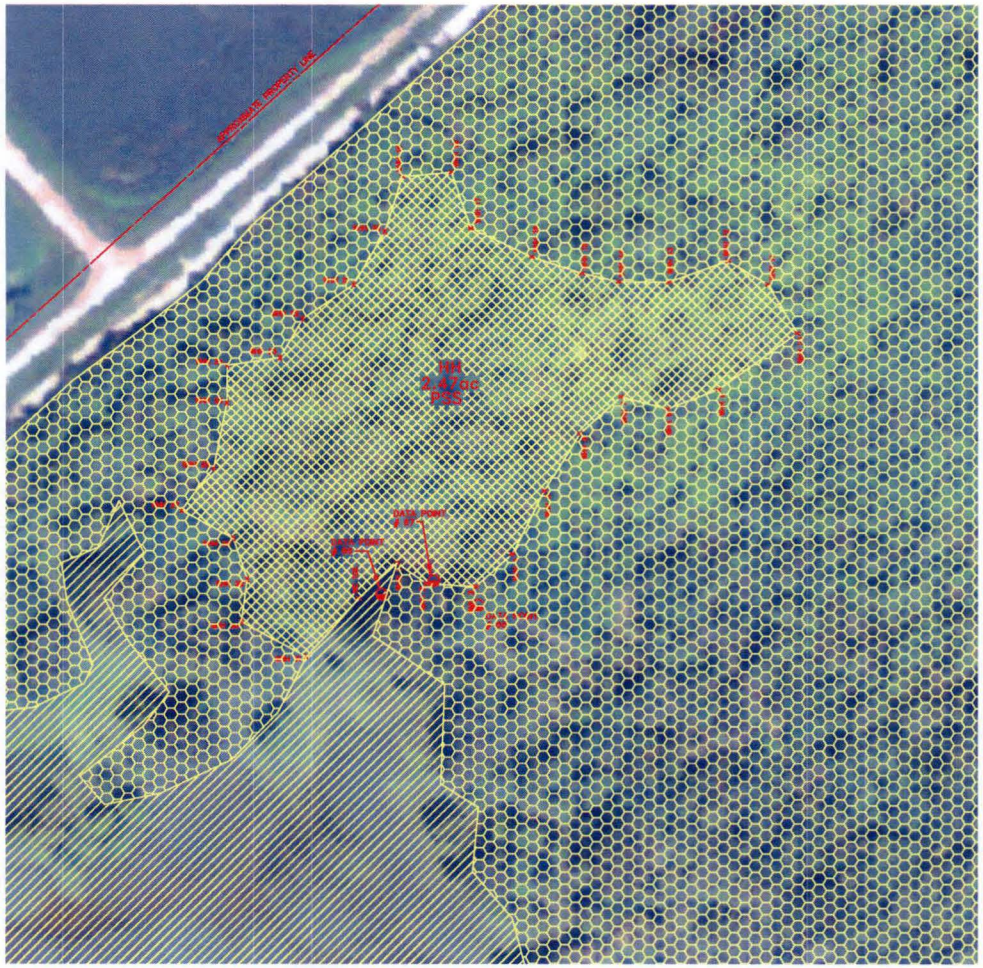

N

GRAPHIC SCALE

(IN FEET)
1 inch = 60 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:
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GREAT LAKES/ATLANTIC REGIONAL OFFICE
ANN ARBOR, MICHIGAN
(734) 623-2000
DUCKS UNLIMITED

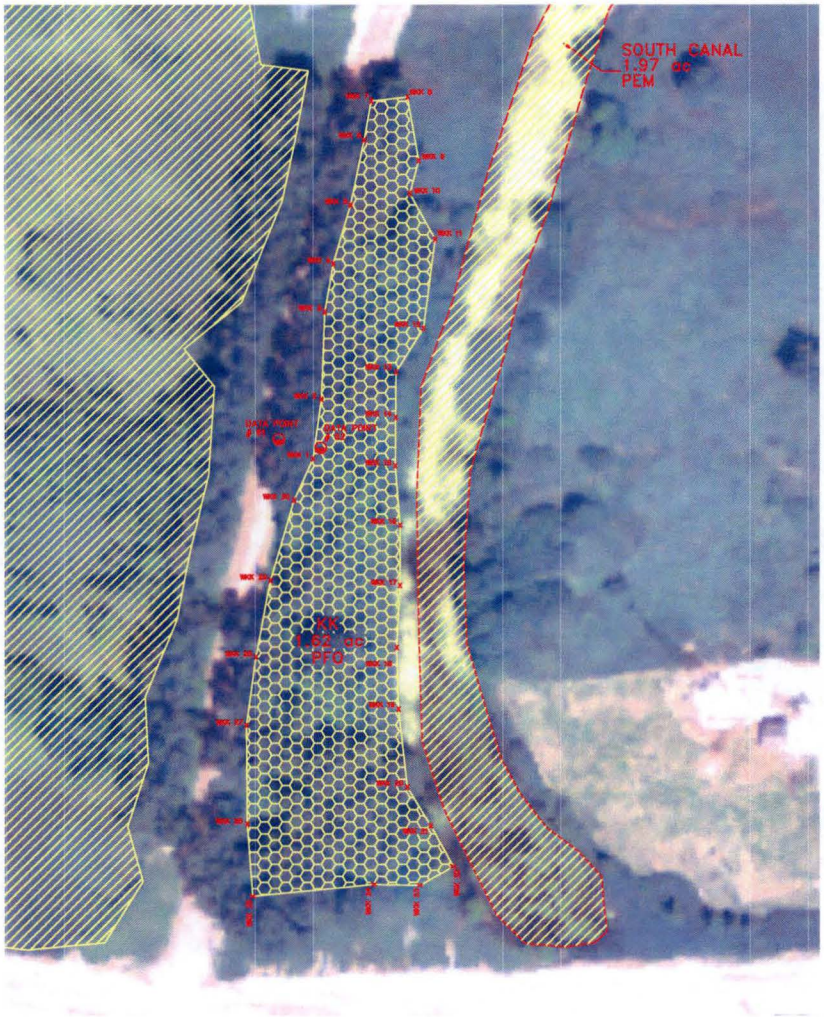
WETLAND DELINEATION, HH
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/13/2011 PER CLIENT REQUEST PCW

CAD FILE:	Wetland Delineation 50
DESIGNED BY:	--
DRAWN BY:	GS, DA
SURVEYED BY:	GS,WK,PW
BOOK NO. & PAGE:	13-19
DATE:	7/7/08
PROJECT NO.:	US-MI-188-1

GLARO-MI3-48-27



GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:

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DUCKS UNLIMITED

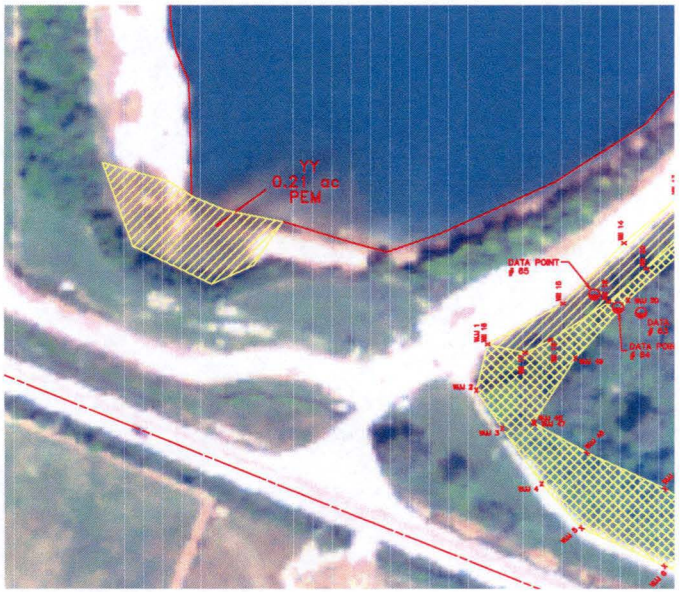
WETLAND DELINEATION KX
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

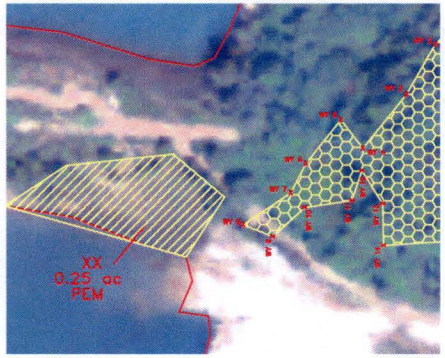
REVISIONS:

4/15/2011 PER CLIENT REQUEST POF

CAD FILE:	Wetland Delineation SD
DESIGNED BY:	-
DRAWN BY:	GB, DA
SURVEYED BY:	GB,WALPW
BOOK NO. & PG	16 PAGE 13-19
DATE:	7/7/08
PROJECT NO.:	LS-16-156-1

GLARO-MI3-46-28





N

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

- OPEN WATER (FLAGGED)
- OPEN WATER (NOT FLAGGED)
- WETLAND BOUNDARY
- DATA POINT
- WETLAND FLAG
- PALUSTRINE SCRUB-SHRUB (PSS)
- PALUSTRINE EMERGENT (PEM)
- PALUSTRINE FORESTED (PFO)

NOTICE:

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; DUCKS UNLIMITED, INC. SHALL NOT ASSUME ANY RESPONSIBILITY FOR THE SAFETY OF THE WORK PERFORMED, PERSONS ENGAGED IN THE WORK, HEAVY STRUCTURES OR OF OTHER PERSONS ON-SITE.

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DUCKS UNLIMITED

WETLAND WW, XX, YY, ZZ
DELINEATIONS
DTE FERMI II PLANT
MONROE COUNTY, MICHIGAN

REVISIONS:

4/10/2011 PER CLIENT REQUEST POR
11/5/2010 ACREAGE UPDATED

CAD FILE:
Wetland Delineation 50
DESIGNED BY: --
DRAWN BY: GB, DA
SURVEYED BY: GB,WALPW
BOOK NO. & 18 PAGE 13-19
DATE:
2/5/09
PROJECT NO.:
US-MI-185-1
GLARO-MI3-46-29

Ducks Unlimited_Wetland Report_Appendix B

APPENDIX B

WETLAND DELINEATION DATA SHEETS

SOILS

Map Unit Name (Series and Phase): 37B Ottokee Variant Fine Sand

Drainage Class: Moderately Well Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-15	A/B	10YR 5/2			Sand

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sampling Point Within a Wetland? (Yes) No (Circle)

Remarks: Lake erie sand dune

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MP-188-1 Applicant/Owner: DTE Investigator: Wyckoff/Beckman	Date: 6/13/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP70

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites australis	H	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

X Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge X Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 0 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 37 B Ottokee Variant Fine Sand

Drainage Class: Moderately Well Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-20	A/B	10YR 6/3			Sand

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)
Wetland Hydrology Present?	Yes	(No)	
Hydric Soils Present?	Yes	(No)	

Is this Sampling Point Within a Wetland? (Circle) Yes (No)

Remarks:

DP 69

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ML-198-1 Applicant/Owner: DTE Investigator: Wyatt PR / Bachmann	Date: 6/13/09 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP69

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Salix alba	S	FACW	9.		
2. Phragmites australis	H	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -20 (in.) Depth to Saturated Soil: -20 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-12	A	10YR 3/1	10YR 4/4	Few/Distinct	Silt Loam
12-16	B	10YR 4/1	10YR 4/6	Common/Prominent	Silty Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Wetland I

Approved by HQUSACE 3/92

DP68

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Wyckoff	Date: 6/5/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP68

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Water hyssop	H	OBL	9.		
2. Phalaris arundinacea	H	FACW	10.		
3. Acer saccharinum	T	FACW	11.		
4. Populus deltoides	T	FAC	12.		
5. Ulmus americana	T	FACW	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves X Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -16 (in.) Depth to Saturated Soil: -16 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-½	O				
½-8	A	10YR 3/1	10YR 4/6	Few/Prominent	Silty Clay Loam
8-16	B	10YR 4/1	10YR 5/8	Many/Prominent	Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Wetland HH

Approved by HQUSACE 3/92

DP 67

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Wyckoff	Date: 6/5/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP67

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Water hyssop	H	OBL	9.		
2. Cornus amomum	S	FACW	10.		
3. Ulmus Americana	T	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves X Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -16 (in.) Depth to Saturated Soil: -16 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	O				
2-9	A	10YR 3/1	10YR 4/3	Few/Distinct	Silty Clay Loam
9-16	B	10YR 4/1	10YR 4/6	Common/Prominent	Silty Clay

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sampling Point Within a Wetland? (Yes) No (Circle)

Remarks: Wetland C

Approved by HQUSACE 3/92

DP66

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: WyckOFF	Date: 6/5/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP66

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	H	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

X Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge X Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): X Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves X Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -16 (in.) Depth to Saturated Soil: -16 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-6	A	10YR 4/2	10YR 5/6	Few/Prominent	Silty Clay Loam
6-16	B	10YR 5/2	10YR 4/6	Many/Prominent	Clay Loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
X Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Wetland DI

Approved by HQUSACE 3/92

DP 65

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ME-188-1 Applicant/Owner: DTE Investigator: Wyckoff	Date: 6/5/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 65

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites australis	H	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: X Inundated X Saturated in Upper 12 Inches X Water Marks ___ Drift Lines ___ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves ___ Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 4 (in.) Depth to Free Water in Pit: 3 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-14	A	10YR 3/1	10YR 4/3	Common/Distinct	Silty Clay Loam
14-16	B	10YR 5/1	10YR 5/6	Many/Prominent	Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: Crayfish burrows present

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Wetland JJ

Approved by HQUSACE 3/92

DP 64

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ME-188-1 Applicant/Owner: DTE Investigator: Wycko H	Date: 6/5/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP64

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Fraxinus pennsylvanica	S	FACW	9.		
2. Acer saccharum	S	FACU	10.		
3. Ulmus americana	T	FACW	11.		
4. Toxicodendron radicans	H	FAC	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves X Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -15 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

SOILS

Map Unit Name
(Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-12	A	10YR 3/2	10YR 5/4	Common/Distinct	ML Loam w/aggregate

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Made land - Fill w/ small aggregate

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks: Soil is made land - Not used in wetland determination.

D.P. 63

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-1BR-1 Applicant/Owner: DTE Investigator: Wyckoff	Date: 6/5/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 63

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acorus americanus	S	FACW	9.		
2. Toxicodendron radicans	H	FAC	10.		
3. Populus deltoides	T	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -12 (in.) Depth to Saturated Soil: -12 (in.)	

Remarks: No evidence of hydrology present

SOILS

Map Unit Name (Series and Phase): 10 Lenawee Silty Clay Loam Ponded
Drainage Class: Very Poorly Drained
Taxonomy (Subgroup): _____
Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	A	10YR 4/2	–	–	ML Loam
1-15	B	10YR 3/3	10YR 4/6	Many / Distinct	ML Loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Made-Land with 3"-6" Rock

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? Yes (No)

Is this Sampling Point Within a Wetland? (Circle) (Yes) No

Remarks: Soil not used in wetland determination

Approved by HQUSACE 3/92

O.P. 62

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MD-188-1 Applicant/Owner: DTE Investigator: Wyckoff	Date: 6/4/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP62

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Populus deltoides	T	FAC	9.		
2. Fraxinus pennsylvanica	S	FACW	10.		
3. Phalaris arundinacea	H	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches X Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -15 (in.) Depth to Saturated Soil: -15 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 10 Lenawee Silty Clay Loam Ponded Very Poorly Drained
Drainage Class:
Taxonomy (Subgroup): _____
Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-??					ML Gravel Road

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: D.P. on Gravel Road. NO Pit Excavated

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks: Data Point on Gravel Road. Not a Wetland

Approved by HQUSACE 3/92

DP61

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Wyckoff	Date: 6/4/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP61

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1.			9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). _____

Remarks: NO VEGETATION Present - Data Point on Gravel Road

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: — (in.) Depth to Saturated Soil: — (in.)	

Remarks: NO SOIL BORING TAKEN DATA POINT IN ROAD BED

SOILS

Map Unit Name
(Series and Phase): 10 Lenawee silty Clay Loam Ponded

Drainage Class: Very Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	GLEY2 3/10B	-	-	Clay ML

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: ML Dredge spoils

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? Yes (No)

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Dredge basin for spoils from Lake Erie
Soils not used for determination

Approved by HQUSACE 3/92

DP 60

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Lukoff/Barkman	Date: 5/30/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP 60

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Ceratophyllum demersum	U	OBL	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

X Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge __X__ Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: __X__ Inundated __X__ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): __X__ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 8 (in.) Depth to Free Water in Pit: 0 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

SOILS

Map Unit Name
(Series and Phase): 10 Lenawee Silty Clay Loam, Ponded

Drainage Class: Very Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-½	O	-			
½-8	A	10YR 6/3	-	-	Sandy Gravel

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: MC - Berm Soils not used for determinatio

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks: Data Point on Berm

Approved by HQUSACE 3/92

D.P. 59

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Wetlaw / Bachman	Date: 5/30/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DPG9

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	H	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks: On top of Berm

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:
Depth of Surface Water: Ø (in.)
Depth to Free Water in Pit: ~ 8 (in.)
Depth to Saturated Soil: ~ 8 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: On top of Berm

SOILS

Map Unit Name
(Series and Phase): 10 Lenawee Silty Clay Loam, Ponded

Drainage Class: Very Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O	-	-	-	-
1-8	A	10YR 6/4	10YR 5/8	Common/Prominent	Sand
8-16	B	10YR 6/1	10YR 5/6	Common/Prominent	Sand

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- X Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Is this Sampling Point Within a Wetland? (Yes) No (Circle)

Remarks:

Approved by HQUSACE 3/92

D.P. 58

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ME-188-1 Applicant/Owner: DTE Investigator: Wickoff / Bachman	Date: 5/30/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP58

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer negundo	T	FAC+	9.		
2. Populus deltoides	T	FAC	10.		
3. Cache mustard	H		11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). _____

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks X Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test X Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -16 (in.) Depth to Saturated Soil: 2 (in.)	
Remarks: Bottom soil frozen	

SOILS

Map Unit Name (Series and Phase): 10 Lenawee Silty Clay Loam, Ponded
Drainage Class: Very Poorly Drained
Taxonomy (Subgroup): _____
Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	O	-	-	-	-
2-16	B	10YR 5/1	10YR 4/2	Many	Clay

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: NO A Horizon present, Appears to have been previously excavated
Soils not used in determination

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? Yes (No)

Is this Sampling Point Within a Wetland? (Yes) No (Circle)

Remarks:

Approved by HQUSACE 3/92

DP 57

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MT-188-1	Date: 5/30/08
Applicant/Owner: DTE	County: Monroe
Investigator: Wyloff/Bachman	State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No	Community ID:
Is the site significantly disturbed (Atypical Situation)? (Yes) No	Transect ID:
Is the area a potential Problem Area? Yes (No)	Plot ID: DP57
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer saccharinum	T	FacW	9.		
2. Acer negundo	T	FAC+	10.		
3. Populus deltoides	T	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: 8 (in.)
Depth to Saturated Soil: 1 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated in Upper 12 Inches
___ Water Marks
X Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
X Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

DP56

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ME-188-1	Date: 5/30/08
Applicant/Owner: DTE	County: Monroe
Investigator: Wyckoff / Bachman	State: Michigan
Do Normal Circumstances Exist on the site? Yes (No)	Community ID:
Is the site significantly disturbed (Atypical Situation)? (Yes) No	Transect ID:
Is the area a potential Problem Area? (Yes) No	Plot ID: DP56
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer negundo	T	FAC+	9.		
2. Populus deltoides	T	FAC	10.		
3. Rhamnus cathartica	M	FACU	11.		
4. Cornus mas	M		12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 50%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: 0' (in.)

Depth to Free Water in Pit: 5" (in.)

Depth to Saturated Soil: 5" (in.)

Wetland hydrology Indicators:
Primary Indicators:
____ Inundated
____ Saturated in Upper 12 Inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12"
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks:

DP 55

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-182-1 Applicant/Owner: DTE Investigator: Wycks FF/ Bachman	Date: 5/30/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID: — Transect ID: — Plot ID: DP55

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Populus deltoides	T	FAC	9.		
2. Acer negundo	T	FAC+	10.		
3. Actium minus	H	NI	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 67%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: -25 (in.)
Depth to Saturated Soil: -25 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

DP-54

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Wyckoff/Bachman	Date: 5/30/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP54

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites australis	H	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ✓ Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ✓ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 3 (in.) Depth to Saturated Soil: 12 (in.)	
Remarks:	

DP 53

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ME-188-1 Applicant/Owner: DTE Investigator: Wilkoff / Bachman	Date: 5/30/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 53

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Dandelion	H		9.		
2. Horsetail	H		10.		
3. Eupatorium Perfoliatum	H		11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0%

Remarks: Recently mowed

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____(in.) Depth to Free Water in Pit: _____(in.) Depth to Saturated Soil: _____(in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O	-	-	-	-
1-6	A	10YR 4/1	-	-	Silty Clay Loam
6-16	B	10YR 5/2	10YR 4/6	Common/Prominent	Silty Clay

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

DP 52

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1	Date: 5/30/08
Applicant/Owner: DTE	County: Monroe
Investigator: Nyckoff / Bachman	State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No	Community ID:
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the area a potential Problem Area? Yes (No)	Plot ID: DP52
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	H	FACW	9.		
2. Ulmus americana	T	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

X Recorded Data (Describe in Remarks):	Wetland hydrology Indicators:
___ Stream, Lake, or Tide Gauge	Primary Indicators:
X Aerial Photographs	___ Inundated
___ Other	X Saturated in Upper 12 Inches
___ No Recorded Data Available	___ Water Marks
	___ Drift Lines
	___ Sediment Deposits
	___ Drainage Patterns in Wetlands
Field Observations:	Secondary Indicators (2 or more required):
Depth of Surface Water: 0 (in.)	X Oxidized Root Channels in Upper 12"
Depth to Free Water in Pit: -16 (in.)	___ Water-Stained Leaves
Depth to Saturated Soil: 4 (in.)	X Local Soil Survey Data
	X FAC-Neutral Test
	___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-?					Gravel Road ML

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: Point on road shoulder. Impenetrable by shovel

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks: Point on road shoulder

Approved by HQUSACE 3/92

DP 51

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ME-188-1 Applicant/Owner: DTE Investigator: Wyckoff / Bachman	Date: 5/30/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP 51

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. —	—	—	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). _____

Remarks: Data point on road shoulder. No vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	

Remarks: Point on Rd shoulder - may be inundated

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1½	O	-	-	-	-
1½-9	A	10YR 4/1	10YR 5/8	Common/Prominent	Silty Clay
9-16	B	10YR 5/1	10YR 5/8	Many/Prominent	Silty Clay

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- Z Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)	
Wetland Hydrology Present?	(Yes)	No		
Hydric Soils Present?	(Yes)	No		
			Is this Sampling Point Within a Wetland?	(Yes) No

Remarks:

Approved by HQUSACE 3/92

D.P. 50

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ML-188-1	Date: 5/30/08
Applicant/Owner: DTE	County: Monroe
Investigator: Wyckoff/Barkman	State: Michigan

Do Normal Circumstances Exist on the site?	(Yes)	No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)	Transect ID:
Is the area a potential Problem Area? (If needed, explain on reverse.)	Yes	(No)	Plot ID: DP 50

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites australis	H	FACW	9.		
2. Vitis riparia	WV	FACW	10.		
3. Populus deltoides	T	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

X Recorded Data (Describe in Remarks):	Wetland hydrology Indicators:
___ Stream, Lake, or Tide Gauge	Primary Indicators:
X Aerial Photographs	___ Inundated
___ Other	X Saturated in Upper 12 Inches
___ No Recorded Data Available	___ Water Marks
	___ Drift Lines
Field Observations:	___ Sediment Deposits
Depth of Surface Water: 0 (in.)	___ Drainage Patterns in Wetlands
Depth to Free Water in Pit: 9 (in.)	Secondary Indicators (2 or more required):
Depth to Saturated Soil: 5 (in.)	___ Oxidized Root Channels in Upper 12"
	X Water-Stained Leaves
	X Local Soil Survey Data
	___ FAC-Neutral Test
	___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-½	O	–	–	–	–
½-7	A	10YR 4/2	10YR 5/6	Few/Prominent	Silty Clay Loam
7-14	B	10YR 5/2	7.5YR 4/6	Many/Prominent	Silty Clay

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

D.P. 49

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-18B-1 Applicant/Owner: DTE Investigator: Wyckoff / Bachman	Date: 5/30/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP49

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer saccharinum	T	FACW	9.		
2. Ulmus americana	T	FACW	10.		
3. Populus deltoides	T	FAC	11.		
4. Phragmites australis	H	FACW	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves X Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 3 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Field Observations
Confirm Mapped Type? Yes (No)

Taxonomy (Subgroup): _____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR 4/2	10YR 4/6	Common/Prominent	ML Sand Loam w/ Gravel
9-14	B	10YR 4/4	10YR 4/2	Common/Distinct	M.L. Sand Loam w/ Gravel

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: Test Pit on Dike/Berm Top (Made Lands)
Suspected imported fill No borrow areas present.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

Is this Sampling Point Within a Wetland? Yes (No) (Circle)

Remarks: Dike/Berm Large 8' Top width 4.5'+/- high.
3:1 side slope

Approved by HQUSACE 3/92

DP 48

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: G. Bachman P. Wyckoff	Date: 5-21-08 County: MONROE State: MICHIGAN
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 48

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer Nugundo	T	FAC+	9.		
2. Cornus amomum	S	FACW	10.		
3. Populus deltoides	T	FAC+	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -14 (in.) Depth to Saturated Soil: -14 (in.)	

Remarks: Test Pit on top of Dike

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____ Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0 - 1/2	O	—	—	—	—
1/2 - 12	A	10YR 2/1	—	—	Silt Loam
12 - 14	B	10YR 3/1	10YR 4/6	Common/Prominent	Silt Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sampling Point Within a Wetland? (Yes) No (Circle)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

D.P. 47

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: B. Bachman P. Wycoff	Date: 5-21-08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: 47

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer nugundo	T	FAC+	9.		
2. Carex aquatilis	S	FACW	10.		
3. Acer saccharinum	T	FACW	11.		
4. Vitis riparia	W.V.	FACW	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 160%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test X Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -14 (in.) Depth to Saturated Soil: -14 (in.)	
Remarks: Buttressed Trees	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O	-	-	-	-
1-4		-			ML - Sand/Gravel

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Soil / Test Pit in road bed unable to excavate beyond 4" depth.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	(No)	(Circle)
Wetland Hydrology Present?	Yes	(No)	
Hydric Soils Present?	Yes	(No)	

Is this Sampling Point Within a Wetland? Yes (No) (Circle)

Remarks: Soils not used to determine wetland.

Approved by HQUSACE 3/92

D.P 46

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-108 Applicant/Owner: DTE Investigator: Gregg Bachman Peter Wyckoff	Date: 5-21-08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID : ____ Transect ID: ____ Plot ID: 46

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	H	FACW+	9.		
2. water hyssop	H	OBL	10.		
3. Laportea canadensis	H	FACW	11.		
4. Rosa multiflora	S	FACU	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 75%

Remarks: Multiflora Rose dominate canopy cover 65%

HYDROLOGY

___ Recorded Data (Describe in Remarks): ____ Stream, Lake, or Tide Gauge ____ Aerial Photographs ____ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ____ Inundated ____ Saturated in Upper 12 Inches ____ Water Marks ____ Drift Lines ____ Sediment Deposits ____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ____ Oxidized Root Channels in Upper 12" ____ Water-Stained Leaves ____ Local Soil Survey Data ____ FAC-Neutral Test ____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -4 (in.) Depth to Saturated Soil: -4 (in.)	

Remarks: Soil pit on roadbed not able to excavate beyond 4"

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O	-	-	-	-
1-12	A/E	10YR 3/2	-	-	Silt Loam
12-15	B	10YR 5/4	10YR 5/6	Common/Distinct	Silty Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

D.P.45

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: Gregg Bachman Peter Wyckoff	Date: 5-21-08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: D.P.45

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer Saccharinum	T	FAC W	9.		
2. Phalaris arundinacea	H	FAC W+	10.		
3. Ulmus americana	T	FAC W-	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks: Presence of Water hyssop around data point (obl.)
pockets of Lilly of valley (NI)

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test X Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 6 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks: Buttressed Trunks

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam
Drainage Class: Poorly Drained
Taxonomy (Subgroup): _____
Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-11	A	10YR 3/1	—	—	silty clay loam
11-15	B	10YR 3/2	10YR 5/3	Few Faint	silty clay loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: Excavation beyond 15" difficult due to water in test hole.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

Approved by HQUSACE 3/92

D.P. 44

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-2 Applicant/Owner: DTE Investigator: Gregg Bachman Peter Wyckoff	Date: 5-21-08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: 44

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites australis	H	FACW	9.		
2. Acer Saccharinum	T	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

X Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge X Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves X Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 7" (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

SOILS

Map Unit Name
(Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A-E	10YR 3/1	10YR 5/6	Few Prominent	Silty clay Loam
8-16	B	7.5YR 5/6	10YR 5/1	Many Prominent	Silty Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

DP 43

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-189-1 Applicant/Owner: DTE Investigator: Gregg Bachman Peter Wyckoff	Date: 5-21-08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP 43

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer Saccharinum	T	FACW	9.		
2. Cornus Amomum	S	FACW	10.		
3. Vitis Riparia	W.V.	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: -16 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
X Water-Stained Leaves
X Local Soil Survey Data
X FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7	A-E	10YR 3/1	—	—	Silt Loam
8-16	B	10YR 5/2	10YR 5/8	Many/Prominent	Silty Clay Loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
X Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

D.P. 42

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE S.E Applicant/Owner: DTE Investigator: G. Buchanan Peter Wyckoff	Date: 5-21-08 County: Monroe State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP 42

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer Saccharinum	Tree	FACW	9.		
2. Acer Negundo	Shrub	FAC+	10.		
3. Vitis Riparia	W.V.	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test X Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -16 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks: Borrowed Trenches	

SOILS

Map Unit Name
(Series and Phase): 26B MILTON CLAY LOAM

Drainage Class: WELL DRAINED

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A/E	10YR 3/4	—	—	SANDY SILT LOAM
6-15	B	10YR 5/6	—	—	CLAY LOAM

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: _____ Applicant/Owner: _____ Investigator: P WYCOFF G BACHMAN	Date: 5/16/08 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 42

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. WHEAT			9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks: TILED AG FIELD

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Field Observations:
Depth of Surface Water: _____(in.)
Depth to Free Water in Pit: _____(in.)
Depth to Saturated Soil: _____(in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): _____

Drainage Class: _____

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A	10yr 4/3	—	—	Sandy Loam
4-16	A	10yr 5/4	—	—	Loamy Sand

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content In Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)
Wetland Hydrology Present?	Yes	(No)	
Hydric Soils Present?	Yes	(No)	

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: _____ Applicant/Owner: _____ Investigator: _____	Date: _____ County: _____ State: _____
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 4/

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer saccharinum	T	FACW	9.		
2. Cornus amomum	S	FACW	10.		
3. Rhus glabra	S	?	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 60%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ____ Stream, Lake, or Tide Gauge ____ Aerial Photographs ____ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ____ Inundated ____ Saturated in Upper 12 Inches ____ Water Marks ____ Drift Lines ____ Sediment Deposits ____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ____ Oxidized Root Channels in Upper 12" ____ Water-Stained Leaves ____ Local Soil Survey Data ____ FAC-Neutral Test ____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: — (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks:	

SOILS

Map Unit Name
(Series and Phase): _____ Drainage Class: _____

Field Observations

Taxonomy (Subgroup): _____ Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-16	A	10yr 3/2	—	—	

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
✓ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
✓ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

Approved by HQUSACE 3/92

WP

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: _____	Date: 5/15/08
Applicant/Owner: _____	County: _____
Investigator: G.BACHMAN J.PHILLIPS	State: _____
Do Normal Circumstances Exist on the site? Yes (No)	Community ID : _____
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID: _____
Is the area a potential Problem Area? Yes (No)	Plot ID: DP 40
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer saccharinum	T	FACW	9.		
2. Acer negundo	S	FAC	10.		
3. Carya laciniosa	S	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: — (in.)
Depth to Free Water in Pit: 10 (in.)
Depth to Saturated Soil: 5 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
✓ Saturated in Upper 12 Inches
✓ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
✓ Water-Stained Leaves
✓ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): _____

Drainage Class: _____

Field Observations
Confirm Mapped Type? Yes No

Taxonomy (Subgroup): _____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	A	10yr 3/2			CLAY

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
✓ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
✓ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: _____ Applicant/Owner: _____ Investigator: GBACHMAN JPHILLIPS	Date: _____ County: _____ State: _____
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 39

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Cornus amomum	S	FACW	9.		
2. Phalaris arundinacea	H	FACW+	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: — (in.)
Depth to Free Water in Pit: B (in.)
Depth to Saturated Soil: 4 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
✓ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
___ Water-Stained Leaves
✓ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): _____

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	O				
4-12	A	10yr 3/2	—	—	Clay

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
✓ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: _____ Applicant/Owner: _____ Investigator: J BACHMAN J PHILLIPS	Date: _____ County: _____ State: _____
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 36

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Ulmus americana	T	FACW-	9.		
2. Quercus macrocarpa	T	FAC-	10.		
3. Fraxinus pennsylvanica	S	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 70%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ✓ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: — (in.) Depth to Free Water in Pit: 10 (in.) Depth to Saturated Soil: 4 (in.)	
Remarks:	

SOILS

Map Unit Name
(Series and Phase): _____ Drainage Class: _____

Taxonomy (Subgroup): _____ Field Observations
Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	O	-	-	-	-
4-12	A	3/1	-	-	CLAY

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
__✓ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MT-188-1 Applicant/Owner: DTA Investigator: PHILLIPS G BACHMAN	Date: County: State:
Do Normal Circumstances Exist on the site? Yes No Is the site significantly disturbed (Atypical Situation)? Yes No Is the area a potential Problem Area? Yes No (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DR37

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	H	FACW+	9.		
2. Phragmites australis	H	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: ___ (in.) Depth to Free Water in Pit: 5 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name
(Series and Phase): _____ Drainage Class: _____

Field Observations

Taxonomy (Subgroup): _____ Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	O				
4-12	A	3/1	—	—	Clay

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
✓ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
✓ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

D.P. 36

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MS-1RB-1 Applicant/Owner: DTE Investigator: G Bachman J Phillips	Date: 5/13/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP 36

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Cornus stolonifera	S	FACW	9.		
2. Phalaris arundinacea	H	FACW+	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: — (in.) Depth to Free Water in Pit: 6 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name
(Series and Phase): _____ Drainage Class: _____

Field Observations
Taxonomy (Subgroup): _____ Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	A	10YR 3/1	—	—	CLAY
3-12	A	10YR 5/3	—	—	Sandy Clay

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)
Wetland Hydrology Present?	Yes	(No)	
Hydric Soils Present?	Yes	(No)	

Is this Sampling Point Within a Wetland? (Circle) Yes (No)

Remarks:

Approved by HQUSACE 3/92

D.P. 35

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: C BACHMAN J PHILLIPS	Date: 5/13/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 35

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Ulmus americana	T	FACW-	9.		
2. Crataegus calpodendron	T		10.		
3. Cornus amomum	T	FACW+	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: ___ (in.)

Depth to Free Water in Pit: ___ (in.)

Depth to Saturated Soil: ___ (in.)

Wetland hydrology Indicators:
Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 Inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12"
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	ORGANIC				
4-12	A	10YR 6/2	—	—	CLAY

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-198-1 Applicant/Owner: DTE Investigator: G. BACHMAN, J. PHILLIPS	Date: 5/13/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 34

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha angustifolia	H	OBL	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ✓ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ✓ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 1 (in.) Depth to Free Water in Pit: 0 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	Organic				
1-9	A	10YR 4/1	—	—	Clay Silt Loam
9-12	A	10YR 4/2	10YR 5/6	Few / Distinct	Clay Silt Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sampling Point Within a Wetland? (Circle) (Yes) No

Remarks: Located in Wetland L

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: RWUCKOFF N BILL	Date: 5/12/08 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP 33

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Tilia americana	T	FACU	9.		
2. Quercus macrocarpa	T	Fac-	10.		
3. Rhamnus frangula	S	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 60%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ✓ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ✓ Oxidized Root Channels in Upper 12" ✓ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: — (in.) Depth to Free Water in Pit: 6 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	ORGANIC				
1-6	A	10yr 4/2	—	—	Clay Silt Loam
6-12	A	10yr 5/4	—	—	Clay Silt Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Located in Wetland AA

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-1BB-1 Applicant/Owner: DTE Investigator: JPHILLIPS & BLACHMAN	Date: 5/12/18 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DF 32

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha angustifolia	H	OBL	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Field Observations:
Depth of Surface Water: 3 (in.)
Depth to Free Water in Pit: — (in.)
Depth to Saturated Soil: — (in.)

Wetland hydrology Indicators:
Primary Indicators:
✓ Inundated
✓ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
___ Water-Stained Leaves
✓ Local Soil Survey Data
✓ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____ Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc
0-4	A	10YR 4/2	—	—	SILT CLAY LOAM
4-8	B	7.5YR 5/6	10YR 4/2	M PROMINENT	CLAY SILT LOAM
8-12	B	10YR 3/2	—	—	SILT LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1	Date: 5/12/08
Applicant/Owner: DTE	County: Monroe
Investigator: JPhillips G Bachman	State: MI
Do Normal Circumstances exist on the site? (Yes) No	Community ID:
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the area a potential Problem Area? Yes (No)	Plot ID: DP 31
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer negundo	~~T~~	Fac+	9.		
2. Ulmus americana	T	FACW-	10.		
3. Acer rubrum	T	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 75%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: ___ (in.)
Depth to Free Water in Pit: -12 (in.)
Depth to Saturated Soil: -12 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
✓ Local Soil Survey Data
✓ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam
Drainage Class: Poorly Drained
Taxonomy (Subgroup): _____
Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	A	10YR 3/1	—	—	SILT LOAM
8-12	B	10YR 4/3	10YR 5/6	P/ /DISTNT	CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Located in Wetland L

Approved by HQUSACE 3/92

DP

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1
Applicant/Owner: DTE
Investigator: G. BACHMAN, J. PHILLIPS

Date: 5/12/08
County: MONROE
State: MI

Do Normal Circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation)? Yes (No)
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)

Community ID:
Transect ID:
Plot ID: DP-30

VEGETATION

Dominant Plant Species	Stratum	Indicator
1. Quercus bicolor	tree	FACW+
2. Carya ovata	t s	FACU-
3. Ulmus americana	t	FACW-
4. Crataegus calpodendron	s	
5.		
6.		
7.		
8.		

Dominant Plant Species	Stratum	Indicator
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 60%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Field Observations:
Depth of Surface Water: — (in.)
Depth to Free Water in Pit: 1 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
✓ Saturated in Upper 12 Inches
✓ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1½	O	–	–	–	–
1½-7	A	10YR 4/2	10YR 4/3	Many/Faint	Clay Loam
7-15	B	10YR 3/2	10YR 4/6	Few/Prominent	Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- X Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sampling Point Within a Wetland? (Circle) (Yes) No

Remarks:

DP 29

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Wyckoff / Bachman	Date: 5/28/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP29

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer saccharinum	T	FACW	9.		
2. Toxicodendron radicans	VV	FAC	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test X Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -15 (in.) Depth to Saturated Soil: -15 (in.)	

Remarks: Buttressed trunks

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-12	A	10YR 4/1	—	—	Silt Loam
12-17	B	10YR 5/2	10YR 5/6	Few/Prominent	Silt Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Approved by HQUSACE 3/92

DP 28

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-168-1 Applicant/Owner: DTE Investigator: Wyckoff / Bachman			Date: 5/28/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site?	(Yes)	No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)	Transect ID:
Is the area a potential Problem Area? (If needed, explain on reverse.)	Yes	(No)	Plot ID: DP 28

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Tilia americana (60%)	T	FACU	9.		
2. Acer saccharinum (20%)	T	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 50%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: -17 (in.)
Depth to Saturated Soil: -17 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
___ Water-Stained Leaves
X Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 33- Pit-Aquents Complex

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O	-	-	-	-
1-14	A	10YR 3/1	10 YR 5/8	Few/Prominent	CLAY LOAM

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

DP 27

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MT-188-1 Applicant/Owner: DTE Investigator: Wyckoff/Bachman	Date: 5/27/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP 27

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Ulmus americana	T	FACW-	9.		
2. Vitis riparia	WV	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: 4 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated in Upper 12 Inches
X Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12"
X Water-Stained Leaves
___ Local Soil Survey Data
X FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 33 PsL-Aquents Complex

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-15	A	10YR 3/3	-	-	ML Sandy Loam w/ Rock

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Soil NOT USED FOR DETERMINATION
Clay Pottery + Brick

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)	
Wetland Hydrology Present?	Yes	(No)		
Hydric Soils Present?	Yes	(No)		
Is this Sampling Point Within a Wetland?			(Circle)	Yes (No)

Remarks: Soils not used for determination

Approved by HQUSACE 3/92

DP 26

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MT-188-1 Applicant/Owner: DTE Investigator: Lavikoff/Beckman	Date: 5/27/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP 26

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Fraxinus pennsylvanica	S	FACW	9.		
2. Cornus amomum	S	FACW	10.		
3. Phalaris arundinacea	H	FACW	11.		
4. Garlic Mustard	H		12.		
5. Vitis riparia	WV	FACW	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 80%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -15 (in.) Depth to Saturated Soil: -15 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 33 Pit-Aquents Complex

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.	
0-1/2	O	-	-	-	-	
1/2-11	B	10YR 6/2	10YR 5/6	Common/Prominent	ML Clay Loam	w/Rock

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Soil all made lands, not used in determination

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Soils not used in determination

Approved by HQUSACE 3/92

DP 25

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-180-1 Applicant/Owner: DTE Investigator: Wyckoff / Bachman	Date: 5/27/08 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP25

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Cornus amomum	S	FACW	9.		
2. Vitis riparia	VV	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves ___ Local Soil Survey Data X FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 1 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

D.P. 24

SOILS

Map Unit Name (Series and Phase): 33 Pit-Aquents Complex

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7	A	10YR 3/1	—	—	ML SANDY CLAY LOAM
7-15	B	10YR 5/3			ML SANDY Clay Loam W/ Aggregate

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)
Wetland Hydrology Present?	Yes	(No)	
Hydric Soils Present?	Yes	(No)	

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Approved by HQUSACE 3/92

D.P. 24

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MC-138-1	Date: 5/27/08
Applicant/Owner: DTE	County: Monroe
Investigator: Wykoff/Bachman	State: Michigan
Do Normal Circumstances Exist on the site? Yes (No)	Community ID:
Is the site significantly disturbed (Atypical Situation)? (Yes) No	Transect ID:
Is the area a potential Problem Area? Yes (No)	Plot ID: DP24
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Carex amomum	S	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
X No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: -9 (in.)
Depth to Saturated Soil: -11 (in.)

Wetland hydrology Indicators:
Primary Indicators:
____ Inundated
____ Saturated in Upper 12 Inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12"
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 13A Blount Loam

Drainage Class: Somewhat Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-½					
½-16	A	10YR 4/2	10YR 5/8	MANY/PROMINENT	SILTY CLAY LOAM

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Located within Wetland W

Approved by HQUSACE 3/92

DP 23 PEM

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MT-168-1	Date: 5-23-08
Applicant/Owner: DTE	County: Monroe
Investigator: G Buchman P. Wickerath	State: MI
Do Normal Circumstances Exist on the site? (Yes) No	Community ID:
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the area a potential Problem Area? Yes (No)	Plot ID: DP23
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	H	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: -16 (in.)
Depth to Saturated Soil: -16 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
X Oxidized Root Channels in Upper 12"
___ Water-Stained Leaves
___ Local Soil Survey Data
X FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 13A - Blount Loam

Drainage Class: Somewhat Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1/2	O	—	—	—	—
1/2-9	A	10YR 4/4	10YR 5/8	Few/Prominent	Sandy Loam
9-15	B	10YR 4/4	10YR 5/8	Many Prominent	Sandy Clay Loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Adjacent upland to Wetland W

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

D.P. 22 up

Project/Site: DTE MT-188-1 Applicant/Owner: DTE Investigator: Gregg Bachman Peter Wyckoff	Date: 5-23-08 County: Madison State: MT
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes No Is the area a potential Problem Area? Yes No (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: 22

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Fragaria virginiana	H	FACU	9.		
2. Grass	H	FACU	10.		
3. Cornus amomum	H	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). _____

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -15 (in.) Depth to Saturated Soil: -15 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 - Lenawee silty clay loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-11	A	10YR 2/1	-	-	silt Loam - Small stones Pea
11-15	B	10YR 3/1	10YR 4/3	Many / Distinct	Silty Clay Loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
X Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

DP 21

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1	Date: 5-23-08
Applicant/Owner: DTE	County: Monroe
Investigator: Greg Kachman Peter Wyckoff	State: MI
Do Normal Circumstances Exist on the site? (Yes) No	Community ID:
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the area a potential Problem Area? Yes (No)	Plot ID: 21
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Fraxinus pennsylvanica	T	FACW	9.		
2. Cornus amomum	S	FACW	10.		
3. Water hyssop	H	OBL	11.		
4. Vitis riparia	WV	FACW	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water:	0	(in.)
Depth to Free Water in Pit:	9	(in.)
Depth to Saturated Soil:	0	(in.)

Wetland hydrology Indicators:

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12 Inches
- X Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12"
- X Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 - Lenawee silty clay loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-½	O	–	–	–	–
½-2	A	10YR 3/2	–	–	Loamy Sand M.L.
2-15	B	10YR 4/6	–	–	Loamy Sand w/Gravel M.L.

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
X Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Test pit located on top of dike

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

1
D.P. 20

Project/Site: DTE MI-188-1	Date: 5-22-08
Applicant/Owner: DTE	County: Monroe
Investigator: Gregg Barkman Peter Wyckoff	State: MI
Do Normal Circumstances Exist on the site? (Yes) No	Community ID :
Is the site significantly disturbed (Atypical Situation)? (Yes) No	Transect ID:
Is the area a potential Problem Area? (Yes) No	Plot ID: 20
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Grass spp.	H	FACU	9.		
2. Acer negundo	T	FAC+	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):	Wetland hydrology Indicators:
___ Stream, Lake, or Tide Gauge	Primary Indicators:
___ Aerial Photographs	___ Inundated
___ Other	___ Saturated in Upper 12 Inches
X No Recorded Data Available	___ Water Marks
	___ Drift Lines
Field Observations:	___ Sediment Deposits
Depth of Surface Water: 0 (in.)	___ Drainage Patterns in Wetlands
Depth to Free Water in Pit: ~15 (in.)	Secondary Indicators (2 or more required):
Depth to Saturated Soil: ~15 (in.)	___ Oxidized Root Channels in Upper 12"
	___ Water-Stained Leaves
	X Local Soil Survey Data
	___ FAC-Neutral Test
	___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): 21 - Lenawee silty clay loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O	-	-	-	-
1-7	A	10YR 3/1	10YR 5/6	Few/Prominent	Silt Loam
7-12	E	10YR 4/2	10YR 4/6	Common/Prominent	Silty Clay Loam
12-14	B	10YR 4/6	10YR 5/2	Many/Prominent	Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

D.P. 19

Project/Site: DTE ML-188-1 Applicant/Owner: DTE Investigator: G. Bachman K. Wyckoff	Date: 5-23-08 County: Monroe State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: 19

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	H	FACW+	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). _____

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
X Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: 4 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
X Oxidized Root Channels in Upper 12"
X Water-Stained Leaves
X Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 - Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O	–	–	–	–
1-8	A	10YR 4/2	10YR 5/6	Common / Prominent	Silty Clay Loam
8-15	B	10YR 5/3	10YR 5/8	Many / Prominent	Silty Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sampling Point Within a Wetland? (Yes) No (Circle)

Remarks:

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

D.P. 18

Project/Site: DTE MI-189-1 Applicant/Owner: DTE Investigator: Greg Bachman Peter Wyckoff	Date: 5-23-08 County: Monroe State:
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: 18

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Cacwis americum	S	FACW	9.		
2. Acer saccharinum	T	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 9" (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 21- Lenawee Silty Clay Loam Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____ Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O	—	—	—	—
1-8	A	10YR 3/1	10YR 5/4	Few/Distinct	Silty Clay Loam
8-15	B	10YR 5/3	7.5YR 4/6	Many/Prominent	Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sampling Point Within a Wetland? (Circle) (Yes) No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

DP 17

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: Gregg Bachman rep. Wyckoff	Date: 5/23/03 County: Monroe State: Michigan
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: 17

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer Saccharinum	T	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" X Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 11" (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-6	A	10YR 3/2	10YR 2/1	COMMON/FAINT	SILT LOAM
6-17	B	~~10YR 5/2~~ 10YR 3/2	10YR 4/6	MANY/PROM/	SILTY CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Point within wetland "I"

Approved by HQUSACE 3/92

DP16

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: WYCKOFF / WEIRICH	Date: 5-16-08 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP16

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. PHALARIS ARUNDINACEA	H	FACW+	9.		
2. Cornus Amomum	S	FACW	10.		
3. Acer saccharinum	T	FACW	11.		
4. Ulmus americana	T	FACW-	12.		
5. Quercus bicolor	T	FACW	13.		
6. Populus deltoides	T	FAC	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

X Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge X Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): X Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 10 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O		—	—	
1-4	A	10YR 3/1	—	—	SILTY CLAY LOAM
4-7	B	10YR 2/1	—	—	SILTY CLAY LOAM
7-16	B	10YR 5/2	7.5YR 5/6	MANY/PROM	CLAY LOAM

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
X Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: POINT IN WETLAND "C"

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

DP 15

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Wetland Solutions	Date: 5/16/25 County: Monroe State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP 15

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. PHALARIS ARUNDINACEA	H	FACW+	9.		
2. Typha angustifolia	H	OBL	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge X Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): X Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 5 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-10	A	10YR 3/2	—	—	SIL T LOAM
10-15	B	10YR 5/2	10YR 5/8	MANY/PROMT	SILTY CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content In Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks: Rained alot yesterday

decrease in buttress trunks + reduced hydrophytic vegetation
higher chroma than adjacent data point

Located in Forested area adjacent to wetland F

DP14

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: mi-188-1	Date: 15 MAY 2008
Applicant/Owner: MTE	County: MONROE
Investigator: D. WYCHOFF + WITNIC	State: MI
Do Normal Circumstances Exist on the site? (Yes) No	Community ID:
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the area a potential Problem Area? Yes (No)	Plot ID: DP14
(If needed, explain on reverse.)	outside wetland F

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. RUBUS occidentalis	H	FACU	9.		
2. Polygonum hydropiperoides	H	OBL	10.		
3. Ostrya virginiana	S	FACU-	11.		
4. VITIS riparia	WV	FACW	12.		
5. ACER SACCHARINUM	T	FACW	13.		
6. Quercus RUBRUM	T	FACU-	14.		
7. JUGLANS NIGRA	T	FACU	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 3/7

Remarks: On edge, dominant herbaceous, diverse + 40% Arbaceous sp.

HYDROLOGY

___ Recorded Data (Describe in Remarks):	Wetland hydrology Indicators:
___ Stream, Lake, or Tide Gauge	Primary Indicators:
___ Aerial Photographs	___ Inundated
___ Other	✓ Saturated in Upper 12 Inches
✓ No Recorded Data Available	___ Water Marks
	___ Drift Lines
	___ Sediment Deposits
	___ Drainage Patterns in Wetlands
Field Observations:	Secondary Indicators (2 or more required):
Depth of Surface Water: 0 (in.)	___ Oxidized Root Channels in Upper 12"
Depth to Free Water in Pit: 15 (in.)	___ Water-Stained Leaves
Depth to Saturated Soil: 6 (in.)	✓ Local Soil Survey Data
	___ FAC-Neutral Test
	___ Other (Explain in Remarks)

Remarks: Rained previous day

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-0.5	O				
0.5-6	A	10YR 3/1	—	—	Silty Clay Loam
6-13	B	10YR 4/1	10YR 5/3	FEW / DISTINCT	SILTY CLAY LOAM
13-16	B	10YR 6/1	10YR 5/6	COMMON / PROMINENT	SILTY CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: rain extensive on day prior to sampling

Located in Wetland F.

Approved by HQUSACE 3/92

DP13

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: ML1BR-1 Applicant/Owner: DTE Investigator: KINJYCHOFF, NIHAU	Date: 15 MAY 2008 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP13

VEGETATION

	Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
20%	1. RHAMNUS FRANGULA	H	FAC+	9.		
20%	2. Polygonum hydropiperoides	H	OBL	10.		
25	3. SORBUS AUCUPARIA	T	FACU	11.		
30	4. ACER NEGUNDO	T	FACW-	12.		
50	5. ACER SACCHARINUM	T	FACW	13.		
	6.			14.		
	7.			15.		
	8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ✓ ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ✓ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ✓ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 14 (in.) Depth to Saturated Soil: 4 (in.)	
Remarks:	other: buttonbush shrubs

DP12

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-0.5	O				
0.5-8	A	10YR 3/2	—	—	Silty Clay Loam
8-13	B	10YR 4/2	—	—	Silty Clay Loam
13-16	B	10YR 5/2	7.5YR 5/8	MANY/PROMINENT	Silty Clay Loam 2 photos

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Located in Wetland E.

DP12

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: P. WYCHOFF N. HALL	Date: 15 MAY 2008 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP12

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. SPARGANIUM EURYCARPUM	H	OBL	9.		
2. Eupatorium perfoliatum	H	FACW	10.		
3. Lythrum salicaria	H	FACW+	11.		
4. CAREX STRICTA	H	OBL	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 75%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ✓ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 13 (in.) Depth to Saturated Soil: 5 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-½	O				
½-6	A	10YR 3/2	—	—	Silty Clay Loam
6-15	B	10YR 5/2	10YR 5/6	Many/Prominent	Silty Clay Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks: Recently planted to native prairie grasses.

Approved by HQUSACE 3/92

DP 11

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: Wilcoff	Date: 6/10/08 County: Monroe State: MICHIGAN
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP11

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Little Blue Stem	H		9.		
2. Cone Flower	H		10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). _____

Remarks: Site recently mowed and planted to prairie grass.

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other X No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated X Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves X Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 14 (in.) Depth to Saturated Soil: 8 (in.)	

Remarks: Excessive rainfall in previous 72 Hours

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-½	O				
½-3	A	10YR 2/2	—	—	SILT LOAM
3-15	B	10YR 4/4	10YR 5/6	MANY/DISTINCT	Silty Clay LOAM

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
✓ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? Yes (No)

Is this Sampling Point Within a Wetland? Yes (No) (Circle)

Remarks: Adjacent to Wetland D

Approved by HQUSACE 3/92

DP10

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: MI-188-1 Applicant/Owner: DTE Investigator: D. WYCKOFF, N. HALL	Date: 15 MAY 2008 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP10

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. ACER RUBRUM	T	FAC	9.		
2. ULMUS AMERICANA	T	FACW-	10.		
3. Ostrya virginiana	S	FACU-	11.		
4. QUERCUS RUBRA	T	FACU	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 75%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 7 (in.) Depth to Saturated Soil: 5 (in.)	
Remarks: Slight rain Recently a few Days Before	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-4	A	10YR 3/2	10YR 4/4	FEW / DISTINCT	SILT LOAM
4-8	B	10YR 3/2	—	—	SILT LOAM
8-18	B	10YR 3/2	10YR 4/6	MANY / PROMINENT	Silty Clay LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Located in Wetland D

Approved by HQUSACE 3/92

DP9

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: P. WYCHOFF, N. HILL	Date: 15 MAY 2008 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: DP9

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. PHALARIS ARUNDINACEA	G	FACW+	9.		
2. BARBAREA VULGARIS	F	OBL	10.		
3. CORNUS AMOMUM	S	FACW+	11.		
4. ACER NEGUNDO	T	FACW-	12.		
5. TILIA AMERICANA	T	FACU	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 80%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ✓ Oxidized Root Channels in Upper 12" ✓ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 2 (in.) Depth to Free Water in Pit: 2 (in.) Depth to Saturated Soil: 2 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-4	A	10YR 3/1	10YR 5/4	FEW/DISTINCT	SILT LOAM
4-16	B	10YR 5/2	10YR 4/6	MANY/PROMINENT	Silty Clay LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: TOO WET TO EXCAVATE DEEPER THAN 16"

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Located within Wetland C

Approved by HQUSACE 3/92

DP8

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE M-1 BE-1 Applicant/Owner: DTE Investigator: P.WYCHOFF, N.HILL	Date: 15 MAY 2000 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP8

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. PHALARIS ARUNDINACEA	H	FACW	9.		
2. PHRAGMITES AUSTRALIS	H	FACW+	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ✓ Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ✓ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: -1 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-6	A	10YR 3/1	—	—	SILT LOAM
6-9	B	10YR 4/2	10YR 4/6	FEW/PROMINENT	SILTY CLAY LOAM
9-14	B	10YR 5/2	7.5YR 5/8	MANY/PROMINENT	SILTY CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: Auger used to sample deeper than 14"

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	(Circle)	(Circle)
Wetland Hydrology Present?	Yes	No		
Hydric Soils Present?	Yes	No	Is this Sampling Point Within a Wetland?	(Yes) No

Remarks: deer
rained extensively days prior to sampling
Located in Wetland D

Approved by HQUSACE 3/92

DP7

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1	Date: 15 MAY 2008
Applicant/Owner: DTE	County: MONROE
Investigator: P. WYCHOFF, N. HALL	State: MI
Do Normal Circumstances Exist on the site? (Yes) No	Community ID:
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the area a potential Problem Area? Yes (No)	Plot ID: DP7
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. PHALARIS ARUNDINACEA		FACW+	9.		
2. CAREX vulpinoidea		OBL	10.		
3. PHALARIS ARUNDINACEA		FACW+	11.		
4.	S		12.		
5. ACER SACCHARINUM	T	FACW	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):	Wetland hydrology Indicators:
___ Stream, Lake, or Tide Gauge	Primary Indicators:
✓ Aerial Photographs	___ Inundated
___ Other	✓ Saturated in Upper 12 Inches
___ No Recorded Data Available	___ Water Marks
	___ Drift Lines
Field Observations:	___ Sediment Deposits
Depth of Surface Water: 0 (in.)	___ Drainage Patterns in Wetlands
Depth to Free Water in Pit: 1 (in.)	Secondary Indicators (2 or more required):
Depth to Saturated Soil: 0 (in.)	___ Oxidized Root Channels in Upper 12"
	✓ Water-Stained Leaves
	✓ Local Soil Survey Data
	✓ FAC-Neutral Test
	___ Other (Explain in Remarks)

Remarks:

DP6

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-3	A	10YR 4/2	—	—	SILT LOAM
3-6	B	10YR 4/2	7.5YR 4/6	FEW/PROMINENT	SILT CLAY LOAM
6-12	B	10YR 4/2	10YR 5/6	FEW/PROMINENT	SILT CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: Data Point 6 within Wetland C

DP6

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: P. WYCKOFF, N. HALL	Date: 13 MAY 2008 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP6

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
75% 1. Phalaris arundinacea	H	FACW+	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: Remainder of vegetation mixed sedges

HYDROLOGY

✓ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ✓ Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ✓ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ✓ Oxidized Root Channels in Upper 12" ✓ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 2 (in.) Depth to Free Water in Pit: 18 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				
1-3	A	10YR 3/2	—	—	Silt Loam
3-12	B	10YR 4/2	—	—	Silt Loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: DATA POINTS taken within adjacent WETLAND "B"

Approved by HQUSACE 3/92

DP 5

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: P. WYCHOFF N. HILL	Date: 13 MAY 2008 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP5

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
65% 1. Phalaris arundinacea	H	FACW+	9.		
30% 2. Cornus amomum	S	FACW	10.		
5% 3. Ulmus rubra	S	FAC	11.		
20% 4. Populus deltoides	T	FAC	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ✓ Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 9 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				SILT LOAM
1-5	A/E	10YR 3/1	—	—	SILT LOAM
5-12	B	10YR 4/2	10YR 5/6	common/prominent	SILT LOAM

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
✓ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Approved by HQUSACE 3/92

DP4

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: P. WYCKHOFF, NIHILL	Date: 8 MAY 2008 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP4

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Populus deltoides	T	FAC	9.		
2. Quercus rubra	T	FACU-	10.		
3. Ulmus americana	S	FACW-	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66 %

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

✓ No Recorded Data Available

Field Observations:

Depth of Surface Water:	0	(in.)
Depth to Free Water in Pit:	-12	(in.)
Depth to Saturated Soil:	-12	(in.)

Wetland hydrology Indicators:
Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 Inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12"
- ___ Water-Stained Leaves
- ✓ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				SILT LOAM
1-3	A/E	10YR 3/1	—	—	SILT LOAM
3-12	B	10YR 4/2	10YR 4/6	many/prominent	SILT LOAM

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer Sandy Soils
___ Organic Streaking in Sandy Soils
✓ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

TPES resting in wetland
Data point located in Wetland B.

Approved by HQUSACE 3/92

DP3

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: P WYCHOFF, N. HILL	Date: 13 MAY 2008 County: MONROE State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: DP3

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Carex vulpinoidea (35%)	H	OBL	9.		
2. Carex vesicaria (25%)	H	OBL	10.		
3. Ulmus americana	S	FACW-	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: Forested wetland

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ✓ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 0 (in.) Depth to Free Water in Pit: 2 (in.) Depth to Saturated Soil: 0 (in.)	

Remarks: Trees appear to be retrieving water

SOILS

Map Unit Name (Series and Phase): 21 LenaWee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-0.5	O				SILT LOAM
0.5-4	A	7.5YR 2/1			SILT LOAM
4-12	B	7.5YR 3/1			SILT LOAM

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks: Area recently cleared & planted with native prairie grasses.

Approved by HQUSACE 3/92

VP2

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE MI-188-1 Applicant/Owner: DTE Investigator: P. Winchoff N. Hall	Date: 13 MAY 2008 County: Monroe State: MI
Do Normal Circumstances Exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: VP2

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	H	FACW	9.		
2. Cirsium vulgare	H	FACU-	10.		
3. Cornus amomum	S	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66%

Remarks: Area sampled - upland plants
The wetland plants dominated the northwestern edge of the plot. The non-dominant vegetation consists of many facultative upland species.

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ✓ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: 8 (in.) Depth to Free Water in Pit: >12 (in.) Depth to Saturated Soil: >12 (in.)	
Remarks:	

SOILS

Map Unit Name (Series and Phase): 21 Lenawee Silty Clay Loam

Drainage Class: Poorly Drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	O				silt loam
1-12	A	10YR 2/1	—	—	Si - loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface Layer Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ✓ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is this Sampling Point Within a Wetland? (Yes) No

Remarks: DATA POINT LOCATED IN Wetland A.

Approved by HQUSACE 3/92

DP1

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: DTE Applicant/Owner: DTE Investigator: R. Hyckoff, N.J. Hill	Date: 13 May 2008 County: Monroe State: MI
Do Normal Circumstances Exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? Yes (No) Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID : Transect ID: Plot ID: DP1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Carex bebbii 60%	H	OBL	9.		
2. Phalaris arundinacea 20%	H	FACW+	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ✓ Aerial Photographs ___ Other ___ No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ✓ Inundated ✓ Saturated in Upper 12 Inches ___ Water Marks ✓ Drift Lines ___ Sediment Deposits ✓ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ✓ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: ½ (in.) Depth to Free Water in Pit: 2 (in.) Depth to Saturated Soil: 0 (in.)	
Remarks:	

Ducks Unlimited_Wetland Report_Appendix C

APPENDIX C

FUNCTIONS/VALUES ASSESSMENT FORMS

Wetland Function-Value Evaluation Form

B, D, F, G, I, L, O, P, S

Total area of wetland 183 ac. Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Emerg marsh, Agriculture, Lake Erie, Forestry Distance to nearest roadway or other development 0'

Dominant wetland systems present PEO, PSS Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list) Appendix D

Wetland I.D. T, V, X, Y, AA, GG, KK

Latitude 41.911 Longitude -83.261

Prepared by: SH Date 6/18/08

Wetland Impact:
Type ✓ Area ✓

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y ✓ N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X	7, 15		Surface water driven
Floodflow Alteration	X		1, 3, 5-13, 15, 17	X	large, flood storage, restricted outlet, dense veg
Fish and Shellfish Habitat		X	–		–
Sediment/Toxicant Retention	X		1, 2, 4, 8-10, 13, 14	X	Sediment from Ag, ↑ density veg, slow water
Nutrient Removal	X		1, 3-4, 7, 12-14	X	source of nut from ag, large wetland area, dense veg
Production Export	X		1, 2-5		habitat, breeding, connected to wider scrub, some conn.
Sediment/Shoreline Stabilization	X		3-4, 6, 9, 13-14		Sediment from Ag, dense veg additional to PEM
Wildlife Habitat	X		1, 4-9, 11, 12, 14, 16, 17, 23	X	Part of large, diverse types, buffered by ag, diverse
Recreation		X	5, 9		No access
Educational/Scientific Value		X	1, 5, 6, 14		No access
Uniqueness/Heritage	X		4, 5, 23, 27, 28, 31		part of diverse wetland system, suitable for ES, functions, types
Visual Quality/Aesthetics		X			No access
ES Endangered Species Habitat	X		1, 2,		
Other					

Notes:

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

EE, FF, II

Total area of wetland 380 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forested wetland, Lake Erie, Agriculture (Power plant (industry)) Distance to nearest roadway or other development: 0'

Dominant wetland systems present PEM, open water Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list) - Appendix D

Wetland I.D. A, C, J, M, N, R, W, Z, AA, CC, DD

Latitude 41.961 Longitude -83.261

Prepared by: SH Date 6/18/08

Wetland Impact:
Type - Area -

Evaluation based on:
Office V Field V

Corps manual wetland delineation completed? Y V N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		X	7, 15		Primarily surface water driven system.
Floodflow Alteration	X		1,3,5-8, 10-13, 15, 17, 18	X	Large flood storage potential, flat, hydric, outlet constricted
Fish and Shellfish Habitat	X		2, 3-6, 8-12, 14-17	X	Large wetland, cover, food sources, connected to Lake Erie, Pike
Sediment/Toxicant Retention	X		1-8, 10-16	X	Sediment from active ag, slow watercourse, dense veg
Nutrient Removal	X		1-14	X	Source of nutrients in ag land, large, deep, dense veg.
Production Export	X		1-7, 10-11		wildlife habitat, breeding/spawning, & diversity
Sediment/Shoreline Stabilization	X		3, 4, 6-7, 9, 12-13, 15	X?	sediment screen upstream ~~rivers~~, dense veg, buffer storms
Wildlife Habitat	X		4-9, 11-13, 16-21, 23	X	diverse cover types, large size, ag buffer, ↑ diversity, wildlife obs.
Recreation		X	5, 9		Some suitability but NO access for recreation
Educational/Scientific Value		X	1, 5, 6, 14		" " " education
Uniqueness/Heritage	X		4-6, 24, 27-28, 31		Diverse wetland types, habitat suitable for ES, multiple functions, Mass
Visual Quality/Aesthetics ?		X	—		Some suitability, NO access
ES Endangered Species Habitat	X		1, 2		E. fox snake observed
Other					

Notes:

* Refer to backup list of numbered considerations.

Wetland Evaluation Supporting Documentation:

Listed below are the thirteen functions and values typically considered by the U.S. Army Corps of Engineers Regulatory Branch for Section 404 wetland permits. The Considerations and Qualifiers associated with each function and value were found in The Highway Methodology Workbook Supplement: Wetland Functions and Values: *A Descriptive Approach* and originally used for a New Hampshire highway project. The published considerations are flexible, based on best professional judgment and interdisciplinary team consensus and provide a comprehensive base for use in other projects.

Groundwater Recharge/Discharge:

This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. Recharge should relate to the potential for the wetland to contribute water to an aquifer. Discharge should relate to the potential for the wetland to serve as an area where groundwater can be discharged to the surface. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

CONSIDERATIONS/QUALIFIERS

1. Public or private wells occur downstream of the wetland.
2. Potential exists for public or private wells downstream of the wetland.
3. Wetland is underlain by stratified drift.
4. Gravel or sandy soils present in or adjacent to the wetland.
5. Fragipan does not occur in the wetland.
6. Fragipan, impervious soils, or bedrock does occur in the wetland.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present or piezometer data demonstrates recharge.
9. Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet, no inlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with the wetland is high.
13. Signs of groundwater discharge are present (e.g., springs).
14. Water temperature suggests it is a discharge site.
15. Wetland shows signs of variable water levels.
16. Piezometer data demonstrates discharge.
17. Other

Floodflow Alteration (Storage and Desynchronization):

This function considers the effectiveness of the wetland in reducing flood damage by attenuation of floodwaters for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

CONSIDERATIONS/QUALIFIERS

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high percent of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures, or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other

Fish and Shellfish Habitat:

This function considers the effectiveness of seasonal or permanent waterbodies associated with the wetland in question for fish and shellfish habitat.

CONSIDERATIONS/QUALIFIERS

1. Forest land dominant in the watershed above this wetland.
2. Abundance of cover objects present.

STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

3. Size of this wetland is able to support large fish/shellfish populations.
4. Wetland is part of a larger, contiguous watercourse.
5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retain some open water during winter.
6. Stream width (bank to bank) is more than 50 feet.
7. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
8. Streamside vegetation provides shade for the watercourse.
9. Spawning areas are present (submerged vegetation or gravel beds).
10. Food is available to fish/shellfish populations within this wetland.
11. Barrier(s) to anadromous fish (such as dams, including beaver dams, waterfalls, road crossing) are absent from the stream reach associated with this wetland.
12. Evidence of fish is present.
13. Wetland is stocked with fish.
14. The watercourse is persistent.
15. Man-made streams are absent.

16. Water velocities are not too excessive for fish usage.
17. Defined stream channel is present.
18. Other

Sediment/Toxicant/Pathogen Retention:

This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands or upstream eroding wetland areas.

CONSIDERATIONS/QUALIFIERS
1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Fine grained mineral or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

10. Wetland is associated with an intermittent or perennial stream or a lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation is present.
17. Other

Nutrient Removal/Retention/Transformation:

This function relates to the effectiveness of the wetland to prevent adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries. This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

CONSIDERATIONS/QUALIFIERS
1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.
4. Potential sources of excess nutrients are present in the watershed above the wetland.
5. Wetland saturated for most of the season. Ponded water is present in the wetland.

6. Deep organic/sediment deposits are present.
7. Slowly drained fine grained mineral or organic soils are present.
8. Dense vegetation is present.
9. Emergent vegetation and/or dense woody stems are dominant.
10. Opportunity for nutrient attenuation exists.
11. Vegetation diversity/abundance sufficient to utilize nutrients.
STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.
12. Waterflow through this wetland is diffuse.
13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
14. Water moves slowly through this wetland.
15. Other

Production Export (Nutrient):

This function relates to the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

CONSIDERATIONS/QUALIFIERS
1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland
3. Economically or commercially used products found in this wetland.
4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are utilizing this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plant community structure/species diversity.
9. High aquatic vegetative diversity/abundance is present.
10. Nutrients exported in wetland watercourses (permanent outlet present).
11. "Flushing" of relatively large amounts of organic plant material occurs from this wetland.
12. Wetland contains flowering plants that are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring, however, no visible signs of export (assumes export is attenuated).
15. Other

Sediment/Shoreline Stabilization:

This function relates to the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.

CONSIDERATIONS/QUALIFIERS
1. Indications of erosion or siltation are present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. Potential sediment sources are present upstream.
5. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.

6. A distinct step between the open waterbody or stream and the adjacent land exists (i.e., sharp bank) with dense roots throughout.
7. Wide wetland (>10') borders watercourse, lake, or pond.
8. High flow velocities in the wetland.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake, or pond.
13. High percentage of energy-absorbing emergents and/or shrubs border a watercourse, lake, or pond.
14. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation is comprised of a dense resilient herbaceous layer that stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other.

Wildlife Habitat:

This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.

CONSIDERATIONS/QUALIFIERS
1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.
3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., brushland, woodland, active farmland, or idle land) at least 500 feet in width.
6. Wetland is contiguous with other wetland systems connected by a watercourse or lake.
7. Wildlife overland access to other wetlands is present.
8. Wildlife food sources are within this wetland or are nearby.
9. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.
10. Two or more islands or inclusions of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland, are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/ shrub/vine/grasses/mosses)
16. Plant/animal indicator species are present. (List species for project)
17. Animal signs observed (tracks, scats, nesting areas, etc.)
18. Seasonal uses vary for wildlife and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.

21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species are present.
23. Signs of wildlife habitat enhancement are present (birdhouses, nesting boxes, food sources, etc.).
24. Other

Recreation (Consumptive and Non-Consumptive):

This value considers the effectiveness of the wetland and associated water-courses to provide recreational opportunities such as canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive activities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland, whereas non-consumptive activities do not.

CONSIDERATIONS/QUALIFIERS
1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality of this potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other

Educational/Scientific Value:

This value considers the effectiveness of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

CONSIDERATIONS/QUALIFIERS
1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc.).
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site is within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site is available.

12. Direct access to pond or lake at potential educational site is available.
13. No known safety hazards exist within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.
17. Other

Uniqueness/Heritage:

This value relates to the effectiveness of the wetland or its associated waterbodies to produce certain special values. Special values may include such things as archaeological sites, unusual aesthetic quality, historical events, relative importance of wetland class geographicly, or unique plants, animals, or geologic features.

CONSIDERATIONS/QUALIFIERS
1. Upland surrounding wetland is primarily urban.
2. Upland surrounding wetland is developing rapidly.
3. More than 3 acres of shallow permanent open water (less than 6.6 feet deep), including streams, occur in wetlands.
4. Three or more wetland classes are present.
5. Deep and/or shallow marsh or wooded swamp dominate.
6. High degree of interspersion of vegetation and/or open water occur in this wetland.
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake exists at potential educational site.
12. Two or more wetland classes are visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) are visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings are found within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland is within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures, or associated features occur within the wetland.
24. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because it serves several functional values.

28. Wetland has local significance because it has biological, geological, or other features that are locally rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is located in an area experiencing a high wetland loss rate.
32. Other

VQ Visual Quality/Aesthetics:

This value relates to the visual and aesthetic qualities of the wetland.

CONSIDERATIONS/QUALIFIERS
1. Multiple wetland classes are visible from primary viewing locations.
2. Emergent marsh and/or open water are visible from primary viewing locations.
3. A diversity of vegetative species is visible from primary viewing locations.
4. Wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use form contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other

ES Threatened or Endangered Species Habitat:

This value considers the suitability of the wetland to support threatened or endangered species.

CONSIDERATIONS/QUALIFIERS
1. Wetland contains or is known to contain threatened or endangered species.
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.

APPENDIX D

FLORA AND FAUNA SPECIES LISTS

The following flora and fauna species were observed by DU staff at the Site during wetland delineation and functions and values assessment field work in May and June 2008.

FLORA

Scientific Name	Common Name	Wetland Indicator	Physiognomy
Acer negundo	Box Elder	FACW-	Nt Tree
Acer rubrum	Red Maple	FAC	Nt Tree
Acer saccharinum	Silver Maple	FACW	Nt Tree
Alliaria petiolata	Garlic Mustard	FAC	Ad B-Forb
Bacopa rotundifolia	Water Hyssop		Forb
Brassica nigra	Black Mustard	[UPL]	Ad A-Forb
Carex grayi	Gray's Sedge	FACW+	Nt P-Sedge
Carex vesicaria	Inflated sedge	OBL	Nt P-Sedge
Carya laciniosa	Shellbark Hickory	FACW	Nt Tree
Cephalanthus occidentalis	Buttonbush	OBL	Nt Shrub
Ceratophyllum demersum	Coontail	OBL	Nt P-Forb
Cornus amomum	Silky Dogwood	FACW+	Nt Shrub
Cornus stolonifera	Red Osier Dogwood	FACW	Nt Shrub
Crataegus sp.	Hawthorn	[UPL]	Nt Tree
Equisetum sp.	Horsetail		Nt Fern Ally
Erigeron sp.	Fleabane		Forb
Eupatorium perfoliatum	Common Boneset	FACW+	Nt P-Forb
Eupatorium rugosum	White Snakeroot	[FACU]	Nt P-Forb
Fragaria virginiana	Wild Strawberry	FAC-	Nt P-Forb
Fraxinus pennsylvanica	Green Ash (Red Ash)	FACW	Nt Tree
Galium palustre	Marsh Bedstraw	[OBL]	Nt P-Forb
Galium sp.	Bedstraw	FAC	NT A-Forb
Geum sp.	Avens		Forb
Impatiens capensis	Jewelweed	FACW	Forb
Juglans nigra	Black Walnut	[FACU]	Nt Tree
Lycopus americanus	Common Water Horehound	OBL	Nt P-Forb
Morchella esculenta	Morel Mushrooms!		
Nymphea sp./ Nuphar sp.	Water Lily	OBL	Nt P-Forb
Onoclea sensibilis	Sensitive Fern	FACW	Nt Fern
Parthenocissus quinquefolia	Virginia Creeper	FAC-	Nt W-Vine
Phalaris arundinacea	Reed Canary Grass	FACW+	Nt P-Grass
Phragmites australis	Common Reed	FACW+	Nt P-Grass
Pilea pumila	Clearweed	FACW	Nt A-Forb
Platanus occidentalis	Sycamore	FACW	Nt Tree
Polygonum	Smartweed		Forb
Populus deltoides	Eastern Cottonwood	FAC+	Nt Tree
Prunus serotina	Wild Black Cherry	FACU	Nt Tree
Quercus bicolor	Swamp White oak	FACW+	Nt Tree
Quercus macrocarpa	Bur Oak	FAC-	Nt Tree
Quercus rubra	Red Oak	FAC	Nt Tree
Rhamnus frangula	Glossy Buckthorn	FAC+	Ad Shrub
Rhamnus sp.	Buckthorn		Ad Shrub
Sagittaria sp.	Arrowhead	OBL	Nt A-Forb
Salix sp.	Willow		Shrub/Tree

Solidago sp.	Golden Rod species		Forb
Taraxacum officinale	Common Dandelion	FACU	Ad P-Forb
Tilia americana	Basswood	FACU	Nt Tree
Toxicodendron sp.	Poison Ivy	FAC+	Nt W-Vine
Typha angustifolia	Narrow-Leaved Cattail	OBL	Ad P-Forb
Ulmus americana	American Elm	FACW-	Nt Tree
Ulmus rubra	Slippery Elm	FAC	Nt Tree
Viola sp.	Violet		Forb
Vitis riparia	Riverbank Grape	FACW-	Nt W-Vine
Vitus sp.	Grape		Nt W-Vine

FAUNA

Scientific Name	Common Name	Scientific Name	Common Name
Sylvilagus floridanus	Cottontail Rabbit	Quiscalus quiscula	Common Grackle
Canis latrans	Coyote	Stumus vulgaris	European Starling
Ondatra zibethicus	Muskrat	Myiarchus crinitus	Great Crested Flycatcher
Procyon lotor	Raccoon	Setophaga ruticilla	American Redstart
Sciurus niger	Eastern Fox Squirrel	Seiurus noveboracensis	Northern Waterthrush
Odocoileus virginianus	Whitetail Deer	Empidonax virescens	Willow Flycatcher
Ardea alba	Great Egret	Picoides pubescens	Downy Woodpecker
Bubulcus ibis	Cattle Egret	Picoides villosus	Hairy Woodpecker
Butorides virescens	Green Heron	Melanerpes carolinus	Red-bellied Woodpecker
Ardea herodias	Great Blue Heron	Colaptes auratus	Northern Flicker
Branta canadensis	Canada Goose	Sitta carolinensis	White-breasted Nuthatch
Anas platyrhynchos	Mallard	Melospiza melodia	Song Sparrow
Aix sponsa	Wood Duck	Spizella pusilla	Field Sparrow
Anas rubripes	Black Duck	Cardinalis cardinalis	Northern Cardinal
Cygnus olor	Mute Swan	Geothlypis trichas	Common Yellowthroat
Podilymbus podiceps	Pied-Billed Grebe	Vireo olivaceus	Red-eyed Vireo
Phalacrocorax auritus	Double-crested Cormorant	Vireo gilvus	Warbling Vireo
Haliaeetus leucocephalus	Bald Eagle	Cyanocitta cristata	Blue Jay
Buteo jamaicensis	Red-tailed Hawk	Tachycineta bicolor	Tree Swallow
Accipiter cooperii	Cooper's Hawk	Baeolophus bicolor	Tufted Titmouse
Pandion haliaetus	Osprey	Mniotilta varia	Black-and-white Warbler
Cathartes aura	Turkey Vulture	Catharus sp.	Thrush
Phasianus colchicus	Ring-necked Pheasant	Molothrus ater	Brown-headed Cowbird
Meleagris gallopavo	Wild Turkey	Progne subis	Purple Martin
Scolopax minor	American Woodcock	Carduelis tristis	American Goldfinch
Gallinago delicata	Common Snipe	Empidonax sp.	Flycatcher
Tyrannus tyrannus	Eastern Kingbird	Pheucticus ludovicianus	Rose-breasted Grosbeak
Megaceryle alcyon	Belted Kingfisher	Dendroica magnolia	Magnolia Warbler
Troglodytes aedon	House Wren	Turdus migratorius	American Robin
Cistothorus palustris	Marsh Wren	Orconectes rusticus	Rusty Crayfish
Dendroica petechia	Yellow Warbler	Lepisosteus sp.	Gar
Dendroica dominica	Yellow Throated Warbler	Cyprinus carpio	Common Carp
Passerina cyanea	Indigo Bunting	Rana pipiens	Northern Leopard Frog
Charadrius vociferous	Killdeer	Apalone spinifera	Spiny Soft-shell Turtle
Passer domesticus	House Sparrow	Graptemys geographica	Common Map Turtle
Sialia sialis	Eastern Bluebird	Chrysemys picta	Painted Turtle
Corvus brachyrhynchos	American Crow	Chelydra serpentina	Common Snapping Turtle
Zenaida macroura	Mourning Dove	Elaphe gloydi	Eastern Fox Snake
Poecile atricapillus	Black-capped Chickadee	Thamnophis sirtalis	Eastern Garter Snake
Icterus galbula	Baltimore Oriole		
Agelaius phoeniceus	Red-winged Blackbird		

APPENDIX E

QUALIFICATIONS

Investigative Staff Qualifications

On-site wetland delineations and data inventories were performed by the following DU staff:

Sheila Hess, Regional Biologist/Mitigation Specialist
Ms. Hess is responsible for the coordination and delivery of wetland mitigation strategy. She has experience with regulations that apply to compensatory wetland mitigation and with the protection, restoration, creation and evaluation of diverse wetland types and coordinates all aspects of mitigation projects including contract development, site identification, wetland delineation, land protection, survey, wetland design, construction management and monitoring and evaluation. Ms. Hess works with a team of biologists and engineers to develop creative, high-quality mitigation strategies that result in the successful replacement of wetlands functions.

Peter Wyckoff, Engineer
Mr. Wyckoff delivers conservation services throughout the Great Lakes region, including conducting topographic surveys of possible restoration sites, performing engineering design requirements for wetland restoration projects, computer-aided drafting, construction management, and wetland delineation. Mr. Wyckoff's technical skills include GPS surveys, AutoDesk Land Desktop, HydroCAD modeling, hydraulic engineering design and engineering design of aquaponics systems. Mr. Wyckoff has completed a Wetland Delineation short course.

Gregg Bachman, Senior Engineering Specialist
Mr. Bachman is in charge of topographic surveying and construction staking for wetland restoration projects. He is involved with the pre-survey planning, data collection and development of the final topographic survey drawings. Mr. Bachman provides horizontal and vertical control for topographic mapping and project construction, utilizing GPS equipment and conventional survey equipment. Mr. Bachman develops stakeout plans from the engineer's plans to provide staking in the field for construction of the wetland restoration project. Mr. Bachman is also involved in all aspects of the engineering department regarding the delivery of wetland restoration projects, including bid preparation, construction plan review, on-site construction inspection and construction management.

Jade Phillips, Engineering Technician
Mr. Phillips is involved with the engineering department delivering conservation services throughout the Mid-Atlantic region by surveying wetland restoration sites, on-site construction inspection and construction management. Mr. Phillips brings with him 11 years experience as an engineering technician with the Maryland Department of Agriculture. While with the Department of Agriculture he was responsible for the survey, design, layout and construction management of projects beneficial to agriculture and wildlife.

Warren Weirich, Manager of Conservation Programs
Mr. Weirich oversees multiple aspects of regional or national conservation service functions, such as project coordination, engineering, information systems, budgets, contract compliance and new product design. Mr. Weirich also supervises engineering staff associated with project delivery.

Nina Hill, Conservation Specialist

Ms. Hill works closely with the Regional Biologists of the Great Lakes Management Unit in the initiation and delivery of habitat conservation projects. She responds to requests from across the five state region, including technical assistance, land protection, local policy issues, and research on waterfowl issues. She conducts initial consultation and site evaluation for private lands restoration projects, and communicates project viability with various partner organizations. Through DU's partnership in Lake Erie CREP, Ms. Hill coordinates outreach efforts and assists private landowners through enrollment in this cost-share program. Ms. Hill's experience includes a variety of wildlife research projects examining habitat selection and factors influencing breeding success of waterbird, fish and amphibian species.

Kirk Mantay, Regional Biologist

Mr. Mantay is responsible for delivery of wetland conservation projects in multiple states in the Great Lakes Atlantic Region. He has conducted plant and/or wildlife inventories and endangered species studies, and has designed and implemented habitat restorations throughout the Mid-Atlantic region. His habitat design and construction experience ranges from submerged aquatic vegetation bed restoration to diamondback terrapin nesting habitat restoration, to transitional grassland management for waterfowl nesting.

UPLOAD OF PROPOSED SITE PLANS

Impact Figures

Attachment 5-1 Project Location Map

Attachment 6-1 Other Agency Authorizations

Impact Tables

Photographs

JPA-Overall Fermi 3 Site Figure B & W

JPA Fermi 3 Overall 24x36 Color Figure

Impact Figures

Figures
(56 pages following cover pages)

Site Wide
Figure 2-1 Existing Site Conditions
Figure 2-2 Wetland Delineation Map
Figure 2-3 Wetland Impact Map
Figure 2-4 Legend of Construction Area Locations
Figure 2-5 Site Plan
Figure 2-5A Site Plan
Figure 2-5B Site Plan
Figure 2-5C Site Plan
Figure 2-5D Site Plan
Figure 2-5E Site Plan
Figure 2-5F Site Plan
Figure 2-5G Site Plan
Figure 2-5H Site Plan

Construction Area 1
Figure 12-2A Construction Area 1 Plan View A
Figure 12-2B Construction Area 1 Plan View B
Figure 12-2C Construction Area 1 Section Details

Construction Area 2
Figure 12-3A Construction Area 2 Plan View
Figure 12-3B Construction Area 2 Section Details

Construction Area 3
Figure 12-4A Construction Area 3 Plan View A
Figure 12-4B Construction Area 3 Plan View B
Figure 12-4C Construction Area 3 Section Details

Construction Area 4
Figure 12-5A Construction Area 4 Plan View
Figure 12-5B Construction Area 4 Section Details

Construction Area 5
Figure 10-3A Construction Area 5 Plan View
Figure 10-3B Construction Area 5 Profile of Proposed South Canal Culverts
Figure 12-6A Construction Area 5 Plan View
Figure 12-6B Construction Area 5 Section Details
Figure 14-1A Construction Area 5 Plan View
Figure 14-1B Construction Area 5 Profile of Proposed South Canal Culverts

Figures Continued

Warehouse, PAP/VIB and Parking Garage
Figure 10-1A Warehouse, PAP/VIB Parking Garage Plan View of Culverts at Doxy Road
Figure 10-1B Warehouse, PAP/VIB Parking Garage Profile Proposed Culverts at Doxy Rd.
Figure 10-1C Warehouse, PAP/VIB Parking Garage Section 'A' Details
Figure 10-1D Warehouse, PAP/VIB Parking Garage Section 'B' Details
Figure 12-7A Warehouse, PAP/VIB and Parking Garage Plan View
Figure 12-7B Warehouse, PAP/VIB and Parking Garage Section "C" Details

New Operations Access Road
Figure 10-4A New Operations Access Road Plan View
Figure 10-4B New Operations Access Road 22' x 7' Box Culvert Plan View
Figure 12-8A New Operations Access Road Plan View A
Figure 12-8B New Operations Access Road Plan View B
Figure 12-8C New Operations Access Road Section Details
Figure 14-2A New Operations Access Road Plan View
Figure 14-2B New Operations Access Road Typical Section for Curb and Gutter Typical Section and Detail Profile Sediment Trap
Figure 14-2C New Operations Access Road Security Gate Section 'A' Details
Figure 14-2D New Operations Access Road Profile of Proposed Culverts A – D
Figure 14-2E New Operations Access Road 22' x 7' Box Culvert Plan View
Figure 14-2F New Operations Access Road Elevation 'B' and Section 'D' Details
Figure 14-2G New Operations Access Road Plan View Section 'C' Details

Onsite Transmission
Figure 12-9A Onsite Transmission Plan View
Figure 12-9B Onsite Transmission Section Details

Lake Erie Construction Area
Figure 10-2A Lake Erie Construction Area Plan and Profile of Proposed Fermi 3 Discharge Pipe
Figure 10-2B Lake Erie Construction Area Discharge Pipe Dredging Section 'A' Details
Figure 10-2C Lake Erie Construction Area Pipe Dredging Section 'B' Details
Figure 10-2D Lake Erie Construction Area Intake & Proposed Sheet Piling Section Details
Figure 10-2E Lake Erie Construction Area Proposed Intake Structure Section 'D' Details
Figure 10-2F Lake Erie Construction Area Proposed Cofferdam
Figure 10-2G Lake Erie Construction Area Proposed Fermi 3 Discharge Pipe Riser Detail

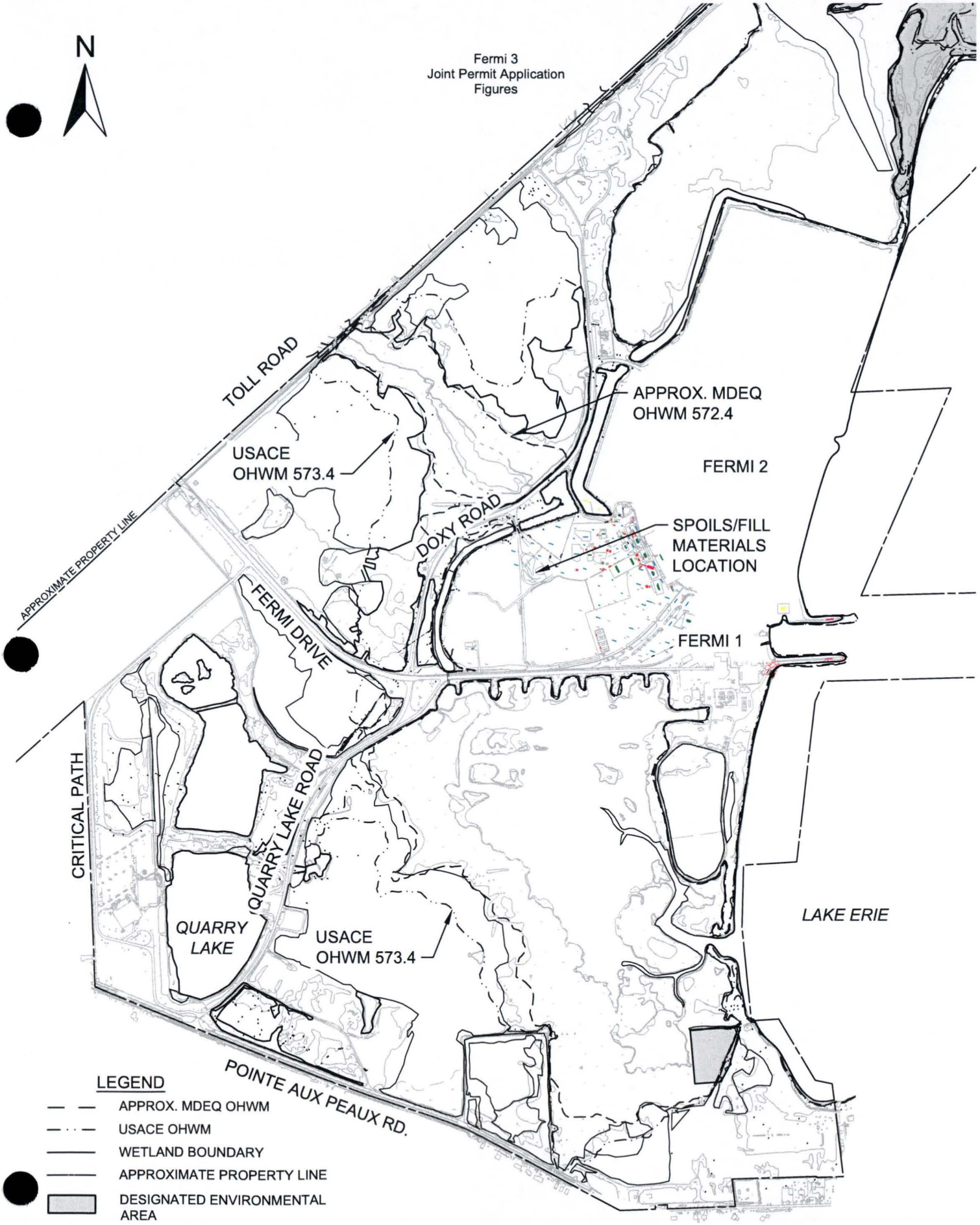


FIGURE 2-1 EXISTING SITE CONDITIONS

SCALE: 1"=1000'

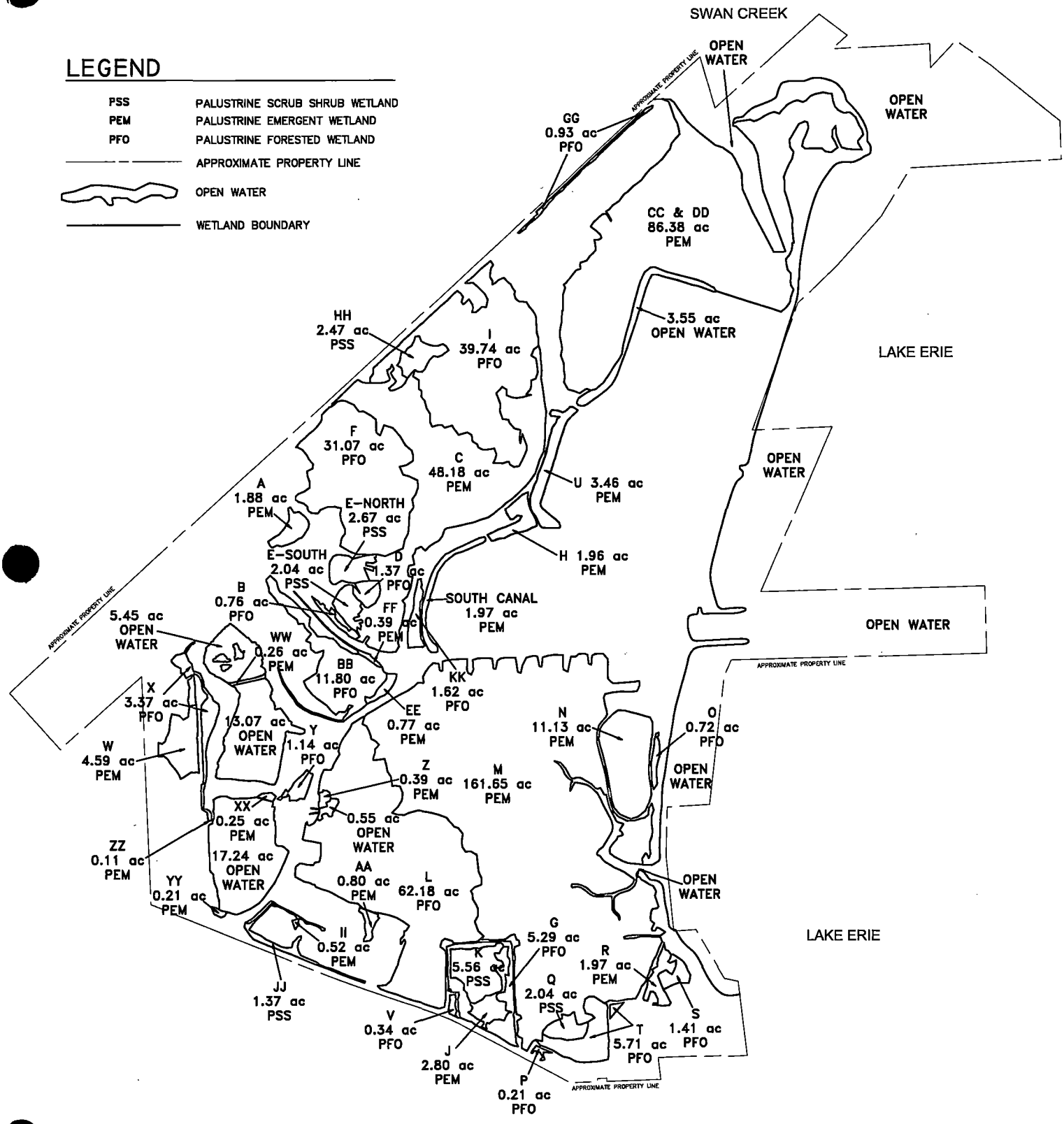


FIGURE 2-2 WETLAND DELINEATION MAP

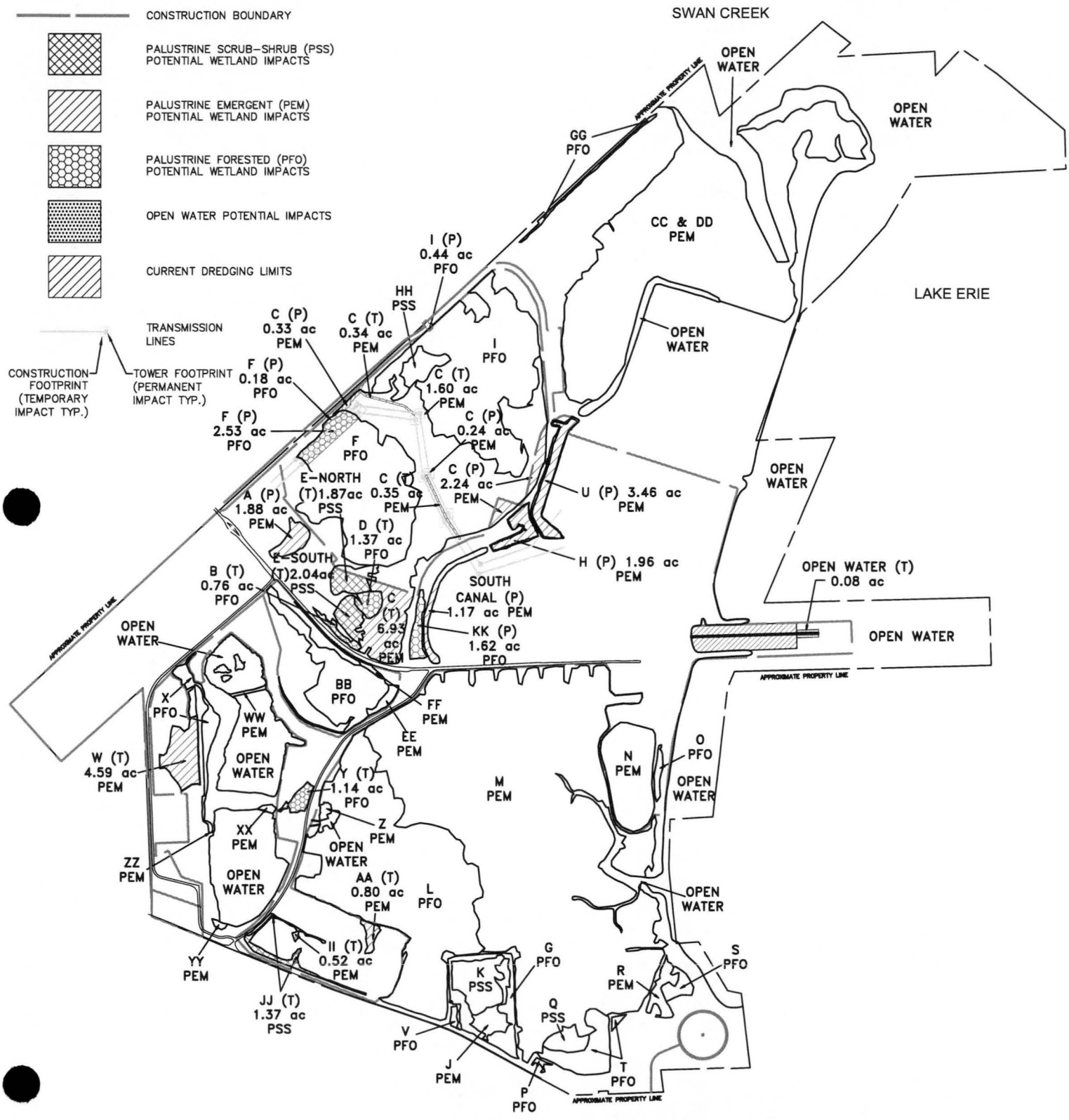


FIGURE 2-3 WETLAND IMPACT MAP

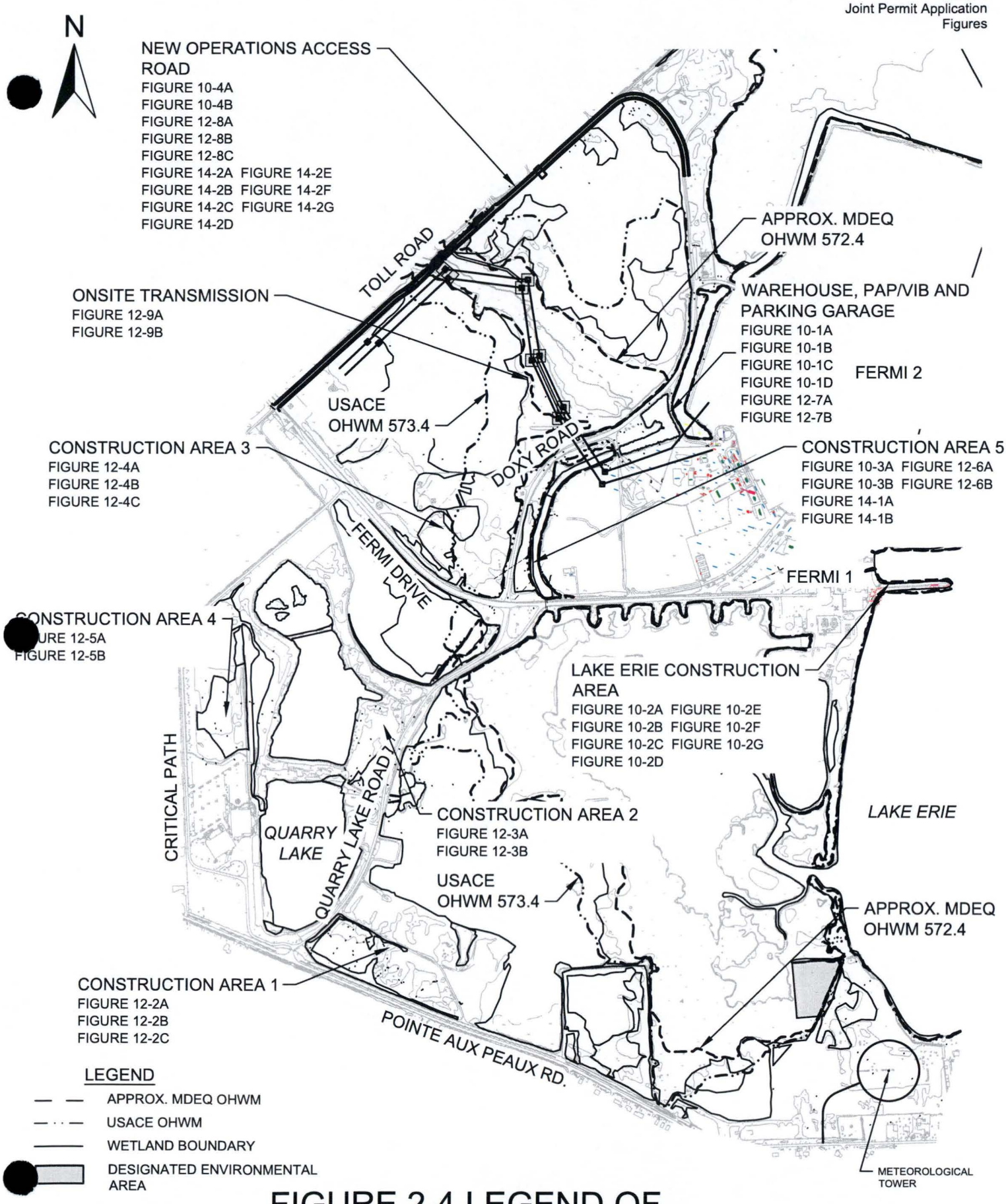


FIGURE 2-4 LEGEND OF CONSTRUCTION AREA LOCATIONS

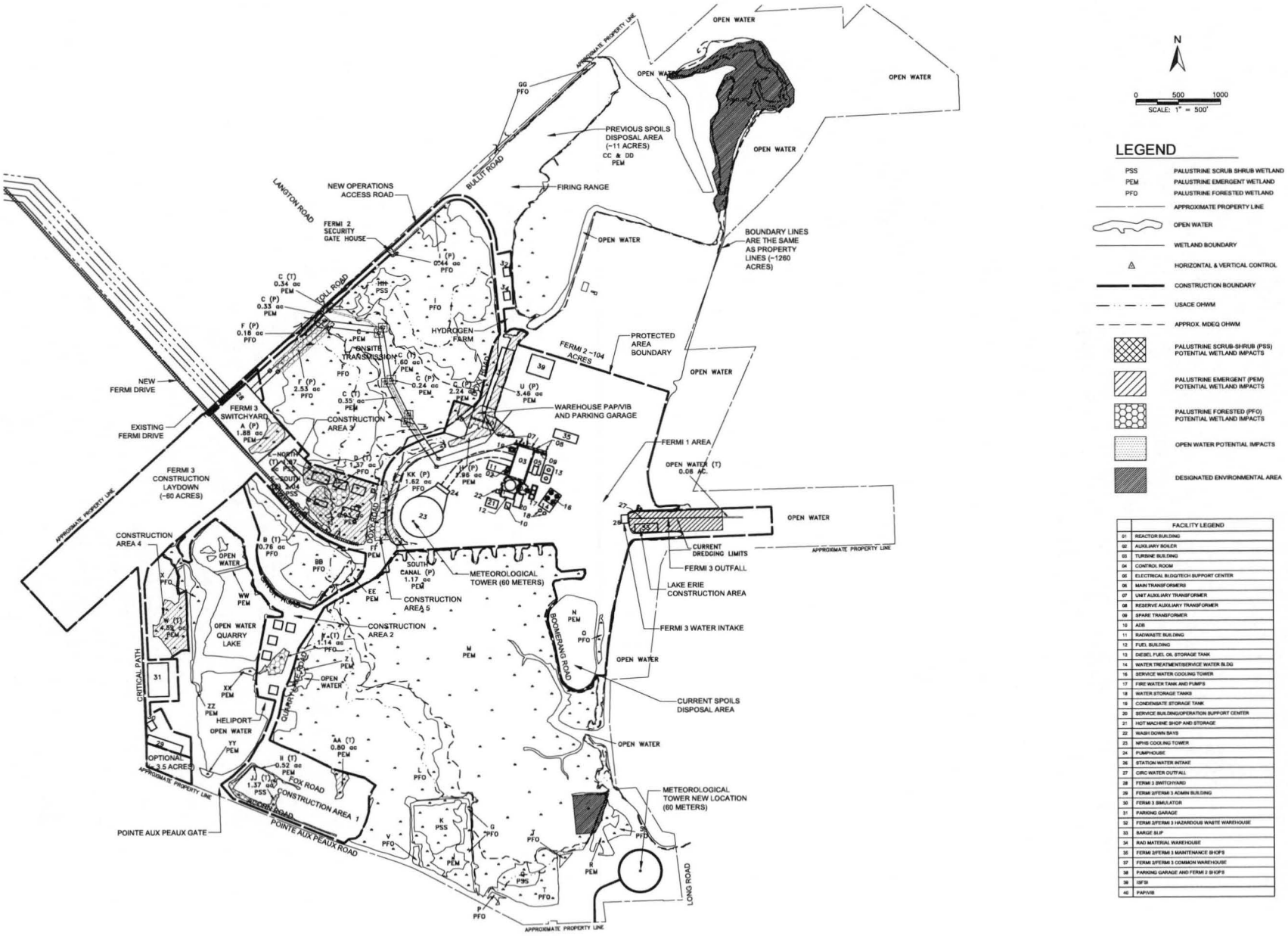
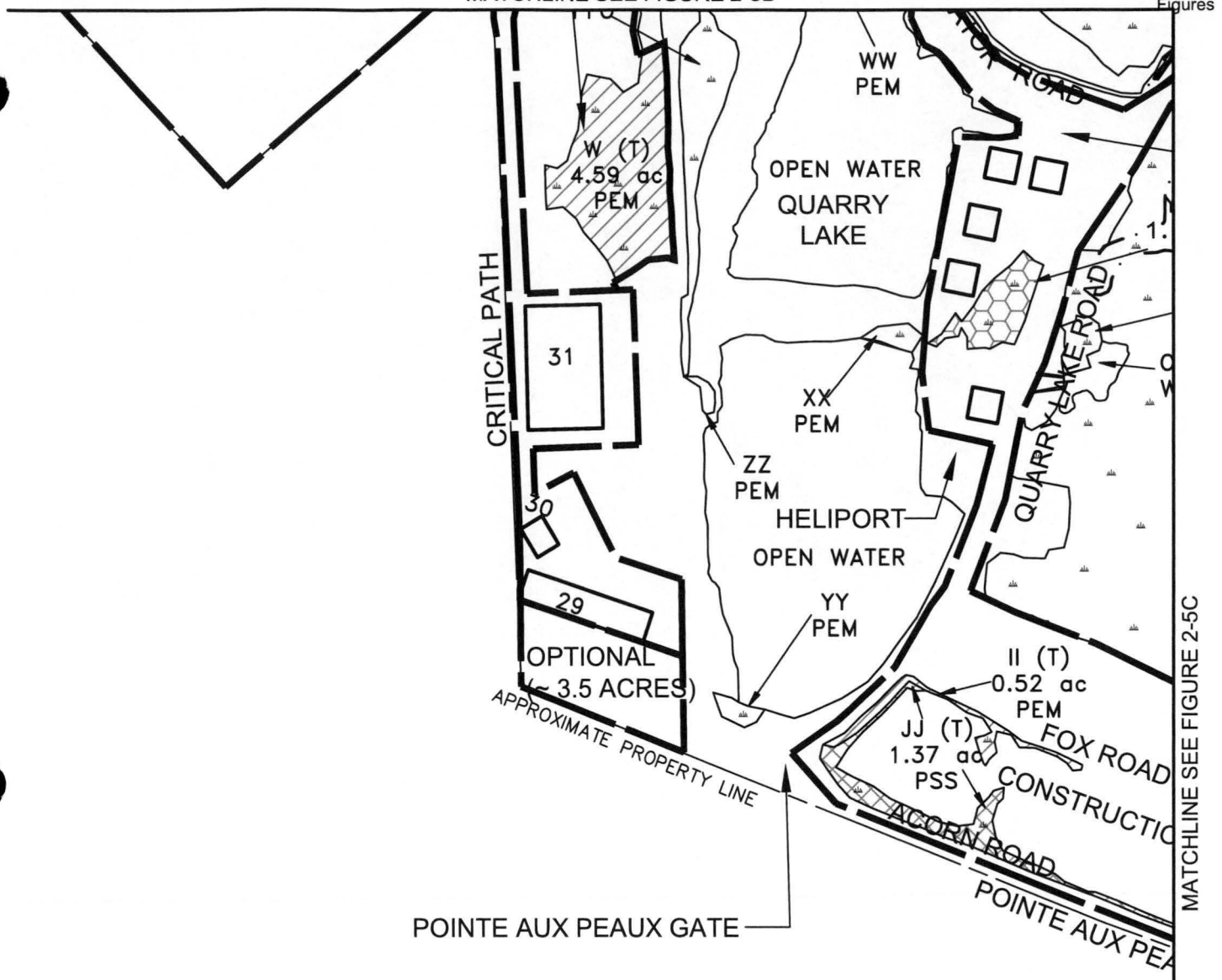
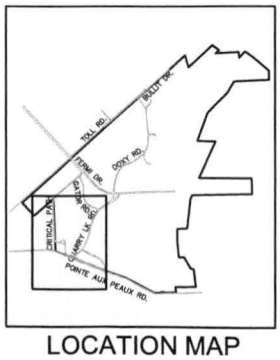


FIGURE 2-5 SITE PLAN

NO SCALE





LOCATION MAP

LEGEND

- APPROX. MDEQ OHWM
- USACE OHWM
- WETLAND LIMIT
- CONSTRUCTION BOUNDARY

FIGURE 2-5A SITE PLAN

SCALE: 1"=500'

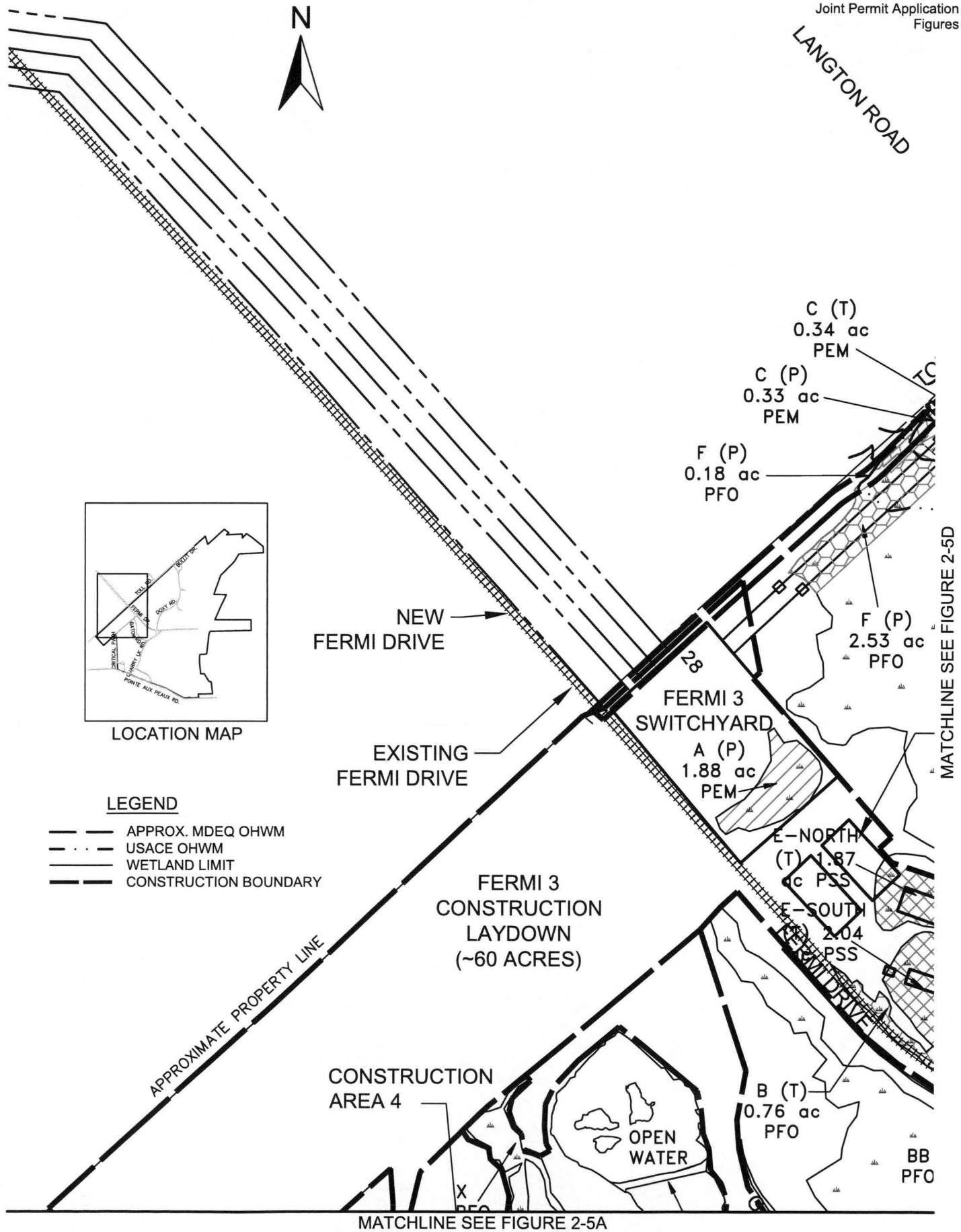
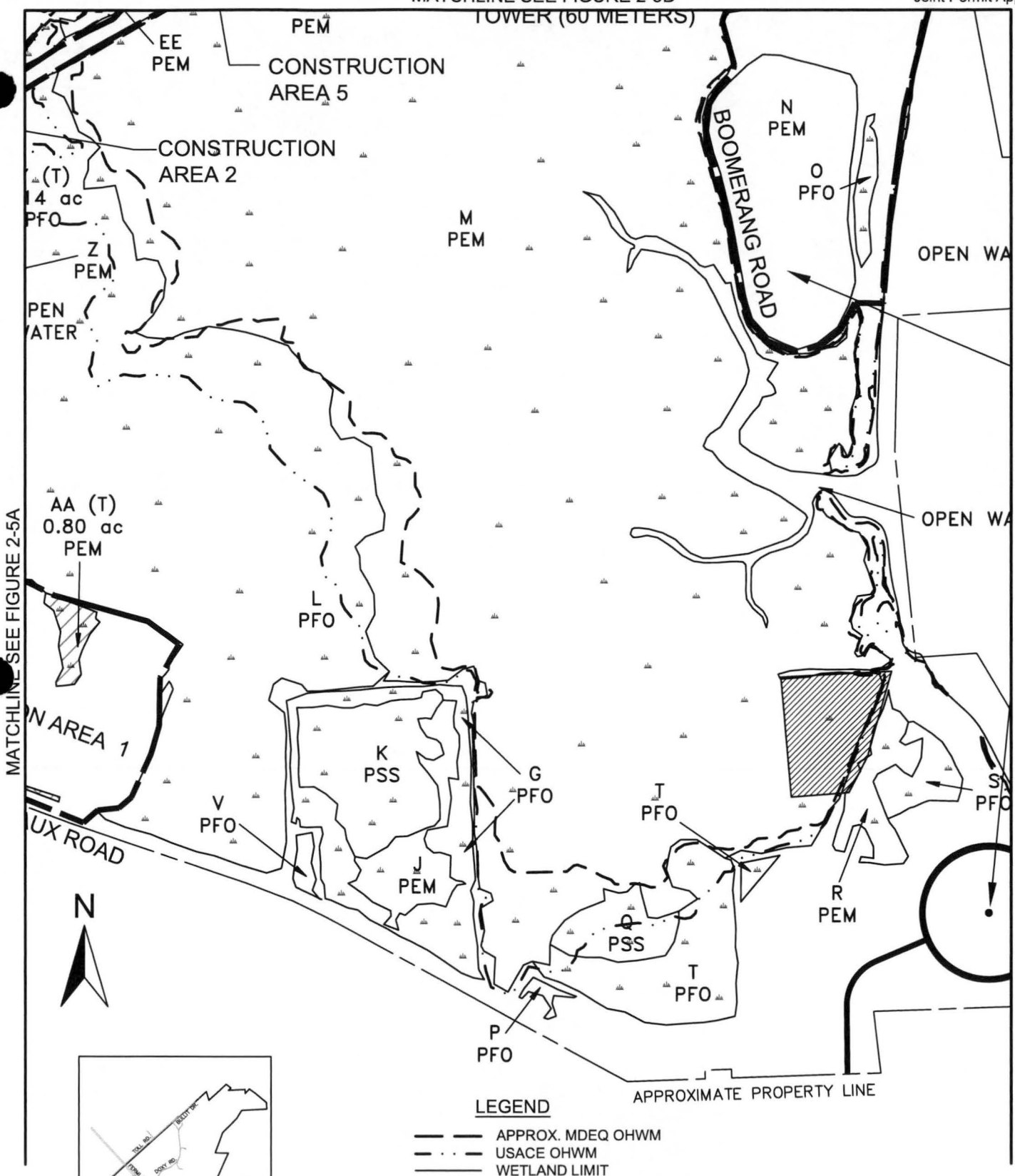
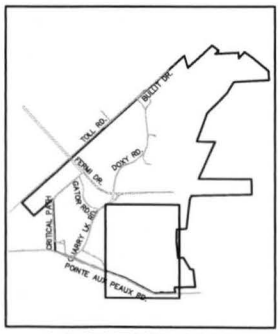


FIGURE 2-5B SITE PLAN

SCALE: 1"=500'





LOCATION MAP

FIGURE 2-5C SITE PLAN

SCALE: 1"=500'

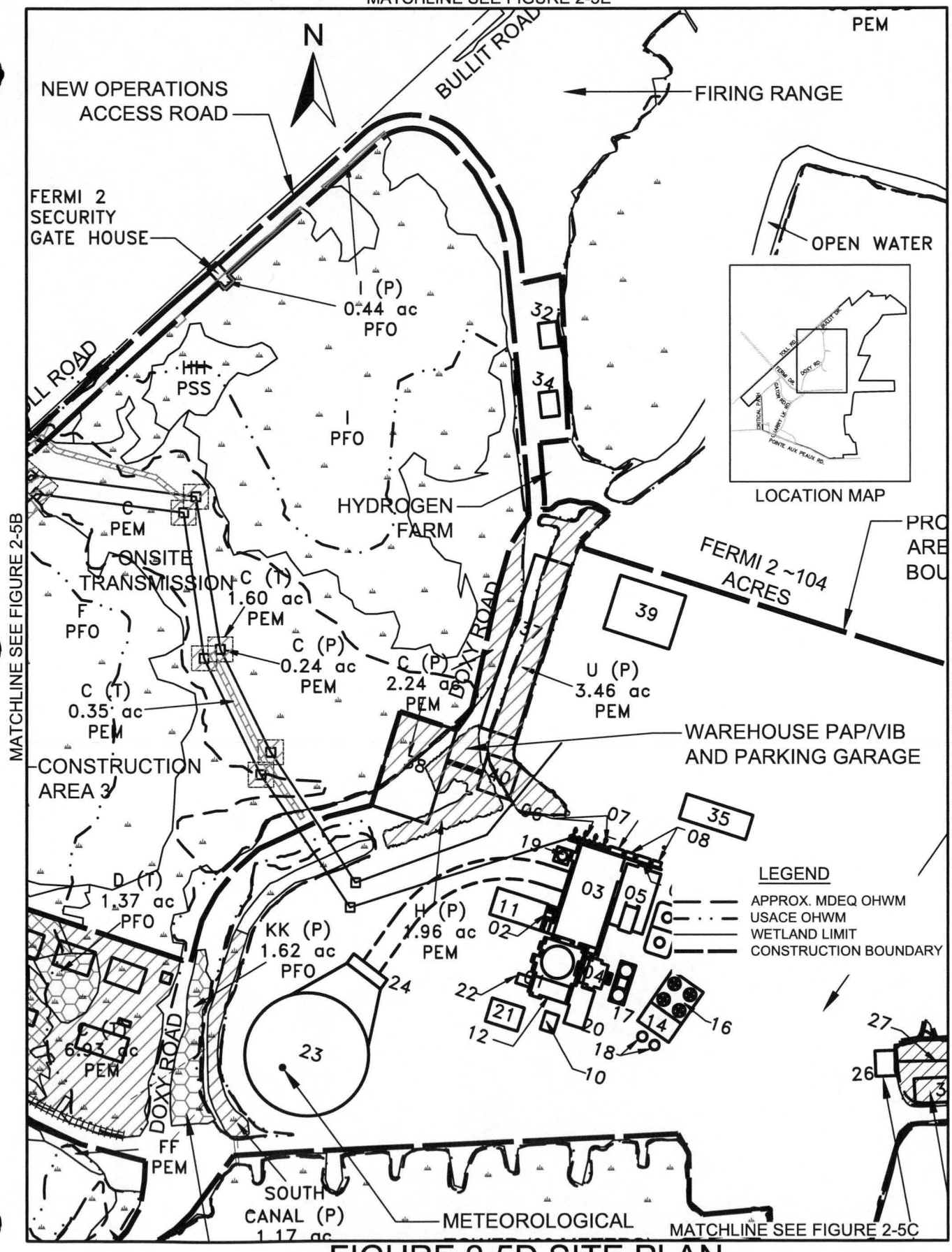
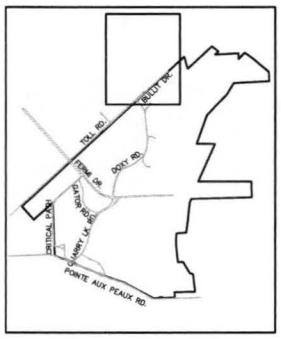


FIGURE 2-5D SITE PLAN

SCALE: 1"=500'



LOCATION MAP

LEGEND

- APPROX. MDEQ OHWM
- USACE OHWM
- WETLAND LIMIT
- CONSTRUCTION BOUNDARY

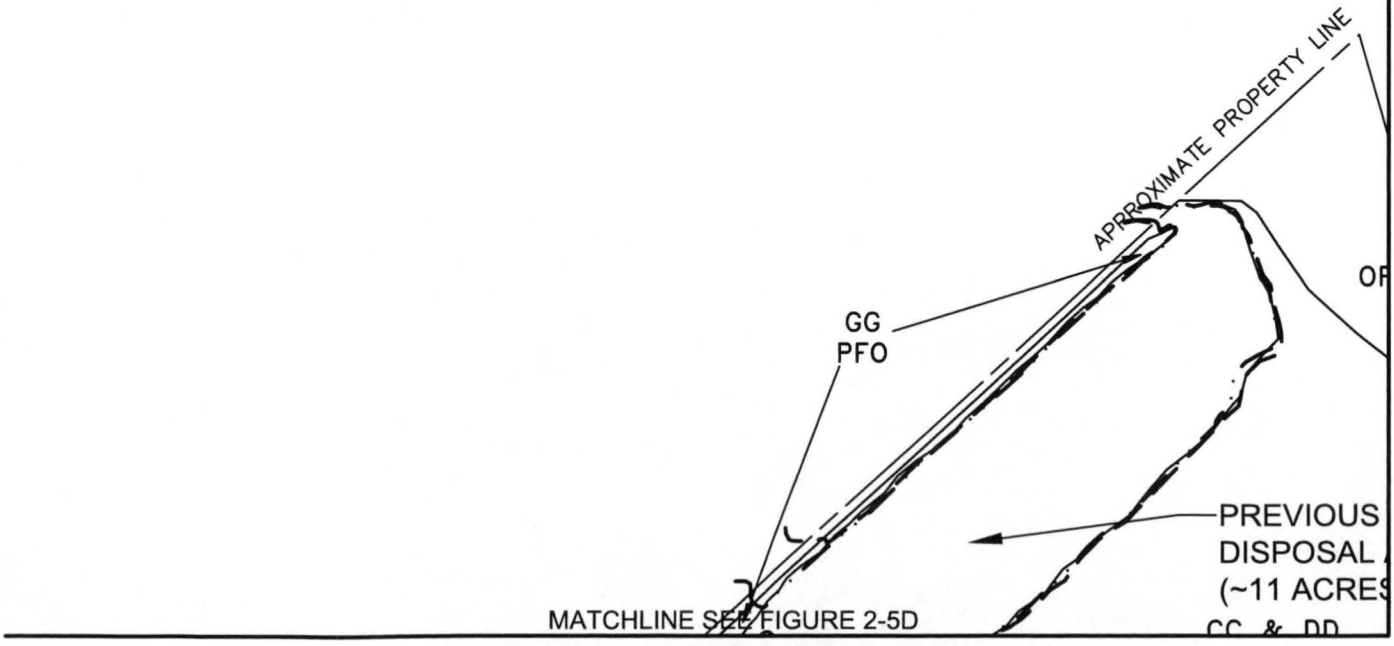


FIGURE 2-5E SITE PLAN

SCALE: 1"=500'

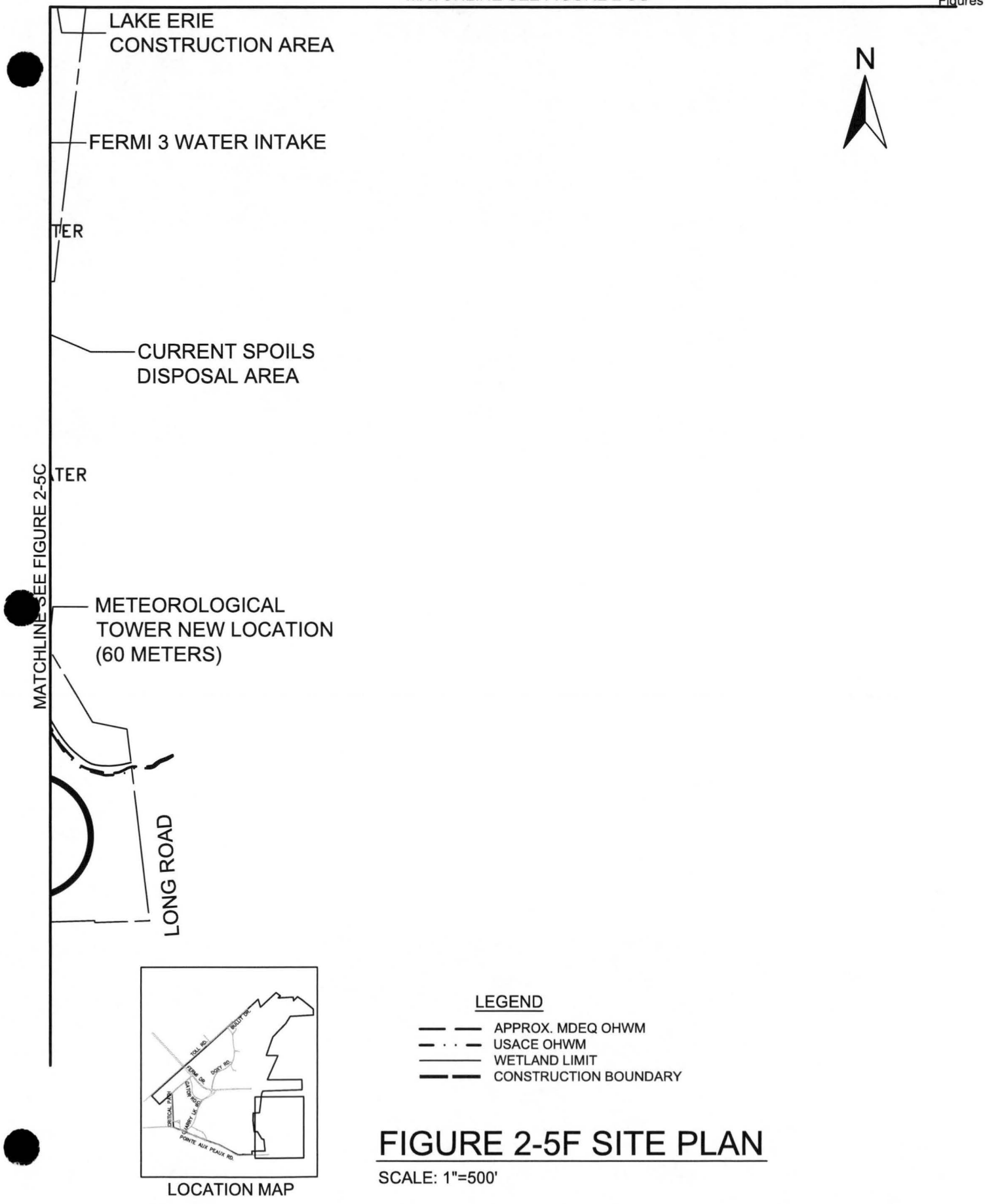


FIGURE 2-5F SITE PLAN

SCALE: 1"=500'

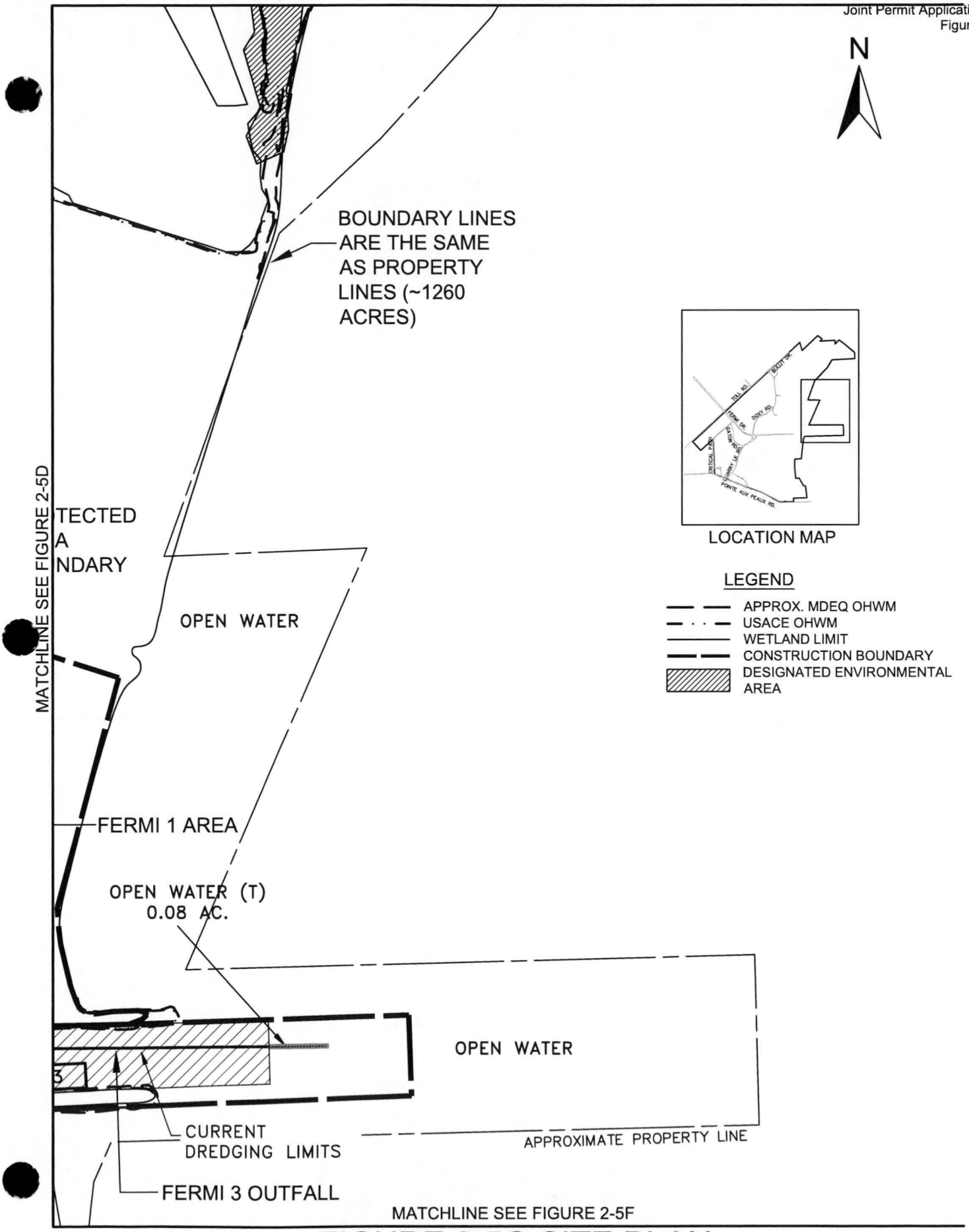
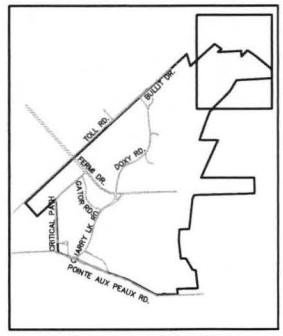


FIGURE 2-5G SITE PLAN



LOCATION MAP

LEGEND

- APPROX. MDEQ OHWM
- USACE OHWM
- WETLAND LIMIT
- CONSTRUCTION BOUNDARY
- DESIGNATED ENVIRONMENTAL AREA

MATCHLINE SEE FIGURE 2-5E

OPEN WATER

OPEN WATER

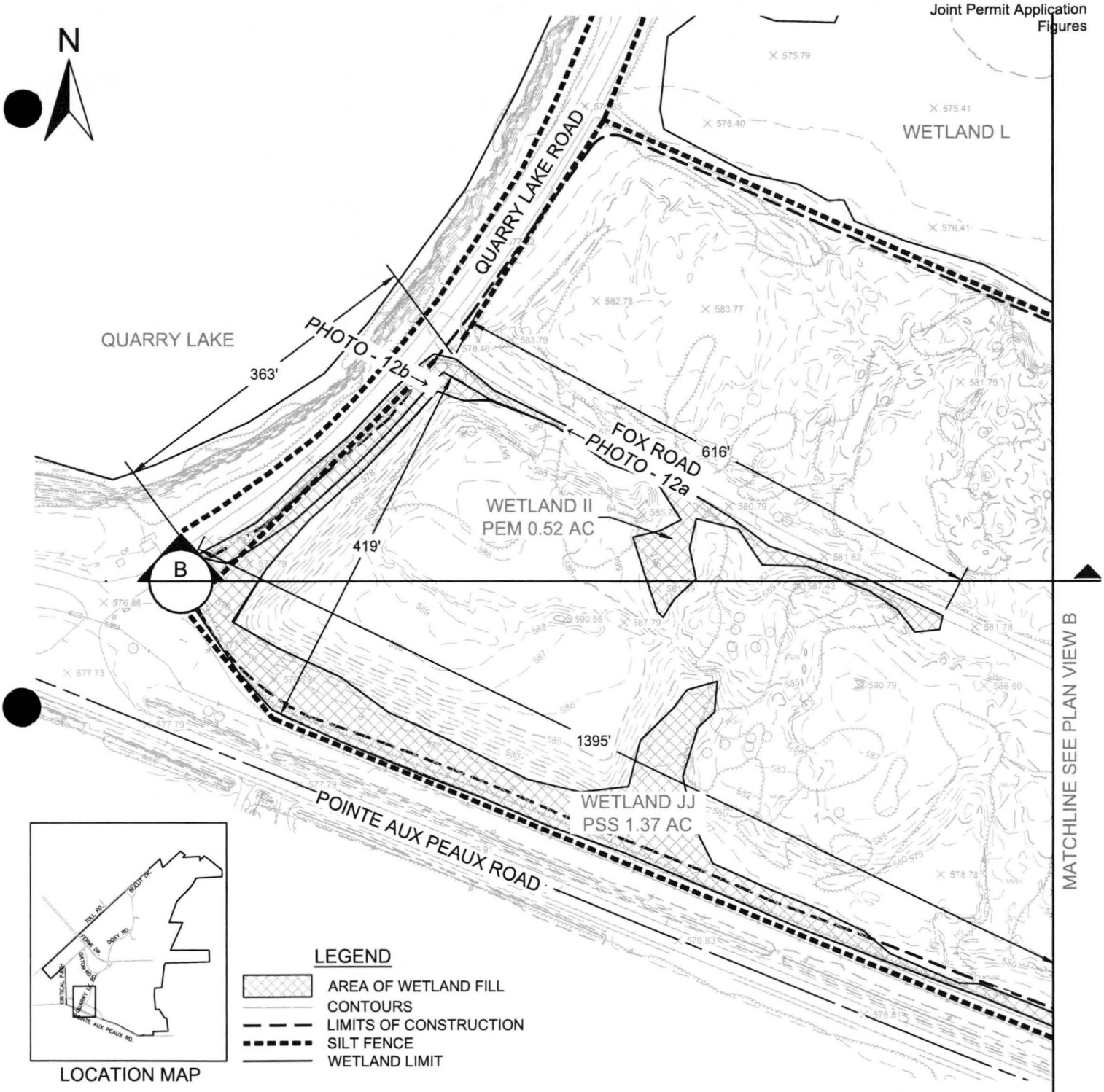
OPEN WATER

OPEN WATER

MATCHLINE SEE FIGURE 2-5G

FIGURE 2-5H SITE PLAN

SCALE: 1"=500'



LOCATION MAP

NOTE:

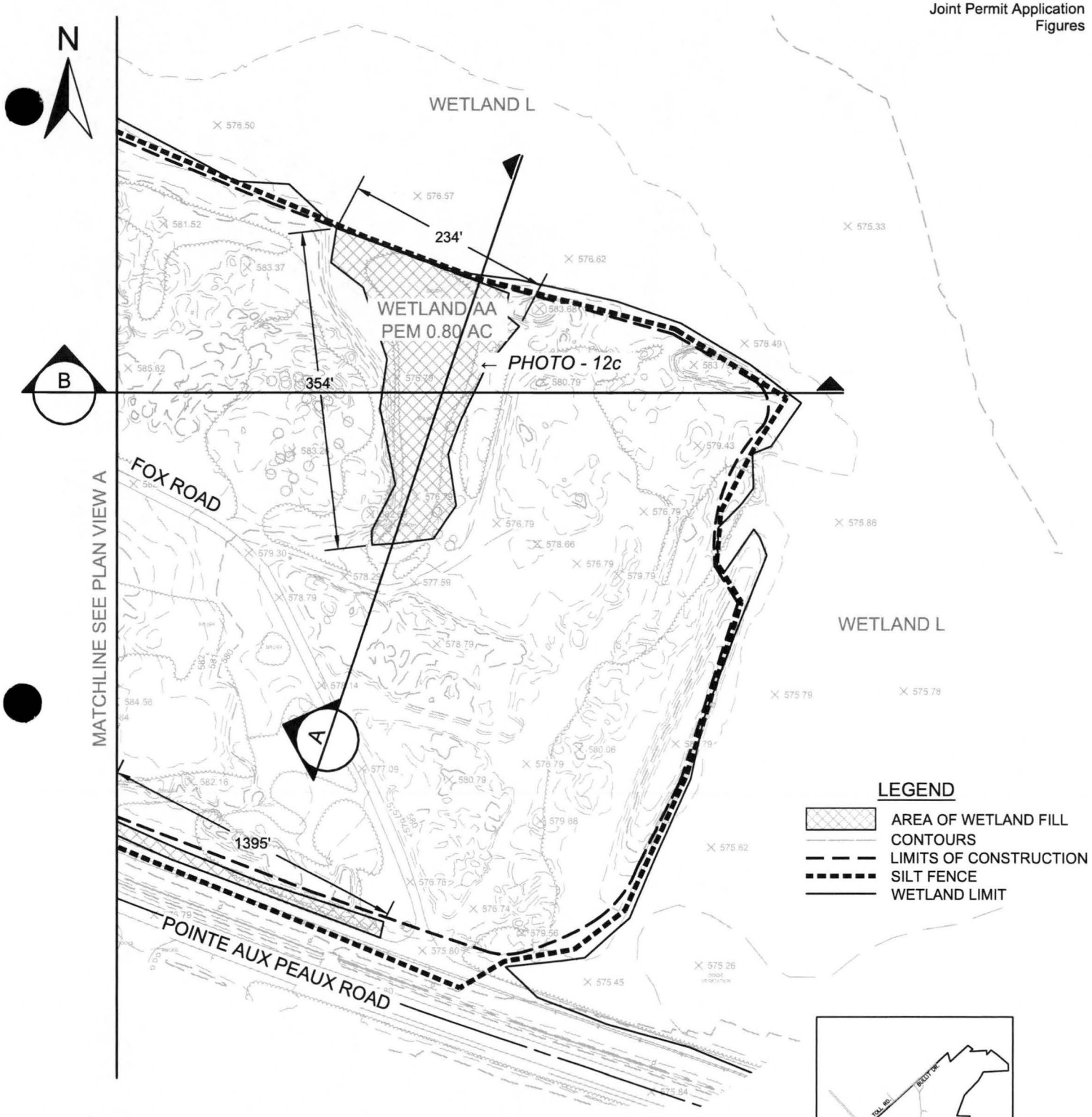
1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR BACKFILL ONSITE. AFTER WHICH, THE AREA WILL BE USED TO STOCKPILE SPOILS FROM LOCATIONS ONSITE.
2. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND II
AREA = 0.52 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 1,675 CY
WETLAND EXCAVATION = 1,675 CY
WETLAND FILL = 1,746 CY

WETLAND JJ
AREA = 1.37 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 4,437 CY
WETLAND EXCAVATION = 4,437 CY
WETLAND FILL = 5,784 CY

FIGURE 12-2A CONSTRUCTION AREA 1 PLAN VIEW A

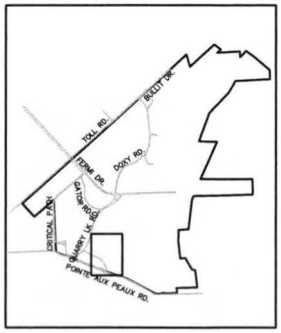
SCALE: 1"=150'



NOTE:

1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR BACKFILL ONSITE. AFTER WHICH, THE AREA WILL BE USED TO STOCKPILE SPOILS FROM LOCATIONS ONSITE.
2. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

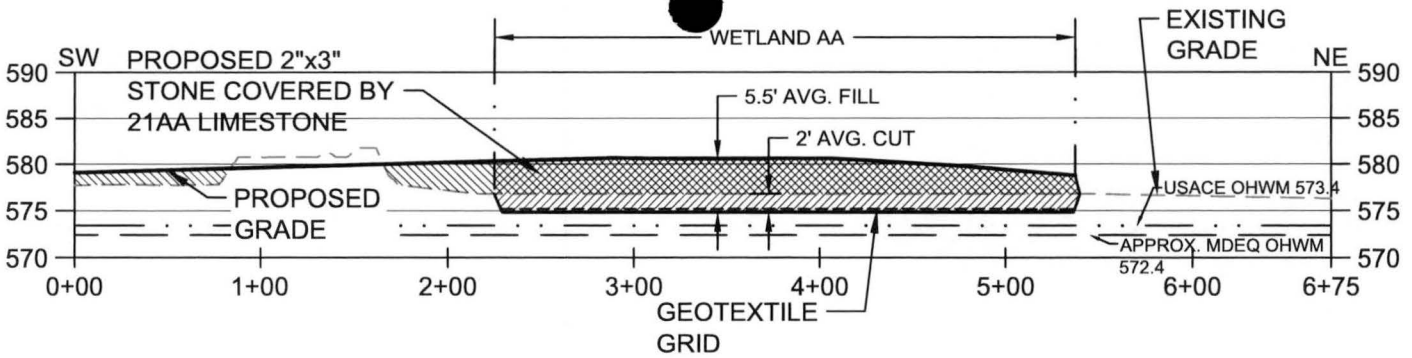
WETLAND AA
AREA = 0.80 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 2,568 CY
WETLAND EXCAVATION = 2,568 CY
WETLAND FILL = 6,593 CY



LOCATION MAP

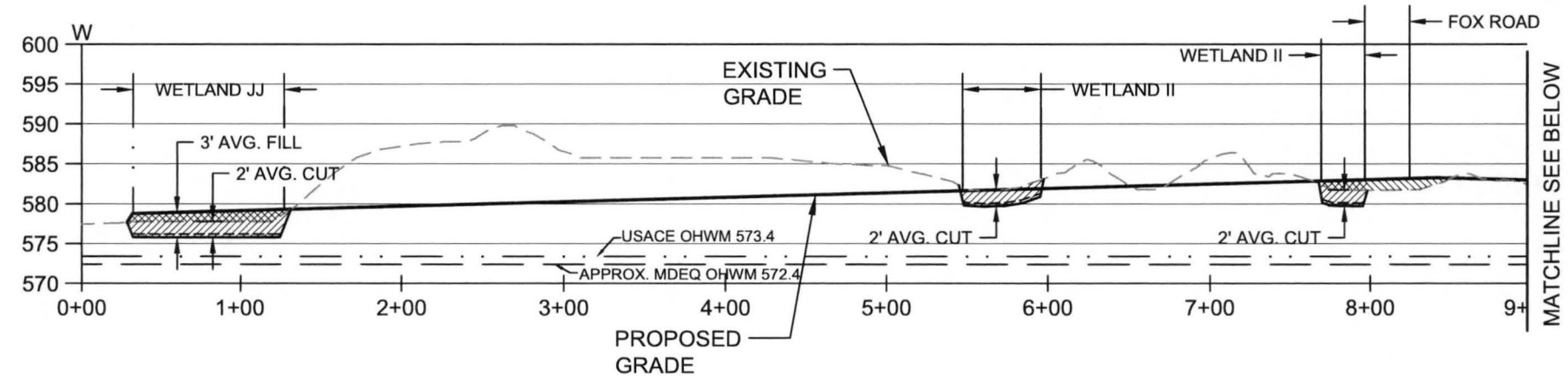
FIGURE 12-2B CONSTRUCTION AREA 1 PLAN VIEW B

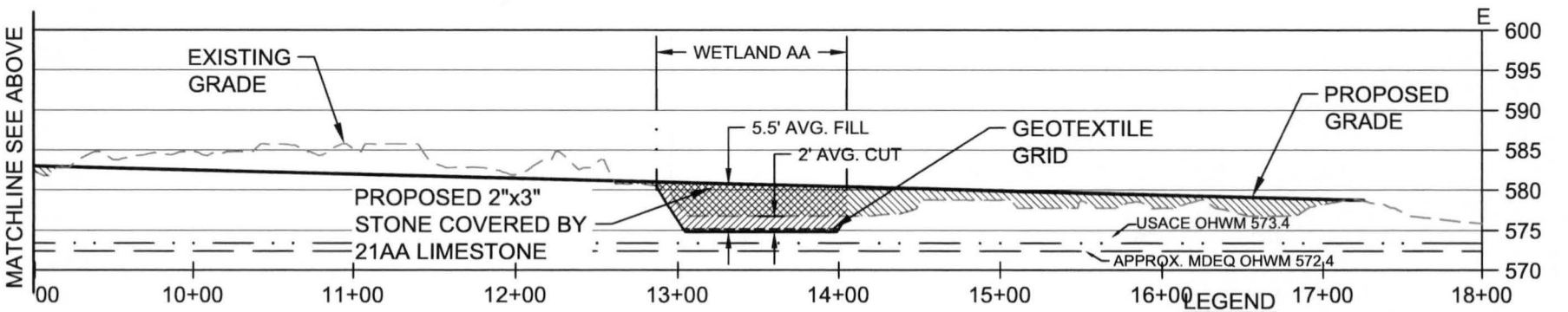
SCALE: 1"=150'
Revision 1



A CONSTRUCTION AREA 1 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

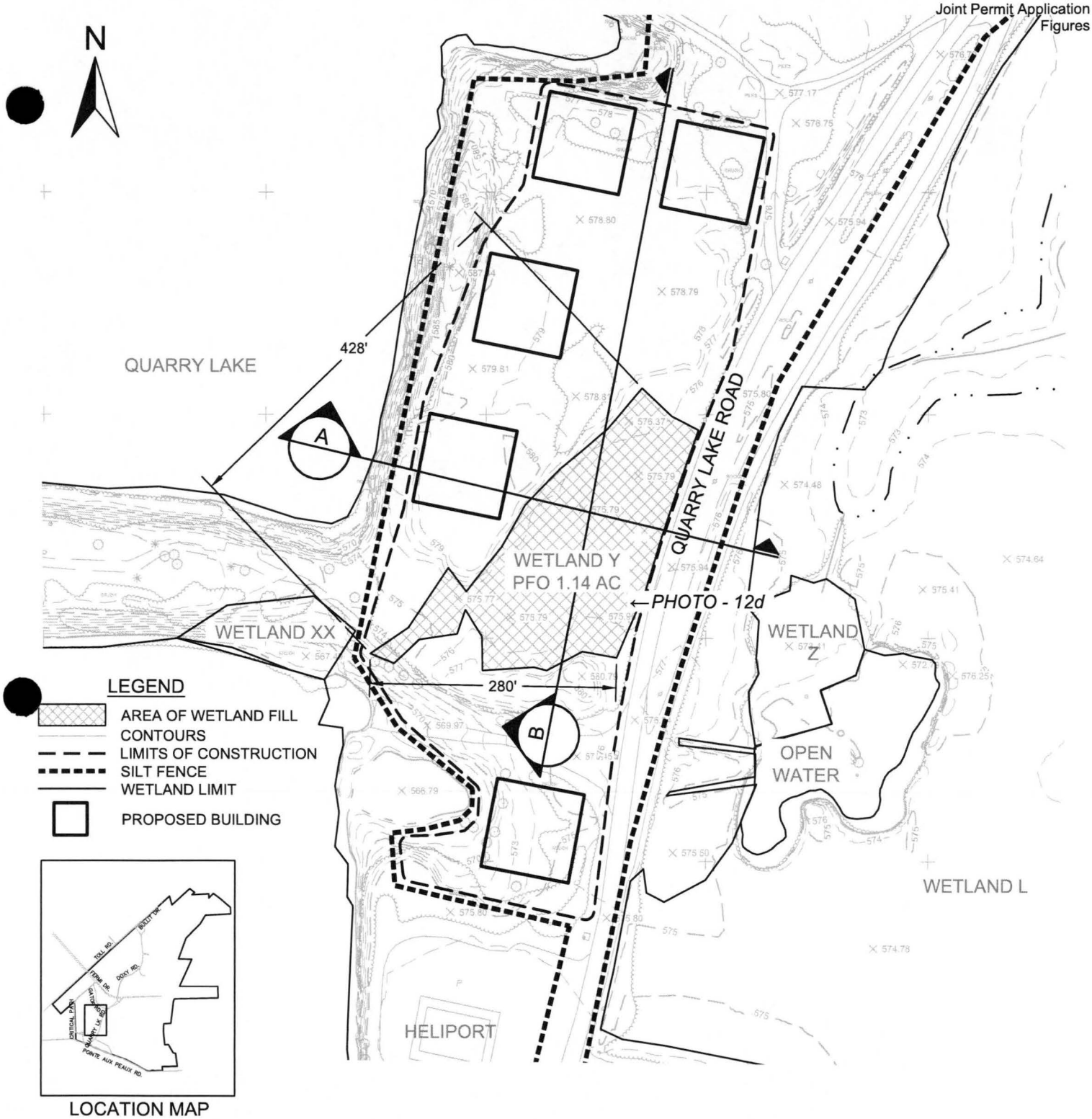




B CONSTRUCTION AREA 1 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

FIGURE 12-2C CONSTRUCTION AREA 1 SECTION DETAILS



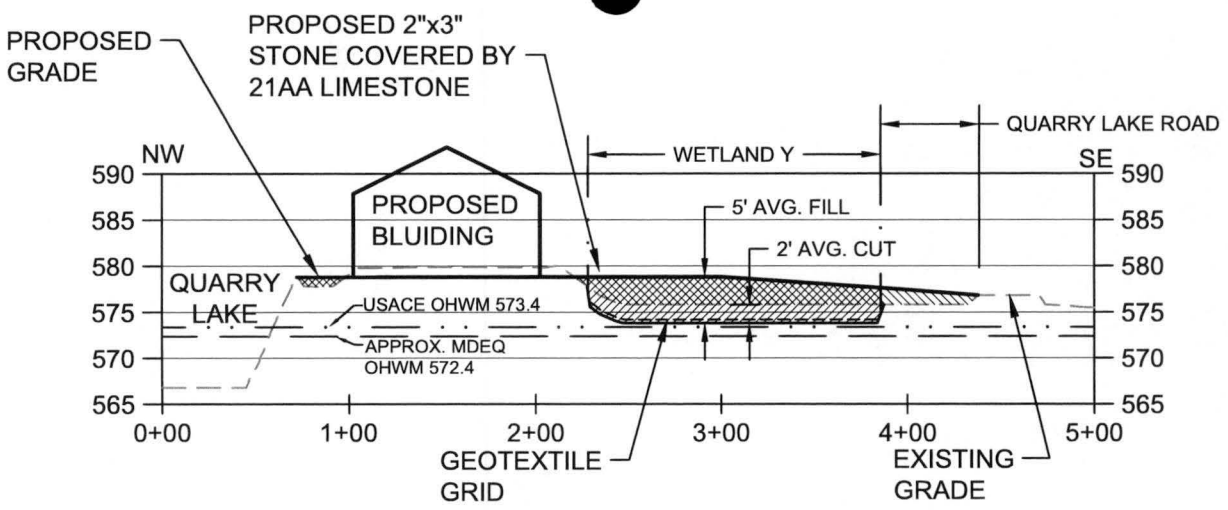
LOCATION MAP

NOTE:
1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITIES WILL BE USED FOR SUBCONTRACTOR BUILDINGS AND GRAVEL PARKING.
2. UTILITIES SHALL BE PLACED IN UPLAND AREAS.
3. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
4. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND Y
AREA = 1.14 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 3,570 CY
WETLAND EXCAVATION = 3,570 CY
WETLAND FILL = 7,905 CY

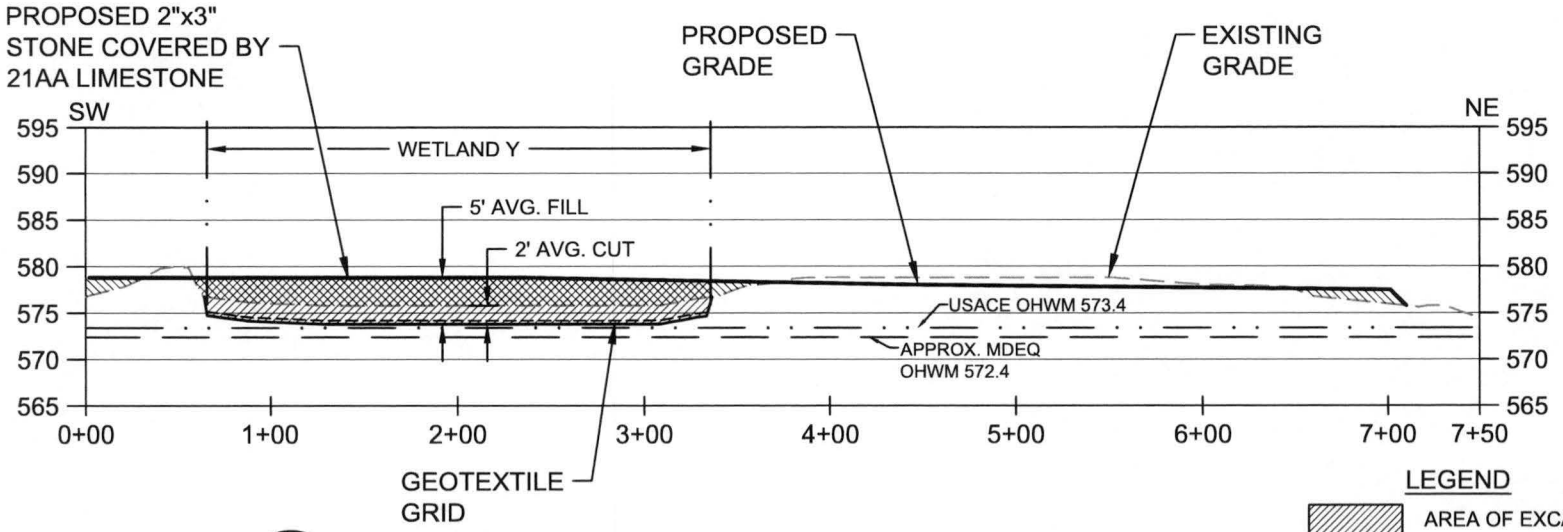
FIGURE 12-3A CONSTRUCTION AREA 2 PLAN VIEW

SCALE: 1"=150'



A CONSTRUCTION AREA 2 SECTION

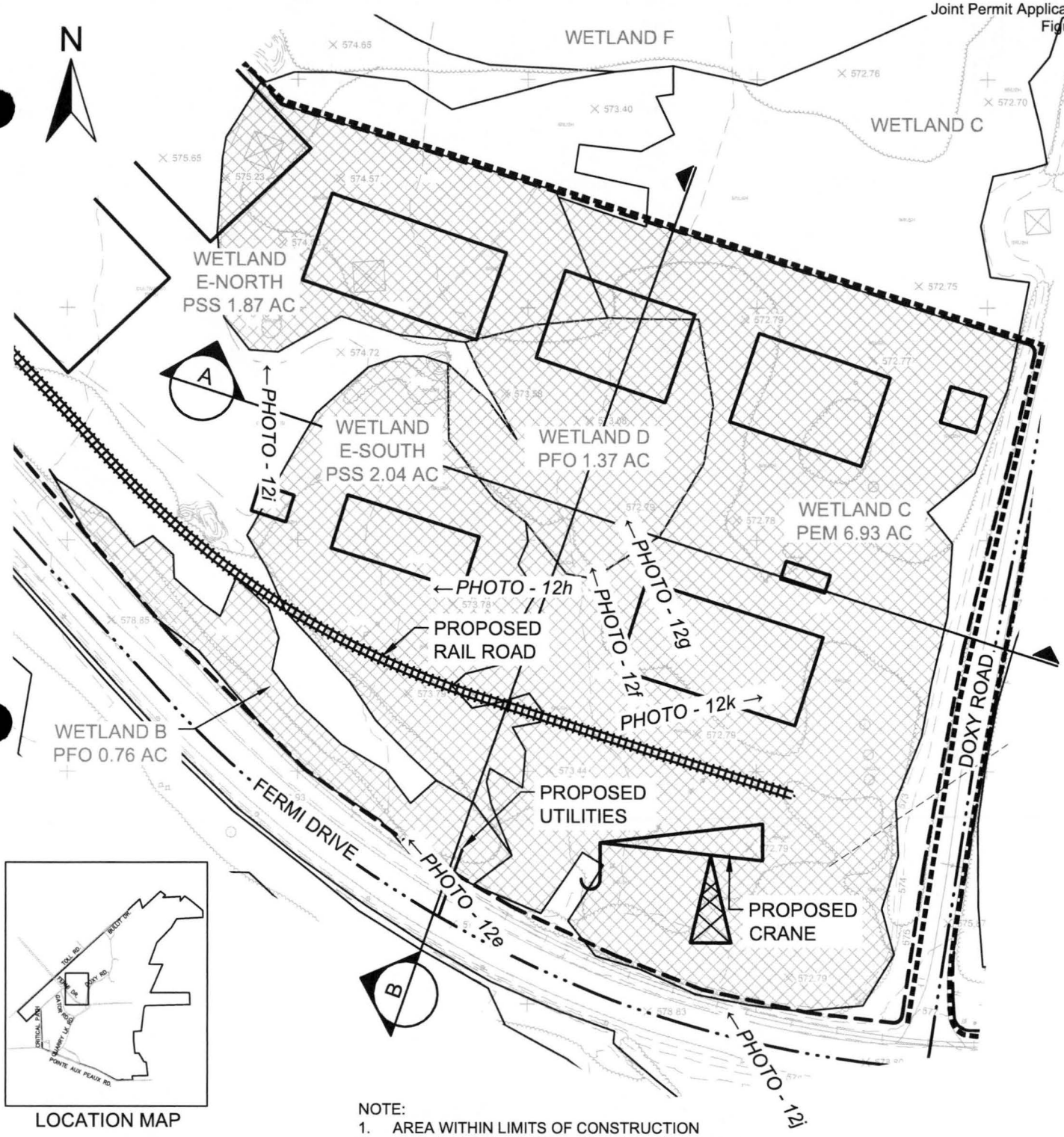
SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B CONSTRUCTION AREA 2 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

FIGURE 12-3B CONSTRUCTION AREA 2 SECTION DETAILS



LOCATION MAP

LEGEND

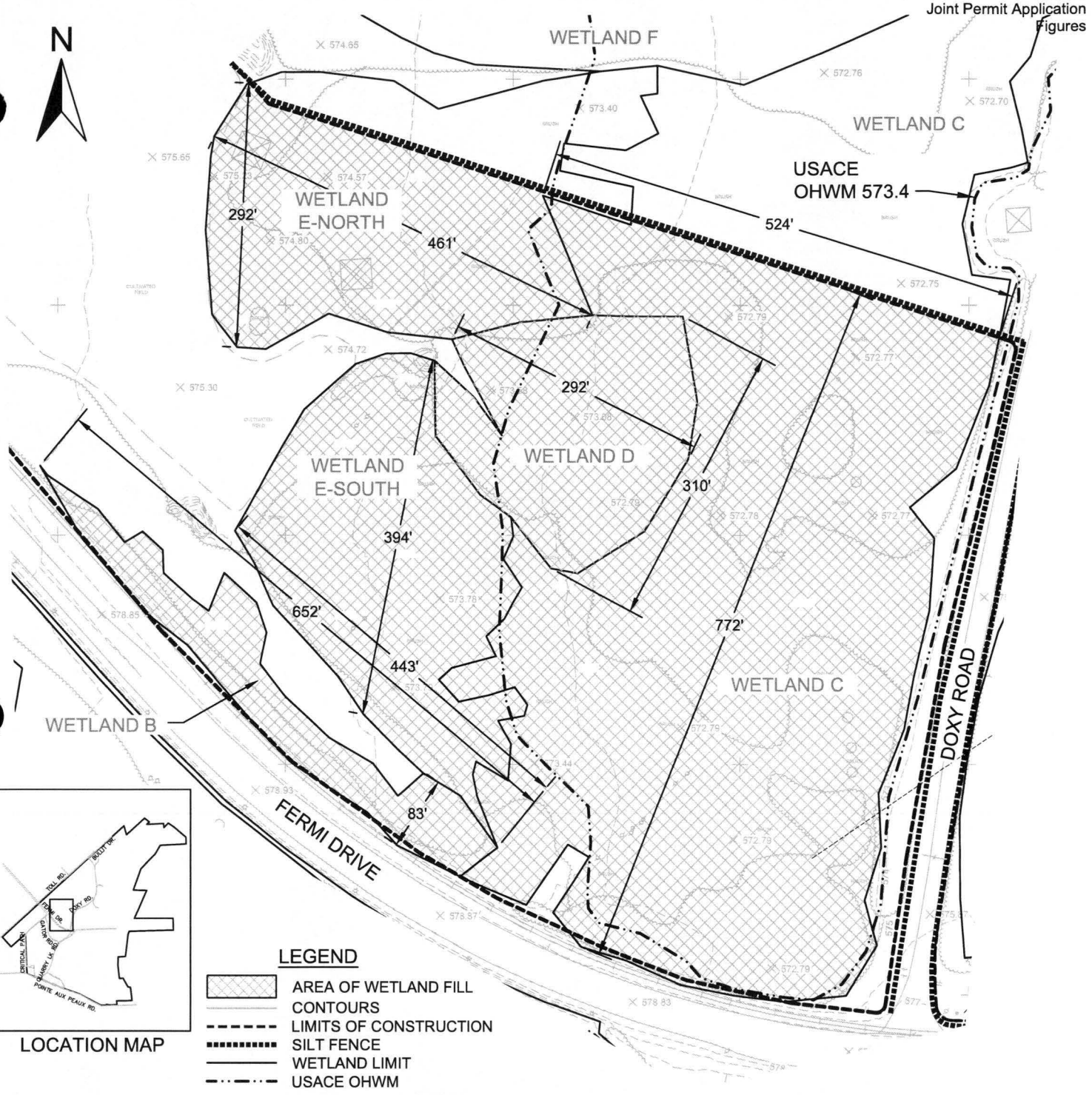
- AREA OF WETLAND FILL
- CONTOURS
- LIMITS OF CONSTRUCTION
- SILT FENCE
- WETLAND LIMIT
- PROPOSED BUILDING

NOTE:

1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR SUBCONTRACTOR BUILDINGS AND GRAVEL PARKING.
2. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
3. UTILITIES SHALL BE PLACED WITHIN EXISTING IMPACT AREAS.
4. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.
5. BUILDINGS WILL HAVE 8" THICK CONCRETE SLAB BASE.

FIGURE 12-4A CONSTRUCTION AREA 3 PLAN VIEW A

SCALE: 1"=150'



WETLAND B
AREA = 0.76 acres
USACE OHWM DREDGE = 4,276 CY
USACE OHWM EXCAVATION = 1,855 CY
WETLAND EXCAVATION = 6,131 CY
WETLAND FILL = 5,805 CY

WETLAND C
AREA = 6.93 acres
USACE OHWM DREDGE = 55,772 CY
USACE OHWM EXCAVATION = NA
WETLAND EXCAVATION = 55,772 CY
WETLAND FILL = 71,226 CY

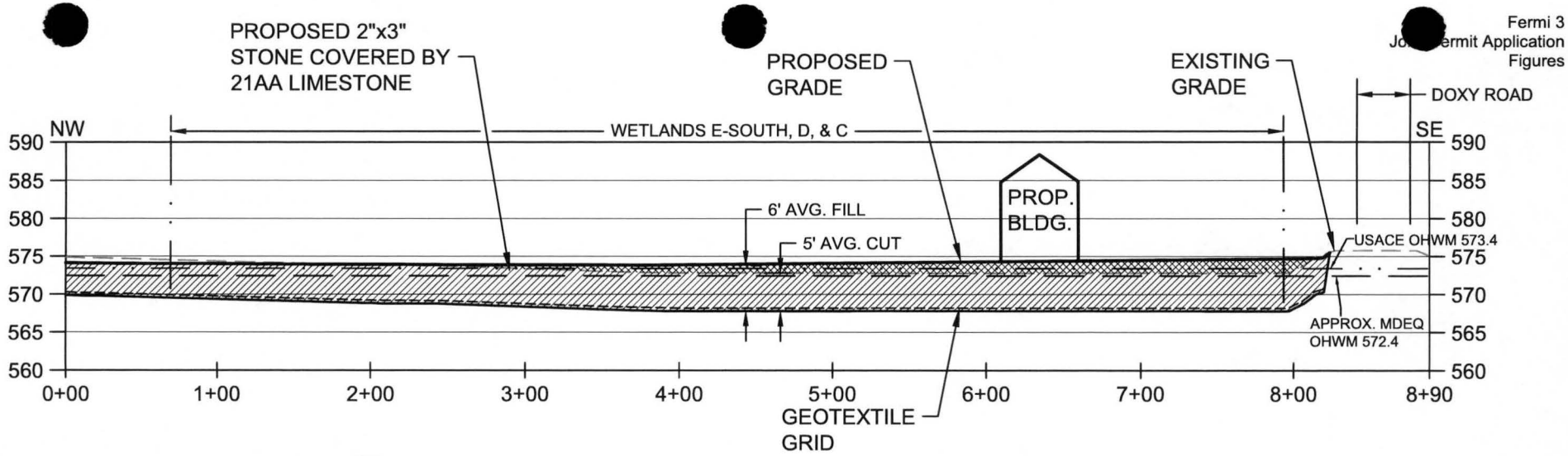
WETLAND D
AREA = 1.37 acres
USACE OHWM DREDGE = 11,039 CY
USACE OHWM EXCAVATION = NA
WETLAND EXCAVATION = 11,039 CY
WETLAND FILL = 12,341 CY

WETLAND E-NORTH
AREA = 1.87 acres
USACE OHWM DREDGE = 12,193 CY
USACE OHWM EXCAVATION = 2,885 CY
WETLAND EXCAVATION = 15,078 CY
WETLAND FILL = 15,465 CY

WETLAND E-SOUTH
AREA = 2.04 acres
USACE OHWM DREDGE = 14,361 CY
USACE OHWM EXCAVATION = 2,083 CY
WETLAND EXCAVATION = 16,444 CY
WETLAND FILL = 17,043 CY

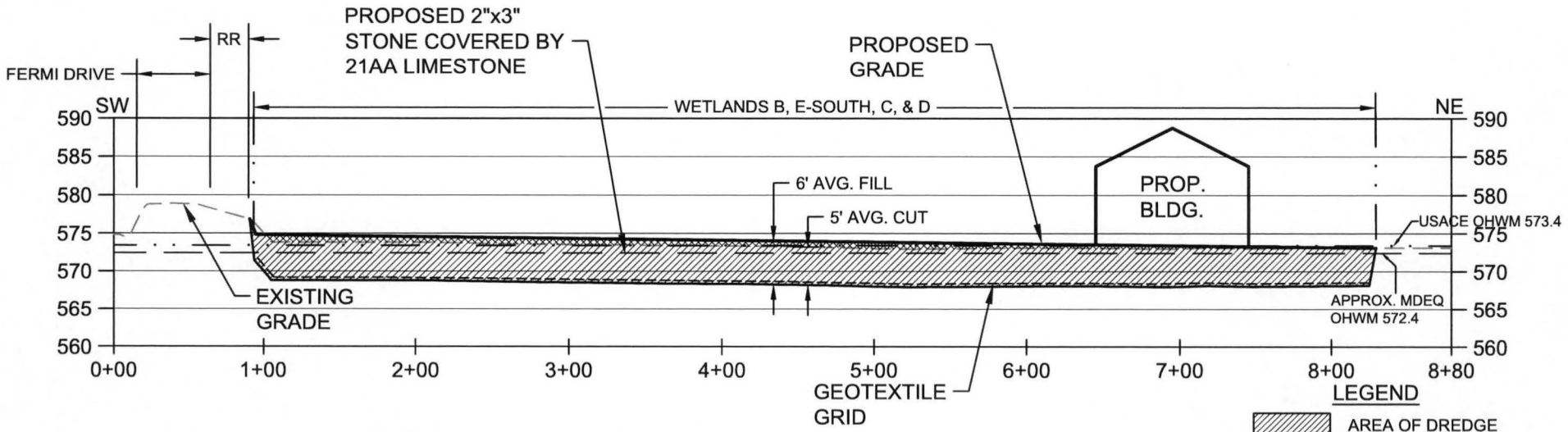
FIGURE 12-4B CONSTRUCTION AREA 3 PLAN VIEW B

SCALE: 1"=150'



A CONSTRUCTION AREA 3 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

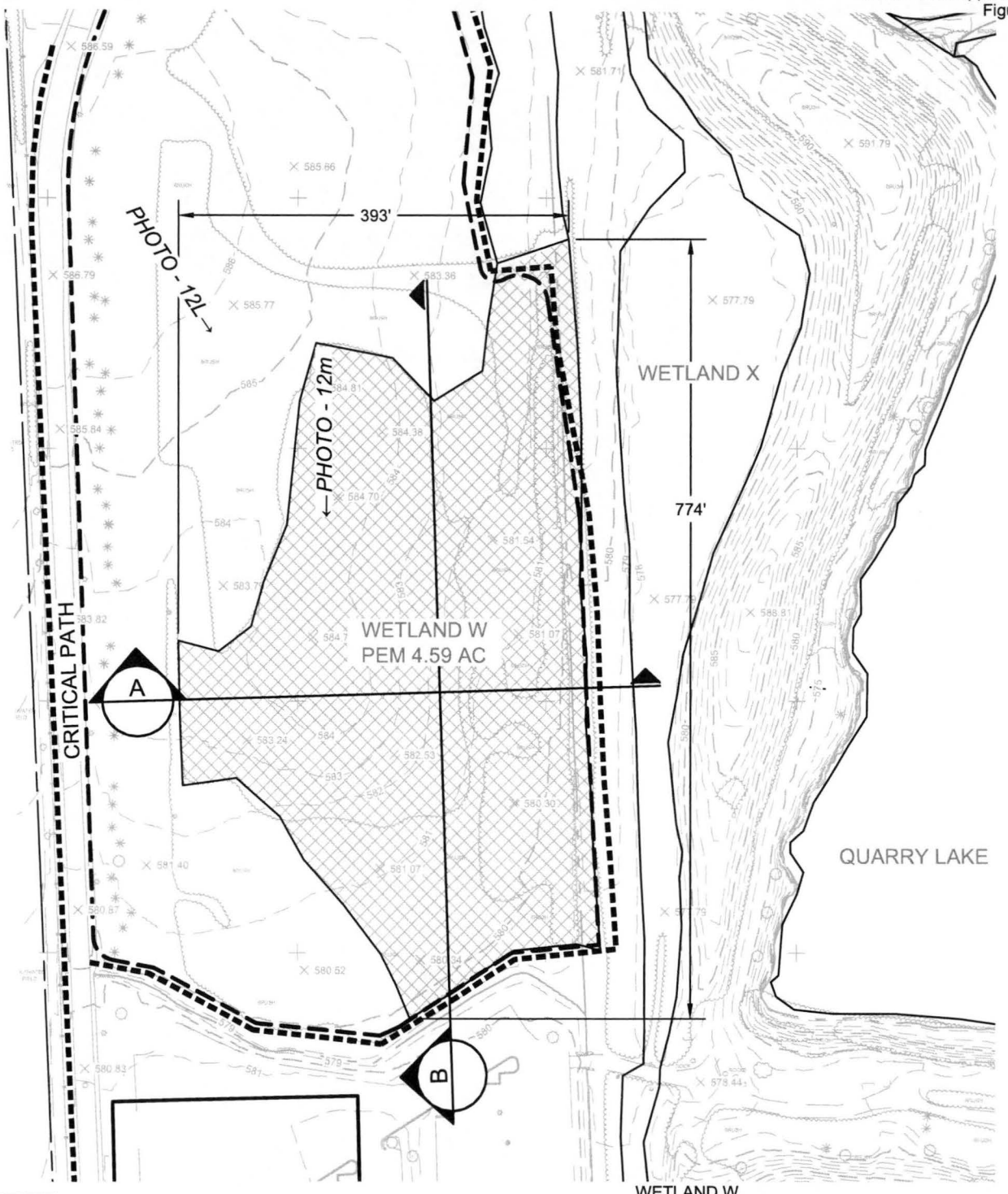


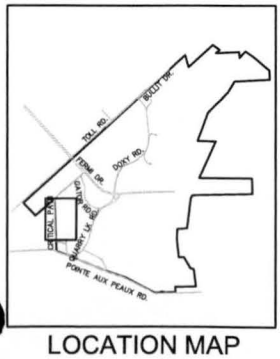
B CONSTRUCTION AREA 3 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

NOTE: UTILITIES WILL BE ABOVE GEOTEXTILE FABRIC

FIGURE 12-4C CONSTRUCTION AREA 3 SECTION DETAILS





LOCATION MAP

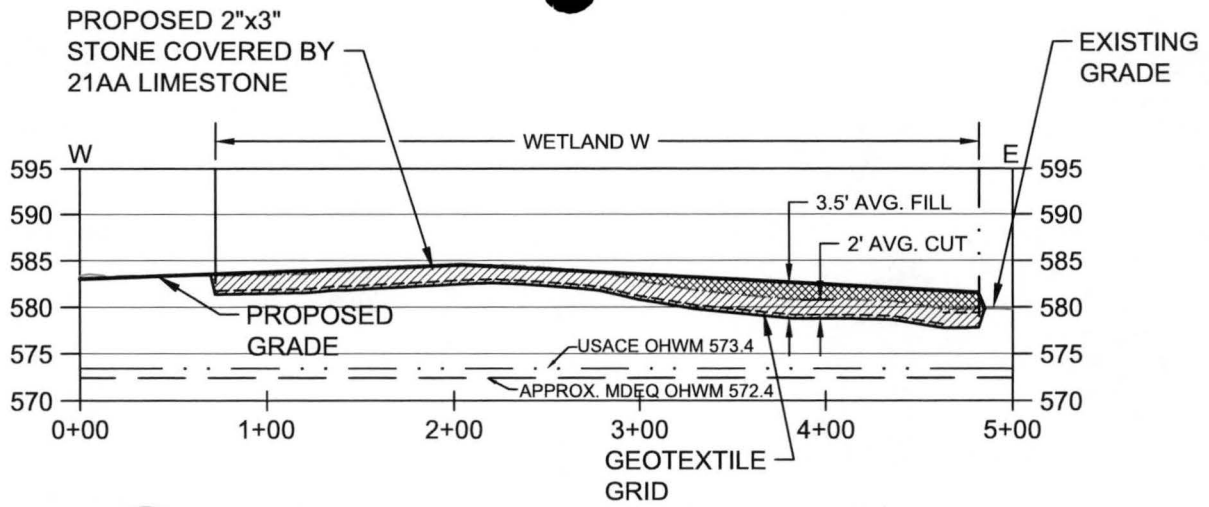
NOTE:
1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR SUBCONTRACTOR GRAVEL PARKING.
2. UTILITIES SHALL BE PLACED IN UPLAND AREAS.
3. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
4. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND W
AREA = 4.59 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 15,211 CY
WETLAND EXCAVATION = 15,211 CY
WETLAND FILL = 20,989 CY

LEGEND
- AREA OF WETLAND FILL
- CONTOURS
- LIMITS OF CONSTRUCTION
- SILT FENCE
- WETLAND LIMIT
- PROPOSED BUILDING

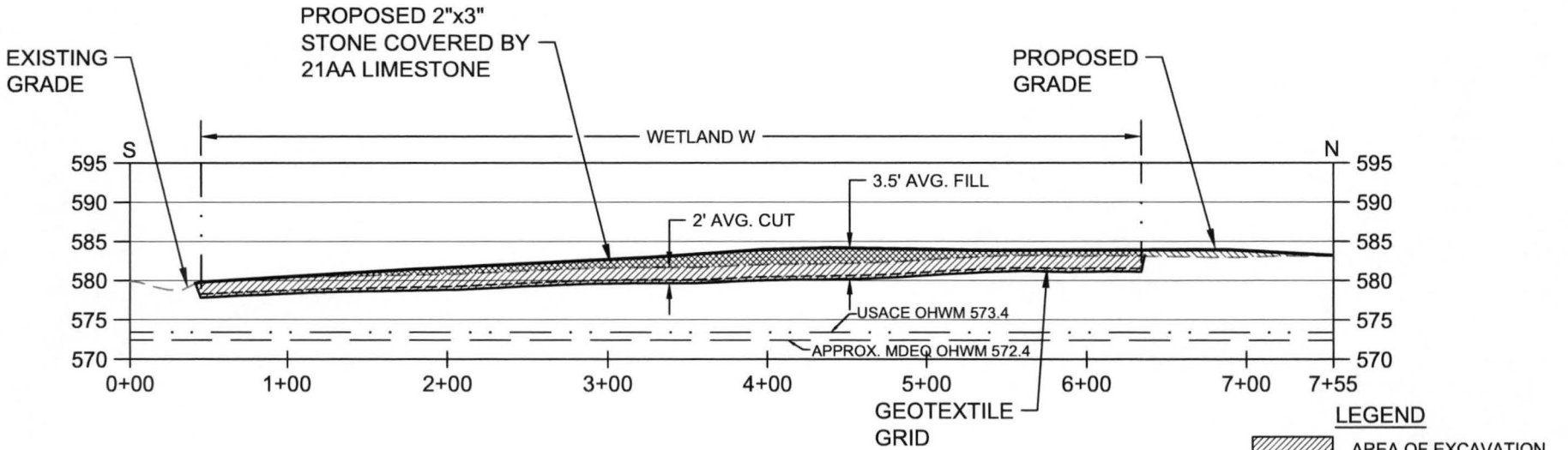
FIGURE 12-5A CONSTRUCTION AREA 4 PLAN VIEW

SCALE: 1"=150'



A CONSTRUCTION AREA 4 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B CONSTRUCTION AREA 4 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

FIGURE 12-5B CONSTRUCTION AREA 4 SECTION DETAILS

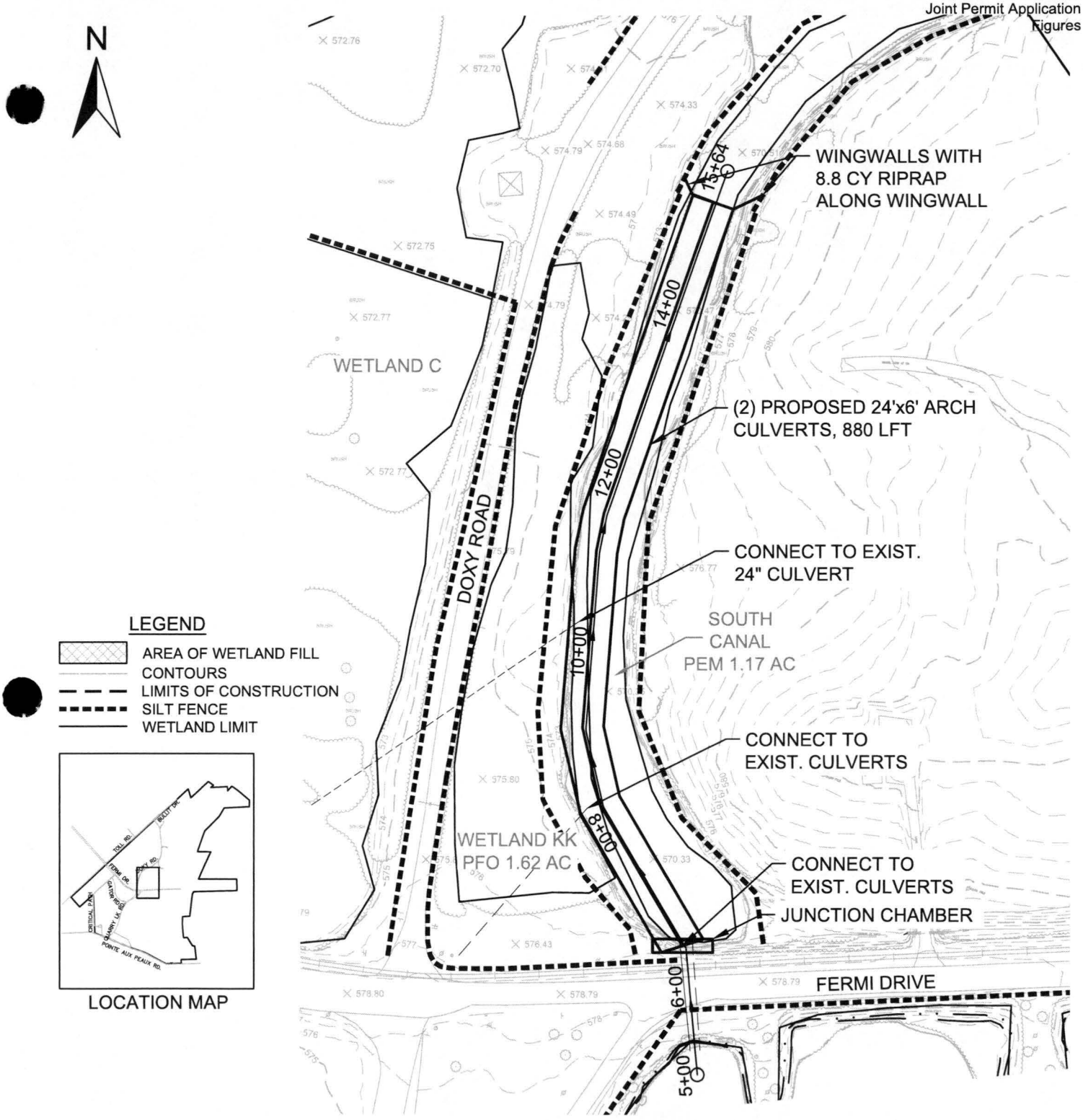


FIGURE 10-3A CONSTRUCTION AREA 5 PLAN VIEW

SCALE: 1"=150'

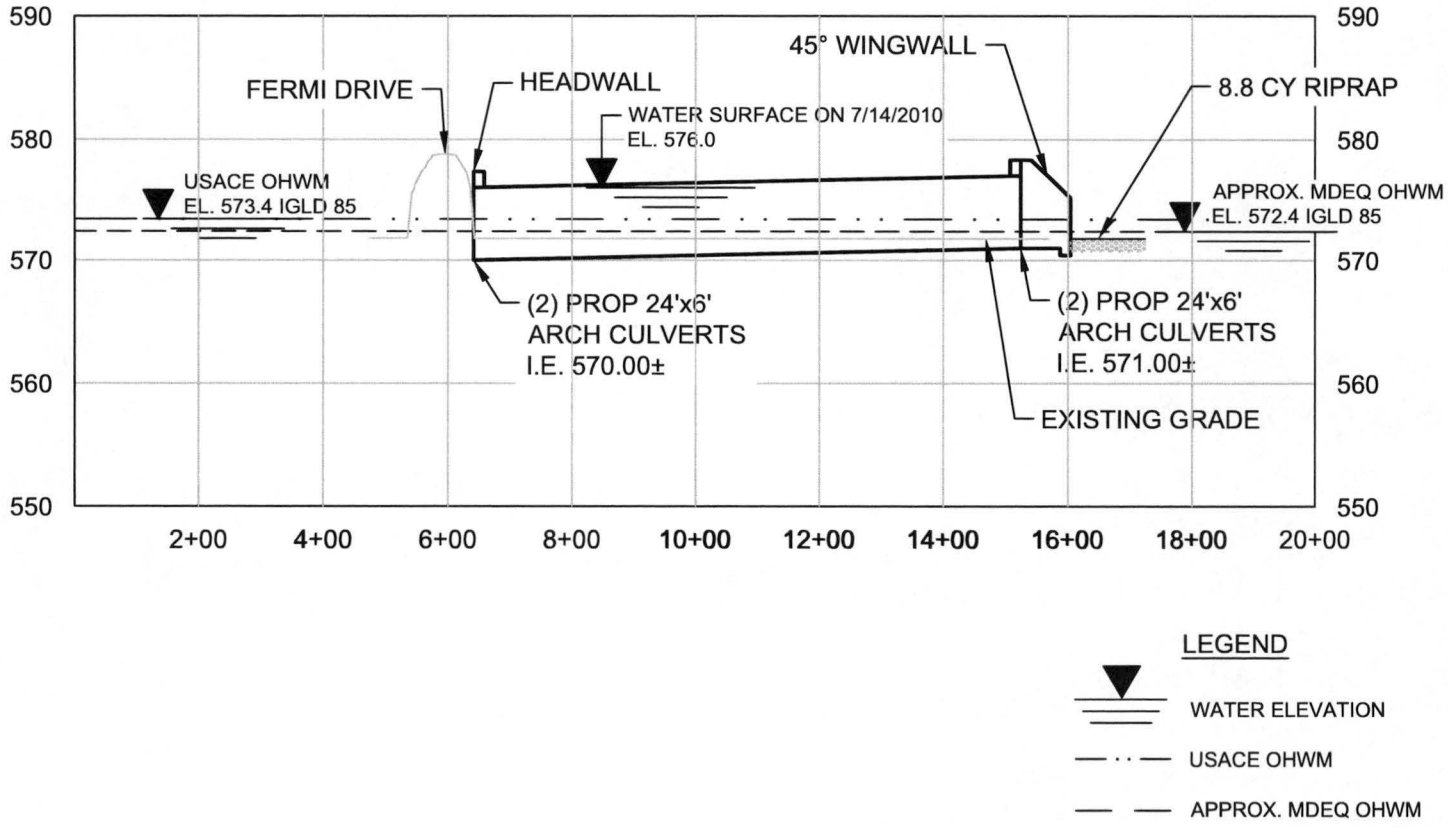
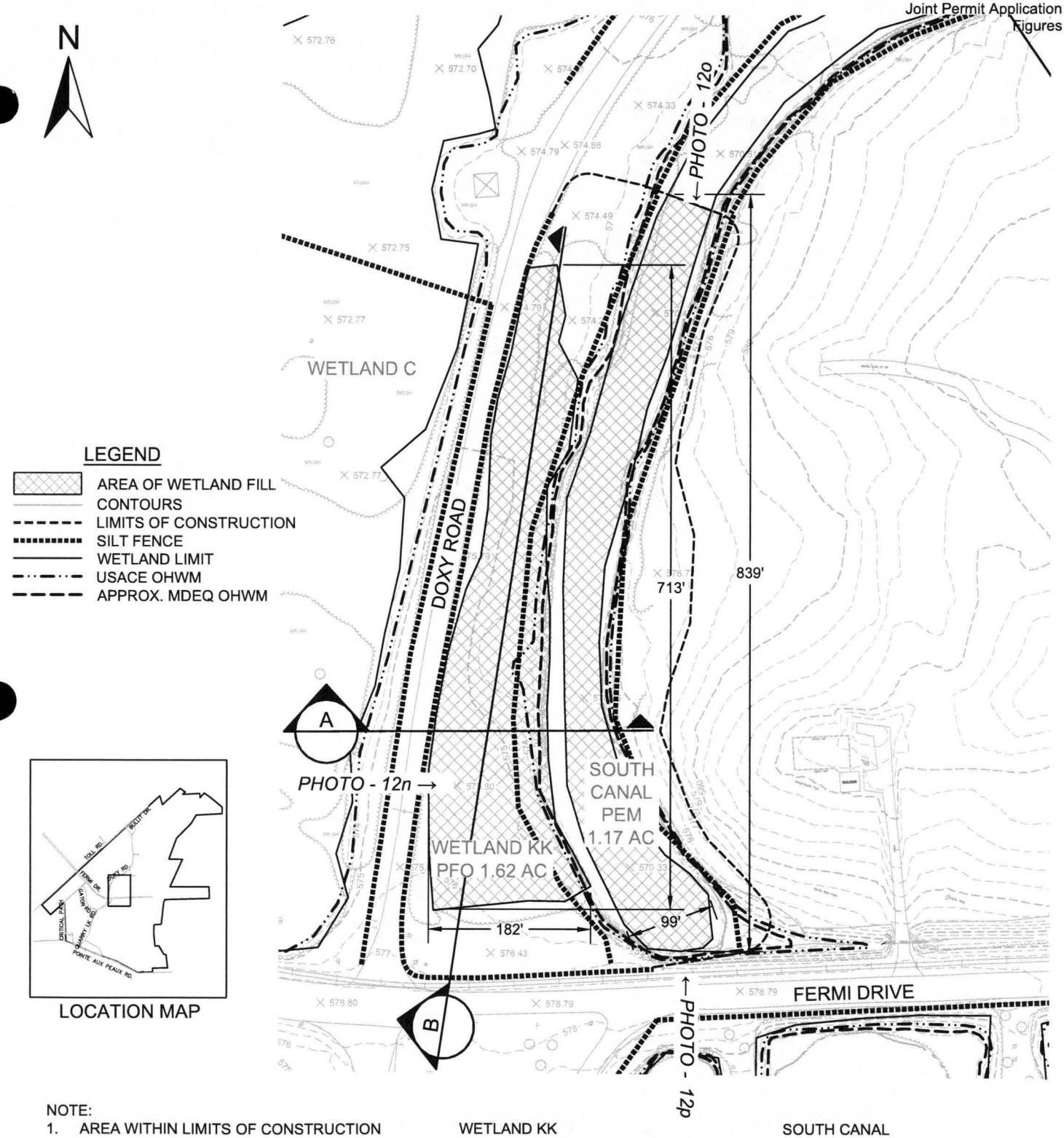


FIGURE 10-3B
CONSTRUCTION AREA 5 PROFILE OF PROPOSED SOUTH CANAL CULVERTS

SCALE: 1"=300' HORZ.; 1"=20' VERT. (IGLD 85 DATUM)



NOTE:

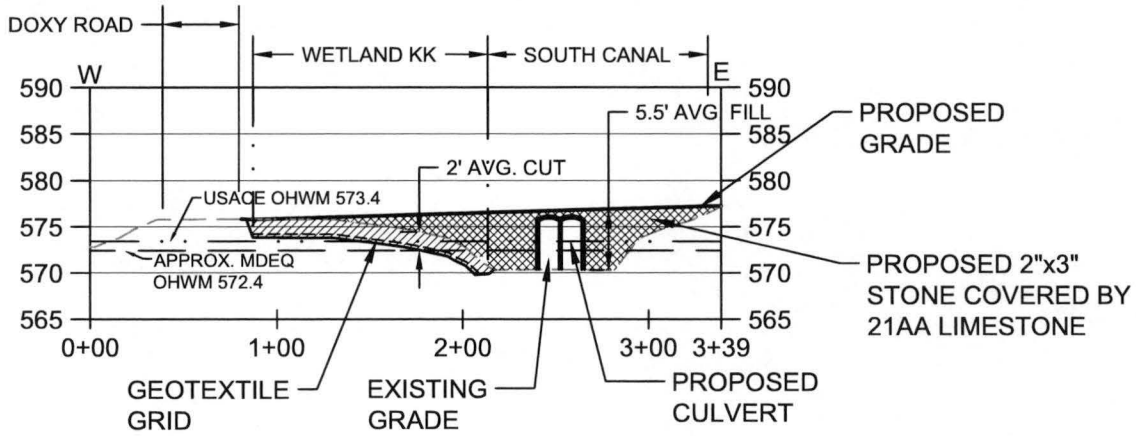
1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR LAYDOWN.
2. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
3. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND KK
AREA = 1.62 acres
USACE OHWM DREDGE = 2,065 CY
USACE OHWM EXCAVATION = 3,120 CY
WETLAND EXCAVATION = 5,185 CY
WETLAND FILL = 8,884 CY

SOUTH CANAL
AREA = 1.17 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = NA
WETLAND EXCAVATION = NA
WETLAND FILL = 11,342 CY

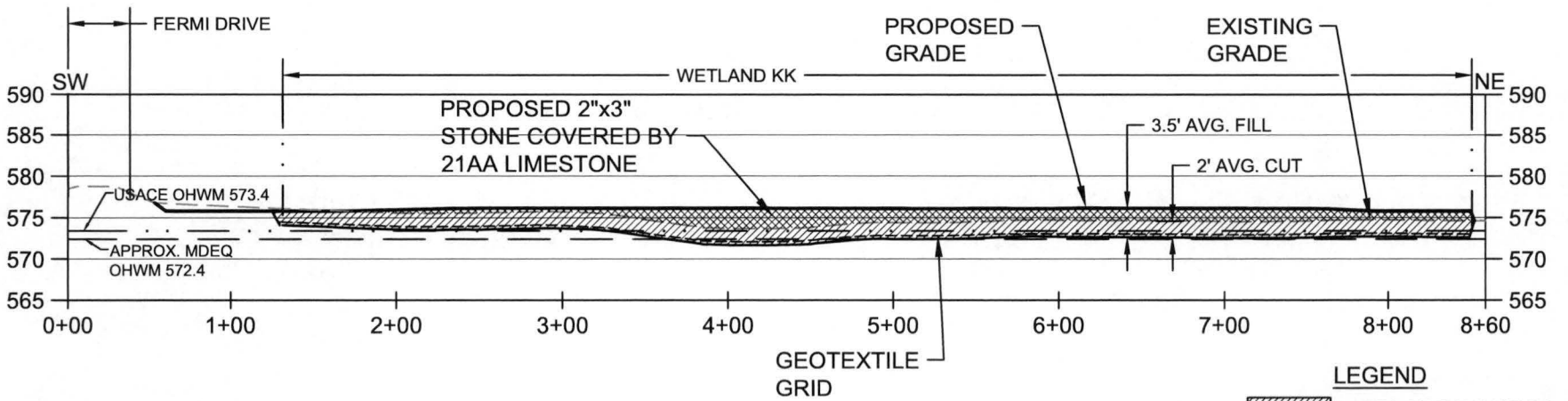
FIGURE 12-6A CONSTRUCTION AREA 5 PLAN VIEW

SCALE: 1"=150'



A CONSTRUCTION AREA 5 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B CONSTRUCTION AREA 5 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

FIGURE 12-6B CONSTRUCTION AREA 5 SECTION DETAILS

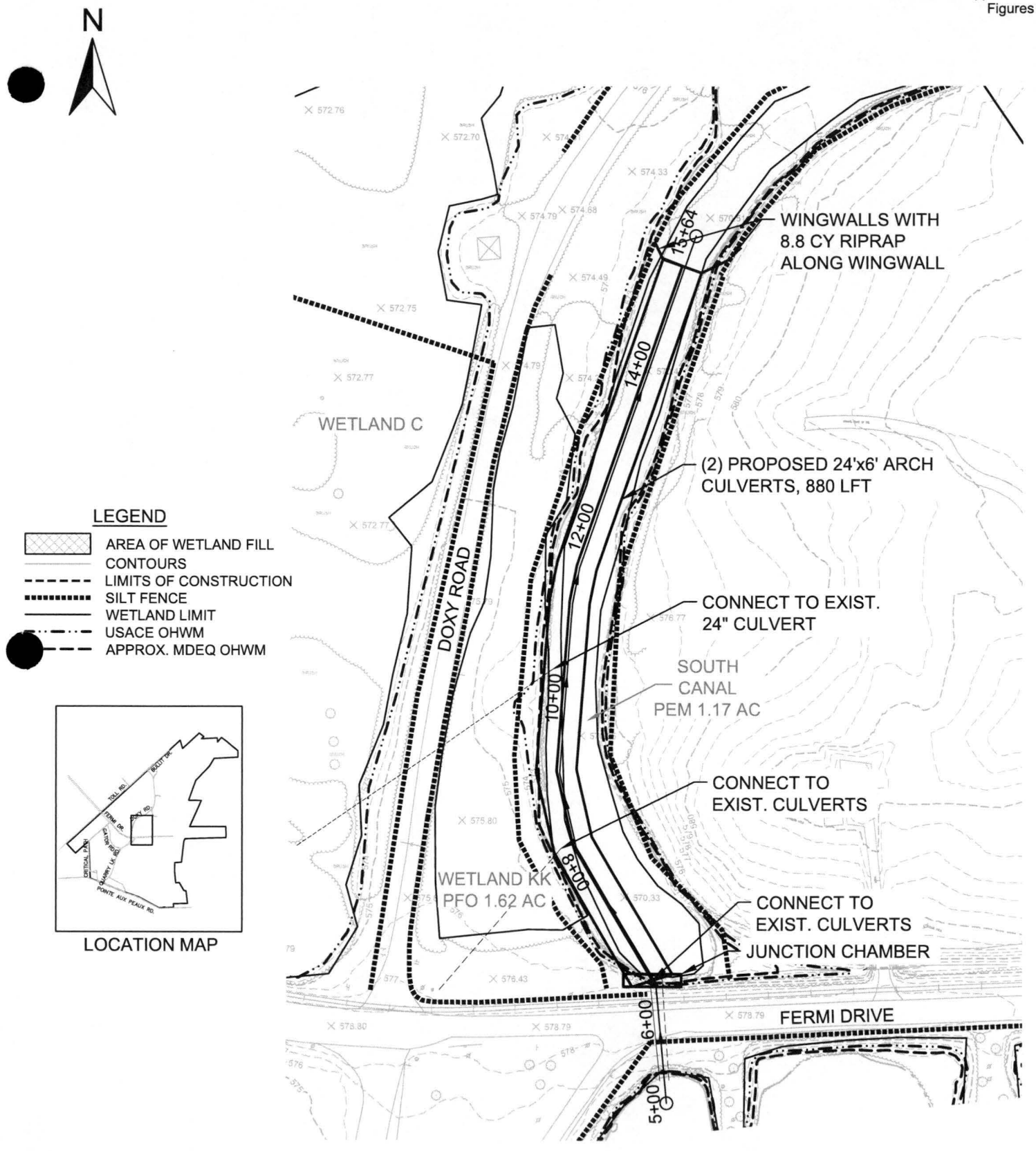


FIGURE 14-1A CONSTRUCTION AREA 5 PLAN VIEW

SCALE: 1"=150'

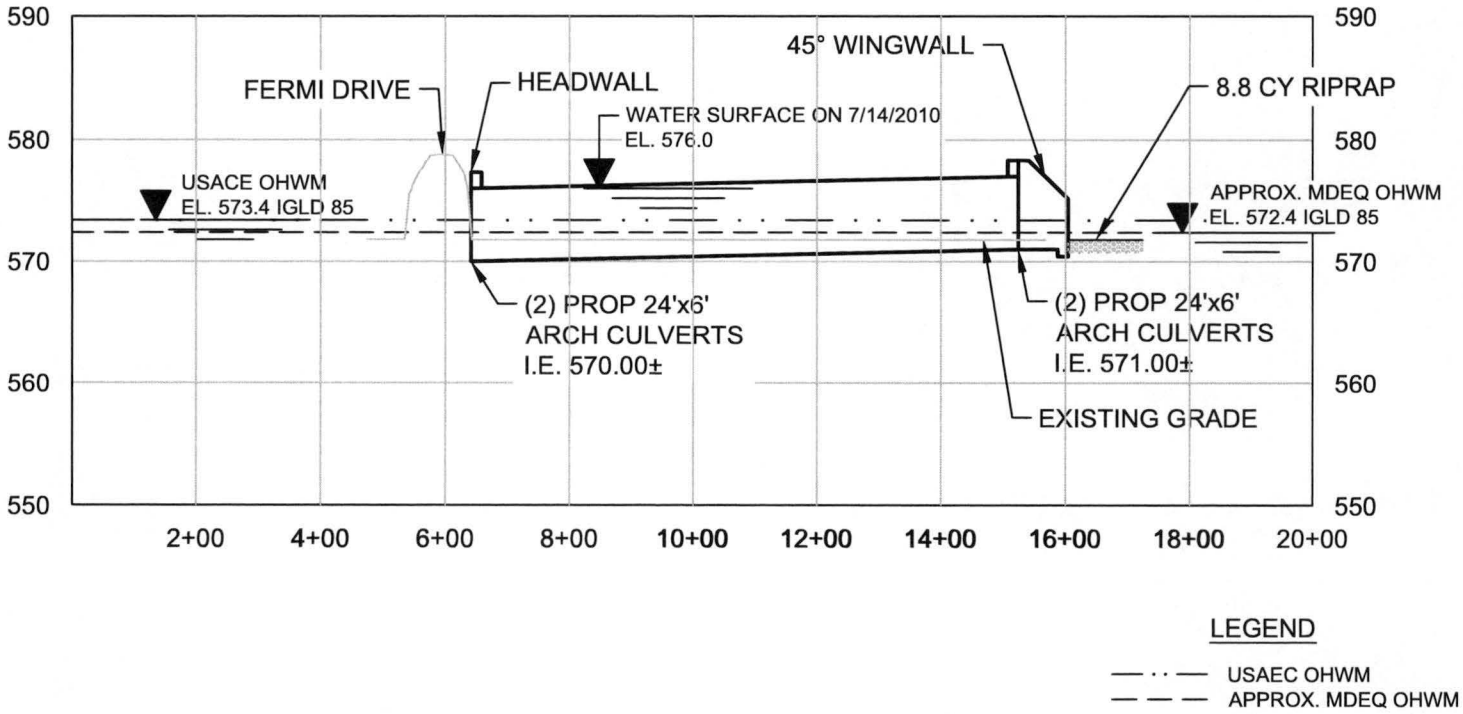


FIGURE 14-1B
CONSTRUCTION AREA 5 PROFILE OF PROPOSED SOUTH CANAL CULVERTS

SCALE: 1"=300' HORZ.; 1"=20' VERT. (IGLD 85 DATUM)

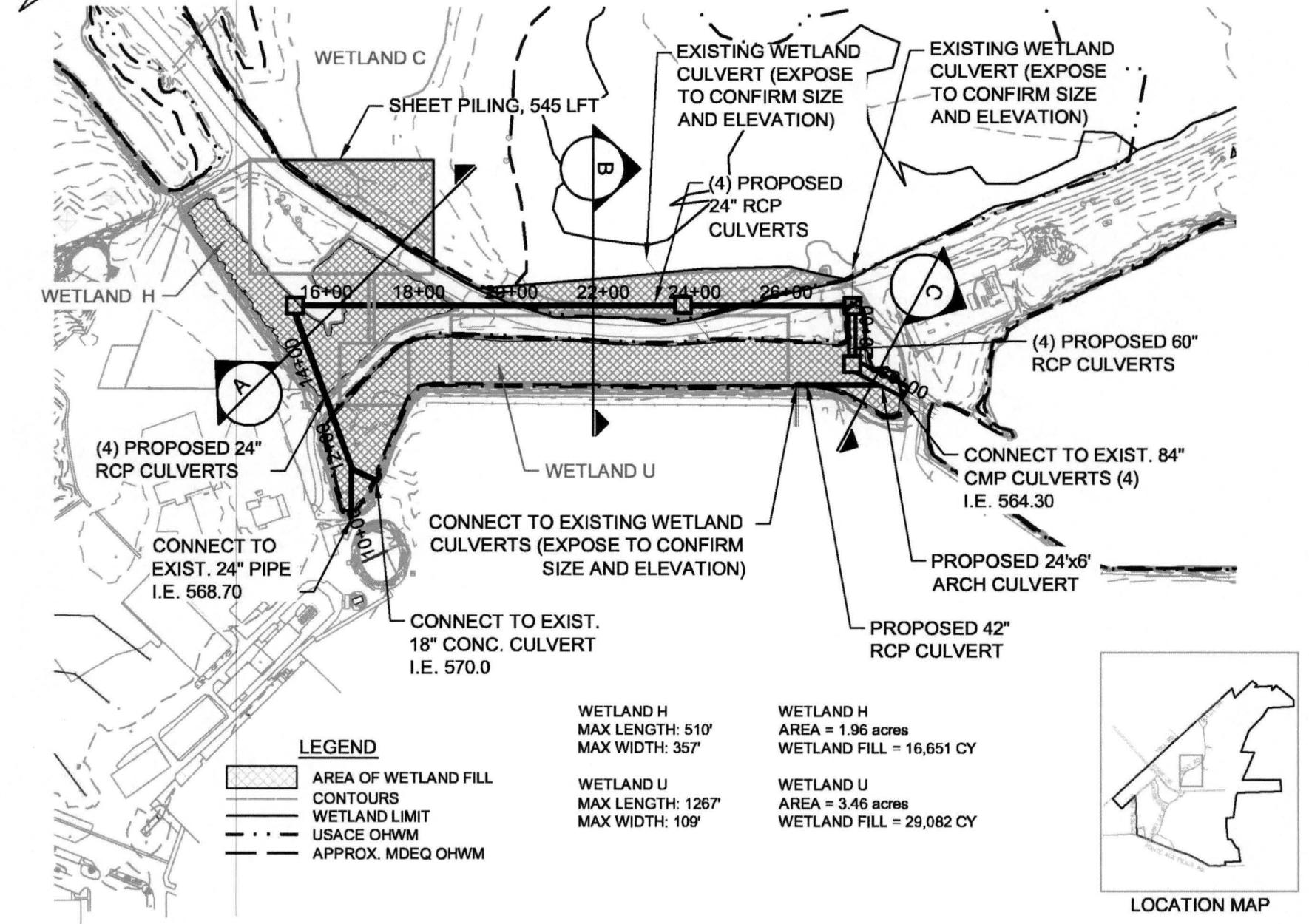


FIGURE 10-1A
WAREHOUSE, PAP/VIB PARKING GARAGE PLAN VIEW OF CULVERTS AT DOXY ROAD

SCALE: 1"=300'

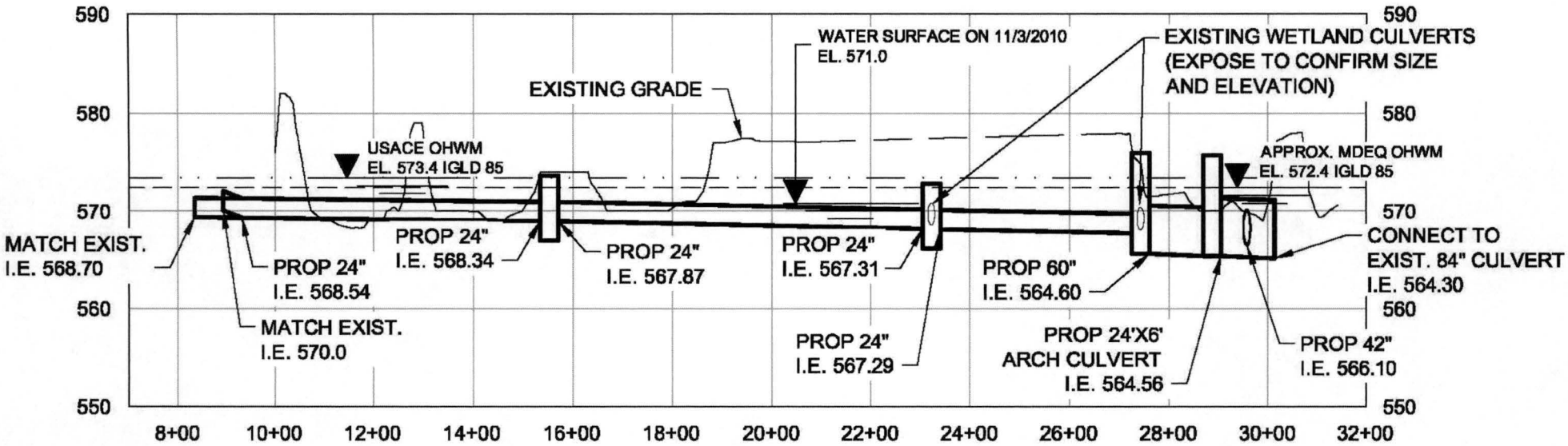
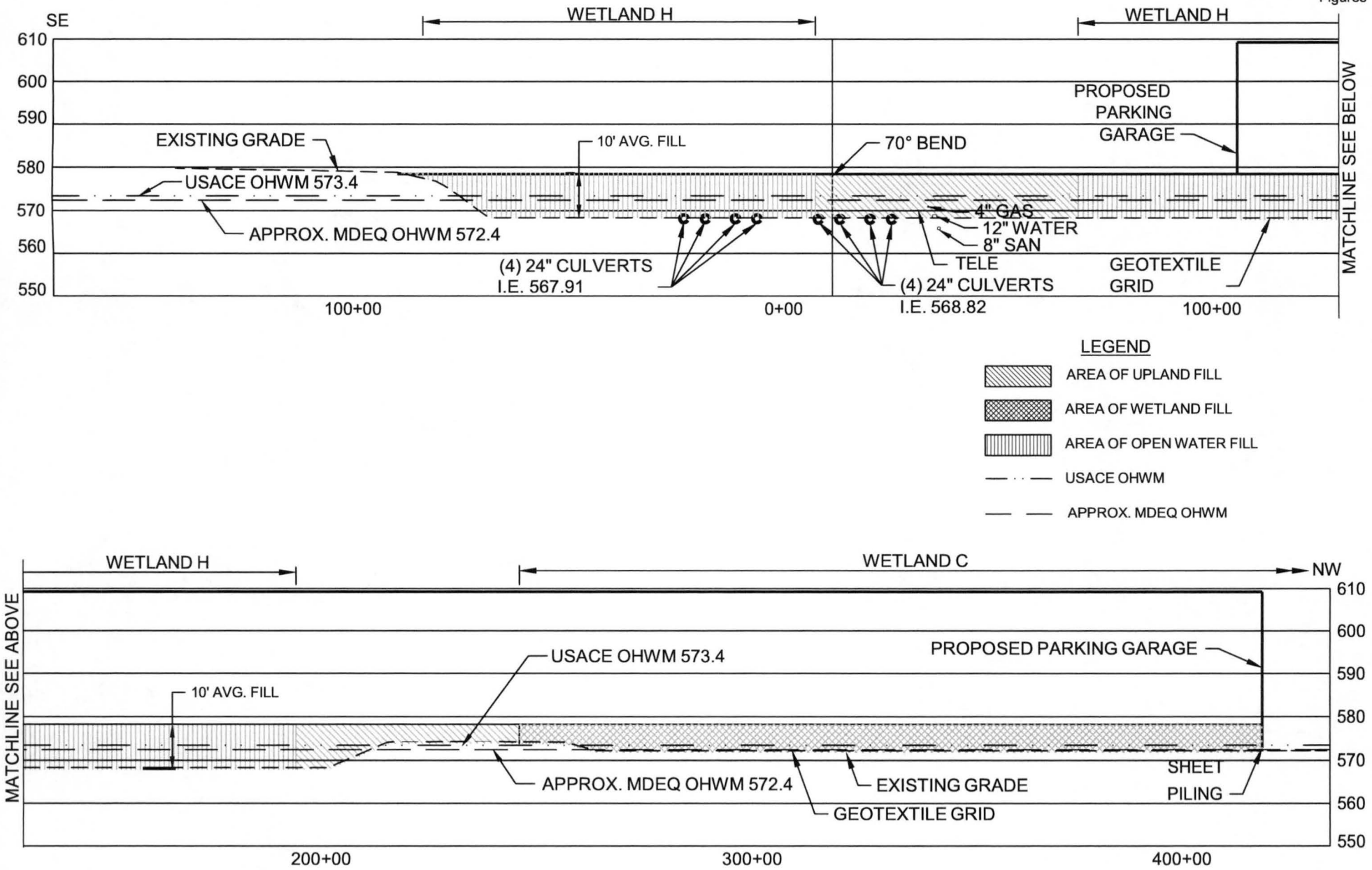


FIGURE 10-1B
WAREHOUSE, PAP/VIB PARKING GARAGE PROFILE OF PROPOSED CULVERTS AT DOXY ROAD

SCALE: 1"=300' HORZ.;1"=20' VERT. (IGLD 85 DATUM)

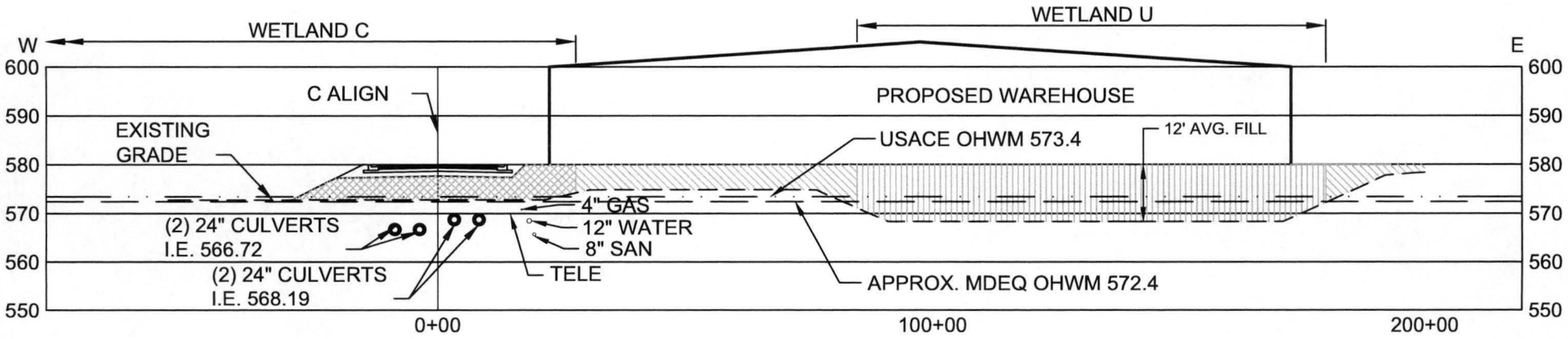


A

CROSS SECTION OF PROPOSED (4) 24" CULVERTS AT DOXY ROAD STA 14+97.87

SCALE: 1"=30' (IGLD 85 DATUM)

FIGURE 10-1C WAREHOUSE, PAP/VIB PARKING GARAGE SECTION 'A' DETAILS



B

CROSS SECTION OF PROPOSED (4) 24" CULVERTS AT DOXY ROAD STA 22+00

SCALE: 1"=30' (IGLD 85 DATUM)

LEGEND

- AREA OF UPLAND FILL
- AREA OF WETLAND FILL
- AREA OF OPEN WATER FILL
- USACE OHWM
- APPROX. MDEQ OHWM

FIGURE 10-1D WAREHOUSE, PAP/VIB PARKING GARAGE SECTION 'B' DETAILS

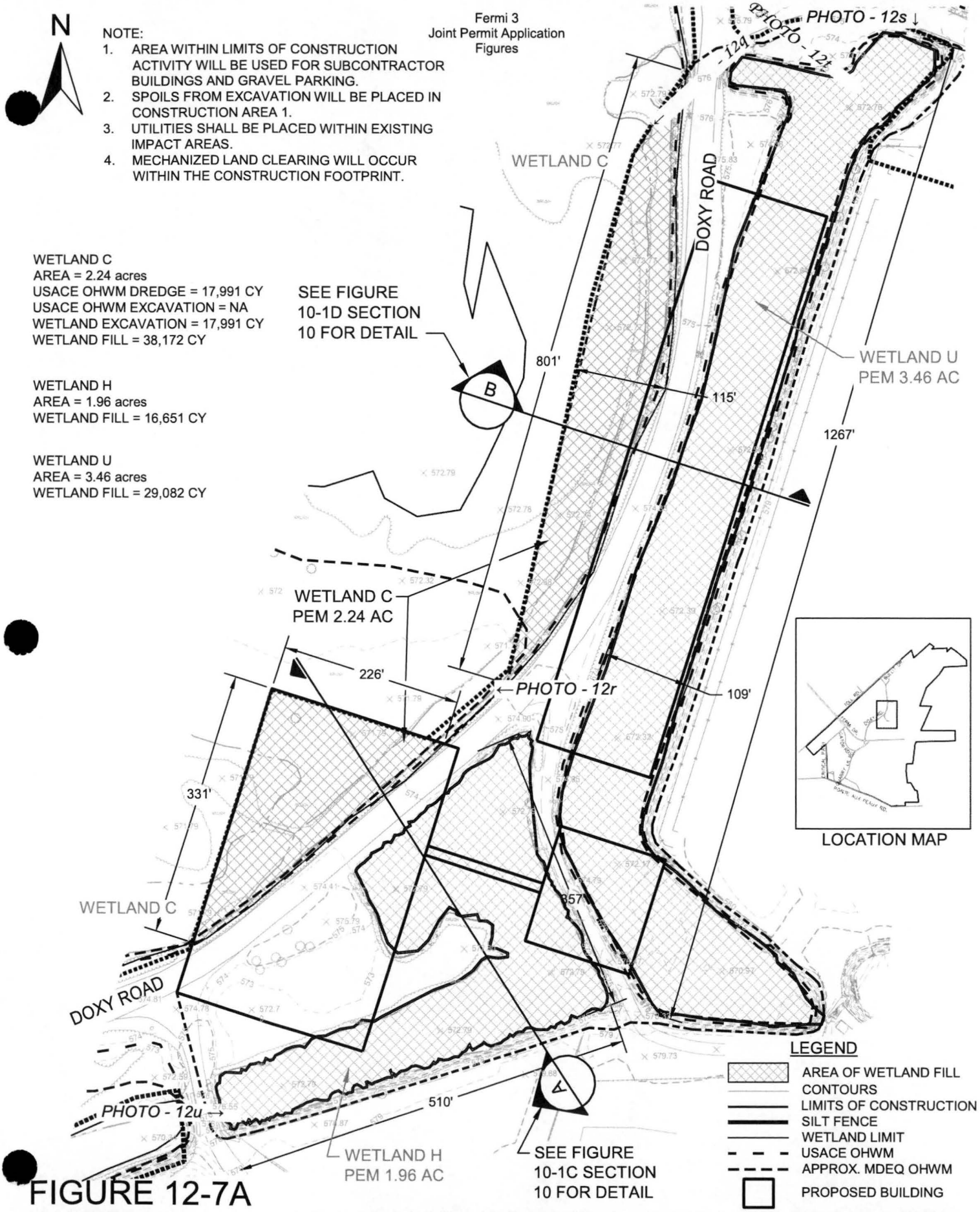
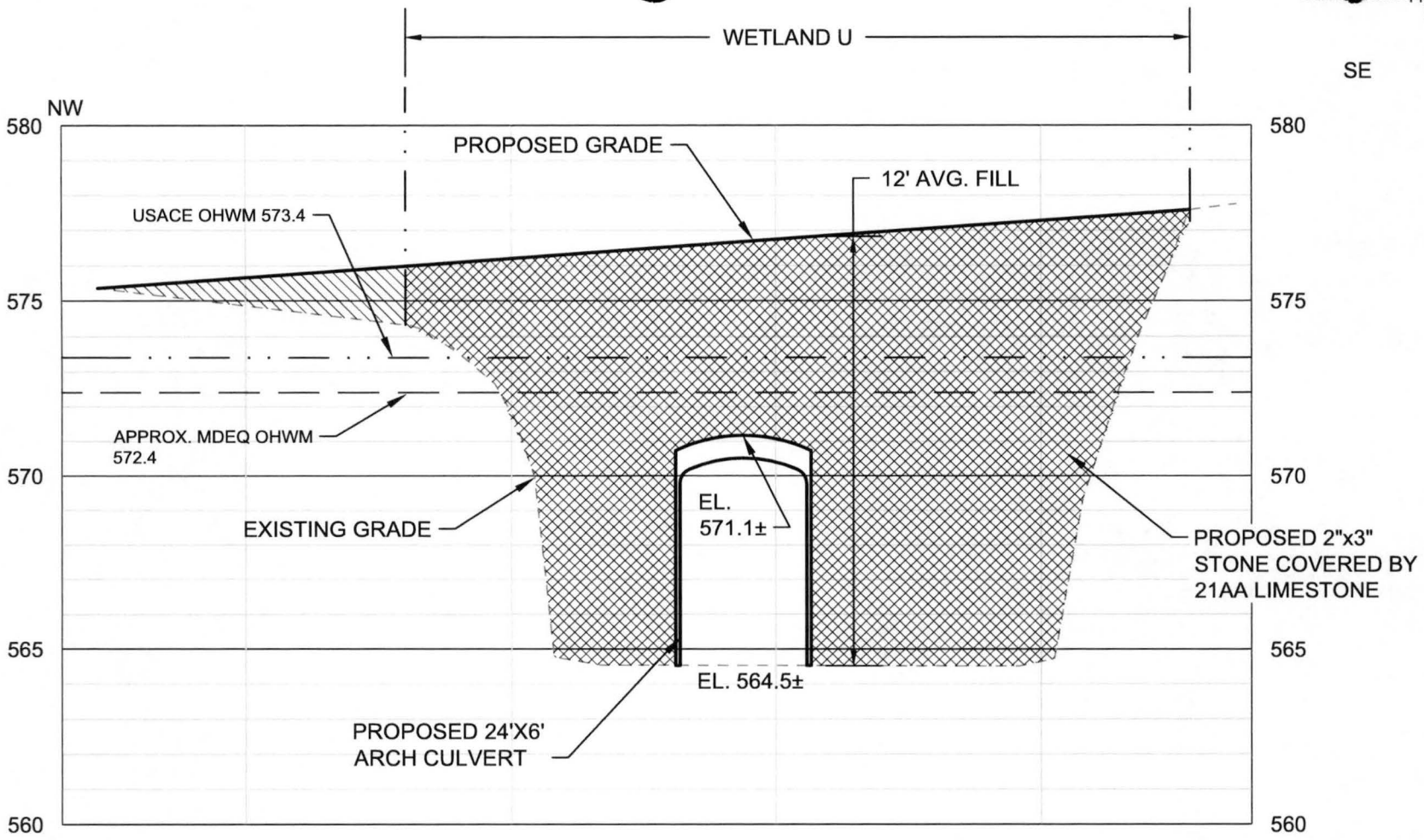


FIGURE 12-7A
WAREHOUSE, PAP/VIB AND PARKING GARAGE PLAN VIEW

SCALE: 1"=150'



C

CROSS SECTION OF PROPOSED 24'X6' CULVERT AT DOXY ROAD STA 29+75

SCALE: 1"=30' HORZ. 1"=3' VERT. (IGLD 85 DATUM)

LEGEND

- AREA OF EXCAVATION
- AREA OF UPLAND FILL
- AREA OF WETLAND FILL
- USACE OHWM
- APPROX. MDEQ OHWM

FIGURE 12-7B WAREHOUSE, PAP/VIB PARKING GARAGE SECTION 'C' DETAILS

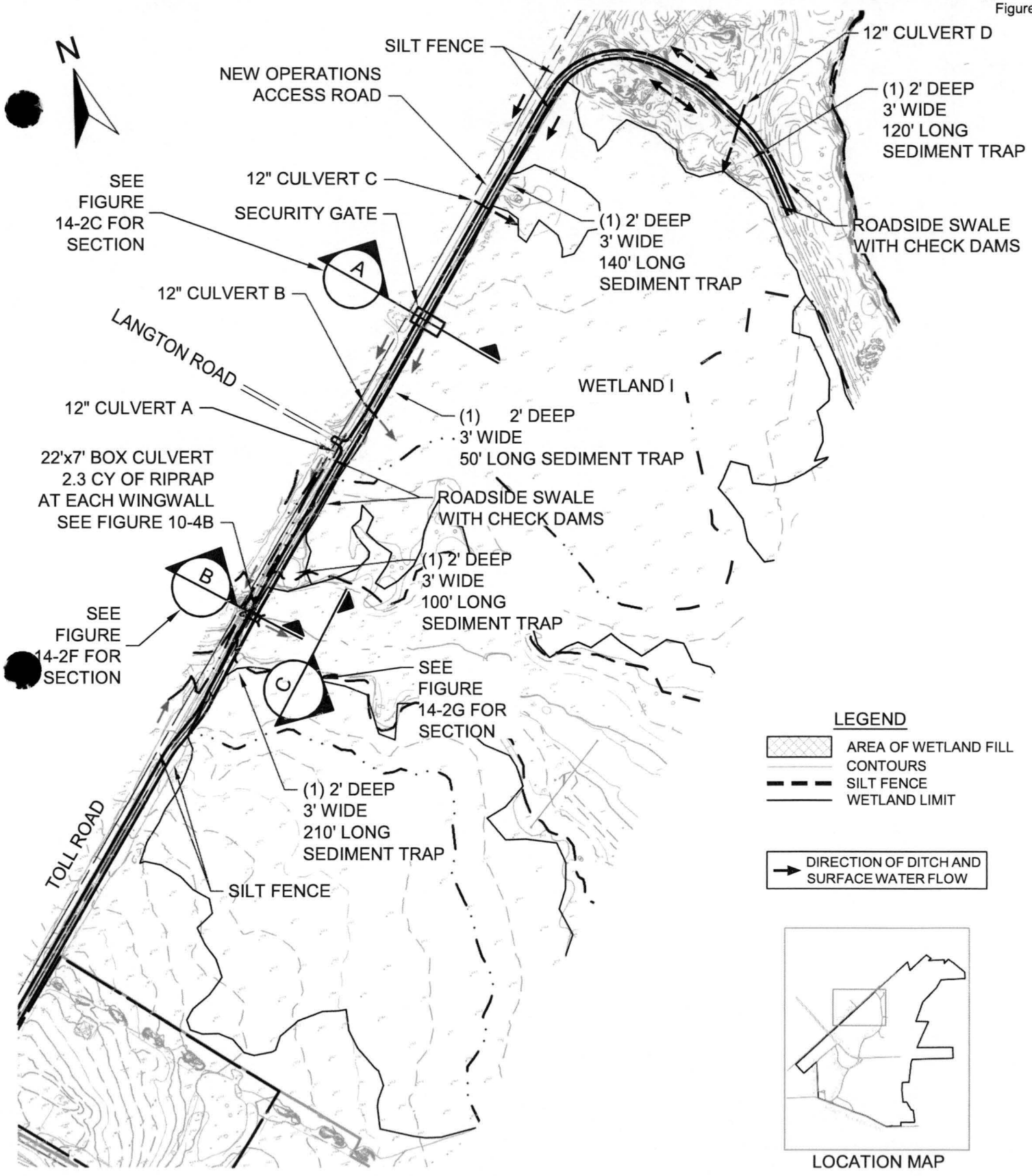
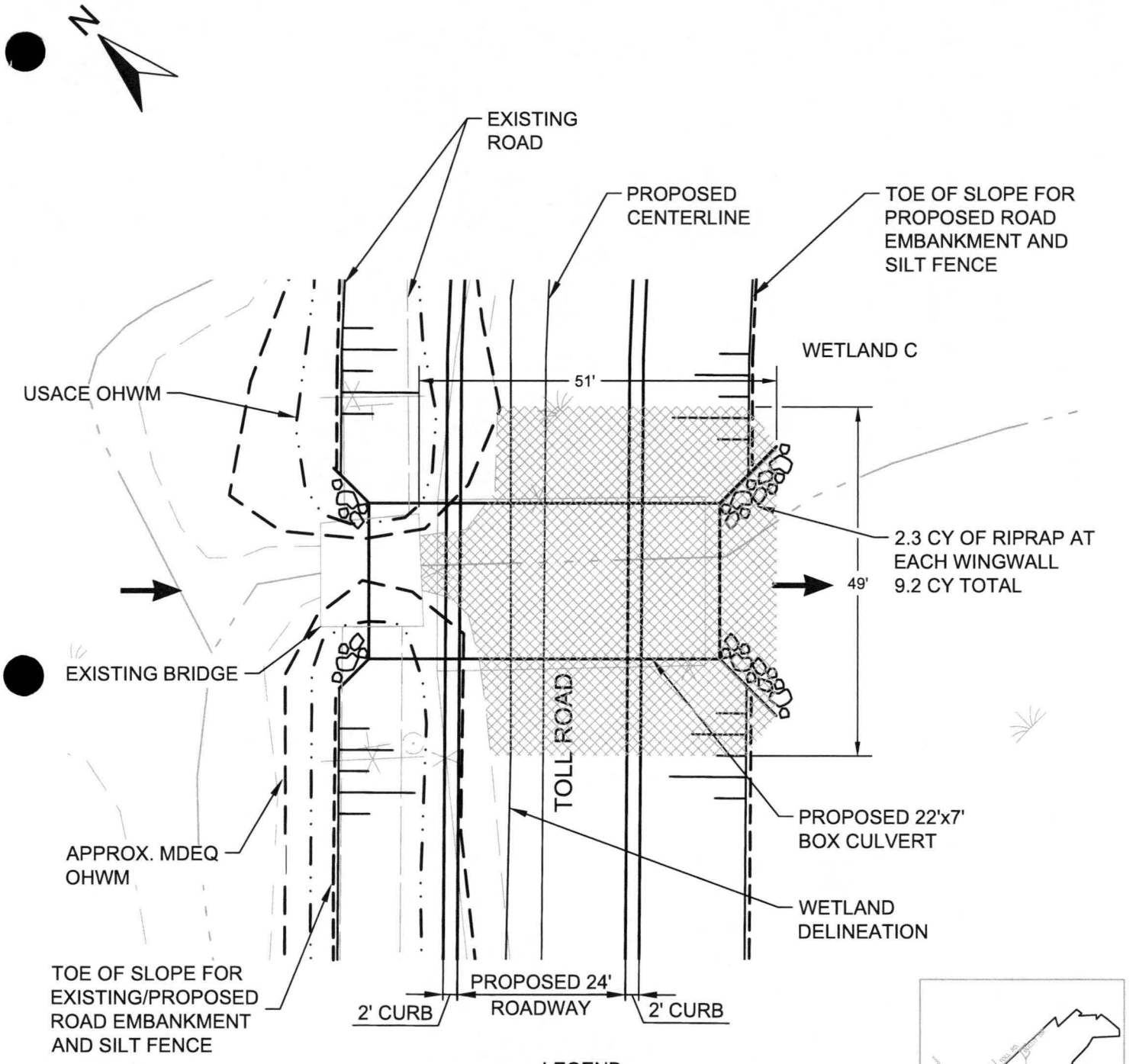


FIGURE 10-4A NEW OPERATIONS ACCESS ROAD PLAN VIEW

SCALE: 1"=500'

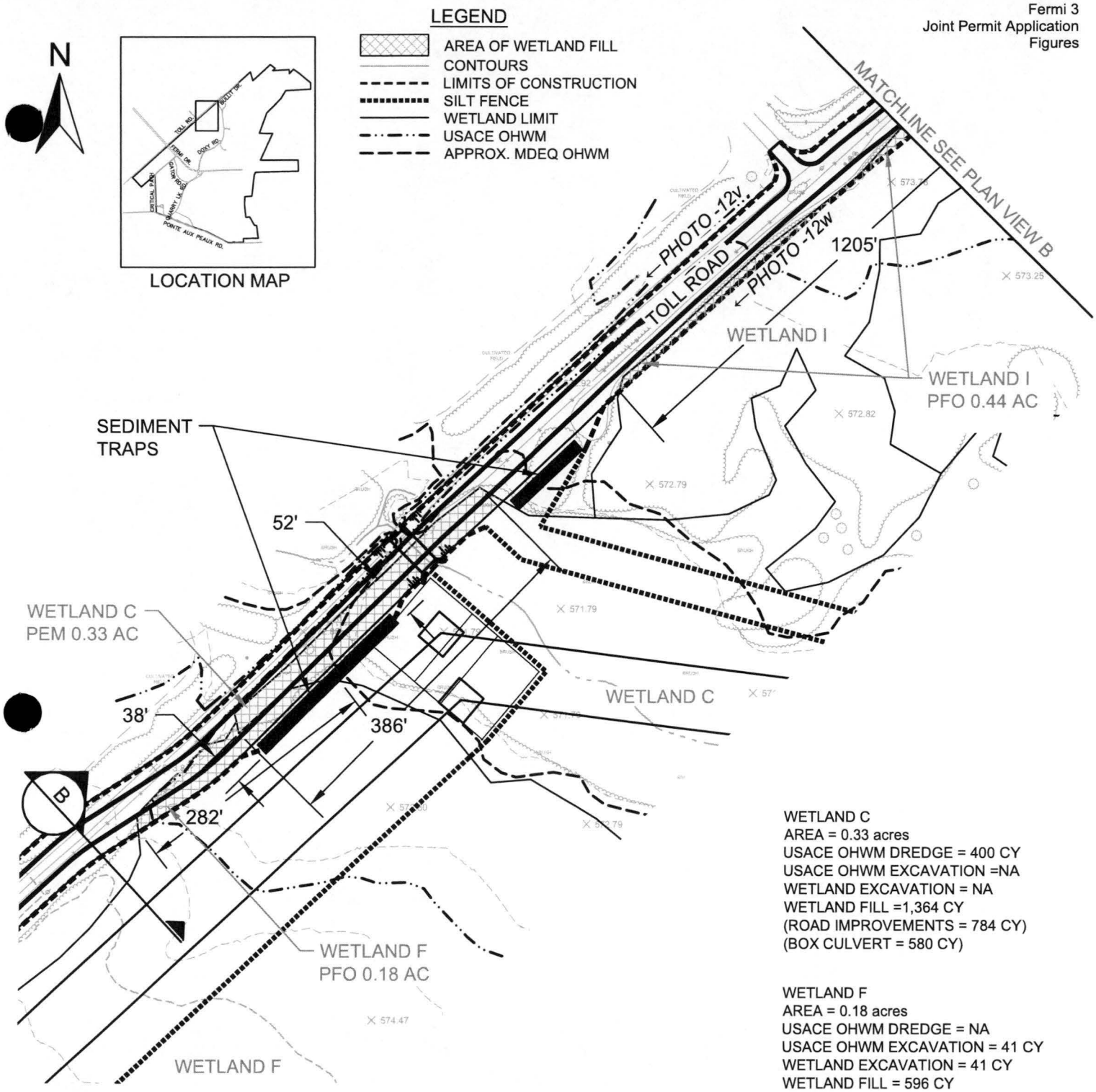


NOTE:
NO PROPOSED WETLAND IMPACTS ALONG NORTHWESTERLY EDGE OF ROAD.

WETLAND C IMPACTS, BOX CULVERT ONLY
USACE OHWM DREDGE = 400 CY
USACE WETLAND FILL = 580 CY
APPROX. MDEQ OHWM DREDGE = 340 CY
APPROX. MDEQ OHWM FILL = 580 CY

FIGURE 10-4B
NEW OPERATIONS ACCESS ROAD 22'x7' BOX CULVERT PLAN VIEW

SCALE: 1"=20'



WETLAND C
AREA = 0.33 acres
USACE OHWM DREDGE = 400 CY
USACE OHWM EXCAVATION =NA
WETLAND EXCAVATION = NA
WETLAND FILL =1,364 CY
(ROAD IMPROVEMENTS = 784 CY)
(BOX CULVERT = 580 CY)

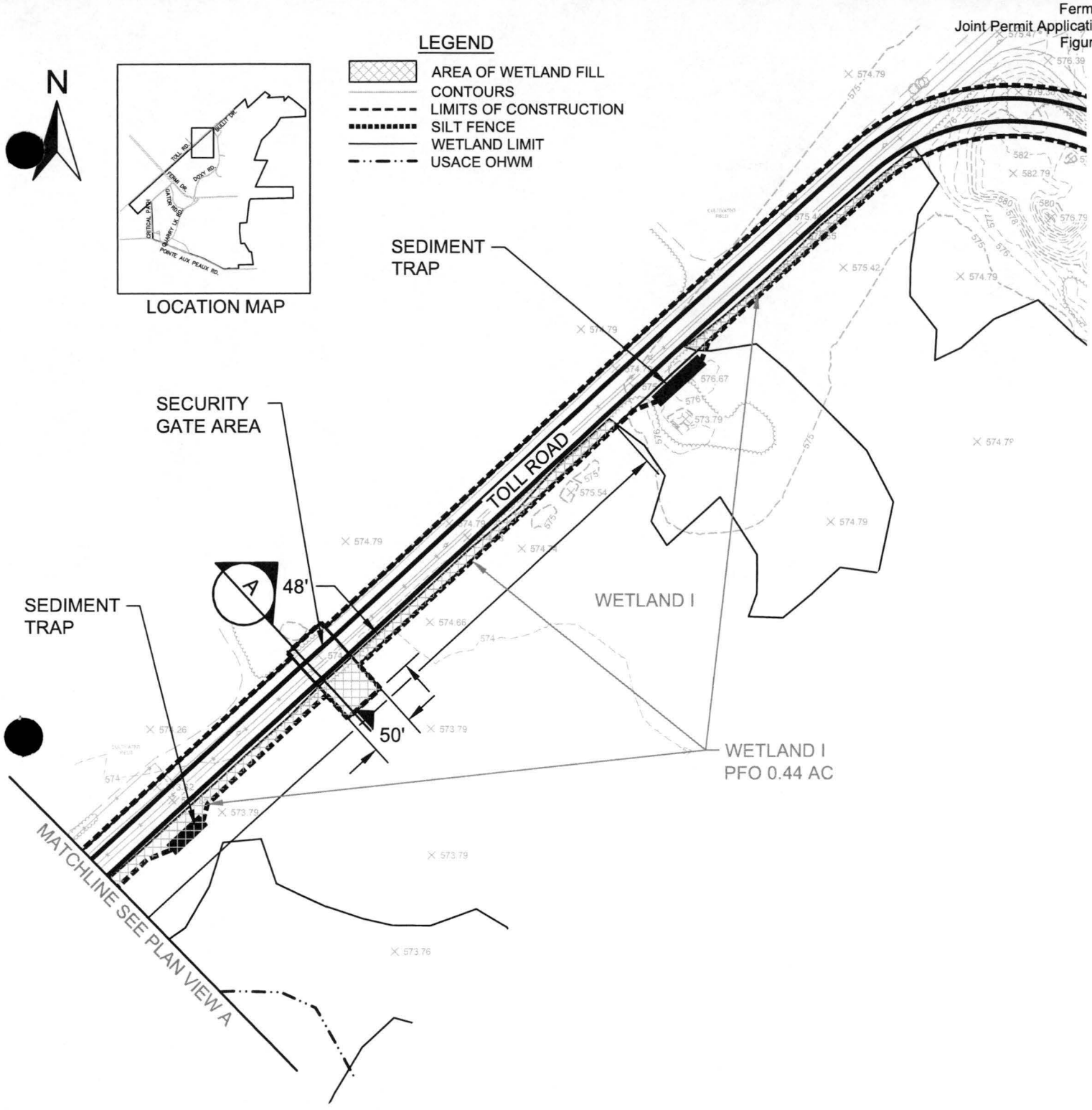
WETLAND F
AREA = 0.18 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 41 CY
WETLAND EXCAVATION = 41 CY
WETLAND FILL = 596 CY

NOTE:
1. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
2. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.
3. WETLAND C IMPACTS ARE FROM THE ROAD IMPROVEMENTS AND BOX CULVERT. (FIGURE 14-2E)

WETLAND I
AREA = 0.44 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 37 CY
WETLAND EXCAVATION = 37 CY
WETLAND FILL = 603 CY

FIGURE 12-8A NEW OPERATIONS ACCESS ROAD PLAN VIEW A

SCALE: 1"=150'



NOTE:
1. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
2. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND I
AREA = 0.44 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 37 CY
WETLAND EXCAVATION = 37 CY
WETLAND FILL = 603 CY

FIGURE 12-8B NEW OPERATIONS ACCESS ROAD PLAN VIEW B

SCALE: 1"=150'

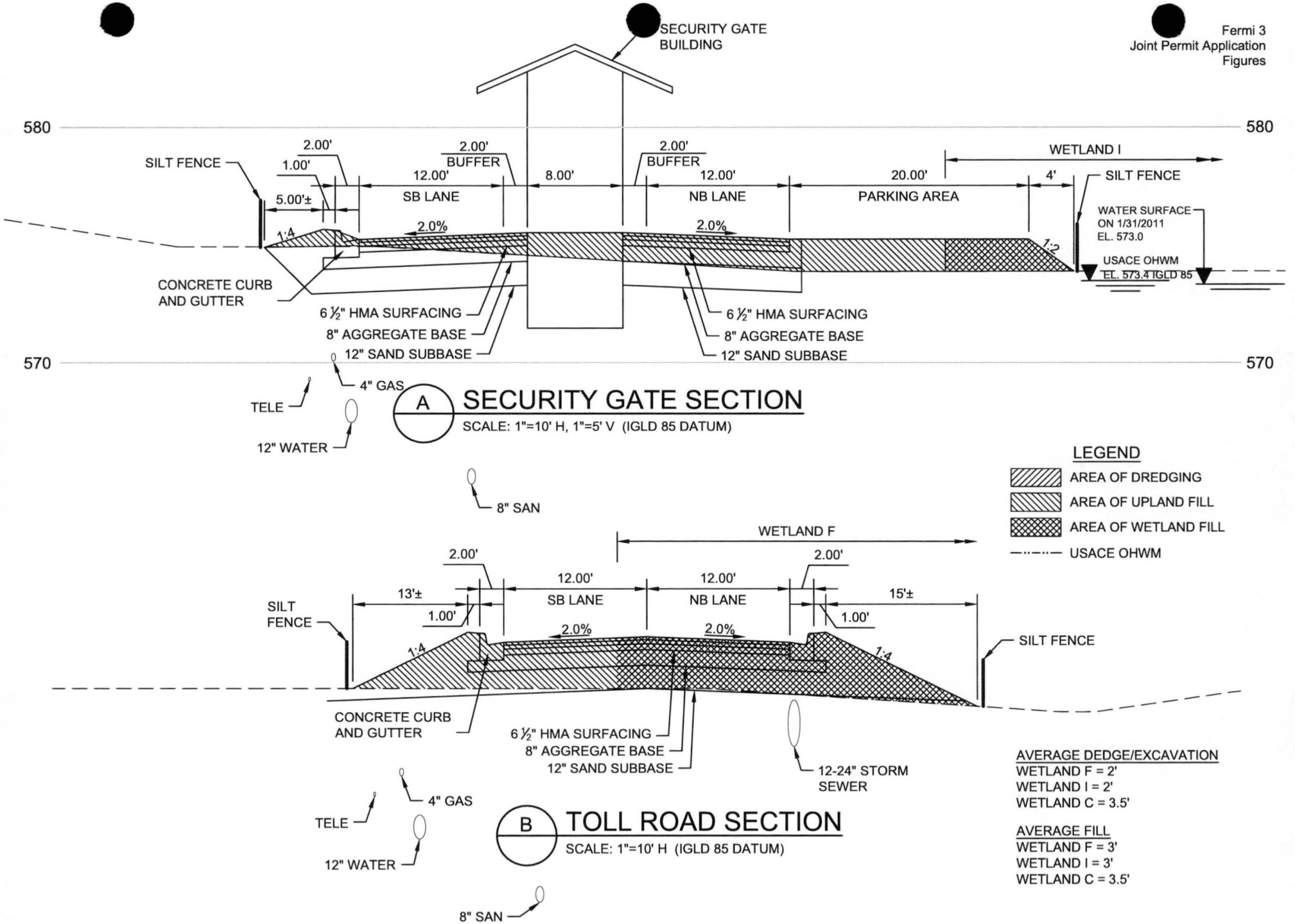


FIGURE 12-8C NEW OPERATIONS ACCESS ROAD SECTION DETAILS

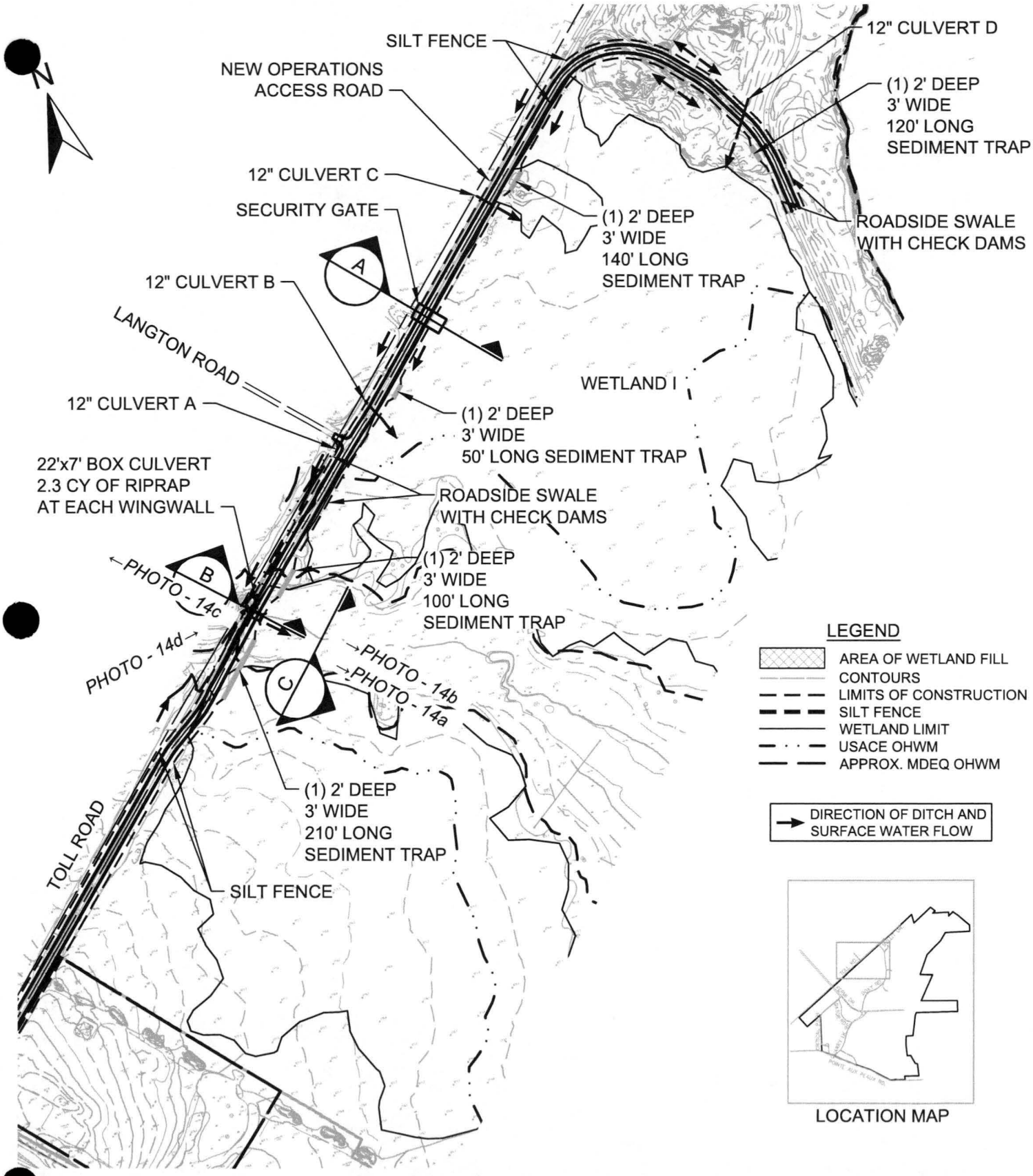
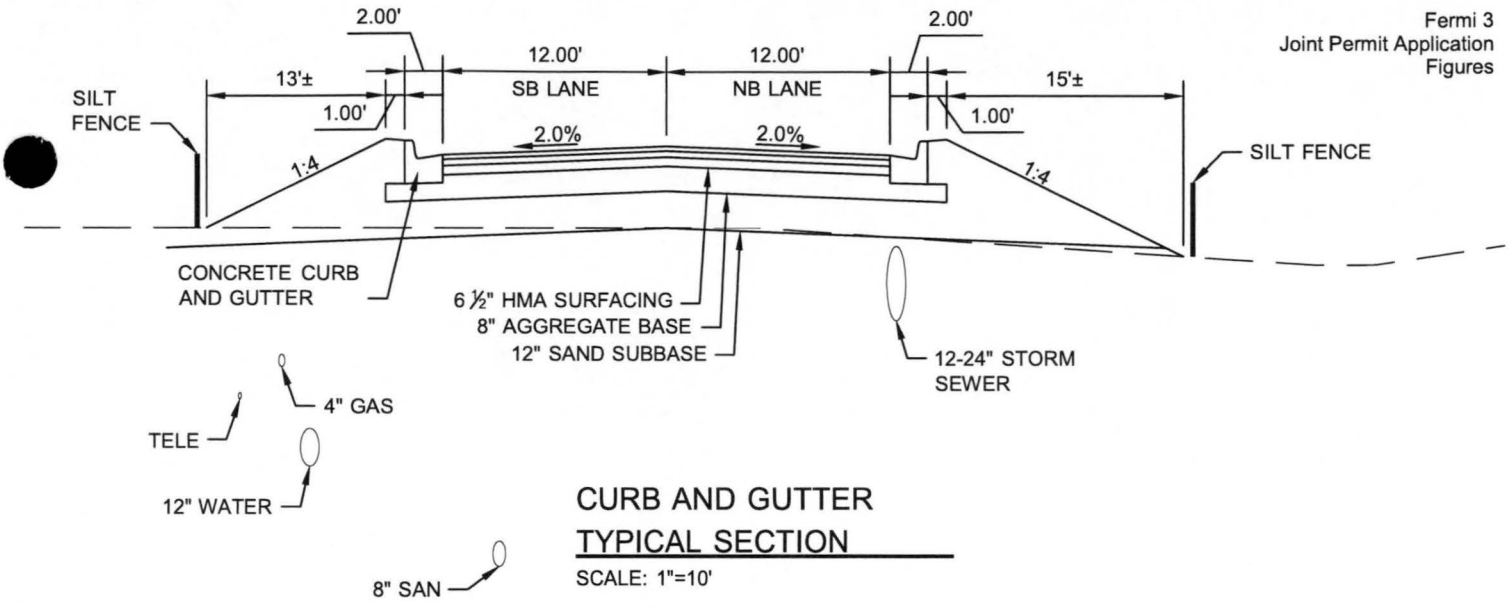
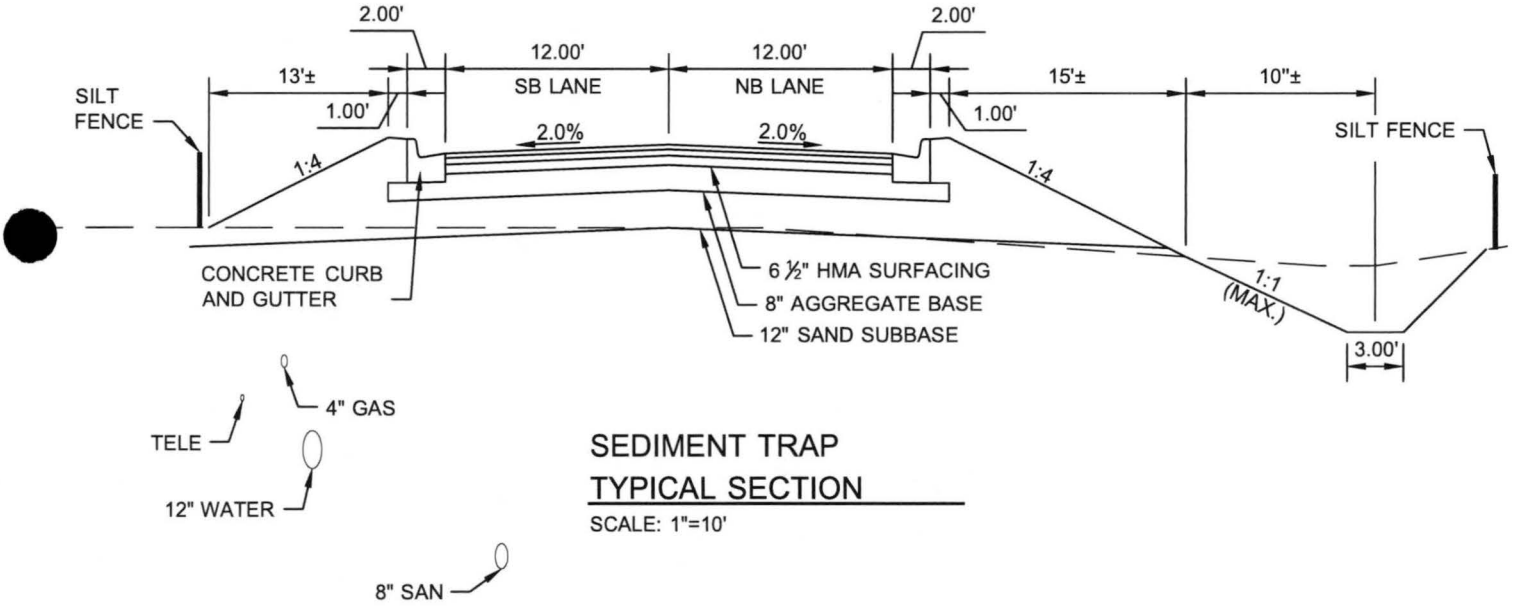


FIGURE 14-2A NEW OPERATIONS ACCESS ROAD PLAN VIEW

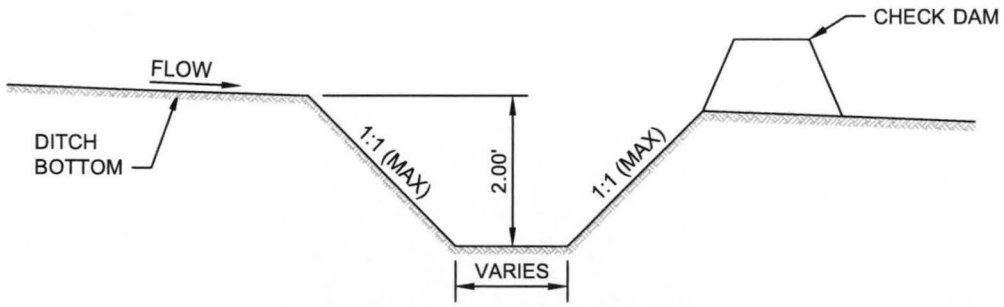
SCALE: 1"=500'



CURB AND GUTTER
TYPICAL SECTION
SCALE: 1"=10'

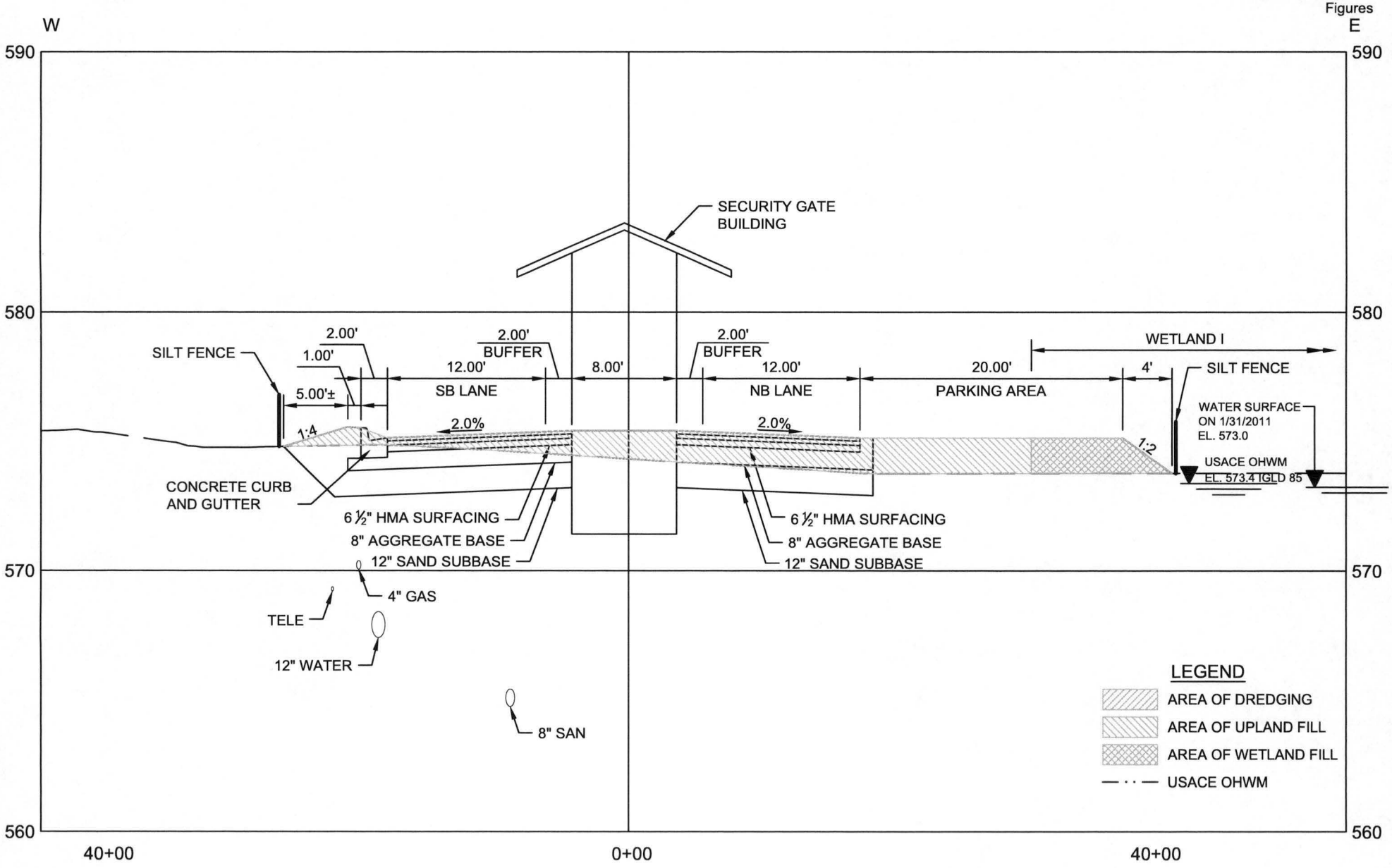


SEDIMENT TRAP
TYPICAL SECTION
SCALE: 1"=10'



TYPICAL SEDIMENT TRAP
DETAIL PROFILE
SCALE: 1"=5'

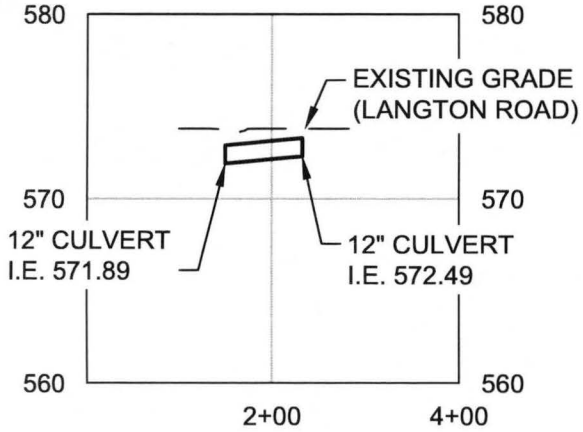
FIGURE 14-2B NEW OPERATIONS ACCESS ROAD
TYPICAL SECTION FOR CURB AND GUTTER
TYPICAL SECTION AND DETAIL PROFILE SEDIMENT TRAP



A SECURITY GATE SECTION

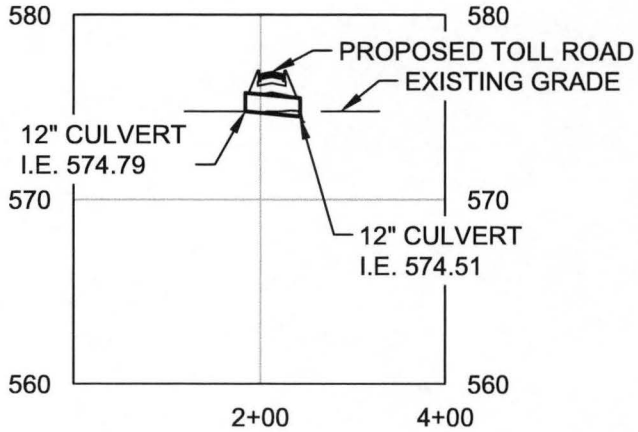
SCALE: 1"=10' HORZ.; 1"=5' VERT. (IGLD 85 DATUM)

FIGURE 14-2C NEW OPERATIONS ACCESS ROAD SECURITY GATE SECTION 'A' DETAILS



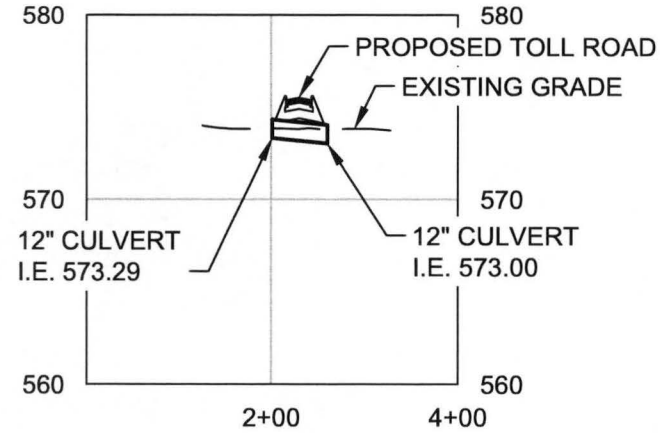
PROFILE OF PROPOSED CULVERT A (LOOKING NORTHWEST)

SCALE: 1"=200' HORZ.;1"=20' VERT. (IGLD 85 DATUM)



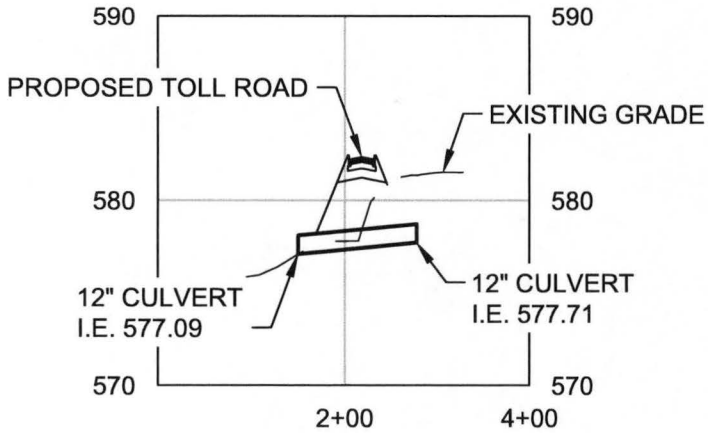
PROFILE OF PROPOSED CULVERT C (LOOKING EAST)

SCALE: 1"=200' HORZ.;1"=20' VERT. (IGLD 85 DATUM)



PROFILE OF PROPOSED CULVERT B (LOOKING EAST)

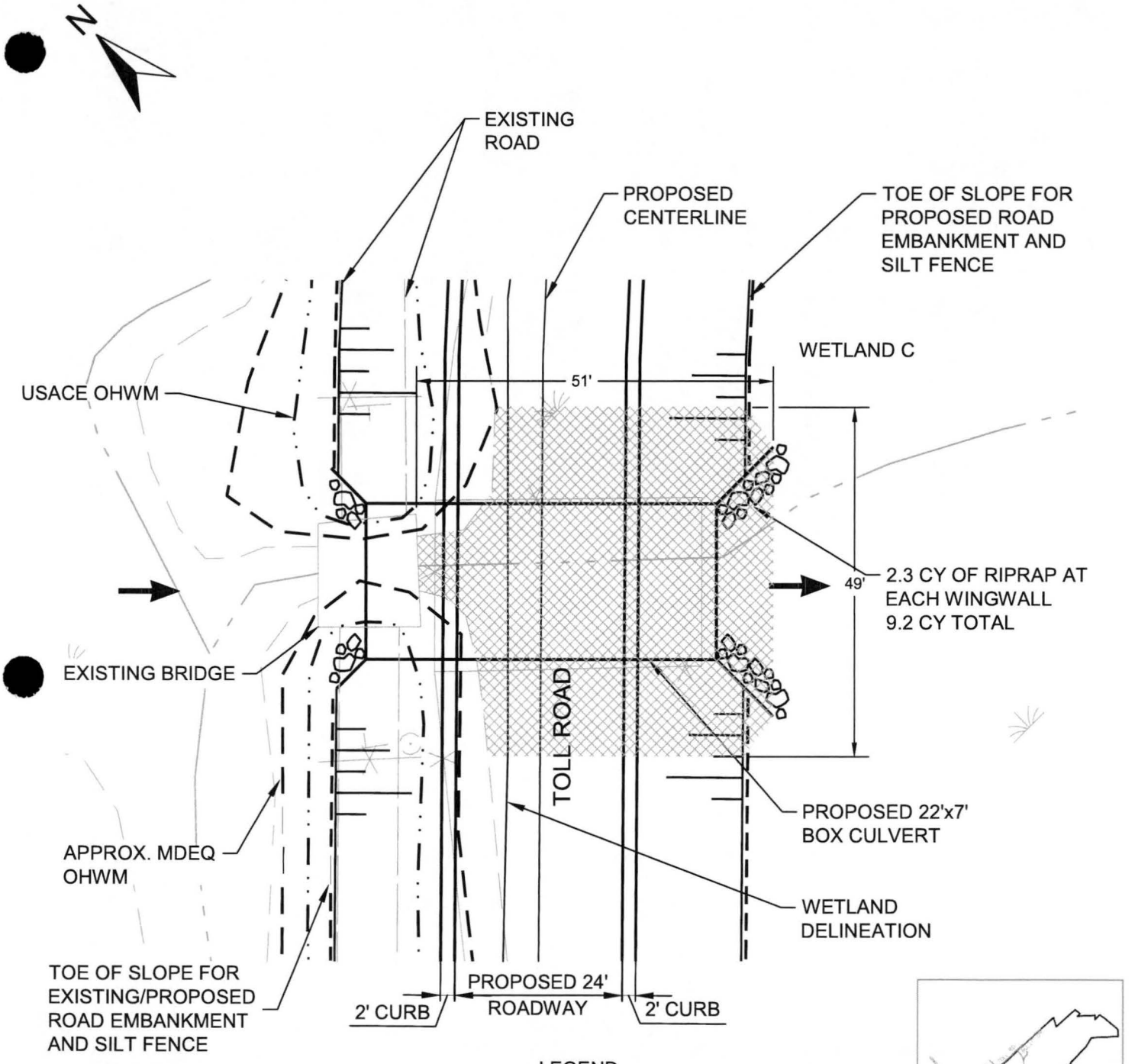
SCALE: 1"=200' HORZ.;1"=20' VERT. (IGLD 85 DATUM)



PROFILE OF PROPOSED CULVERT D (LOOKING NORTHWEST)

SCALE: 1"=200' HORZ.;1"=20' VERT. (IGLD 85 DATUM)

FIGURE 14-2D NEW OPERATIONS ACCESS ROAD PROFILE OF PROPOSED CULVERTS A - D

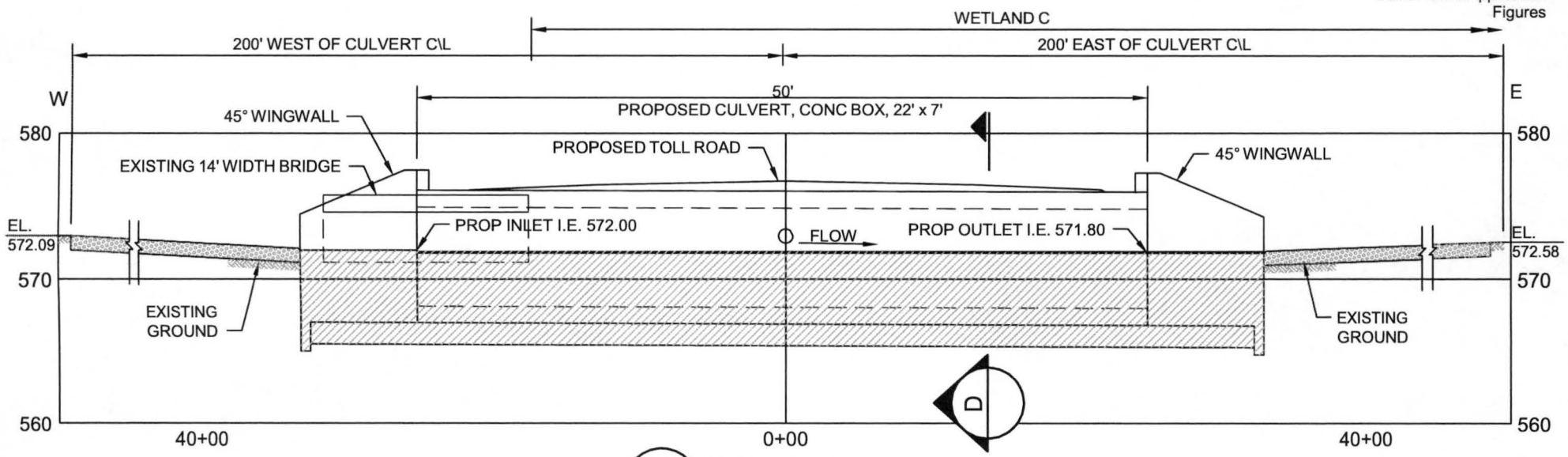


NOTE:
NO PROPOSED WETLAND IMPACTS ALONG NORTHWESTERLY EDGE OF ROAD.

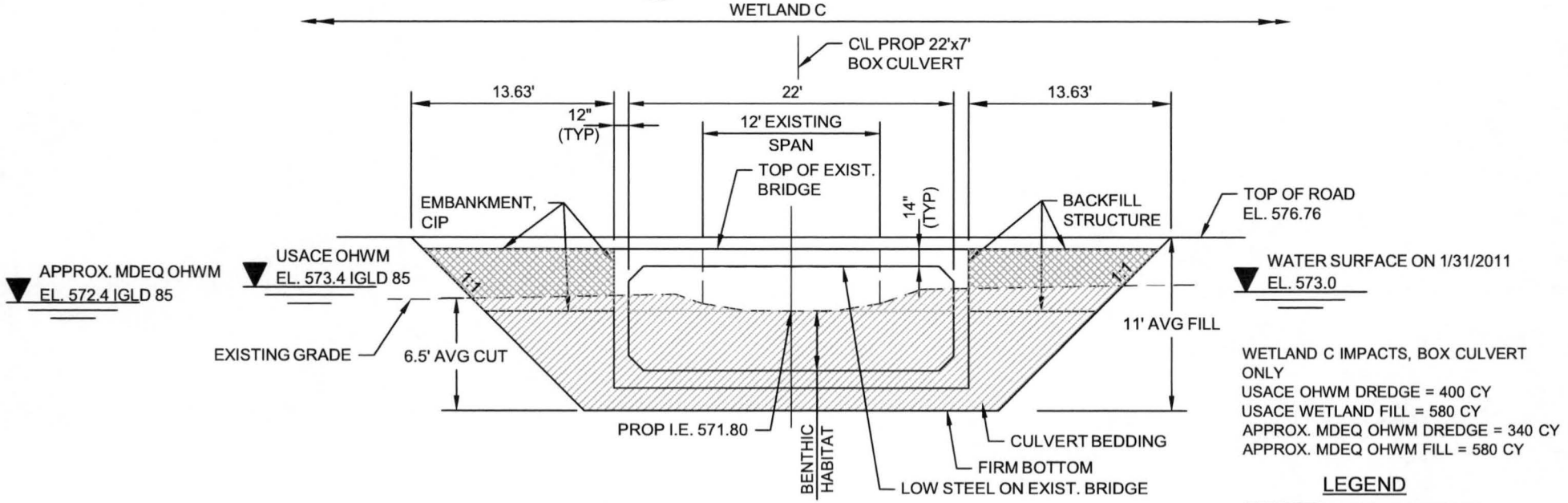
WETLAND C IMPACTS, BOX CULVERT ONLY
USACE OHWM DREDGE = 400 CY
USACE WETLAND FILL = 580 CY
APPROX. MDEQ OHWM DREDGE = 340 CY
APPROX. MDEQ OHWM FILL = 580 CY

FIGURE 14-2E
NEW OPERATIONS ACCESS ROAD 22'x7' BOX CULVERT PLAN VIEW

SCALE: 1"=20'



B ELEVATION
SCALE: 1"=10' (IGLD 85 DATUM)

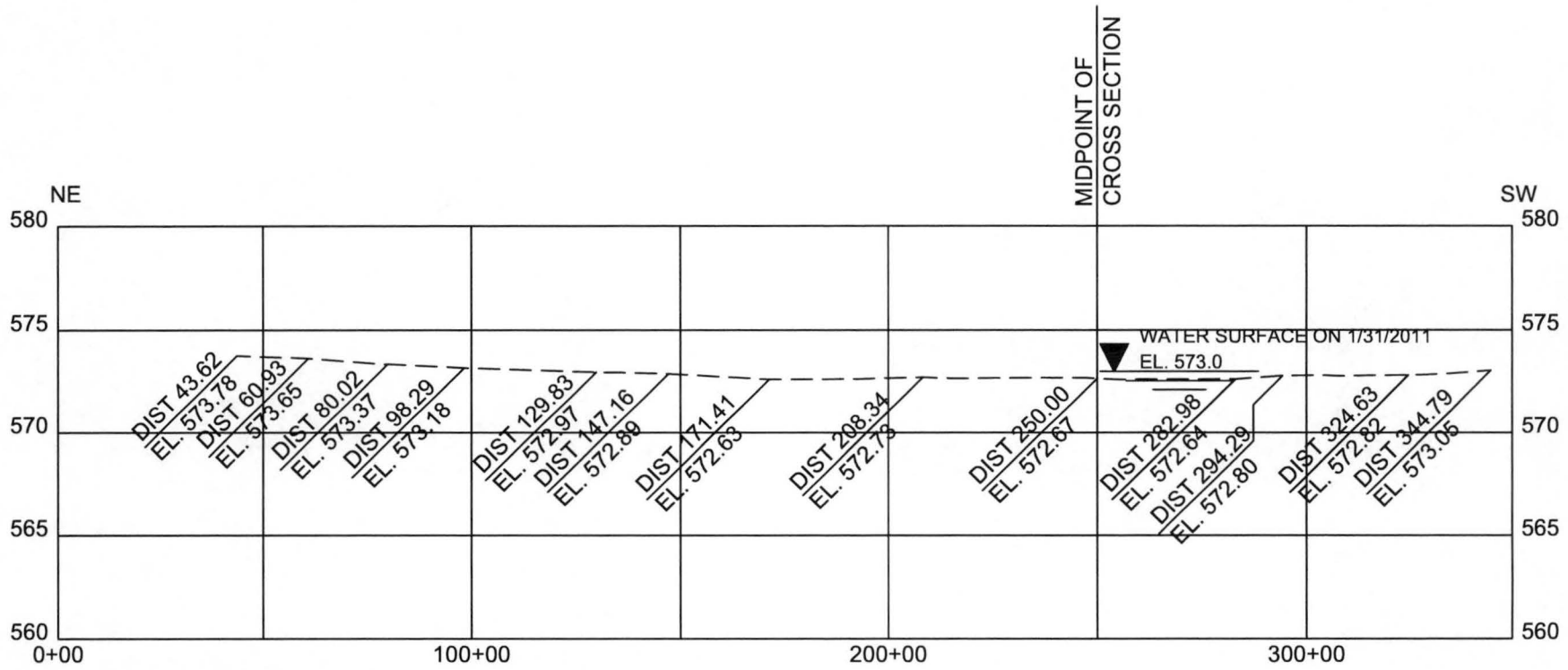


WETLAND C IMPACTS, BOX CULVERT ONLY
USACE OHWM DREDGE = 400 CY
USACE WETLAND FILL = 580 CY
APPROX. MDEQ OHWM DREDGE = 340 CY
APPROX. MDEQ OHWM FILL = 580 CY

LEGEND
AREA OF DREDGE
AREA OF WETLAND FILL

D SECTION VIEW (LOOKING WEST)
SCALE: 1"=10' (IGLD 85 DATUM)

FIGURE 14-2F NEW OPERATIONS ACCESS ROAD ELEVATION 'B' AND SECTION 'D' DETAILS

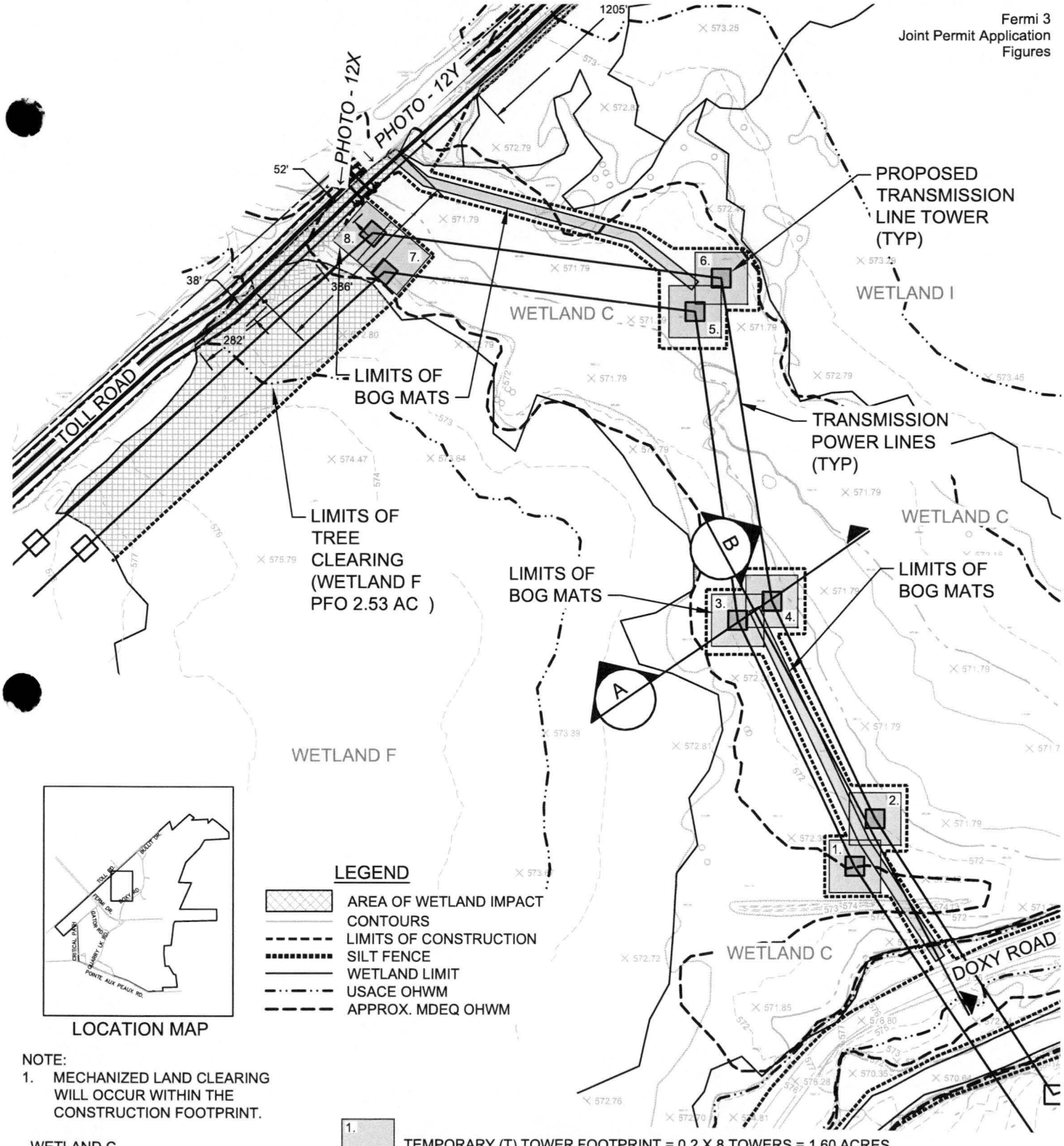


C

STREAM CROSS SECTION
200 FEET DOWNSTREAM OF PROPOSED TOLL ROAD (LOOKING DOWNSTREAM)

SCALE: 1"=40' HORZ.; 1"=5' VERT. (IGLD 85 DATUM)

FIGURE 14-2G NEW OPERATIONS ACCESS ROAD SECTION 'C' DETAILS



LOCATION MAP

LEGEND

- AREA OF WETLAND IMPACT
- CONTOURS
- LIMITS OF CONSTRUCTION
- SILT FENCE
- WETLAND LIMIT
- USACE OHWM
- APPROX. MDEQ OHWM

NOTE:
1. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND C
AREA = 0.24 acres
USACE OHWM DREDGE = 768 CY
USACE OHWM EXCAVATION = NA
WETLAND EXCAVATION = 768 CY
WETLAND FILL = 768 CY

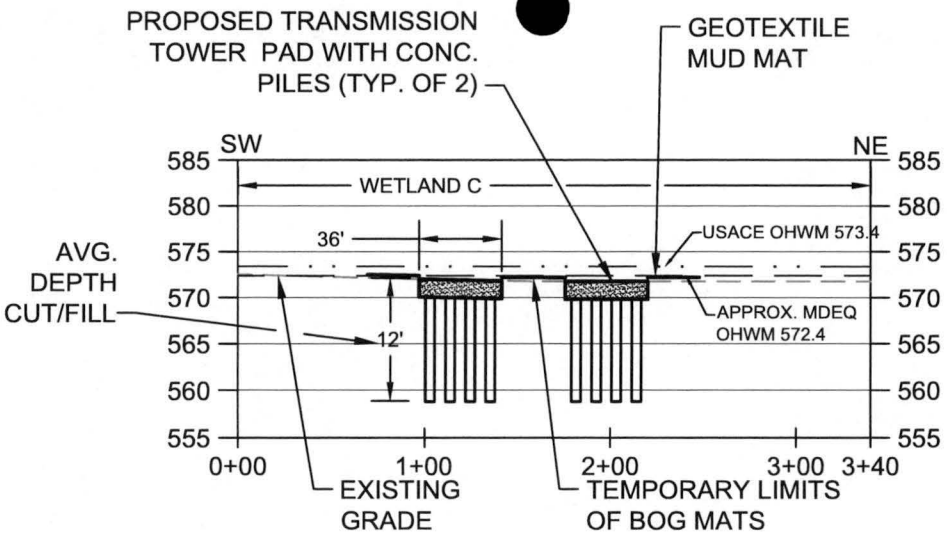
1. TEMPORARY (T) TOWER FOOTPRINT = 0.2 X 8 TOWERS = 1.60 ACRES
(T) LIMITS OF BOG MATS FOOTPRINT = 0.34 ACRES
(T) LIMITS OF BOG MATS FOOTPRINT = 0.35 ACRES
TOTAL TEMPORARY IMPACTS = 2.29 ACRES

36' / 36' PERMANENT (P) TOWER FOOTPRINT = 0.03 X 8 TOWERS = 0.24 ACRES
(P) OVERHEAD TRANSMISSION LINE CLEARANCE FOOTPRINT = 2.53 ACRES

N

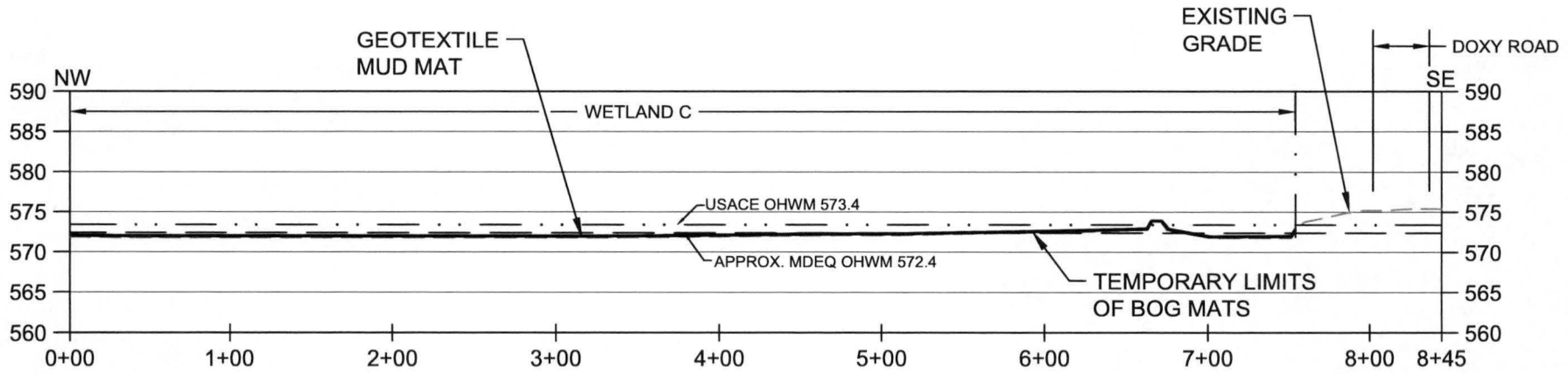
FIGURE 12-9A ONSITE TRANSMISSION PLAN VIEW

SCALE: 1"=250'



A ONSITE TRANSMISSION SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B ONSITE TRANSMISSION SECTION

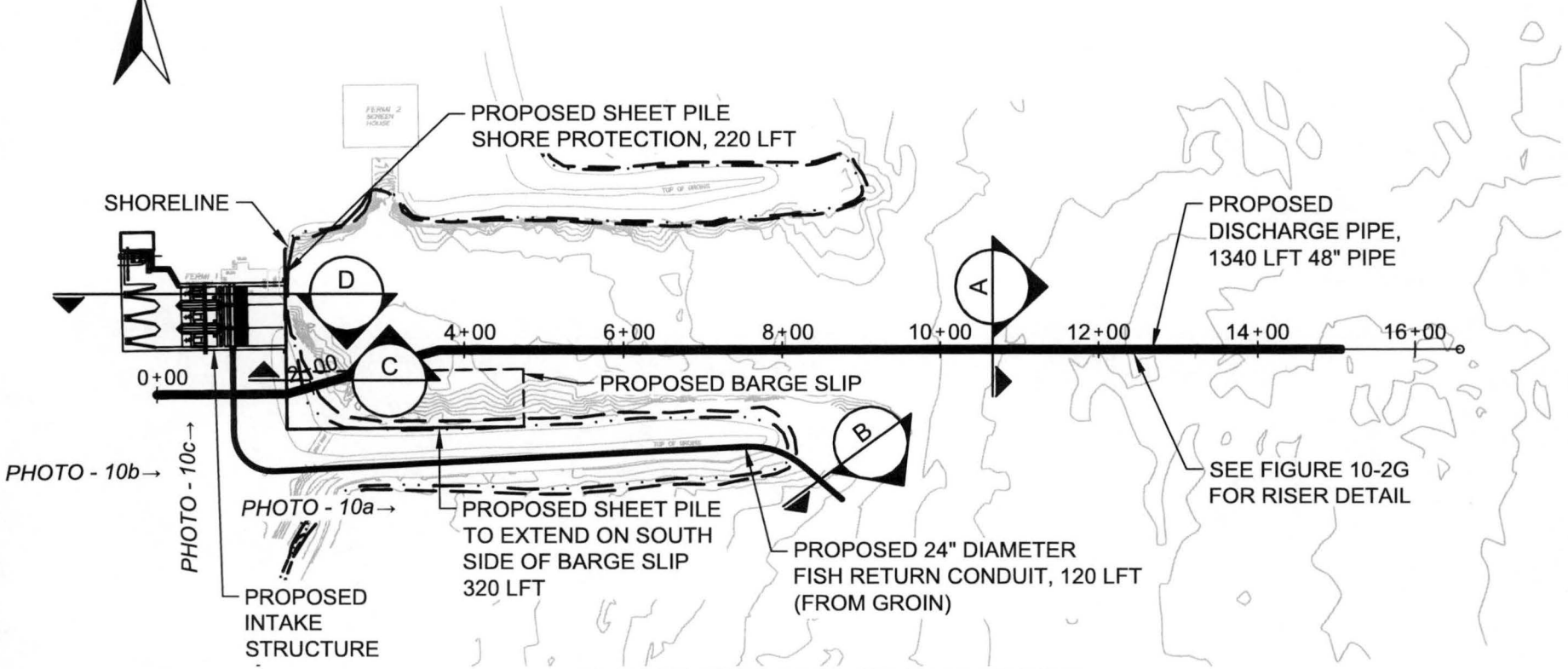
SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

LEGEND

— · · — USACE OHWM

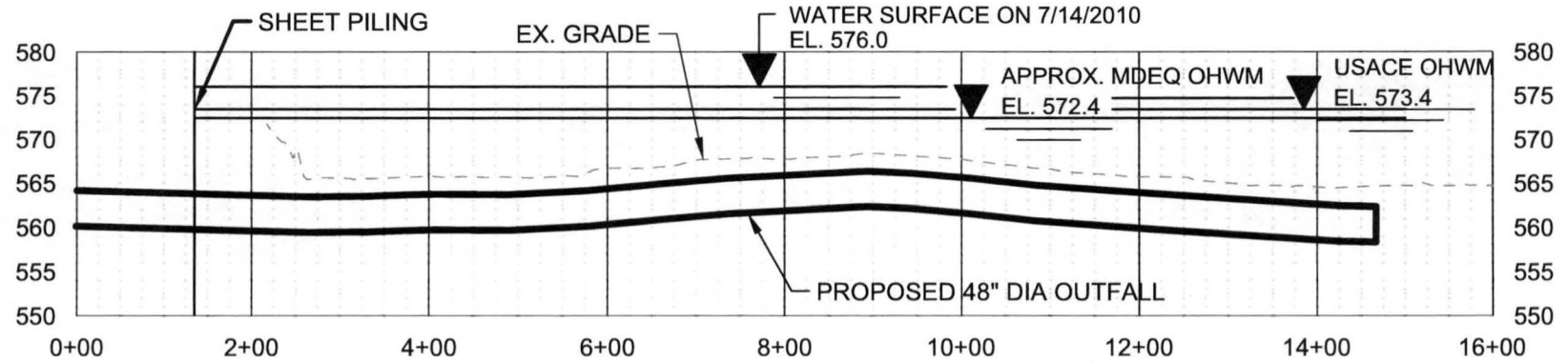
— — — APPROX. MDEQ OHWM

FIGURE 12-9B ONSITE TRANSMISSION SECTION DETAILS



PLAN OF PROPOSED DISCHARGE PIPE

SCALE: 1"=200'



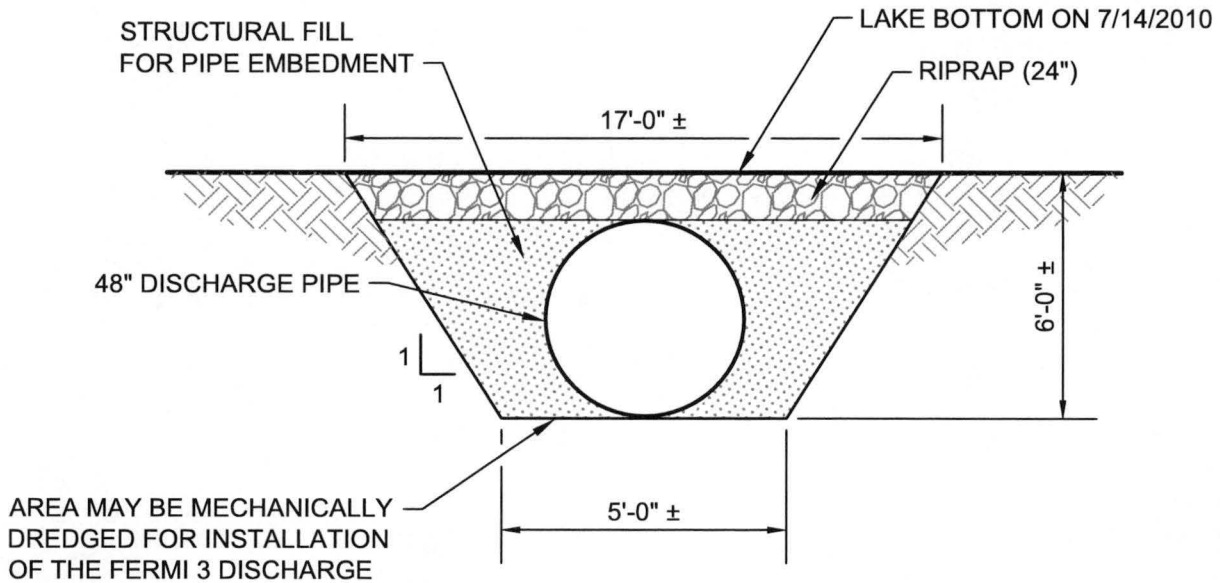
PROFILE OF PROPOSED FERMI 3 DISCHARGE PIPE

SCALE: 1"=200' HORZ.; 1"=20' VERT. (IGLD 85 DATUM)

LEGEND

- USACE OHWM
- APPROX. MDEQ OHWM
- PROPOSED BARGE SLIP LIMITS

FIGURE 10-2A LAKE ERIE CONSTRUCTION AREA PLAN AND PROFILE OF PROPOSED DISCHARGE PIPE

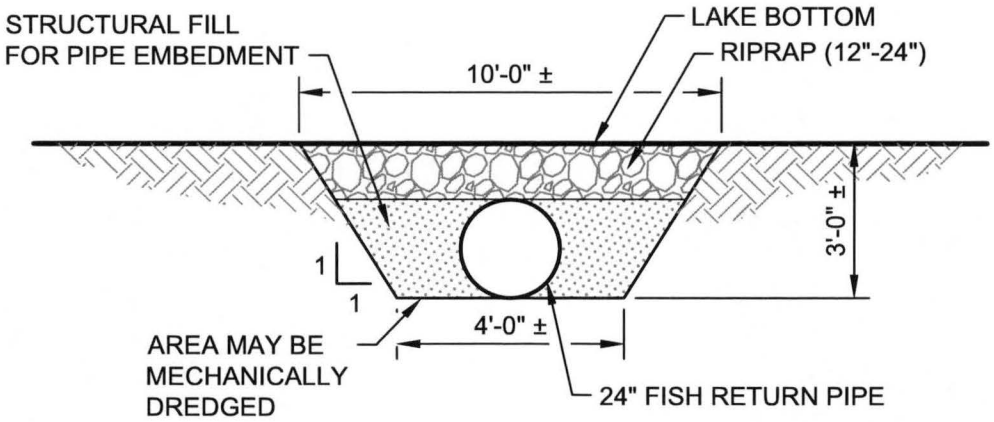


DREDGE VOLUME:	3,300 CY
SIDECAST VOLUME:	3,300 CY
STONE BACKFILL VOLUME:	970 CY
RIPRAP VOLUME:	1,690 CY
PIPE LENGTH:	1,340 LFT

NOTE:
1. ONLY OUTSIDE MATERIALS WILL BE THE PIPE, RIPRAP AND STONE.
2. ALL WORK BELOW MDEQ AND USACE OHWM.

A DISCHARGE PIPE DREDGING CROSS SECTION
SCALE: NONE

FIGURE 10-2B LAKE ERIE CONSTRUCTION AREA DISCHARGE PIPE DREDGING SECTION 'A' DETAILS



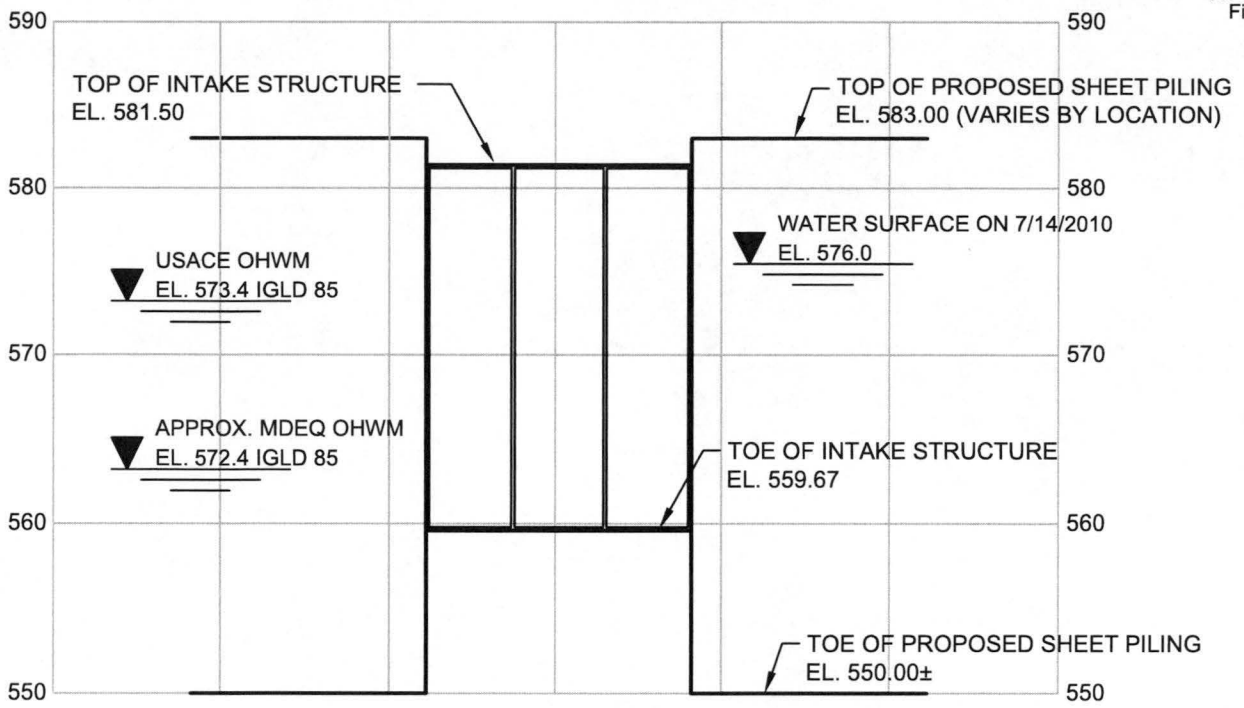
LEGEND
- RIPRAP
- UNDISTURBED EARTH
- STRUCTURAL FILL

DREDGE VOLUME:	93 CY
SIDECAST VOLUME:	93 CY (39 CY TO BE USED TO BACKFILL TRENCH)
RIPRAP VOLUME:	40 CY
PIPE LENGTH:	120 LFT

NOTE:
1. ONLY OUTSIDE MATERIALS WILL BE THE PIPE AND RIPRAP.
2. ALL WORK BELOW APPROX. MDEQ AND USACE OHWM.

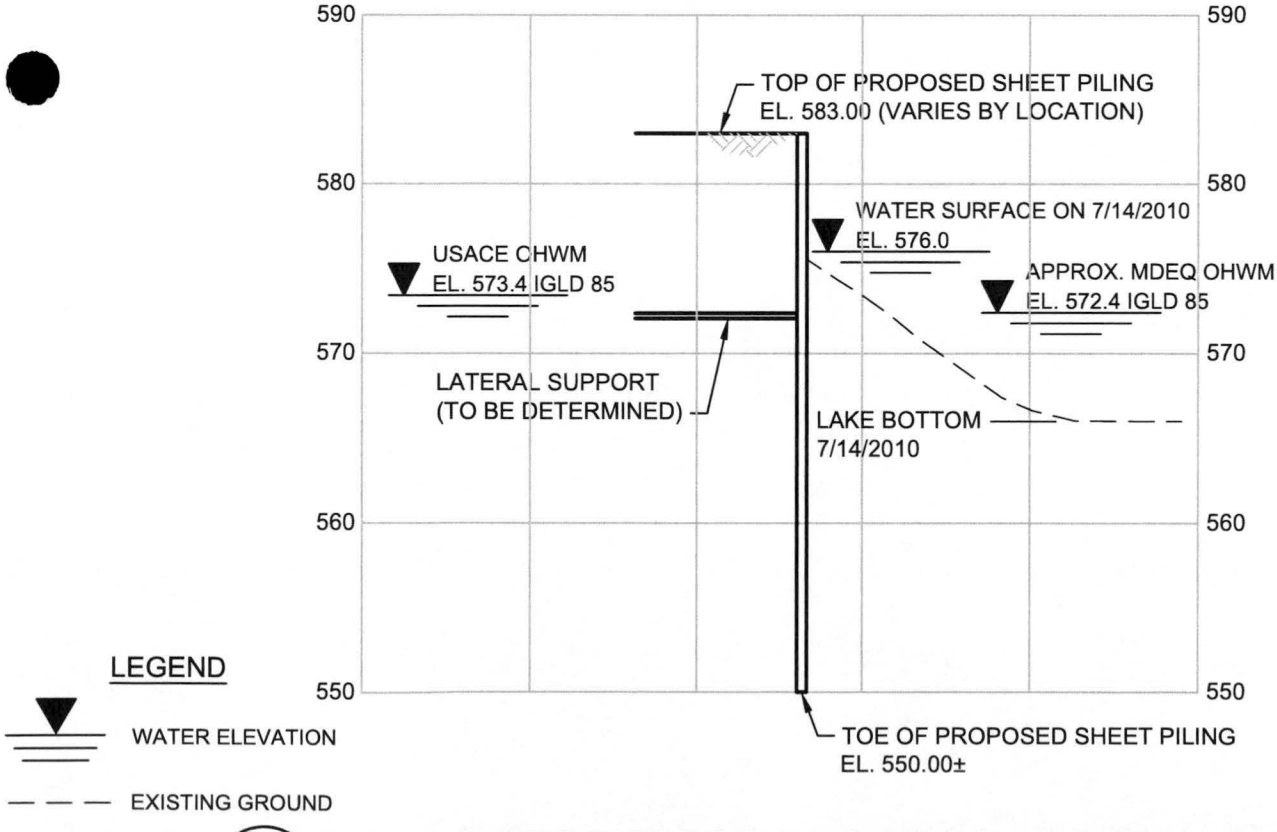
B PIPE DREDGING CROSS SECTION (AT FISH RETURN LOCATION)
SCALE: NONE

FIGURE 10-2C LAKE ERIE CONSTRUCTION AREA PIPE DREDGING SECTION 'B' DETAILS



INTAKE CROSS SECTION ALONG SHORELINE

SCALE: 1"=60' HORZ.; 1"=10' VERT. (IGLD 85 DATUM)

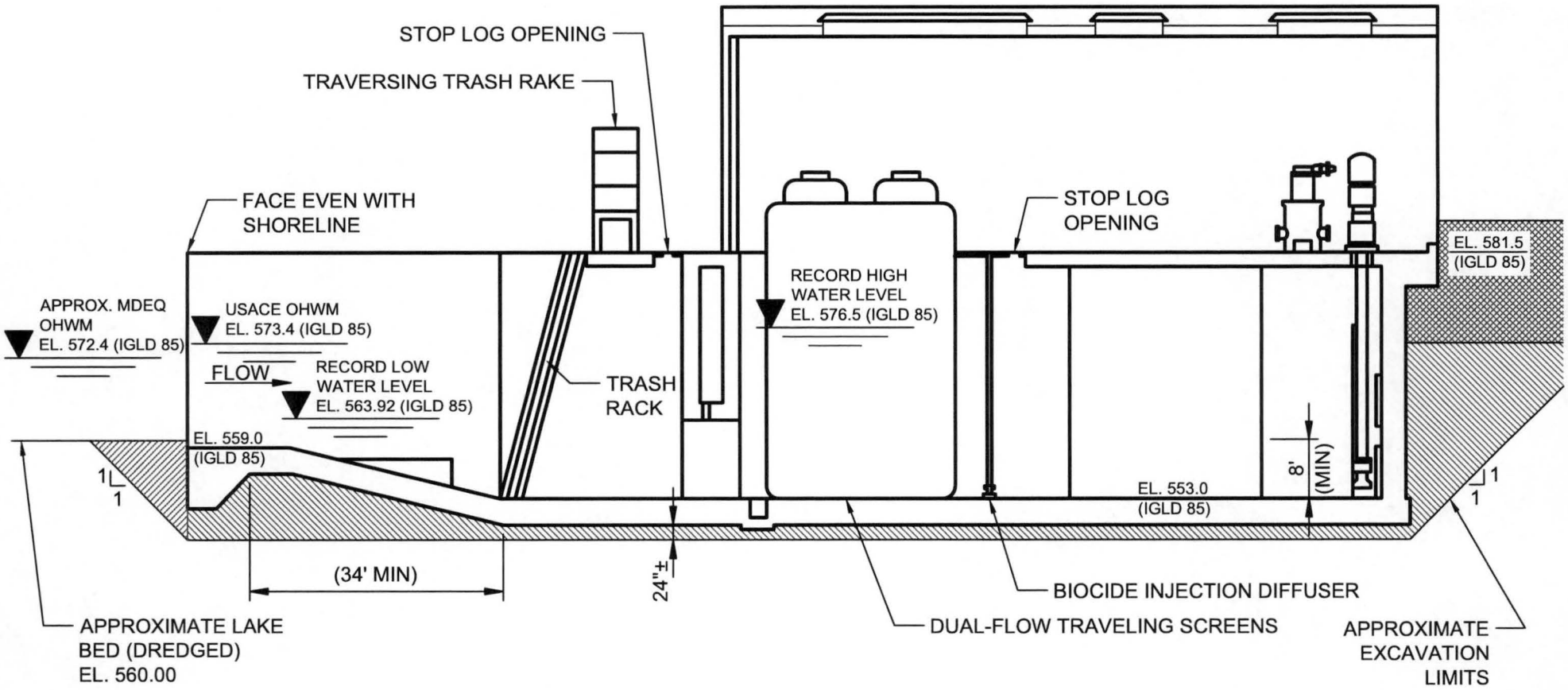


C

CROSS SECTION OF PROPOSED SHEET PILING

SCALE: 1"=10' VERT. (IGLD 85 DATUM)

FIGURE 10-2D LAKE ERIE CONSTRUCTION AREA INTAKE AND PROPOSED SHEET PILING SECTION DETAILS



LEGEND

- LAKE AREA DREDGE
- DREDGE
- UPLAND BACKFILL

D PROPOSED INTAKE STRUCTURE (LOOKING SOUTH)

SCALE: 1"=20' (IGLD 85 DATUM)

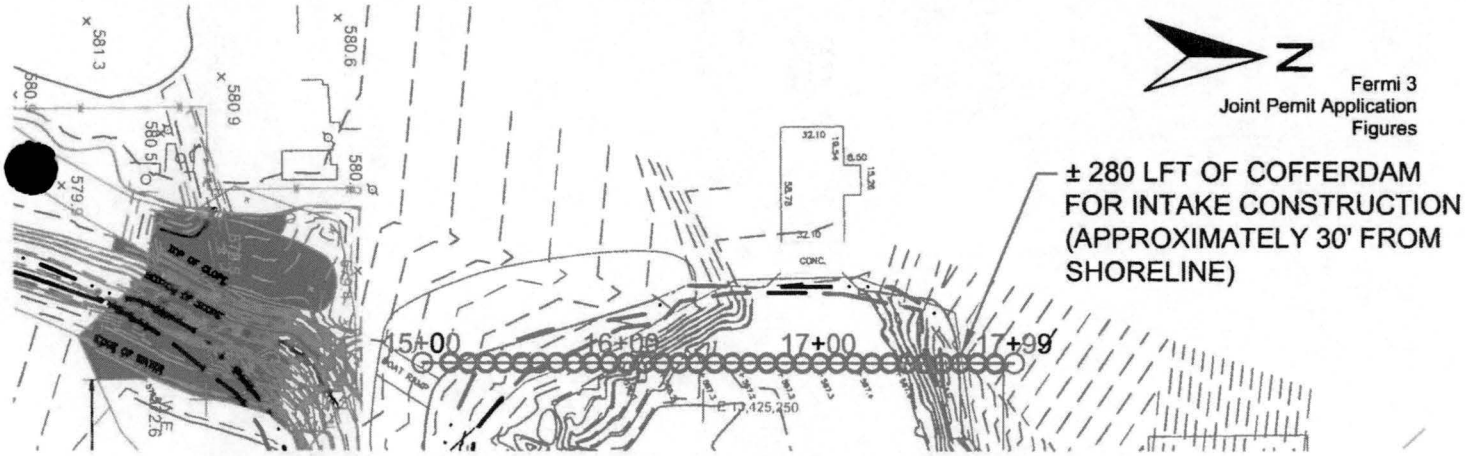
VOLUMES BELOW APPROX. MDEQ OHWM

DREDGE VOLUME:	16,100 CY
LAKE AREA DREDGE VOLUME:	300 CY
STRUCTURE VOLUME:	10,900 CY
BACKFILL VOLUME:	5,500 CY

VOLUMES BELOW USACE OHWM

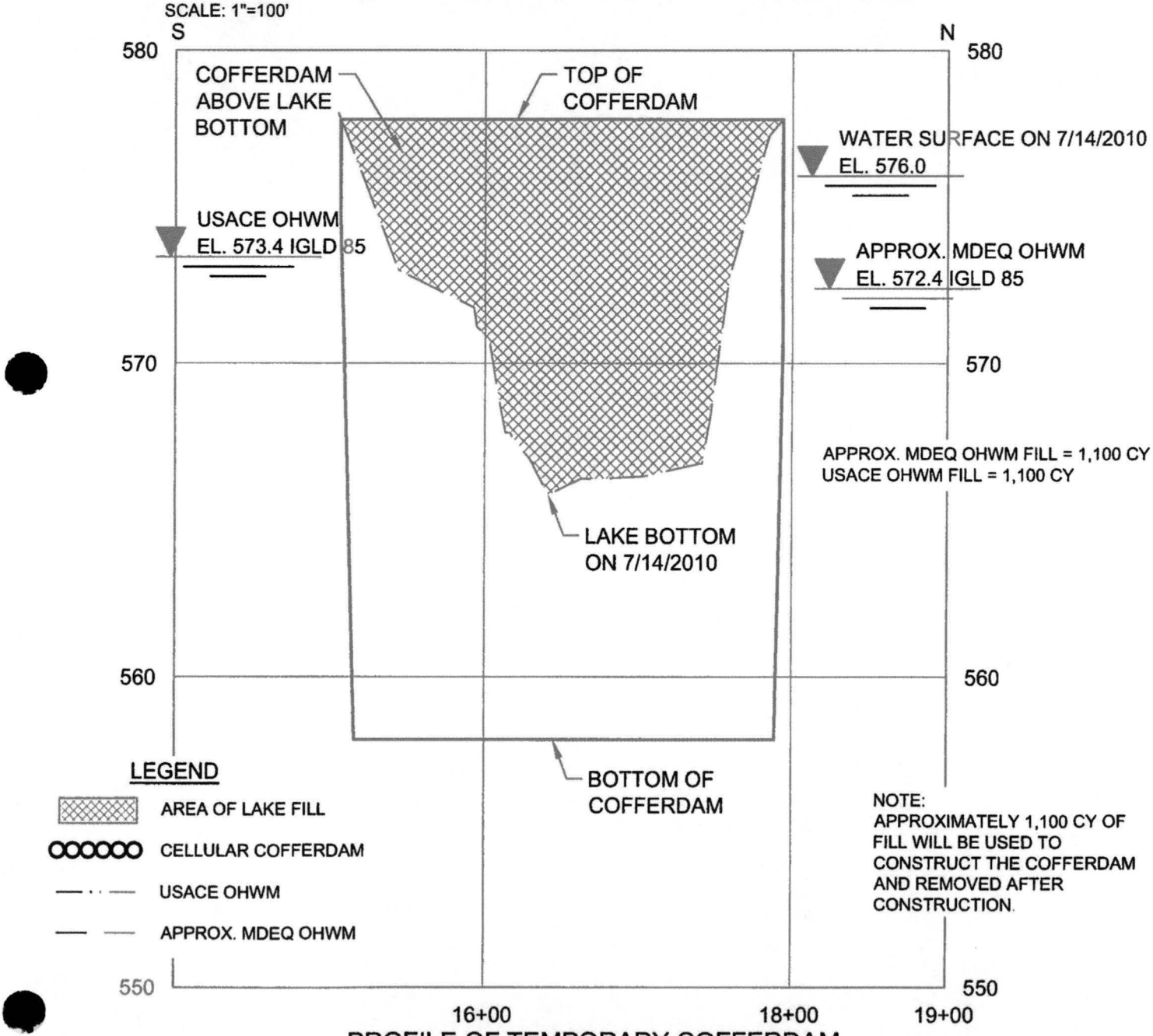
DREDGE VOLUME:	16,600 CY
LAKE AREA DREDGE VOLUME:	300 CY
STRUCTURE VOLUME:	11,300 CY
BACKFILL VOLUME:	5,600 CY

FIGURE 10-2E LAKE ERIE CONSTRUCTION AREA PROPOSED INTAKE STRUCTURE SECTION 'D' DETAILS



PROPOSED TEMPORARY COFFERDAM AT INTAKE STRUCTURE

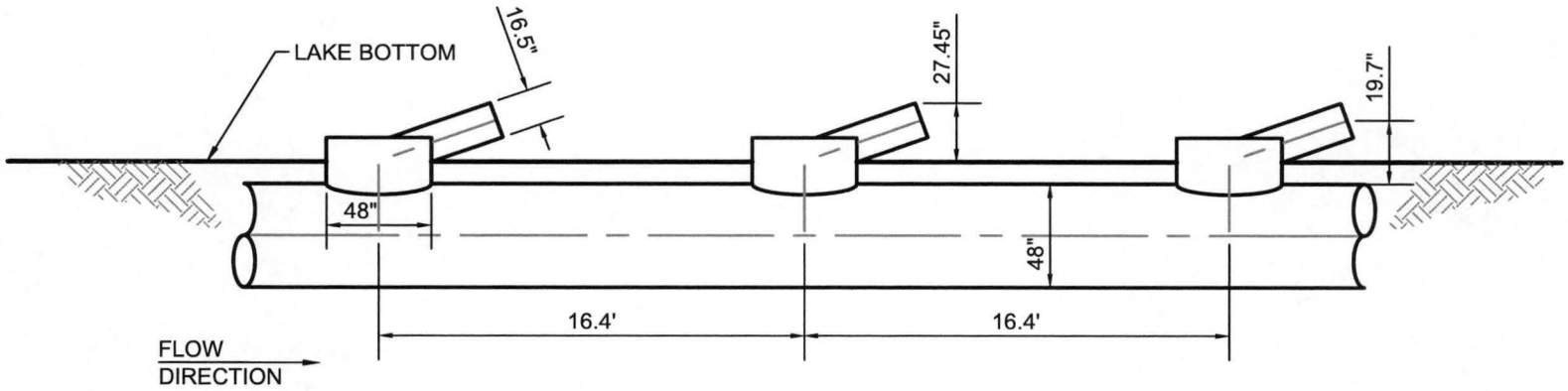
SCALE: 1"=100'



PROFILE OF TEMPORARY COFFERDAM

SCALE: 1"=100' HORZ.; 1"=5' VERT. (IGLD 85 DATUM)

FIGURE 10-2F LAKE ERIE CONSTRUCTION AREA PROPOSED COFFERDAM



NOTE:
TYPICAL RISER DETAIL ALONG DISCHARGE PIPE

10-2G LAKE ERIE CONSTRUCTION AREA PROPOSED DISCHARGE PIPE RISER DETAIL

SCALE: NONE

Attachment 5-1 Project Location Map

Attachment 5-1: Project Location Map
(1 page following cover page)

Attachment 5-1 Project Location Map

Attachment 6-1 Other Agency Authorizations

SECTION 6: AUTHORIZATIONS REQUIRED FOR THE PROPOSED ACTIVITY

List all other federal, interstate, state or local agency authorizations required for the proposed activity, including all approvals or denials received.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
FEDERAL AUTHORIZATIONS							
U.S. Army Corps of Engineers (USACE)	Section 10 of the Rivers and Harbors Act of 1899	Section 10 Permit	LRE-2008-00443-1-S11	August 25, 2011			Structures and/or work that may affect navigability of any navigable waters of the US. Structural alterations may include barge slip construction and the installation or modification to existing intake and outfall structures.
USACE	33 U.S.C. 1344, Federal Section 404 Permit Water Pollution Control Act	Section 404 Permit	LRE-2008-00443-1-S11	August 25, 2011			Discharge of dredge or fill material within waters of the US, including wetlands.
Department of Transportation	49 CFR 107, Subpart G	Hazardous Materials Certificate of Registration, 49 CFR 107, Subpart G	Reg. No: 061009 551 033RT[1]				Shipment of radioactive and hazardous materials
Federal Aviation Administration (FAA)	14 CFR 77.13, Federal Aviation Act	Notice of Proposed Construction or Alteration, 14 CFR 77.13		Not yet submitted			Notice required before erecting structures with a height greater than 200' or impacting navigable airspace (construction cranes, cooling towers, transmission lines).
National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service	Threatened and Endangered Species Act, 16 U.S.C. 1536	Endangered Species Act Biological Consultation (marine species)	Consultation Completed				Consultation regarding the potential impact to threatened or endangered marine species.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
Nuclear Regulatory Commission (NRC)	10 CFR 52, Subpart C	Combined License 10 CFR 52, Subpart C	NPF-95	September 2008	May 1, 2015		Construction activities associated with a nuclear power facility.
NRC	10 CFR 30	Byproduct license (10 CFR 30)	NPF-95	September 2008	May 1, 2015		Approval to possess special nuclear material.
NRC	10 CFR 70	Special Nuclear Materials License (10 CFR 70)	NPF-95	September 2008	May 1, 2015		Approval to possess fuel and source material.
NRC	10 CFR 40	Domestic Licensing of Source Material (10 CFR 40)	NPF-95	September 2008	May 1, 2015		Approval to possess source material.
NRC	Coastal Zone Management Act, 16 U.S.C. 1451 et seq.	Coastal Zone Management Act, Certification of Consistency	10-58-011-P	August 25, 2011	January 24, 2012		Obtaining a Federal license or permit. Issuance of MDEQ Wetland Permit Provides CZMA Consistency Determination
NRC/Environmental Protection Agency	Resource Conservation and Recovery Act, Atomic Energy Act, 40 CFR 266	Low Level Mixed Waste Conditional Exemption, 40 CFR Part 266		Not yet submitted			Allows the storage and treatment of low-level mixed waste.
U.S. Coast Guard	14 U.S.C. 81, 83, 85, 633; 33 CFR 66	Authorization to Impact Navigation/Private Aids to Navigation		Not yet submitted			The interference of existing navigation aids or the placement and use of private aids to navigation in navigable waters of the U.S.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved/denied	If denied, reason for denial	Activity Covered
U.S. Fish and Wildlife Service (USFWS)	Threatened and Endangered Species Act, 16 U.S.C. 1539	Endangered Species Act Biological Consultation (non-marine species)		March 30, 2012;	Concurrence June 2012; supplement issued April 2015		Consultation regarding the potential impacts to federally threatened and endangered species.
USFWS	Migratory Bird Treaty Act, 16 U.S.C. 703	Migratory Bird Treaty Act Consultation	Consultation Completed				Consultation regarding the potential impacts to protected migratory birds.
USFWS	Bald and Golden Eagle Protection Act, 16 U.S.C. 668	Bald and Golden Eagle Protection Act Consultation	Consultation Completed				Consultation regarding the potential impacts to bald and golden eagles.
STATE AUTHORIZATIONS							
Michigan Department of Community Health	MCL 333.13522	X-ray Equipment Registration		Not yet submitted			Possession of a radiation machine.
Michigan Department of Environmental Quality (MDEQ) - Waste and Hazardous Materials Division	MCL R299.9303 et seq.	Hazardous Waste Management, Site Identification Number	MID 087 056 685[1]				A generator shall not treat or store, dispose of, or transport or offer for transport, hazardous waste without having received a site identification number from the regional administrator.
MDEQ - Waste and Hazardous Materials Division	MCL 29.5c	Review, Approval, and Certification of Tank Systems		Not yet submitted			Regulation of installation of new Aboveground Storage Tank (AST) systems with individual tanks having a storage capacity of more than 1,100 gallons of flammable liquid or combustible liquid.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
MDEQ - Waste and Hazardous Materials Division	MCL R299.9822	Low-Level Mixed Waste Conditional Exemption		Not yet submitted			Low level mixed waste storage and treatment conditional exemption eligibility and standards.
MDEQ - Waste and Hazardous Materials Division	MCL 333.13505	Radioactive Material Registration		Not yet submitted			Possession of radioactive materials.
MDEQ - Air Quality Division	The Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended, Part 55 (Air Pollution Control) MCL R336.1201	Permit to Install		Not yet submitted			Construction of any air emission source.
MDEQ - Air Quality Division	Public Act 451 of 1994, as amended, Part 55(Air Pollution Control) MCL R336.1210 - R336.1218 40 CFR 70	Air Permit		Not yet submitted			Operation of a source of air pollutants.
MDEQ - Water Resources Division	Coastal Zone Management Act16 U.S.C. 1451 et seq.	Preliminary Coastal Zone Management Act Concurrence Consultation. MDEQ Wetland permit constitutes CZMA consistency concurrence.	10-58-0011-P	August 25, 2011	January 24, 2012;		Obtaining a Federal license or permit.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
MDEQ - Water Resources Division	MCL 324.30306 et seq. 33 U.S.C. 1344, Federal Water Pollution Control Act, Section 404	Wetland Protection Permit	10-58-0011-P	August 25, 2011	January 24, 2012		Any projects on or in wetlands regulated by the State of Michigan.
MDEQ - Water Resources Division	MCL 324.32501 et seq.	Great Lakes Bottomlands Permit	10-58-0011-P	August 25, 2011	January 24, 2012		Dredging, filling, modifying, constructing, enlarging, or extending of structures in Great Lakes waters or below the OHWM of the Great Lakes; or connecting any natural or artificial waterway, canal, or ditch with any Great Lake including Lake St. Clair.
MDEQ - Water Resources Division	MCL 324.32723	Water Withdrawal Permit		Not yet submitted			Withdrawals from the Great Lakes and connecting waterways of over 5,000,000 gallons per day.
MDEQ - Water Resources Division	MCL 324.32705	Water Withdrawal Registration		Not yet submitted			Development of the withdrawal capacity on the property of an additional 100,000gallons of water per day from the waters of the state.
MDEQ - Water Resources Division	MCL 324.4101 et seq.	Wastewater Facilities Construction Permit/Part 41 Construction Permit		Not yet submitted			Construction or modification of sewers pumping stations, force mains, and treatment plants.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
MDEQ - Water Resources Division	33 U.S.C. 1251 et seq. MCL 324.3101 et seq. MCL 324.3301 et seq.	National Pollutant Discharge Elimination System (NPDES) Permit	MI0058892	May 13, 2011	February 2, 2012		Discharge of waste, waste effluent and certain categories of storm water runoff into the surface waters of Michigan during operation of the facility.
MDEQ - Water Resources Division	MCL R323.2190	NPDES Permits, Stormwater Construction Permit		Not yet submitted			A Permit by Rule may be obtained to authorize storm water discharges from construction site greater than or equal to a 5 acres.
MDEQ - Water Resources Division	33 U.S.C. 1251 et seq. MCL 324.3101 et seq.	NPDES General Dredging Dewatering Water Permit		Not yet submitted			Discharges of dredging dewatering water resulting from the removal of uncontaminated sediment from a waterway.
MDEQ - Water Resources Division	33 U.S.C. 1251 et seq. MCL 324.3101 et seq.	NPDES General Hydrostatic Pressure Test Water		Not yet submitted			Discharges from the hydrostatic pressure testing of new and existing piping, tanks, vessels, and other associated equipment which have been physically cleaned and/or provided with effluent treatment.
MDEQ - Water Resources Division	33 U.S.C. 1341	Section 401 Water Quality Certification	Included in Joint Permit Application (10-58-0011-P) and NPDES application (MI0058892)	August 2011 and May 13, 2011, respectively	NPDES - February 2, 2012; JPA MDEQ - January 24, 2012		The construction or operation of a facility which may result in any discharge into the navigable waters that will require a Federal license or permit.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
Michigan Department of Transportation (MDOT)	MCL 257.716 et seq.	Transport Permit		Not yet submitted			Movement over state highways of vehicles or loads that exceed the size or weight limitations specified by law.
MDOT - Multi-Modal	MCL 259.481 et seq.	Tall Structures Act Permit		Not yet submitted			Construction of an object which has the potential to affect navigable airspace (height in excess of 200' or within 20,000' of an airport).
MDOT	MCL 247.171 et seq.	Construction Permits (Right of Way Permit)		Not yet submitted			Activities by businesses or private parties and utility companies wishing to use the highway right-of-way for operations other than normal vehicular or pedestrian travel are required to obtain a permit from MDOT.
Michigan State Historic Preservation Office (SHPO)	National Historic Preservation Act , Section 106 Review, 36 CFR 800	Consultation	ER06-683	NRC initiated Section 106 consultation December 2, 2010	Sept. 4, 2014, MOA fulfilled		Consultation concerning the potential impacts to cultural resources.
Michigan Department of Natural Resources (MDNR)	MCL 324.36501 et seq.	Consultation	Consultation Completed				Consultation regarding the potential impacts to threatened and endangered species.
MDNR	MCL 324.36501 et seq.	Endangered Species Permit		Not yet submitted			Taking or harming of state listed endangered species.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
LOCAL AUTHORIZATIONS							
City of Monroe Michigan	33 U.S.C. 1251 et seq. Michigan Water Resource Act Codified Ordinances of Monroe, Michigan, Streets, Utilities and Public Services Code, Chapter 1042, Division 2, Section 1042.15	Monroe Metropolitan Water Pollution Control Facility Industrial Pretreatment Permit	Permit No. 1020[1]	Not yet submitted			Treatment of wastewater to comply with categorical pretreatment standards and local limits.
City of Monroe, Michigan/ Frenchtown Township	Codified Ordinances of Monroe, Michigan, Streets, Utilities and Public Services Code, Chapter 1042, Division 15, Section 1042.71	Sanitary Sewer Service Connection Permit		Not yet submitted			Required before a person uncovers, makes any connection with or opening into, uses, alters, or disturbs any public sewer or appurtenance to.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 6, Section 6.04 and Article 27.00, Section 27.06	Site Plan and Development Approval		Not yet submitted			Review of planned construction activities. Requires submittal of application for Site Plan Approval which requires review of items such as engineering. The approval process may also result in the issuance of permits such as a grading permit issued under the authority of the Building Official.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
Frenchtown Township		Engineering Review		Not yet submitted			Review of detailed engineering construction plans addressing water, sanitary, storm water drainage, grading and paving for the site.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200	Occupancy Permit		Not yet submitted			Occupancy of the building.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 4, Section 4.40 and Article 24, Section 24.05	Building Permit		Not yet submitted			Permit authorizing the construction, removal, moving, alteration, or use of a building or construction of any driveway or parking lot constructed of hard surface materials.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 20	Special Approval of Activities within either the Floodway or Floodway Fringe		Not yet submitted			Approval of activities within the Floodway Area or Floodway Fringe Area of the Floodway or Floodplain District.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 4, Section 4.10	Temporary Building Used During Construction		Not yet submitted			Use of a portable structure as a temporary building during construction.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 26, Section 26.04	Landscape Development Plan		Not yet submitted			Submittal of a Landscape Development that illustrates areas of existing trees or wood lots, which shall be removed, and those that will be retained.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 4, Section 4.21.2	Excavation Permit		Not yet submitted			Activities that propose to fill an area of 20,000 square feet or greater or any excavation and removal regardless of area involved except for mineral mining operations, farm ponds, and landscape ponds.
Monroe County, Michigan, Office of On-site Water Supply/Frenchtown Township	Codified Ordinances of Monroe, Michigan, Monroe County Environmental Health/Sanitary Code, Chapter III–Water Supplies	Well Permit		Not yet submitted			Construction of water supply wells, irrigation wells, heat exchange wells, industrial wells for water supply, test wells to obtain information regarding groundwater quantity or quality, recharge well, dewatering well, fresh water well at oil or gas well drilling site.
Monroe County, Michigan, Drain Commissioner	Local Ordinance	Engineering Review		Not yet submitted			Review of surface water flow during operation.
Monroe County Michigan, Drain Commissioner	NREPA Part 91, of Act 451 of the Michigan Public Acts of 1994 MCL 324.9101 et seq.	Soil Erosion and Sedimentation Control (SESC) Permit		Not yet submitted			Any earth change that disturbs one or more acres, or is within 500 feet of a lake or stream.
Monroe County, Michigan, Drain Commissioner	Act No. 40 of 1956	Drain Culvert Permit		Not yet submitted			Permit to construct in a drain.

Table 6-1. Federal, State and Local Environmental Authorizations

Agency	Authority	Type approval	Identification number	Date applied	Date approved /denied	If denied, reason for denial	Activity Covered
Monroe County, Michigan, Health Department/ Frenchtown Township	Monroe County Environmental Health/Sanitary Code, Chapter III, Section 302. Part 127 of Michigan Public Health Code, 1978 PA 368, as amended	Water Supply Permit		Not yet submitted			Any new construction or extensive change affecting the basic unit or the suction line on any water supply system within Monroe County, Michigan.

Note:

All necessary permits will be applied for in a timely manner. New permits may not be obtained in certain instances due to potential authorization of construction and operational activities through the modification of existing permits possessed by the Fermi Station.

1. Permits authorizing current activities associated with operations on the Fermi site. When practical, existing permits will be modified to authorize activities associated with the construction or operation of a new nuclear facility on site.

Impact Tables

Tables
(23 pages following cover page)

Attachment 10-1 Warehouse, PAP/VIB and Parking Garage

Attachment 10-2 Lake Erie Construction Area

Attachment 10-3 Construction Area 5

Attachment 10-4 New Operations Access Road

Attachment 12-1 Site Wide Total of Wetland Impact Volumes

Attachment 12-2 Construction Area 1

Attachment 12-3 Construction Area 2

Attachment 12-4 Construction Area 3

Attachment 12-5 Construction Area 4

Attachment 12-6 Construction Area 5

Attachment 12-7 Warehouse, PAP/VIB, and Parking Garage

Attachment 12-8 New Operations Access Road

Attachment 12-9 Onsite Transmission

WETLAND H AND U

Water Level Elevation ☒ On a Great Lake use IGLD 85

A. PROJECTS REQUIRING FILL

Check all that apply:

☒ Floodplain fill ☒ Wetland fill ☐ riprap ☐ seawall ☐ culvert ☐ other

Activity Area	FILL DIMENSIONS				
	Length (FT)	Width (FT)	Max Depth (FT)	Total Fill Volume (CY)	Max Water Depth in fill area (FT)
Wetland U	1,267	109	12	29,082	3
Wetland H	510	357	10	16,651	3

Refer to Warehouse, PAP/VIB and Parking Garage Figure 10-1A and 10-1B

Type of clean fill ☐ pea stone ☒ sand ☒ gravel ☐ wood chips ☒ other

Mostly in situ material.

Refer to Attachment 12-7 for information specific to wetland fill.

Will filter fabric be used under proposed fill? ☒ No ☐ Yes

Source of fill ☒ on-site ☒ commercial ☐ other

In situ materials with commercial sand and gravel used for construction of roads and other facilities.

Refer to Figure 2-1 for location of proposed on-site in situ source of fill material.

Fill will extend across water.

Fill Volume below OHWM
12,322 CY – Wetland H Approx. MDEQ OHWM
16,651 CY – Wetland H USACE OHWM
21,935 CY – Wetland U Approx. MDEQ OHWM
29,082 CY – Wetland U USACE OHWM

Attachment 10-2 Lake Erie Construction Area

DISCHARGE PIPE AND INTAKE STRUCTURE

Water Level Elevation ☒ On a Great Lake use IGLD 85

A. PROJECTS REQUIRING FILL

Check all that apply: N/A

☒ Floodplain fill ☐ Wetland fill ☒ riprap ☒ seawall ☐ culvert ☒ other (pipe construction)

Activity Area	FILL DIMENSIONS				
	Length (FT)	Width (FT)	Max Depth (FT)	Total Fill Volume (CY)	Max Water Depth in fill area (FT)
Discharge Pipe	1,340	17	6	970	16
Intake Structure	160	80	12	5,600	5

Refer to Lake Erie Construction Area Figures 10-2A, 10-2B, 10-2E

Type of clean fill ☒ pea stone ☒ sand ☐ gravel ☐ wood chips ☐ other

Will filter fabric be used under proposed fill? ☒ No ☐ Yes

Source of fill ☐ on-site ☒ commercial ☐ other

Fill will extend – Discharge Pipe – 1,340 feet waterward of shoreline
Intake Structure – 160 feet landward of shoreline

Fill Volume below MDEQ OHWM – 970 CY – Discharge Pipe

5,500 CY – Intake Structure

Fill Volume below USACE OHWM – 970 CY – Discharge Pipe

5,600 CY – Intake Structure

DISCHARGE PIPE AND INTAKE STRUCTURE

B. PROJECTS REQUIRING DREDGING AND EXCAVATION

Check all that apply:

☐ floodplain excavation ☐ wetland dredge or draining ☒ seawall ☒ other – Pipeline installation, intake structure

Activity Area	Total Dredge/Excavation Volume (CY)	DIMENSIONS			Dredge/Excavation Volume below Approx. MDEQ OHWM (CY)	Dredge/Excavation Volume below USACE OHWM (CY)
		Length (FT)	Width (FT)	Max Depth (FT)		
Discharge Pipe Dredging	3,300	1,340	17	6	3,300	3,300
Fish Return Pipe Dredging	93	120	10	3	93	93
Intake Structure Dredge	16,900	160	80	12	16,400	16,900

Refer to Lake Erie Construction Area Figures 10-2A through 10-2G

Methods for Dredging

To be determined by selected contractor but is expected to be mechanical for areas outside Lake Erie and mechanical or hydraulic for areas within Lake Erie.

Has proposed dredge material been tested for contaminants? ☒ No ☐ Yes

Dredged or excavated spoils will be placed ☒ on-site ☐ off-site

Has this same area been previously dredged? ☐ No ☒ Yes

Is long-term maintenance dredging planned? Yes, but not as part of this application.

Attachment 10-2 Lake Erie Construction Area

DISCHARGE PIPE AND INTAKE STRUCTURE

C. PROJECTS REQUIRING RIPRAP – Waterward of the shoreline

Activity Area	DIMENSIONS			Total fill Volume (CY)
	Length (FT)	Width (FT)	Max Depth (FT)	
Discharge Pipe	1,340	17	2	1,690
Fish Return	120	10	2	40

Refer to Lake Erie Construction Area Figures 10-2A, 10-2B, 10-2C

Type of Riprap – ☐ field stone ☒ angular rock ☐ other

Will filter fabric be used under proposed fill? ☒ No ☐ Yes

D. SHORE PROTECTION PROJECTS

Check all that apply

☒ seawall/bulkhead: Length 220 FT along the shoreline; 320 FT along south side of barge slip; Distance from property line – over 1,000 feet

J. INTAKE PIPES/OUTFALL PIPES

Discharge Outfall (Refer to Figures 10-2A, 10-2B)
Type - ☒ other – diffusers, no exposed ends
Discharge is to - ☒ Great Lake (Erie)
Dimensions of Headwall – No headwall
Number of Pipes – One
Pipe diameters and invert elevations – 48-inch, Invert Elevation – Approximately 558 feet at the outlet

Fish Return Outfall (Refer to Figures 10-2A, 10-2C)
Type - ☒ Pipe
Discharge is to - ☒ Great Lake (Erie)
Dimensions of Headwall – No headwall
Number of Pipes – One
Pipe diameters and invert elevations – 24-inch, Invert Elevation – Approximately 572 feet at the outlet

M. Other: Details for an intake structure along the shoreline are provided.

SOUTH CANAL

Water Level Elevation ☒ On a Great Lake use IGLD 85

A. PROJECTS REQUIRING FILL

Check all that apply:

☐ Floodplain fill ☒ Wetland fill ☒ riprap ☐ seawall ☒ culvert ☐ other

Refer to Attachment 12-6 for information specific to wetland fill.

Type of clean fill ☐ pea stone ☐ sand ☐ gravel ☐ wood chips ☒ other
A culvert with an earthen bottom is proposed for the South Canal. Refer to Figure 12-6B Section A for details.

Will filter fabric be used under proposed fill? ☒ No ☐ Yes

Source of fill ☐ on-site ☒ commercial ☐ other

C. PROJECTS REQUIRING RIPRAP

Activity Area	DIMENSIONS			Total Fill Volume (CY)
	Length (FT)	Width (FT)	Max Depth (FT)	
South Canal Culvert – Riprap waterward of the OHWM	10	6	1.5 (same dimension each side)	3.3 each side (6.6 total)
South Canal Culvert – Riprap landward of the OHWM	10	2	1.5 (same dimension each side	1.1 each side (2.2 total)

Refer to Construction Area 5 Figures 10-3A and Figure 10-3B

Type of Riprap – ☐ field stone ☒ angular rock ☐ other

Will filter fabric be used under proposed fill? ☒ No ☐ Yes

Attachment 10-4 New Operations Access Road

BOX CULVERT CROSSING UNDER TOLL ROAD

Water Level Elevation ☒ On a Great Lake use IGLD 85

A. PROJECTS REQUIRING FILL

Check all that apply:

☐ Floodplain fill ☒ Wetland fill ☒ riprap ☐ seawall ☐ culvert ☐ other

Refer to Attachment 12-8 for information specific to wetland fill.

Type of clean fill ☐ pea stone ☐ sand ☐ gravel ☐ wood chips ☒ other

Will filter fabric be used under proposed fill? ☒ No ☐ Yes

Source of fill ☐ on-site ☒ commercial ☐ other

B. PROJECTS REQUIRING DREDGING AND EXCAVATION – N/A

Refer to Attachment 12-8 for information specific to dredging or excavation.

BOX CULVERT CROSSING UNDER TOLL ROAD

C. PROJECTS REQUIRING RIPRAP

Activity Area	DIMENSIONS			Total Fill Volume (CY)
	Length (FT)	Width (FT)	Max Depth (FT)	
Box Culvert – Riprap Waterward of OHWM	14	3	1.5 (same dimension each quadrant)	2.3 each quadrant (9.2 total)
Box Culvert – Riprap landward of OHWM	14	3	1.5 (same dimension each quadrant)	2.3 each quadrant (9.2 total)

Refer to New Operations Access Road Figures 10-4A, 10-4B

Type of Riprap ☐ field stone ☒ angular rock ☐ other

Will filter fabric be used under proposed fill? ☒ No ☐ Yes

Attachment 12-1 Site Wide Total of Wetland Cut and Fill Impacts

Activity Area	DREDGE	EXCAVATION	WETLAND DREDGE/ EXCAVATION					FILL				
	Volume (CY) [1]	Volume (CY) [1]	Max Length (FT)	Max Width (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY) [1]	Max Length (FT)	Max Width (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY) [1]
Construction Area 1	NA	8,680	1,395	419	2.69	2	8,680	1,395	419	2.69	3.8	14,123
Construction Area 2	NA	3,570	428	280	1.14	2	3,570	428	280	1.14	5	7,905
Construction Area 3	97,641	6,823	652	772	12.97	5	104,464	652	772	12.97	5.8	121,880
Construction Area 4	NA	15,211	774	393	4.59	2	15,211	774	393	4.59	3.5	20,989
Construction Area 5	2,065	3,120	713	182	1.62	2	5,185	839	182	2.79	4.5	20,226
Warehouse, PAP/VIB, and Parking Garage	17,991	NA	801	226	2.24	5	17,991	1,267	357	7.66	11.0	83,905
New Operations Access Road	400	78	1,205	52	0.95	2.5	478	1,205	52	0.95	3.2	2,563
Onsite Transmission	768	NA	36	36	0.24	12	768	36	36	0.24	12	768
Site Totals	**118,865**	**37,482**	**NA**	**NA**	**26.44**	**4**	**156,347**	**NA**	**NA**	**33.03**	**6.1**	**272,359**

Wetland AA (PEM) - 0.80 ac proposed impact
Wetland II (PEM) - 0.52 ac proposed impact
Wetland JJ (PSS) - 1.37 ac proposed impact

i) Check all that apply to this activity area:

☒ Fill ☒ dredge or excavation ☐ boardwalk or deck ☐ dewatering ☐fences ☐ bridges and culverts ☐ draining surface water ☐stormwater discharge ☐ restoration ☐other

ii) Totals

Activity Area	Impacted Wetland	USACE OHWM		WETLAND DREDGE/EXCAVATION				
		DREDGE	EXCAVATION					
		Volume (CY)	Volume (CY)	Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 1	AA	NA	2,568	354	234	0.80	2	2,568
	II	NA	1,675	616	363	0.52	2	1,675
	JJ	NA	4,437	1,395	419	1.37	2	4,437
Totals		**NA**	**8,680**	**NA**	**NA**	**2.69**	**2**	**8,680**

Activity Area	Impacted Wetland	FILL				
		Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 1	AA	354	234	0.80	5.5	6,593
	II	616	363	0.52	3	1,746
	JJ	1,395	419	1.37	3	5,784
Totals		**NA**	**NA**	**2.69**	**3.8**	**14,123**

[1] Max length and max width are not totals; they are the maximum value as calculated in AutoCAD.
Refer to Construction Area 1 Figures 12-2A, 12-2B, 12-2C

iii) Describe the wetland impacts, proposed use or development, and any alternatives considered.

The proposed regulated activity is to entirely but temporarily fill three wetlands in the construction spoils disposal area. Construction will require up to 10 years to complete. The area will be restored to PEM for Wetlands AA and II and PSS for Wetland JJ. The functions and values of these wetlands are expected to be restored and enhanced within 3 to 5 years after construction.

Greater detail regarding the proposed use and impact of the wetlands is available in Section 2 of the JPA. Refer to attached Construction Area 1 Figures 12-2A through C for plan view and section details.

Considered alternatives are outlined in Section 4 of the JPA.

Attachment 12-3 Construction Area 2

Wetland Y (PFO) – 1.14 ac proposed impact

i) Check all that apply to this activity area:

☒ Fill ☒dredge or excavation ☐ boardwalk or deck ☐ dewatering ☐fences ☐ bridges and culverts ☐ draining surface water ☐stormwater discharge ☐ restoration ☐other

ii) Totals

Activity Area	Impacted Wetland	USACE OHWM						
		DREDGE	EXCAVATION	WETLAND DREDGE/EXCAVATION				
		Volume (CY)	Volume (CY)	Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 2	Y	NA	3,570	428	280	1.14	2	3,570
Totals		**NA**	**3,570**	**NA**	**NA**	**1.14**	**2**	**3,570**

Activity Area	Impacted Wetland	FILL				
		Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 2	Y	428	280	1.14	5	7,905
Totals		**NA**	**NA**	**1.14**	**5**	**7,905**

[1] Max length and max width are not totals; they are the maximum value as calculated in AutoCAD.
Refer to Construction Area 2 Figures 12-3A, 12-3B

iii) Describe the wetland impacts, proposed use or development, and any alternatives considered.

The proposed regulated activity is temporarily filling Wetland Y entirely for the purpose of providing a temporary construction laydown area in the southwest corner of the property. The area will be used for the placement of support structures and buildings that will be used during Fermi 3 construction activities. Specifically, this wetland area will be filled and covered with gravel to become a parking area for the proposed buildings.

Construction will require up to 10 years to complete. Following construction, a portion of the wetland functions and values in this area will be restored within 3 to 5 years after construction. Wetlands in this area will be fully restored in 10 to 20 years.

Greater detail regarding the proposed use and impact of the wetlands is available in Section 2 of the JPA. Refer to attached Construction Area 2 Figures 12-3A and B for plan view and section details.

Considered alternatives are outlined in Section 4 of the JPA.

Attachment 12-4 Construction Area 3

Wetland B (PFO) – 0.76 ac proposed impact
Wetland C (PEM) – 6.93 ac proposed impact
Wetland D (PFO) – 1.37 ac proposed impact
Wetland E-North (PSS) – 1.87 proposed impact
Wetland E-South (PSS) – 2.04 proposed impact

i) Check all that apply to this activity area:

☒ Fill ☒dredge or excavation ☐ boardwalk or deck ☐ dewatering ☐fences ☐ bridges and culverts ☐ draining surface water ☐stormwater discharge ☐ restoration ☐other

ii) Totals

Activity Area	Impacted Wetland	USACE OHWM		WETLAND DREDGE/EXCAVATION				
		DREDGE	EXCAVATION					
		Volume (CY)	Volume (CY)	Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 3	B	4,276	1,855	652	83	0.76	5	6,131
	C	55,772	NA	524	772	6.93	5	55,772
	D	11,039	NA	310	292	1.37	5	11,039
	E-North	12,193	2,885	461	292	1.87	5	15,078
	E-South	14,361	2,083	443	394	2.04	5	16,444
Totals		**97,641**	**6,823**	**NA**	**NA**	**12.97**	**5**	**104,464**

Activity Area	Impacted Wetland	FILL				
		Max Length (FT)	Max. Width (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 3	B	652	83	0.76	6	5,805
	C	524	772	6.93	6	71,226
	D	310	292	1.37	6	12,341
	E-North	461	292	1.87	5	15,465
	E-South	443	394	2.04	6	17,043
Totals		**NA**	**NA**	**12.97**	**5.8**	**121,880**

[1] Max length and max width are not totals; they are the maximum value as calculated in AutoCAD.
Refer to Construction Area 3 Figures 12-4A, 12-4B, 12-4C

iii) Describe the wetland impacts, proposed use or development, and any alternatives considered.

The area north of Fermi Drive will be used temporarily for construction laydown and support structures and buildings. The proposed regulated activity is temporarily filling PFO Wetlands B and D, PSS Wetland E-South and E-North and PEM Wetland C: 12.97 acres of wetland.

Construction will require up to 10 years to complete after which the area will be restored to the pre-impact wetland types. The functions and values of Wetland C, E-North and E-South will be restored within 3 to 5 years and partially restored for Wetlands B and D. The functions and values of Wetlands B and D will be fully restored in 10 to 20 years.

Greater detail regarding the proposed use and impact of the wetlands is available in Section 2 of the JPA. Refer to attached Construction Area 3 Figures 12-4A through C for plan view and section details.

Considered alternatives are outlined in Section 4 of the JPA.

Wetland W (PEM) – 4.59 ac proposed impact

i) Check all that apply to this activity area:

☒ Fill ☒dredge or excavation ☐ boardwalk or deck ☐ dewatering ☐fences ☐ bridges and culverts ☐ draining surface water ☐stormwater discharge ☐ restoration ☐other

ii) Totals

Activity Area	Impacted Wetland	USACE OHWM		WETLAND DREDGE/EXCAVATION				
		DREDGE	EXCAVATION					
		Volume (CY)	Volume (CY)	Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 4	W	NA	15,211	774	393	4.59	2	15,211
Totals		**NA**	**15,211**	**NA**	**NA**	**4.59**	**2**	**15,211**

Activity Area	Impacted Wetland	FILL				
		Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 4	W	774	393	4.59	3.5	20,989
Totals		**NA**	**NA**	**4.59**	**3.5**	**20,989**

[1] Max length and max width are not totals; they are the maximum value as calculated in AutoCAD.
Refer to Construction Area 4 Figures 12-5A, 12-5B

iii) Describe the wetland impacts, proposed use or development, and any alternatives considered.

The proposed regulated activity is temporarily filling the entirety of Wetland W, for the purposes of a construction laydown area. Construction will require up to 10 years to complete. Wetland W will be restored to a wet meadow with enhanced functions and values re-established within 3 to 5 years after construction.

Greater detail regarding the proposed use and impact of the wetlands is available in Section 2 of the JPA. Refer to attached Construction Area 4 Figures 12-5A and B for plan view and section details. Considered alternatives are outlined in Section 4 of the JPA.

Attachment 12-6 Construction Area 5

South Canal (PEM) – 1.17 ac proposed impact
Wetland KK (PFO) – 1.62 ac proposed impact

i) Check all that apply to this activity area:

☒ Fill ☒dredge or excavation ☐ boardwalk or deck ☐ dewatering ☐fences ☐ bridges and culverts ☐ draining surface water ☐stormwater discharge ☐ restoration ☐other

ii) Totals

Activity Area	Impacted Wetland	USACE OHWM		WETLAND DREDGE/EXCAVATION				
		DREDGE	EXCAVATION					
		Volume (CY)	Volume (CY)	Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 5	South Canal	NA	NA	NA	NA	NA	NA	NA
	KK	2,065	3,120	713	182	1.62	2	5,185
Totals		**2,065**	**3,120**	**NA**	**NA**	**1.62**	**2**	**5,185**

Activity Area	Impacted Wetland	FILL				
		Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Construction Area 5	South Canal	839	99	1.17	5.5	11,342
	KK	713	182	1.62	3.5	8,884
Totals		**NA**	**NA**	**2.79**	**4.5**	**20,226**

[1] Max length and max width are not totals; they are the maximum value as calculated in AutoCAD.
Refer to Construction Area 5 Figures 12-6A, 12-6B

iii) Describe the wetland impacts, proposed use or development, and any alternatives considered.

The proposed regulated activity includes permanently filling the entirety of PFO Wetland KK and 1.17-acres of PEM South Canal for the purposes of providing a construction area for the new cooling tower.

Greater detail regarding the proposed use and impact of the wetlands is available in Section 2 of the JPA. Refer to attached Figures 12-6A and B for plan view and section details.

Considered alternatives are outlined in Section 4 of the JPA.

Attachment 12-7 Warehouse, PAP/VIB, and Parking Garage

Wetland C (PEM) – 2.24 ac proposed impact
Wetland H (PEM – 1.96 ac proposed impact
Wetland U (PEM) – 3.46 ac proposed impact

i) Check all that apply to this activity area:

☒ Fill ☒dredge or excavation ☐ boardwalk or deck ☐ dewatering ☐fences ☐ bridges and culverts ☐ draining surface water ☐stormwater discharge ☐ restoration ☐other

ii) Totals

Activity Area	Impacted Wetland	USACE OHWM		WETLAND DREDGE/EXCAVATION				
		DREDGE	EXCAVATION					
		Volume (CY)	Volume (CY)	Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Warehouse, PAP/VIB, and Parking Garage	C	17,991	NA	801	226	2.24	5	17,991
	H	0	NA	NA	NA	0	0	0
	U	0	NA	NA	NA	0	0	0
Totals		**17,991**	**NA**	**NA**	**NA**	**2.24**	**5**	**17,991**

Activity Area	Impacted Wetland	FILL				
		Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Warehouse, PAP/VIB, and Parking Garage	C	801	226	2.24	11	38,172
	H	510	357	1.96	10	16,651
	U	1,267	109	3.46	12	29,082
Totals		**NA**	**NA**	**7.66**	**11**	**83,905**

[1] Max length and max width are not totals; they are the maximum value as calculated in AutoCAD.
Max length and max width are depicted on Warehouse, PAP/VIB and Parking Garage Figure 12-7A. Average depth of wetland dredge/excavation and fill is on Figures 10-1C and 10-1D. Refer to Figure 12-7A and 12-7B for other details.

iii) Describe the wetland impacts, proposed use or development, and any alternatives considered.

The proposed regulated activity is permanently filling 2.24 acres of Wetland C, 1.96 acres of Wetland H, and 3.46 acres of Wetland U for the purposes of supporting a Warehouse, PAP/VIB and parking garage. Wetland C will require excavating wetland soils, backfilling and compacting. The vegetation and soil surrounding the perimeter of Wetland H and Wetland U will be removed. Wetland H and Wetland U will be filled and compacted.

Greater detail regarding the proposed use and impact of the wetlands is available in Section 2 of the JPA. Refer to Warehouse, PAP/VIB and Parking Garage Figures 12-7A and 12-7B for plan view and section details.

Considered alternatives are outlined in Section 4 of the JPA.

Attachment 12-8 New Operations Access Road

Wetland I (PFO) – 0.44 ac proposed impact
Wetland C (PEM) – 0.33 ac proposed impact
Wetland F (PFO) – 0.18 ac proposed impact

i) Check all that apply to this activity area:

☒ Fill ☒dredge or excavation ☐ boardwalk or deck ☐ dewatering ☐fences ☐ bridges and culverts ☐ draining surface water ☐stormwater discharge ☐ restoration ☐other

ii) Totals

Activity Area	Impacted Wetland	USACE OHWM						
		DREDGE	EXCAVATION	WETLAND DREDGE/EXCAVATION				
		Volume (CY)	Volume (CY)	Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
New Operations Access Road	I	NA	37	1,205	48	0.44	2	37
	C	400	NA	386	52	0.33	3.5	400
	F	NA	41	282	38	0.18	2	41
Totals		**400**	**78**	**NA**	**NA**	**0.95**	**2.5**	**478**

Activity Area	Impacted Wetland	FILL				
		Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
New Operations Access Road	I	1,205	48	0.44	3	603
	C	386	52	0.33	3.5	1,364*
	F	282	38	0.18	3	596
Totals		**NA**	**NA**	**0.95**	**3.2**	**2,563**

[1] Max length and max width are not totals; they are the maximum value as calculated in AutoCAD.
Refer to New Operations Access Road Figures 12-8A, 12-8B and 12-8C

*This is the sum of Wetland C fill from road improvements (784 CY) and the box culvert (580 CY).

iii) Describe the wetland impacts, proposed use or development, and any alternatives considered.

The proposed regulated activity includes long-term impacts to Wetlands I and F, both rare and imperiled southern hardwood swamps, for the purpose of creating a new access road and expansion of the existing culvert. The northern edge of Wetland I, where permanent impacts are proposed, exhibits vegetation communities and conditions that reflect a high degree of disturbance including invasive species and altered hydrology associated with the adjacent roadway and other human activities. The proposed regulated activity also includes impacts to Wetland C, a rare and imperiled emergent Great Lakes marsh, which is fragmented from Lake Erie by access roads, but connected hydrologically through culverts.

Greater detail regarding the proposed use and impact of the wetlands is available in Section 2 of the JPA. Refer to attached New Operations Access Road Figures 12-8A, 12-8B and 12-8C for plan view and section details.

Considered alternatives are outlined in Section 4 of the JPA.

Attachment 12-9 Onsite Transmission

Wetland C (PEM) - 0.24 ac Tower Footprint proposed impact
- 0.34 ac Toll Rd Access proposed temporary impact
- 0.35 ac Doxy Rd Access proposed temporary impact
- 1.6 ac Tower Impact proposed temporary impact

i) Check all that apply to this activity area:

☒ Fill ☒dredge or excavation ☐ boardwalk or deck ☐ dewatering ☐fences ☐ bridges and culverts ☐ draining surface water ☐stormwater discharge ☐ restoration ☒other – tree clearing

ii) Totals

Activity Area	Impacted Wetland	USACE OHWM		WETLAND DREDGE/EXCAVATION				
		DREDGE	EXCAVATION					
		Volume (CY)	Volume (CY)	Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Onsite Transmission	C - Permanent	768	NA	36	36	0.24	12	768
	C - Temporary	NA	NA	NA	NA	NA	NA	NA
	F	NA	NA	NA	NA	NA	NA	NA
Totals		**768**	**NA**	**NA**	**NA**	**0.24**	**12**	**768**

Activity Area	Impacted Wetland	FILL				
		Max Length[1] (FT)	Max Width[1] (FT)	Area (ACRE)	Average Depth (FT)	Volume (CY)
Onsite Transmission	C - Permanent	36	36	0.24	12	768
	C - Temporary	NA	NA	NA	NA	NA
	F	NA	NA	NA	NA	NA
Totals		**NA**	**NA**	**0.24**	**12**	**768**

[1] Max length and max width are not totals; they are the maximum value as calculated in AutoCAD.
Refer to Onsite Transmission Figures 12-9A, 12-9B

iii) Describe the wetland impacts, proposed use or development, and any alternatives considered.

The proposed regulated activity requires long-term impacts to 0.24 acres of Wetland C, a rare and imperiled Great Lakes marsh, to accommodate the tower footprints for eight transmission towers. Temporary impacts to 2.29 acres in Wetland C are proposed for the installation of tower support structures and two access roads. Vegetation clearance of 50 feet on either side of the transmission towers along a length of approximately 750 feet will be required for the transmission lines parallel and east of Toll Road over Wetland F. As a result of the vegetation clearance, 2.53 acres of PFO Wetland F will convert from a forested wetland to an emergent wetland.

To reduce impacts to vegetation and soil, balloon tires will be used on equipment and the construction activities can be completed during the winter. Restoration is expected to occur within the following growing season.

Greater detail regarding the proposed use and impact of the wetlands is available in Section 2 of the JPA. Refer to attached Onsite Transmission Figures12-9A and B for plan view and section details.

Considered alternatives are outlined in Section 4 of the JPA.

Photographs

Photographs
(19 pages following cover page)

Lake Erie Construction Area Photographs: 10a-10c

Construction Area 1 Photographs: 12a-12c

Construction Area 2 Photograph: 12d

Construction Area 3 Photographs: 12e-12k

Construction Area 4 Photographs: 12l-12m

Construction Area 5 Photographs: 12n-12p

Warehouse, PAP/VIB, and Parking Garage Photographs: 12q-12u

New Operations Access Road Photographs: 12v-12w; 14a-14d

Onsite Transmission Photographs: 12x-12y

Photo – 10a: Looking east along South Groin (April 2011)

Photo – 10b: Looking east along South Groin (April 2011)

Photo – 10c: Looking north along shore line between groins (April 2011)

Photo – 12a: Looking west at Wetland II ditch (August 2010)

Photo – 12b: Looking east at Wetland JJ (August 2010)

Photo – 12c: Looking west at Wetland AA (August 2010)

Photo – 12d: Looking west at Wetland Y (August 2010)

Photo – 12e: Looking west-northwest down railroad tracks at Wetland B (April 2011)

Photo – 12f: Looking northwest at Wetland D from Wetland C (August 2010)

Photo 12g: Looking west-northwest at Wetland D (August 2010)

Photo – 12h: Looking west-southwest at Wetland E-South/power lines (August 2010)

Photo – 12i: Looking north at Wetland E-North (brush-hogged) (August 2010)

Photo – 12j: Looking northwest at Wetland C (August 2010)

Photo – 12k: Looking east at power lines in Wetland C (August 2010)

Photo – 12l: Looking southeast at northern end of Wetland W (April 2011)

Photo – 12m: Looking south from northern end of Wetland W (April 2011)

Photo – 12n: Looking east at Wetland KK from Doxy Road (August 2010)

Photo – 12o: Looking south at South Canal (August 2010)

Photo – 12p: Looking north at South Canal from Fermi Drive (April 2011)

Photo – 12q: Looking west at Wetland C along Doxy Road (April 2011)

Photo – 12r: Looking west at Wetland C (August 2010)

Photo – 12s: Looking south at Wetland U (April 2011)

Photo – 12t: Looking southeast at Wetland U (August 2010)

Photo – 12u: Looking east on side slope of Wetland H (August 2010)

Photo – 12v: Looking southeast along Toll Road. Wetland C is to the left in the photograph and further left is Wetland F (October 2010)

Photo – 12w: Looking southeast along Toll Road. Wetland I is to the left in the photograph (October 2010)

Photo – 12x: Looking south at Wetland C in the foreground and Wetland F in the background (October 2010)

Photo – 12y: Looking southeast at Wetland C from Toll Rd (April 2011)

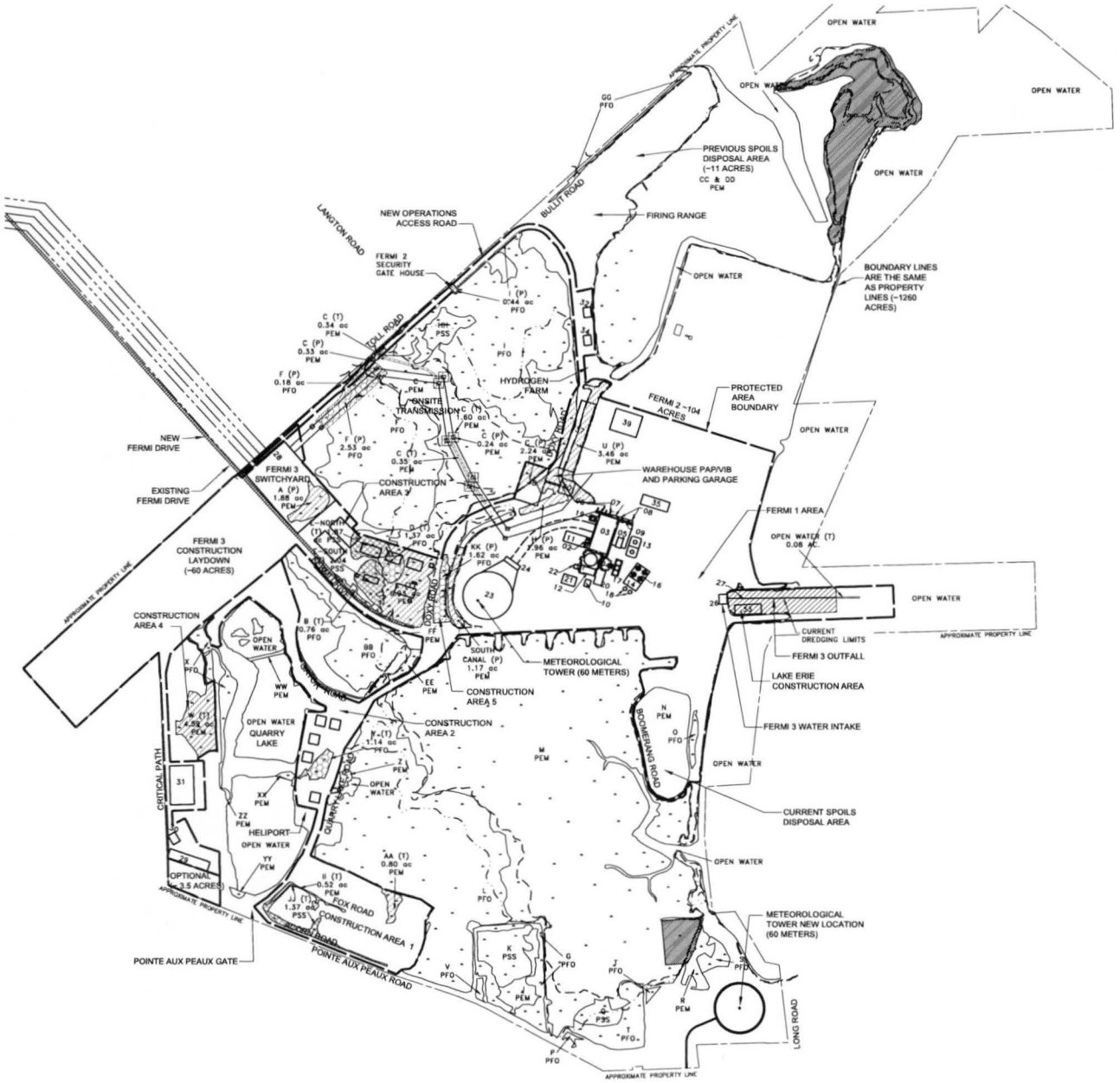
Photo – 14a: Downstream of existing culvert along Toll Road (April 2011)

Photo – 14b: Downstream of existing culvert along Toll Road (April 2011)

Photo – 14c: Upstream of existing culvert along Toll Road (April 2011)

Photo – 14d: Upstream side of existing culvert along Toll Road (April 2011)

JPA-Overall Fermi 3 Site Figure B & W



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0 500 1000

SCALE: 1" = 500'

LEGEND

PSS	PALUSTRINE SCRUB SHRUB WETLAND
PEM	PALUSTRINE EMERGENT WETLAND
PFO	PALUSTRINE FORESTED WETLAND
	APPROXIMATE PROPERTY LINE
	OPEN WATER
	WETLAND BOUNDARY
	HORIZONTAL & VERTICAL CONTROL
	FERMI CONSTRUCTION BOUNDARY
	USACE OHWM
	APPROX. MDEQ OHWM
	PALUSTRINE SCRUB-SHRUB (PSS) POTENTIAL WETLAND IMPACTS
	PALUSTRINE EMERGENT (PEM) POTENTIAL WETLAND IMPACTS
	PALUSTRINE FORESTED (PFO) POTENTIAL WETLAND IMPACTS
	OPEN WATER POTENTIAL IMPACTS
	DESIGNATED ENVIRONMENTAL AREA

	FACILITY LEGEND
01	REACTOR BUILDING
02	AUXILIARY BOILER
03	TURBINE BUILDING
04	CONTROL ROOM
05	ELECTRICAL BLDG/TECH SUPPORT CENTER
06	MAIN TRANSFORMERS
07	UNIT AUXILIARY TRANSFORMER
08	RESERVE AUXILIARY TRANSFORMER
09	SPARE TRANSFORMER
10	ADB
11	RADWASTE BUILDING
12	FUEL BUILDING
13	DIESEL FUEL OIL STORAGE TANK
14	WATER TREATMENT/SERVICE WATER BLDG
15	SERVICE WATER COOLING TOWER
17	FIRE WATER TANK AND PUMPS
18	WATER STORAGE TANKS
19	CONDENSATE STORAGE TANK
20	SERVICE BUILDING/OPERATION SUPPORT CENTER
21	HOT MACHINE SHOP AND STORAGE
22	WASH DOWN BAYS
23	NPHS COOLING TOWER
24	PUMPHOUSE
26	STATION WATER INTAKE
27	CIRC WATER OUTFALL
28	FERMI 3 SWITCHYARD
29	FERMI 2/FERMI 3 ADMIN BUILDING
30	FERMI 3 SIMULATOR
31	PARKING GARAGE
32	FERMI 2/FERMI 3 HAZARDOUS WASTE WAREHOUSE
33	BARGE SLIP
34	RAD MATERIAL WAREHOUSE
35	FERMI 2/FERMI 3 MAINTENANCE SHOPS
37	FERMI 2/FERMI 3 COMMON WAREHOUSE
38	PARKING GARAGE AND FERMI 2 SHOPS
39	ISFSI
40	PAP/VIB

JPA Fermi 3 Overall 24x36 Color Figure

N

0 500 1000

SCALE: 1" = 500'

LEGEND

PSS	PALUSTRINE SCRUB SHRUB WETLAND
PEM	PALUSTRINE EMERGENT WETLAND
PFO	PALUSTRINE FORESTED WETLAND
	APPROXIMATE PROPERTY LINE
	OPEN WATER
	WETLAND BOUNDARY
	HORIZONTAL & VERTICAL CONTROL
	FERMI CONSTRUCTION BOUNDARY
	USACE OHWM
	APPROX. MDEQ OHWM
	PALUSTRINE SCRUB-SHRUB (PSS) POTENTIAL WETLAND IMPACTS
	PALUSTRINE EMERGENT (PEM) POTENTIAL WETLAND IMPACTS
	PALUSTRINE FORESTED (PFO) POTENTIAL WETLAND IMPACTS
	OPEN WATER POTENTIAL IMPACTS
	DESIGNATED ENVIRONMENTAL AREA

	FACILITY LEGEND
01	REACTOR BUILDING
02	AUXILIARY BOILER
03	TURBINE BUILDING
04	CONTROL ROOM
05	ELECTRICAL BLDG/TECH SUPPORT CENTER
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12	FUEL BUILDING
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34	RAD MATERIAL WAREHOUSE
35	FERMI 2/FERMI 3 MAINTENANCE SHOPS
37	FERMI 2/FERMI 3 COMMON WAREHOUSE
38	PARKING GARAGE AND FERMI 2 SHOPS
39	ISFSI
40	PAP/VIB