

WETLAND DELINEATION REPORT

PREPARED FOR:

Joe Rizza Enterprises Inc.
8150 W. 159th Street
Orland Park, IL 60462

SUBJECT SITE:

Renamed "Philip Estate Subdivision"

~~Canterbury Park~~

3699 Canterbury Drive
Long Grove, Lake County Illinois
Latitude 42.181047 Longitude -88.026801

May 20, 2017
Updated November 6, 2020



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WETLAND DELINEATION REPORT

EXECUTIVE SUMMARY

In response to the request of Cross Engineering, Midwest Ecological, Inc. (MEI) has performed and completed a Wetland Delineation for the 35 acre parcel located off of Cuba Road, Long Grove, Lake County Illinois. The study area is located within Section 26, Township 43 North, Range 10 East of the Third Principal Meridian within Ela Township, Lake County, Illinois. Utilizing the methods and criteria established by the U.S. Army Corps of Engineers (COE) in their Corps of Engineers Wetlands Delineation Manual (1987), Midwest Regional Supplement (2008), United States Department of Agriculture/Natural Resource Conservation Service, in their Wetland Mapping Conventions – NRCS, Illinois (1998) a wetland investigation of the property was performed. Based on the on-site investigation using the information obtained from the field samples Midwest Ecological, Inc. (MEI) identified one (1) wetland area totaling **0.37 acres** in size.

Site	On-site Acreage	Native Mean Conservatism	Floristic Quality Index	Anticipated Regulatory Agency	ADID (Y/N)
Wetland A	0.37 acres	2.44	15.21	USACE	Y

Please Note: Wetland A is larger than identified within this report. Wetland A is part of a large wetland complex located to the East. Wetland A is jurisdictionally connected to Buffalo Creek. The acreages & quality of the wetlands noted within this report only pertain to the areas found within the property boundary.

It should be noted that under the current guidelines, any disturbance of a wetland area requires a permit through the US Army Corps of Engineers and/or Lake County Stormwater Management Commission. However, mitigation may or may not be required, depending on the overall impact (> 0.10) to the wetland, Waters of the United States or Isolated Wetland of Lake County. This jurisdiction of the identified wetland is at the discretion of the ACOE.

PURPOSE OF VISIT

The purpose of the site visit is to determine if any Wetlands (various types), Open water pockets, Creeks or Rivers exist on-site and to determine their approximate size, location, quality and jurisdiction. Wetlands encountered were delineated using standard methods sanctioned by the United States Army Corps of Engineers in their Corps of Engineers Wetlands Delineation Manual (1987), Regional Supplement (2008) and Wetland Mapping Conventions – NRCS, Illinois (1998).

DEFINITION OF A WETLAND

The U.S. Army Corps of Engineers (ACOE) and the U.S. Environmental Protections Agency (EPA) define wetlands as:

“areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions...” (33 CFR 328.3[b], 1977).

Although not defined by regulation, “normal circumstances” are interpreted by both the ACOE and the Natural Resources Conservation Service to be “the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed” (7 CFR 12.31[b][2][i]).

METHODOLOGY

Prior to visiting the site, Midwest Ecological, Inc. (MEI) performed a review of the aforementioned National Wetland Inventory map, Lake County Soil Survey map and aerial photograph in order to determine existing site conditions. Site visits were then conducted by an Environmental Wetland Specialist from MEI on November 16, 2016, September 21 & 25, 2020. The USACE Wetland Delineation Manual, dated January 1987, identifies the mandatory technical criteria for wetland identification. The three essential characteristics of a wetland are: 1) hydrophytic vegetation; 2) hydric soils; and 3) wetland hydrology. These characteristics are described below:

Hydrophytic Vegetation: The hydrophytic vegetation criterion is based on a separation of plants into five basic groups:

- 1) Obligate wetland plants (OBL) almost always occur (estimated probability >99%) in wetlands under natural conditions;
- 2) Facultative wetland plants (FACW) usually occur in wetlands (estimated probability 67-99%), but occasionally are found in non-wetlands;
- 3) Facultative plants (FAC) are equally likely to occur in wetland or non-wetlands (estimated probability 34-66%);
- 4) Facultative upland plants (FACU) usually occur in non-wetlands (estimated probability 67-99%), but occasionally are found in wetlands (estimated probability 1-33%); and
- 5) Obligate upland plants (UPL) almost always occur (estimated probability >99%) in non-wetlands under natural conditions.

Within each data point, vegetation is sampled in plots of varying size based on the type of vegetation being sampled. The following plot sizes are recommended by the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Midwest Region:

Trees	- 30-ft radius
Saplings/Shrubs	- 15-ft radius
Herbaceous Plants	- 1 m ² plot
Woody vines	- 30-ft radius

If greater than 50% of the plants present in each stratum or layer of the plant community are FAC (with the exception of FAC-), FACW, or OBL the subject area is considered a wetland in terms

of vegetation (Dominance Test). If the vegetation does not meet the requirements of the Dominance Test, the Prevalence Index (PI) should be utilized.

The PI evaluates the coverage, on a weighted basis of coverage over all strata, of the vegetation within the plot. The PI ranges between 1.0 and 5.0, with a 3.0 or less indicating hydrophytic vegetation is present. If the PI is greater than 3.0, the dominance test is failed, but there are still hydric soil and wetland hydrology presence, the observation of morphological adaptations by vegetation can be used to indicate that the hydrophytic vegetation criteria is met. Morphological adaptations are changes in the structure of vegetation in response to conditions outside the normal character of the plant. These adaptations include adventitious roots, multi-stemmed trunks, shallow root systems developed at or near the surface, and buttressing in tree species. To meet this indicator, more than 50% of the individuals of FACU species must exhibit the morphological adaptations. Care must be given that the adaptations observed are due wetter conditions that the species is used to as opposed to other factors such as shallow roots present because of erosion of the surface.

Hydric Soils: Hydric soils are defined in the manual as "soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part." Hydric soil indicators are distinctive characteristics that persist in the soil during both wet and dry periods, and are used to identify hydric soils in the field. Field indicators include color, mottling, gleying, and sulfidic odor. A specific set of indicators has been developed by the USDA Natural Resource Conservation Service (Field Indicators of Hydric Soils in the United States) which provides a detailed description of how to identify the indicators in during a site visit. A soil meets the definition of a hydric soil if it exhibits at least one of these indicators.

Wetland Hydrology: Indicators of hydric soil and hydrophytic vegetation typically reflect the middle and long-term conditions of a site, but not the short term conditions. The wetland hydrology criterion is often the most difficult to determine because of climatological variation. Typically, the presence of water for a week or more during the growing season creates anaerobic conditions indicative of wetland hydrology. Anaerobic conditions lead to the prevalence of wetland plants. The 2010 USACE Regional Supplement for the Midwest Region provides specific indicators in four different groups for wetland hydrology: Observation of Surface Water or Saturated Soils, Evidence of Recent Inundation, Evidence of Current or Recent Soil Saturation, and Evidence from Other Site Conditions or Data. If a site exhibits 1 primary indicator or 2 secondary indicators, then it meets the hydrology criteria for a wetland.

REFERENCE MATERIALS

The following materials were reviewed and utilized to assist in the field reconnaissance and completion of this report. See Appendix A for the Reference Materials (Exhibits 1 through 7).

Location

The site is located at common address 3699 Canterbury Drive, Long Grove Illinois. Geographically, the site can be located in Section 26, Township 43 North, Range 10 East of the

Third Principal Meridian within Ela Township, Lake County, Illinois (Latitude 42.181047 Longitude -88.026801).

National & Lake County Advanced Identification Wetland Inventory Maps

The National & Lake County Advanced Identification Wetland Maps were reviewed to determine the location of wetland areas on the subject site. It should be noted that these maps are only large scale guides, actual wetland locations and types may vary. Ultimate qualification occurs during field reconnaissance.

Per our review of the NWI map, the study area contains one wetland area:

PEMF: Palustrine, Emergent, Semi-permanent

Per our review of the Lake County Advanced Identification Map, The study area does contain one High Quality Aquatic Wetland (ADID 180) area.

Based on onsite investigation the site does not conform to the ADID wetland map. MEI did not identify any wetland area within the center or western portion of the property.

Lake County Soil Survey Map

The Soil Survey of Lake County, Illinois was investigated to determine the location of hydric soils on the subject site. Mapped hydric soils can indicate wetland areas. The following soils were found to be present on the subject site during our investigation.

- 232 A – Ashkum silty clay loam, 0-2% slopes (**poorly drained, hydric**)
- 330 A – Peotone silty clay loam, 0-2% slopes (**very poorly drained**)
- 370 B – Saylesville silt loam, 2-4% slopes (moderately well drained)
- 530 D3 – Ozaukee silt loam, 6-12% slopes (moderately well drained)
- 696 C2 – Zurich silt loam, 4-6% slopes (moderately well drained)
- 840 C2 – Zurich and Ozaukee silt loams, 4-6% slopes (moderately well drained)
- 1107 A – Sawmill silty clay loam, 0-2% slopes (**poorly drained**)

United States Geological Survey Map

The United States Geological Survey Map & Hydrological Atlas (HA-208) as illustrated on the Lake Zurich Quad U.S.G.S. Map and Hydrological Atlas. These maps were reviewed to determine the historical local drainage patterns.

All drainage noted (surface and subsurface) on-site is conveyed to the East into Wetland A. A series of draitiles are found within the center of the property conveying water to the East. Wetland A is part of a larger wetland complex that continues to the South and West. Wetland A is directly connected to Buffalo Creek.

Flood Insurance Rate Map

The Flood Insurance Rate Maps (F.I.R.M.), for Lake County, Illinois, Community Panel No. 17097C0242 L effective date September 18, 2013 was reviewed to determine the location of regulatory floodplains and floodways within the subject site. Mapped floodplains can be indicative of wetland hydrology.

Based on the F.I.R.M. Maps, the study area does contain a Zone AE flood plain. The flood plain is found within Wetlands A and Buffalo Creek to the East.

WETLAND FIELD DELINEATION

An on-site wetland delineation of the property was conducted on November 16, 2016, September 21 & 25, 2020. Wetland boundaries were determined using the ACOE guidelines and the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) guidelines, as stated previously. The routine method of wetland delineation was used, incorporating information on vegetation, hydrology and soils. The full width of the property was traversed and when a suspected wetland was encountered, the plant species present were determined by making several random passes through the area. If wetland plant species were found to be comprised of 50% or more of plant cover (i.e., wetland vegetation was dominant), the suspected wetland was further examined for the necessary field indicators of hydric soil and hydrology. The wetland boundaries were then defined and all observed plant species were recorded.

The plant taxonomic nomenclature and the Natural Area Index (NAI) used in this report follow's the Chicago Region FQA Index (2017). A more detailed survey would be necessary for a more complete plant list and while more species might be obtained from additional surveys, this would not change the areas delineated as wetlands.

Study Area: The 35 acre study area and consists of primarily vacant land with one estate style single family home. The site consists of rolling terrain from grasslands to scattered woodlands. Common buckthorn and other volunteer woody species were being removed at the time of our investigation. The tree removal process consists of cutting at the base and mulching the tree. According to the Lake County ADID wetland map, ADID 180 comprises of approximately 25% of the site. MEI investigated this area and did not identify a wetland where the ADID map identifies a wetland. A wetland was noted at the SE corner of the site and is connected to the large wetland complex of Buffalo Creek, however a wetland was not found within the center of the property. A series of draitiles, ranging from 4"-10" in size, have been identified that could be drawing down the ground water within this area. The draitiles discharge into the off-site wetland complex. The ADID wetland location appears to be a mapping error.

Wetland A: Wetland A is a scrub shrub/marsh wetland that is found at the southeast corner of the study area. The wetland is part of the larger Buffalo Creek wetland Complex. Wetland A is characterized by data point 1A & 3A and is **0.37 acres** in size. The flagged wetland is a lowland area surrounded by steep slopes that continues to the east. The Lake County Advanced Identification Map shows this area as High Quality Aquatic Resource # 180. A draitile outfall

was observed within the woody area prior to discharge off the site. The dominant vegetation (within this area) was determined to be Common cattail (*Typha latifolia*), Narrow-leaved Cattails (*Typha angustifolia*), Reed Canary Grass (*Phalaris arundinacea*), Common Buckthorn (*Rhamnus cathartica*) & Orange Jewel Weed (*Impatiens capensis*). During our investigation positive wetland hydrology is met with the primary indicators of Surface Water (A1), Saturation (A3) & Inundation visible on aerial imagery (B7). The mapped soil profile for this wetland is identified as Sawmill silty clay loam (1107A) which is a very poorly drained hydric soil. Primary soil indicators of thick dark surface (A12) was noted within the flagged boundary.

Said vegetation soils and hydrology information noted above can be found in the datasheets section of this report. Please note data sheets 1A-3A reference wetland A.

Study Information

Site: Canterbury Park
 Locale: Wetland A
 By: Robert Vanni

Conservatism-Based Metrics

Mean C (native species)	2.44
Mean C (all species)	1.86
Mean C (native trees)	3.20
Mean C (native shrubs)	1.33
Mean C (native herbaceous)	2.52
FQAI (native species)	15.21
FQAI (all species)	13.30
Adjusted FQAI	21.30
% C value 0	0.31
% C Value 1-3	0.47
% C value 4-6	0.20
% C value 7-10	0.02

Additional Metrics

Species Richness (all)	51.00
Species Richness (native)	39.00
% Non-native	0.24
Wet Indicator (all)	-0.37
Wet Indicator (native)	-0.56
% hydrophyte (Midwest)	0.73
% native perennial	0.65
% native annual	0.08
% annual	0.08
% perennial	0.86

Species Acronym	Species Name (NWPL/Mohlenbrock)	Common Name	C Value	Midwest WET indicator	WET indicator (numeric)	Habit	Duration	Nativity
aceneg	<i>Acer negundo</i>	Ash-Leaf Maple	0	FAC	0	Tree	Perennial	Native
agrgy	<i>Agrimonia gryposepala</i>	Tall Hairy Grooveburr	2	FACU	1	Forb	Perennial	Native
agralb	<i>Agrostis gigantea</i>	Black Bent	0	FACW	-1	Grass	Perennial	Adventive
allpet	<i>Alliaria petiolata</i>	Garlic-Mustard	0	FAC	0	Forb	Biennial	Adventive
apocan	<i>Apocynum cannabinum</i>	Indian-Hemp	2	FAC	0	Forb	Perennial	Native
ascinc	<i>Asclepias incarnata</i>	Swamp Milkweed	4	OBL	-2	Forb	Perennial	Native
betnig	<i>Betula nigra</i>	River Birch	7	FACW	-1	Tree	Perennial	Native
bidfro	<i>Bidens frondosa</i>	Devil's-Pitchfork	1	FACW	-1	Forb	Annual	Native
boeeyl	<i>Boehmeria cylindrica</i>	Small-Spike False Nettle	2	OBL	-2	Forb	Perennial	Native
exblan	<i>Carex blanda</i>	Eastern Woodland Sedge	1	FAC	0	Sedge	Perennial	Native
cxvulp	<i>Carex vulpinoidea</i>	Common Fox Sedge	2	FACW	-1	Sedge	Perennial	Native
celocc	<i>Celtis occidentalis</i>	Common Hackberry	3	FAC	0	Tree	Perennial	Native
cirarv	<i>Cirsium arvense</i>	Canadian Thistle	0	FACU	1	Forb	Perennial	Adventive
conarv	<i>Convolvulus arvensis</i>	Field Bindweed	0	UPL	2	Forb	Perennial	Adventive
corrac	<i>Cornus racemosa</i>	Gray Dogwood	1	FAC	0	Shrub	Perennial	Native
epicol	<i>Epilobium coloratum</i>	Purple-Leaf Willowherb	3	OBL	-2	Forb	Perennial	Native
erian	<i>Erigeron annuus</i>	Eastern Daisy Fleabane	0	FACU	1	Forb	Biennial	Native
eutmac	<i>Eutrochium maculatum</i>	Spotted Trumpetweed	4	OBL	-2	Forb	Perennial	Native
geucan	<i>Geum canadense</i>	White Avens	1	FAC	0	Forb	Perennial	Native
haevir	<i>Hackelia virginiana</i>	Beggar's-Lice	0	FACU	1	Forb	Biennial	Native
impcap	<i>Impatiens capensis</i>	Spotted Touch-Me-Not	3	FACW	-1	Forb	Annual	Native
irivir	<i>Iris virginica var. shrevei</i>	Virginia Blueflag	5	OBL	-2	Forb	Perennial	Native
lemmio	<i>Lemna minor</i>	Common Duckweed	5	OBL	-2	Forb	Annual	Native
lontat	<i>Lonicera tatarica</i>	Twinsisters	0	FACU	1	Shrub	Perennial	Adventive

moralb	<i>Morus alba</i>	White Mulberry	0	FAC	0	Tree	Perennial	Adventive
parins	<i>Parthenocissus inserta</i>	Thicket-Creeper	1	FACU	1	Vine	Perennial	Native
parqui	<i>Parthenocissus quinquefolia</i>	Virginia-Creeper	2	FACU	1	Vine	Perennial	Native
polhyd	<i>Persicaria hydropiper</i>	Mild Water-Pepper	2	OBL	-2	Forb	Annual	Native
phaaru	<i>Phalaris arundinacea</i>	Reed Canary Grass	0	FACW	-1	Grass	Perennial	Adventive
popdel	<i>Populus deltoides</i>	Eastern Cottonwood	2	FAC	0	Tree	Perennial	Adventive
rhaeat	<i>Rhamnus cathartica</i>	European Buckthorn	0	FAC	0	Shrub	Perennial	Adventive
rosmul	<i>Rosa multiflora</i>	Rambler Rose	0	FACU	1	Shrub	Perennial	Adventive
rubocc	<i>Rubus occidentalis</i>	Black Raspberry	2	UPL	2	Shrub	Perennial	Native
rudlac	<i>Rudbeckia laciniata</i>	Green-Head Coneflower	5	FACW	-1	Forb	Perennial	Native
saglat	<i>Sagittaria latifolia</i>	Duck-Potato	4	OBL	-2	Forb	Perennial	Native
salnig	<i>Salix nigra</i>	Black Willow	4	OBL	-2	Tree	Perennial	Native
samcan	<i>Sambucus nigra ssp. canadensis</i>	Black Elder	1	FACW	-1	Shrub	Perennial	Native
fesela	<i>Schedonorus pratensis</i>	Meadow Fescue	0	FACU	1	Grass	Perennial	Adventive
solcar	<i>Solanum carolinense</i>	Carolina Horse-Nettle	0	FACU	1	Forb	Perennial	Adventive
solalt	<i>Solidago altissima</i>	Tall Goldenrod	1	FACU	1	Forb	Perennial	Native
solgg	<i>Solidago gigantea</i>	Late Goldenrod	4	FACW	-1	Forb	Perennial	Native
spapcc	<i>Spartina pectinata</i>	Freshwater Cord Grass	4	FACW	-1	Grass	Perennial	Native
astsim	<i>Symphytichum lanceolatum</i>	White Paniced American-Aster	3	FAC	0	Forb	Perennial	Native
astnov	<i>Symphytichum novae-angliae</i>	New England American-Aster	4	FACW	-1	Forb	Perennial	Native
astpil	<i>Symphytichum pilosum</i>	White Oldfield American-Aster	0	FACU	1	Forb	Perennial	Native
rhurad	<i>Toxicodendron radicans</i>	Eastern Poison-Ivy	2	FAC	0	Vine	Perennial	Native
typang	<i>Typha angustifolia</i>	Narrow-Leaf Cat-Tail	0	OBL	-2	Forb	Perennial	Adventive
typlat	<i>Typha latifolia</i>	Broad-Leaf Cat-Tail	1	OBL	-2	Forb	Perennial	Native
urtdio	<i>Urtica dioica ssp. gracilis</i>	Tall Nettle	2	FACW	-1	Forb	Perennial	Native
viosor	<i>Viola sororia</i>	Hooded Blue Violet	3	FAC	0	Forb	Perennial	Native
vitrip	<i>Vitis riparia</i>	River-Bank Grape	2	FACW	-1	Vine	Perennial	Native

Wetland A Jurisdictional Determination Opinion: The Corps of Engineers has taken jurisdiction and concurred with the boundary of wetland A (LRC 2017-00690). The Jurisdictional Determination and boundary verification is valid until September 15, 2022.

CONCLUSIONS

The site was evaluated using U.S. Army Corps of Engineers and USDA guidelines for identifying wetlands. After evaluation of all data obtained, the site does contain one (1) ADID wetland areas totaling **0.37 acres** in size.

FEDERAL REGULATIONS

Jurisdictional Waters of the United States will be regulated under Section 404 of the Clean Water Act and the Section 401 Water Quality Certification requirements. Under Section 404, the United States Army Corps of Engineers regulates the discharge of dredged or fill material into jurisdictional Waters of the United States (WOUS).

Letter of No-Objection (LONO): The project may require a letter of No-Objection (LONO) from the Chicago District Army Corps of Engineers to facilitate the development. If the proposed project avoids impact to the wetlands or WOUS then a LONO can be petitioned.

Regional Permit 1 (RP1) authorizes the construction of residential, commercial and institutional developments and associated infrastructure, such as roads, utilities, detention areas, and recreation areas. Authorization under RP1 is subject to the following requirements which shall be addressed in writing and submitted with the notification:

- a. The impact to waters of the U.S. shall not exceed 1.0 acre. For projects that impact over 0.10 acres of waters of the U.S., the permittee is required to provide compensatory mitigation.

- b. Projects that impact no more than 0.5 acres of waters of the U.S., and do not impact any high-quality aquatic resources, will be processed under Category I.
- c. Projects that impact over 0.5 acres up to 1.0 acre of waters of the U.S., or impacts high-quality aquatic resources, will be processed under Category II.

The permittee shall establish and/or enhance an upland buffer of native plants (or other appropriate vegetation approved by the District) adjacent to all created, restored, enhanced or preserved waters of the U.S., including wetlands. Created buffers should be established on 6:1 (horizontal: vertical) or gentler slopes. The following buffer widths are required:

- 1) For any waters of the U.S. determined to be a high-quality aquatic resource, the buffer shall be a minimum of 100 feet.
- 2) For any waters of the U.S. that do not qualify as wetland (e.g. lakes, rivers, ponds, etc.), the buffer shall be a minimum of 50 feet from the Ordinary High Water Mark (OHWM).
- 3) For any jurisdictional wetland from 0.25 acres up to 0.50 acres in size, the buffer shall be a minimum of 30 feet.
- 4) For any jurisdictional wetland over 0.50 acres in size, the buffer shall be a minimum of 50 feet.

The District may allow buffer widths below the above-required minimums on a case by case basis. However, it is the responsibility of the applicant to provide supporting documentation as to why the buffer requirement could not be met. Stormwater retention/detention facilities and nature trails may be located within the outer 50% of the buffer. The District may allow Best Management Practices, small boat launches and piers/docks to be located in buffers.

Regional Permit 7 (RP7) authorizes temporary impacts to wetlands or WOUS to facilitate a project as long as the temporary impacts are restored to preconstruction conditions. Temporary structures and discharges necessary for construction activities including, access, temporary fill and dewatering devices are allowable under this permit.

Regional Permit 8 (RP8) authorizes the construction, maintenance and repair of utility line activities and associated facilities in waters of the United States. This includes trenching and backfilling activities for utility lines and fill activities for construction of substations and related appurtenances temporary and permanent access roads, construction pads, stormwater management facilities, fencing, parking lots, etc.), poles, pads, anchors, outfall structures, and foundations for overhead utility line towers, utility lines under (e.g., through directional drilling) or over navigable waters (regulated under Section 10 waters only), and outfalls and associated intakes which are authorized, conditionally authorized, specifically exempted, or are otherwise in compliance with the National Pollutant Discharge Elimination System program (Section 402 of the Clean Water Act).

LAKE COUNTY REGULATIONS

The four categories of wetland type regulated under the Lake County Unified Development ordinance (UDO), and Lake County Watershed Development Ordinance (WDO) are as follows:

- (a) Category-I: Wetland impacts less than or equal to 1 acre and does not impact high-quality aquatic resources;
- (b) Category-II: Wetland impacts greater than 1 acre and less than 2 acres and does not impact high-quality aquatic resources;
- (c) Category-III: Wetland impacts greater than or equal to 2 acres or impacts high-quality aquatic resources; and
- (d) Category-IV: Wetland impacts for the restoration, creation and enhancement of wetlands provided that there are net gains in aquatic resource function. Category-IV activities include shoreline and stream bank erosion restoration described in Article IV, Section C.2.d.3.

The WDO requires mitigation for wetland impacts greater than or equal to 0.10 acre of Isolated Wetlands of Lake County (IWLC). Mitigation shall provide replacement of the wetland environment lost to development at the following proportional rates (i.e., creation acreage to wetland impact acreage):

- 1) A minimum of 1.5:1 for wetland impacts under Categories I, II and III that are not high quality aquatic resources, except 1:1 for approved and fully certified wetland mitigation bank credits;
- 2) A minimum of 3:1 for wetland impacts that are high quality aquatic resources;
- 3) A minimum of 6:1 for wetland impacts that are forested wetlands.

Mitigation credit may also be obtained for enhancement. For example, the enhancement of farmed wetlands meeting the size criteria of the WDO may be used for up to 80% of the mitigation requirement. Enhancement of existing non-farmed wetlands may be credited up to 25% of the enhanced wetland acreage completed, provided the wetland impacted acreage created on-site is a minimum 1:1 ratio. Buffer width requirements for water bodies are as follows:

- 1) For all water bodies or wetlands with a total surface area greater than one third (1/3) acre but less than one (1) acre, a minimum buffer width of thirty (30) feet shall be established.
- 2) For all water bodies or wetlands with a total surface area greater than or equal to one (1) acre but less than two and one half (2 ½) acres, a minimum buffer width of forty (40) feet shall be established.
- 3) For all water bodies or wetlands with a total surface area greater than or equal to two and one half (2½) acres, a minimum buffer width of fifty (50) feet shall be established.
- 4) Non-linear high quality aquatic resources shall have a minimum buffer width of one hundred (100) feet.

Linear buffers shall be designated along both sides of all channels meeting the definition of Wetlands of Lake County. The buffer width shall be determined as follows:

- 1) When the channel has a watershed greater than 20-acres but less than one square mile, the minimum buffer shall be 50 feet on each side of the channel.
- 2) When the channel has a watershed greater than one square mile, the minimum buffer shall be 30 feet on each side of the channel.

3) Linear high quality aquatic resources and streams with an Index of Biotic Integrity (IBI) greater than 40 shall have a minimum buffer width of 100 feet on each side of the channel. (Initial IBI based on IEPA Illinois Water Quality Report, biannual. A site-specific IBI assessment may override this report.)

Should you have any questions, please do not hesitate to contact our office.

Sincerely,

Midwest Ecological, Inc. (MEI)

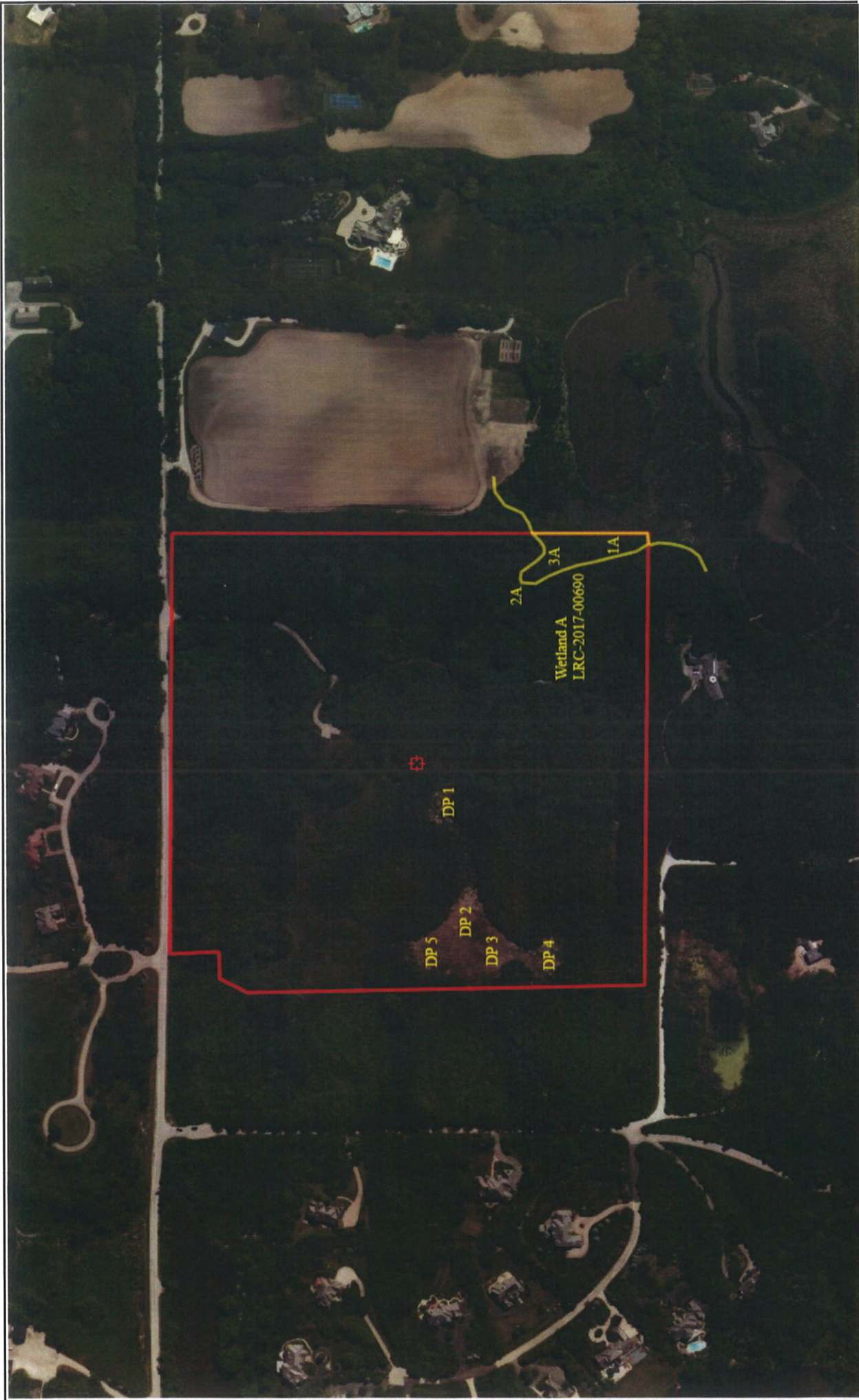


Robert L. Vanni
Wetland Specialist

Lake County Certified #C-059

APPENDIX A

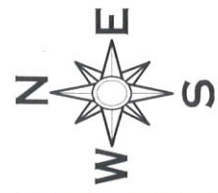
Exhibits

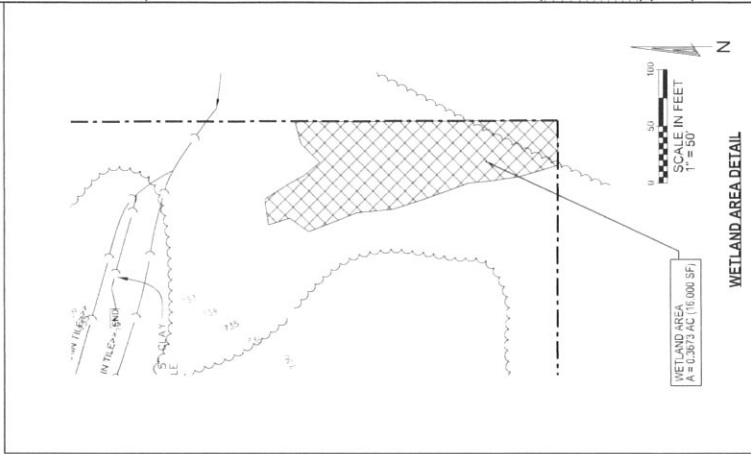
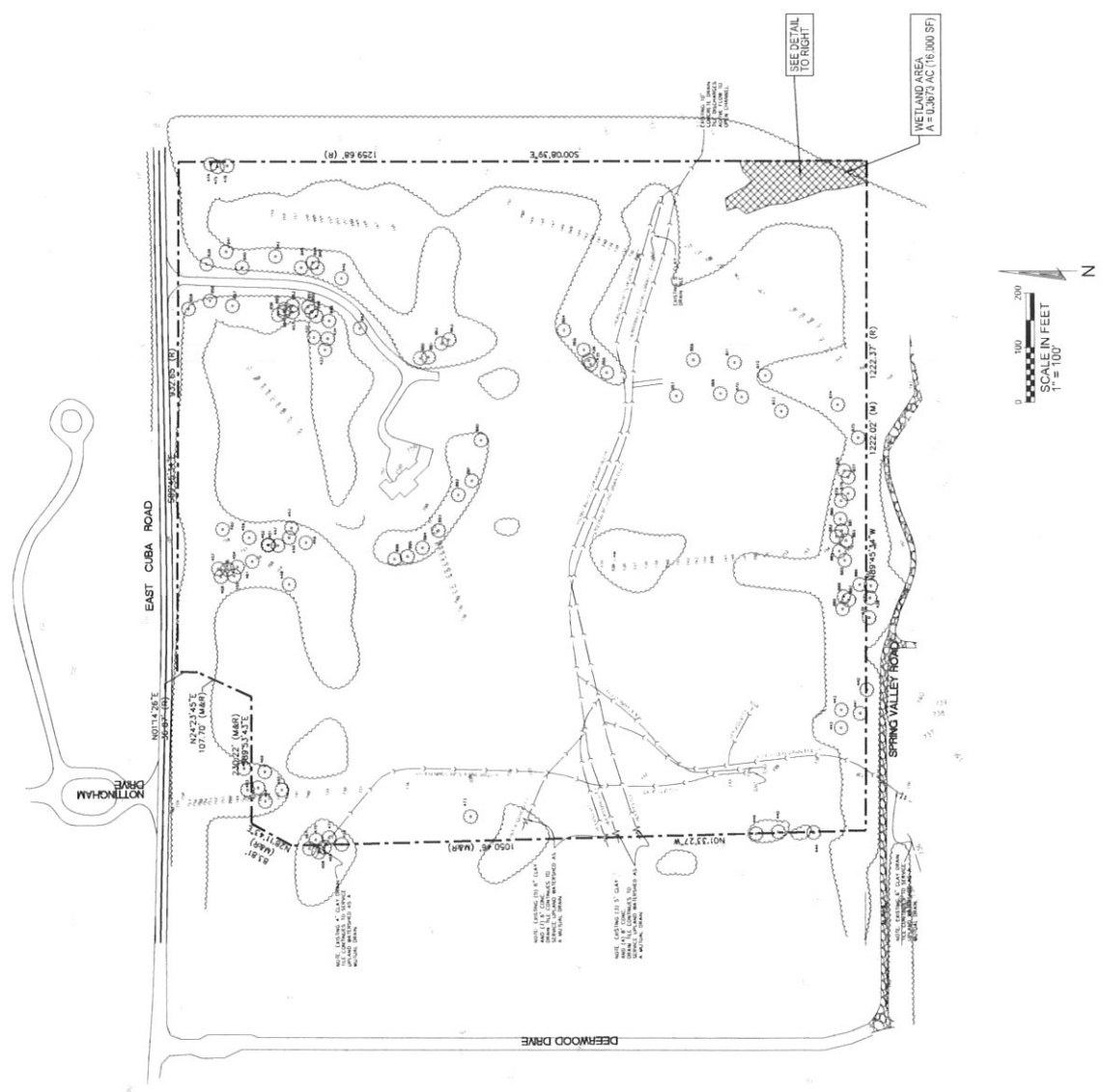


Source: Pictometry Aerial Photograph (2019)

Final Wetland Location Map

Client: Mr. Dan McMillan, Joe Rizza Enterprises, Inc.
8150 W. 159th Street
Orland Park, IL 60462





WETLAND AREA
 A = 0.3873 AC (16,900 SF)

WETLAND AREA
 A = 0.3873 AC (16,900 SF)



Location Map

Client: Mr. Dan McMillan, Joe Rizza Enterprises, Inc.
8150 W. 159th Street
Orland Park, IL 60462

Source: Bing Street Finder Map



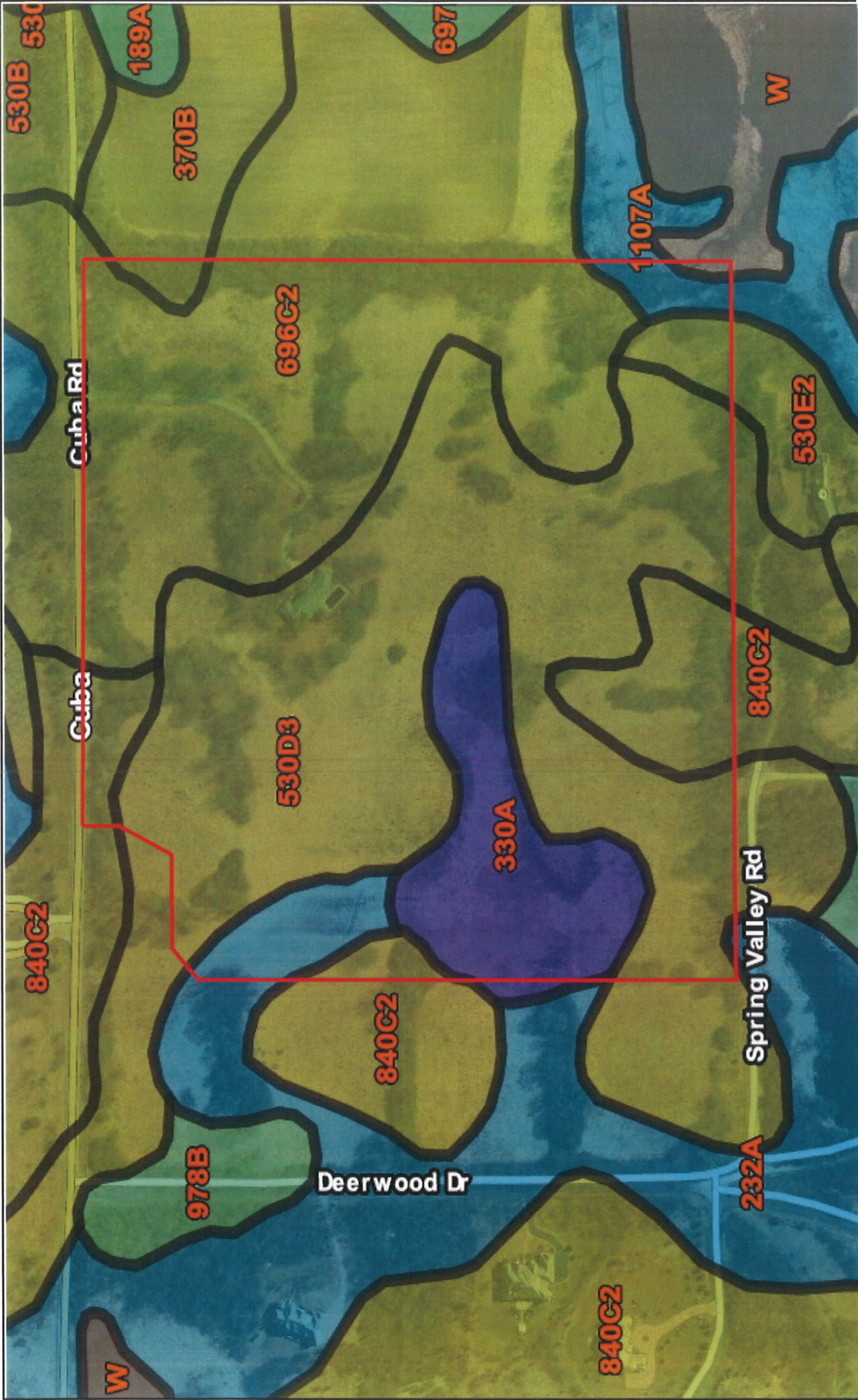


ADID Map

Client: Mr. Dan McMillan, Joe Rizza Enterprises, Inc.
 8150 W. 159th Street
 Orland Park, IL 60462

Source: Lake County Advanced Identification Wetland Map

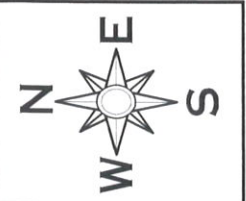


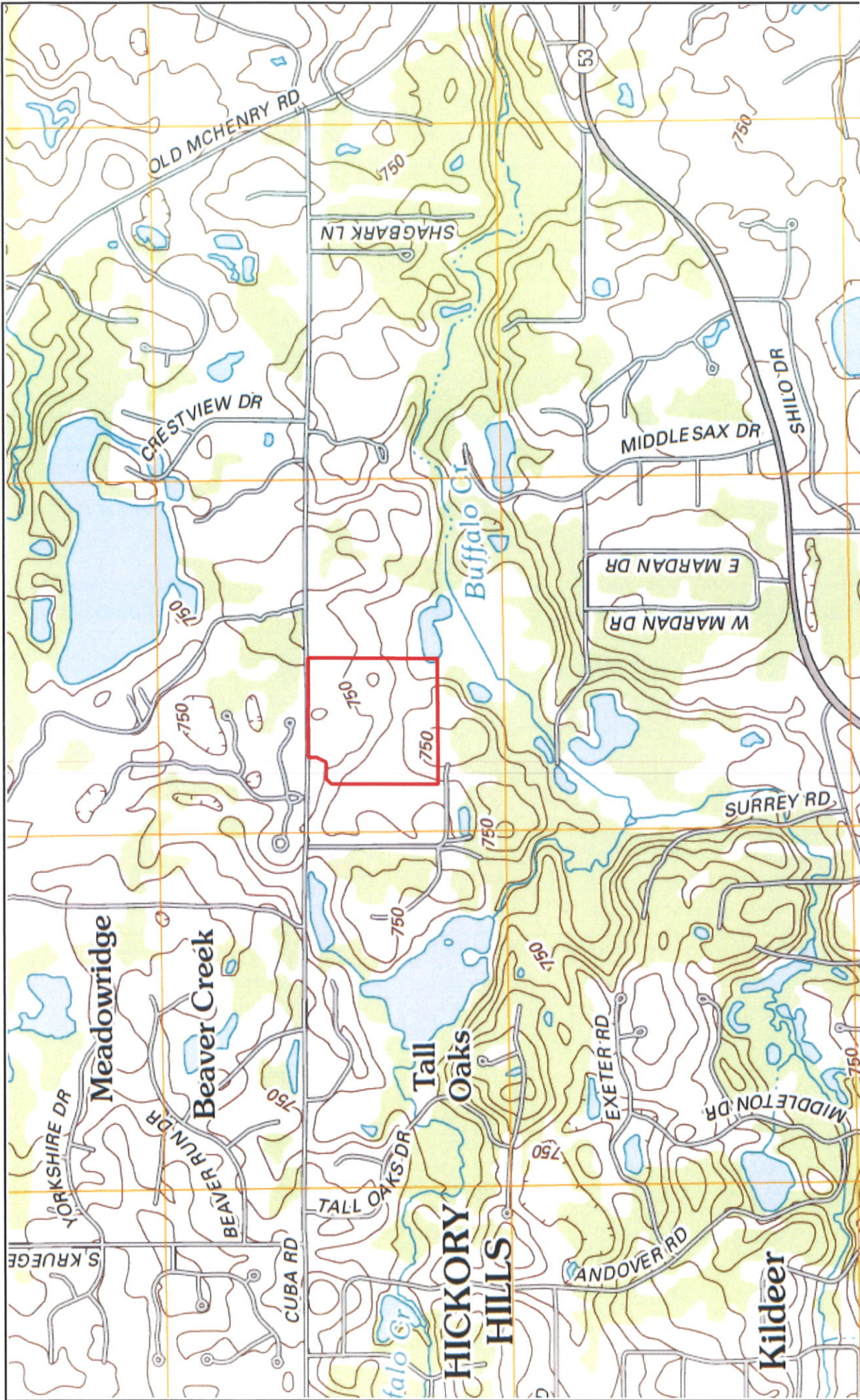


Source: Websoil Lake County Soil Survey, Drainage Class Map

Lake County Drainage Class Soils Map

Client: Mr. Dan McMillan, Joe Rizza Enterprises, Inc.
 8150 W. 159th Street
 Orland Park, IL 60462



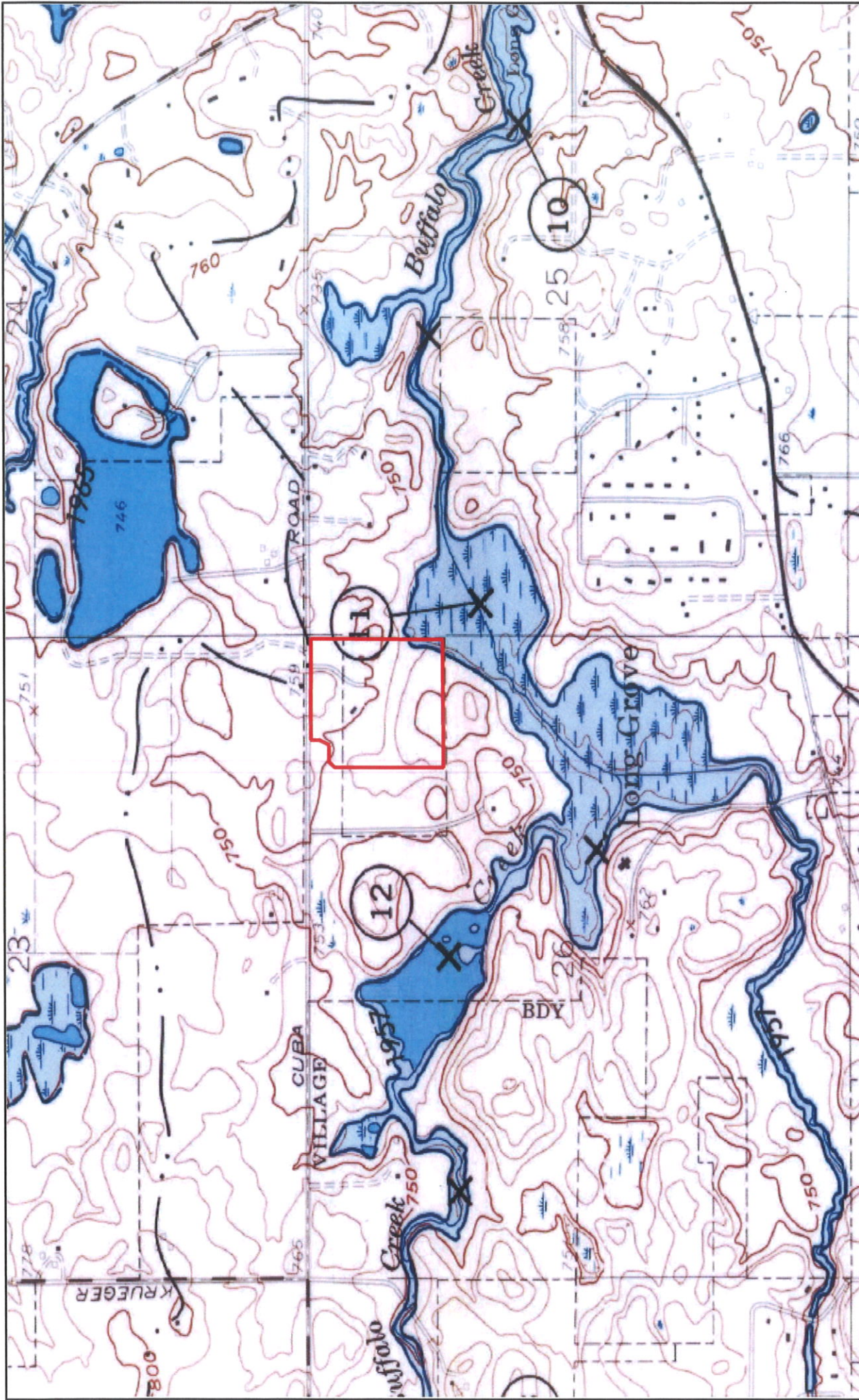


U.S.G.S. Map

Client: Mr. Dan McMillan, Joe Rizza Enterprises, Inc.
 8150 W. 159th Street
 Orland Park, IL 60462

Source: United States Geological Survey Map (2012)

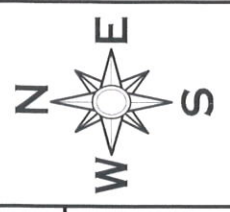




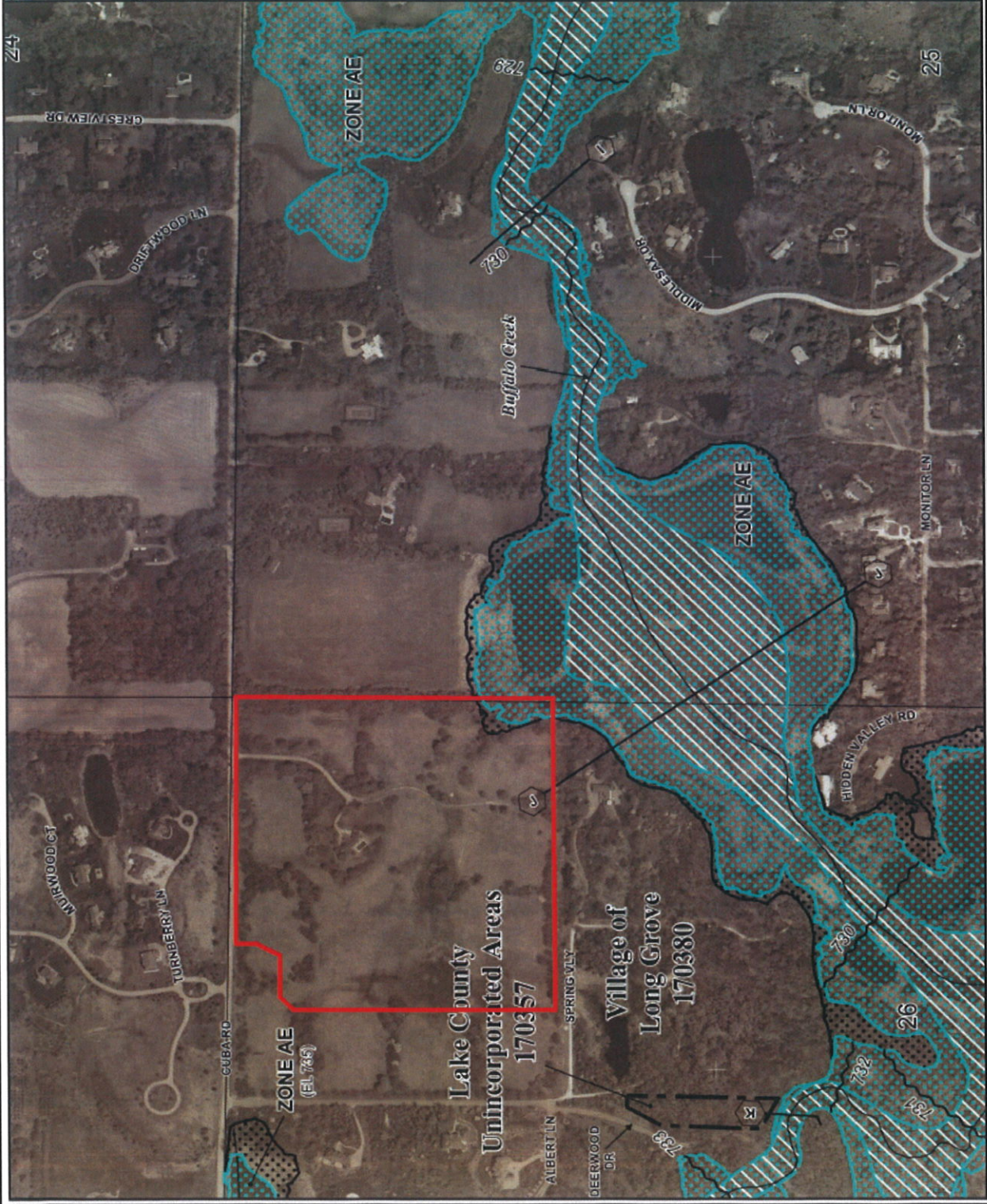
Source: United States Geological Survey, Hydrological Atlas Map (HA-208)

Hydrological Atlas Map

Client: Mr. Dan McMillan, Joe Rizza Enterprises, Inc.
 8150 W. 159th Street
 Orland Park, IL 60462



6620.



MAP SCALE 1" = 500'



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0242K

FIRM
 FLOOD INSURANCE RATE MAP
 LAKE COUNTY,
 ILLINOIS
 AND INCORPORATED AREAS

PANEL 242 OF 295
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
 COMMUNITY: LAKE COUNTY
 LONG GROVE VILLAGE OF

NUMBER PANEL SHEETS
 170357 0242 K
 170380 0242 K

Notice to User: This Map Number shows before and after the most recent zoning map change. The Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
 17097C0242K
 MAP REVISED
 SEPTEMBER 18, 2013

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-Info Ch-Line. This map does not reflect changes or amendments which may have occurred since the date of the original flood map. For the latest information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at www.msc.fema.gov



F.I.R.M. Map

Client: Mr. Dan McMillan, Joe Rizza Enterprises, Inc.
 8150 W. 159th Street
 Orland Park, IL 60462

Source: Flood Insurance Rate Map



APPENDIX B

Photographs



Wetland A is a partial scrub/shrub marsh wetland area.
The wetland is found on the SE corner of the property.



Wetland A consists of saturated soils and inundation and is part of a larger wetland complex associated with Buffalo Creek. The wetland is under the jurisdiction of the Army Corps of Engineers.



The on-site portion of Wetland A is dominated by Common cattail (*Typha latifolia*), Narrow-leaved Cattails (*Typha angustifolia*), Reed Canary Grass (*Phalaris arundinacea*), Common Buckthorn (*Rhamnus cathartica*) & Orange Jewel Weed (*Impatiens capensis*).



Data point 1 was taken in a minor depression located in the center of the property.
The data point revealed an upland field condition.



Data point 2 revealed an upland field condition.



Data point 3 revealed an upland field condition.



Data point 4 revealed an upland field condition.



Data point 5 revealed an upland field condition.

APPENDIX C

Data Sheets

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12"	10 YR 2/1	100			C	M	SiCL	
12-22"	5Y 2.5/1	95	10 YR 4/2	5	C	M	SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Hydric soils were noted within the sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 10"
 Saturation Present? Yes No Depth (inches): 2"
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was present during our on-site investigation.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury Park City/County: Long Grove, Lake Sampling Date: 11-16-2016
 Applicant/Owner: Joe Rizza Enterprises, Inc. State: Illinois Sampling Point: 2A
 Investigator(s): Robert Vanni Section, Township, Range: Sec 26, T43N, R 10E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 42.179612 Long: -88.024279 Datum: _____
 Soil Map Unit Name: Zurich silt loam (696 C2) NWI or WWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: The data point was taken on a downhill drainage area. This area is not considered part of the delineated wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer negundo</i></u>	25	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>25</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>340</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.40</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>340</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>25</u>	x 2 = <u>50</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>340</u> (B)																	
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u><i>Rhamnus cathartica</i></u>	10	No	FAC															
2. <u><i>Rosa multiflora</i></u>	20	Yes	FACU															
3. <u><i>Lonicera tatarica</i></u>	15	No	FACU															
4. _____																		
5. _____																		
<u>45</u> = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u><i>Shedonorus pratensis</i></u>	20	Yes	FACU															
2. <u><i>Parthenocissus inserta</i></u>	10	No	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>30</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____																		
2. _____																		
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation was not noted within the sample point.																		

SOIL

Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12"	10 YR 3/2	100			C	M	SiCL	
12-20"	5Y 3/2	80	2.5 Y 5/3	20	C	M	SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Hydric soils were not noted within the sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Secondary Indicators (minimum of two required)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): >20"
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was not present during our on-site investigation.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury Park City/County: Long Grove, Lake Sampling Date: 11-16-2016
 Applicant/Owner: Joe Rizza Enterprises, Inc. State: Illinois Sampling Point: 3A
 Investigator(s): Robert Vanni Section, Township, Range: Sec 26, T43N, R 10E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 42.179627 Long: -88.024003 Datum: _____
 Soil Map Unit Name: Sawmill silty clay loam, undrained (1107 A) NWI or WWI classification: Yes
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: A drain tile was noted within the area of the data point.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Acer negundo</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Populus deltoides</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>45</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>2.20</u>
1. <u>Rhamnus cathartica</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ ____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Phalaris arundinacea</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Carex vulpinoidea</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
3. <u>Urtica dioica</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>45</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation was noted within the sample point.				

SOIL

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10"	10 YR 2/1	100			C	M	SiCL	
10-14"	10 YR 2/1	90	5Y 2.5/1	10	C	M	SiCL	
14-18"	5Y 3/1	95	5YR 5/6	5	C	M	SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	
<input type="checkbox"/> Stratified Layers (A5)	
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
---	--

Remarks:

Hydric soils were noted within the sample point.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was present during our on-site investigation.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury Park City/County: Long Grove, Lake Sampling Date: 9-21-2020
 Applicant/Owner: Joe Rizza Enterprises, Inc. State: Illinois Sampling Point: DP 1
 Investigator(s): Robert Vanni Section, Township, Range: Sec 26, T43N, R 10E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): 2-4 Lat: 42.180574 Long: -88.026451 Datum: _____
 Soil Map Unit Name: Peotone silty clay loam (330A) NWI or WWI classification: Yes
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: A series of large draitiles are noted within this area.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3. _____	_____	_____	_____	FACW species <u>100</u> x 2 = <u>200</u>
4. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>0</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
				Column Totals: <u>100</u> (A) <u>200</u> (B)
				Prevalence Index = B/A = <u>2.00</u>
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>Yes</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Dominance Test is >50%
2. <u>Urtica dioica</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. _____	_____	_____	_____	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation was noted within the sample point.				

SOIL

Sampling Point: DP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8"	10 YR 2/1	100			C	M	SiCL	
8-16"	10 YR 3/2	100			C	M	SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		

Indicators for Problematic Hydric Soils³:

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

Hydric soil was not noted within the sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> True Aquatic Plants (B14)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____ >16"	

(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was not present during our on-site investigation.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury Park City/County: Long Grove, Lake Sampling Date: 9-21-2020

Applicant/Owner: Joe Rizza Enterprises, Inc. State: Illinois Sampling Point: DP 2

Investigator(s): Robert Vanni Section, Township, Range: Sec 26, T43N, R 10E

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave

Slope (%): 0-2 Lat: 42.180558 Long: -88.027756 Datum: _____

Soil Map Unit Name: Peotone silty clay loam (330A) NWI or WWI classification: Yes

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: The data point was taken within a small depression where a series of drainiles were found. This area is not considered part of the delineated wetland.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover				Prevalence Index worksheet:	
<u>Sapling/Shrub Stratum</u> (Plot size: _____)					
1. _____	_____	_____	_____		Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Herb Stratum</u> (Plot size: _____)					
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>		
2. <u>Asclepias syriaca</u>	<u>35</u>	<u>Yes</u>	<u>FACU</u>		
3. <u>Cirsium arvense</u>	<u>15</u>	<u>No</u>	<u>FACU</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
100 = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
<u>Woody Vine Stratum</u> (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation was noted within the sample point.					

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury Park City/County: Long Grove, Lake Sampling Date: 9-21-2020
 Applicant/Owner: Joe Rizza Enterprises, Inc. State: Illinois Sampling Point: DP 3
 Investigator(s): Robert Vanni Section, Township, Range: Sec 26, T43N, R 10E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 42.170342 Long: -88.027920 Datum: _____
 Soil Map Unit Name: Peotone silty clay loam (330A) NWI or WWI classification: Yes

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: The data point was taken within a small depression where a series of drainiles converge. This area is not considered part of the delineated wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3. _____	_____	_____	_____	FACW species <u>50</u> x 2 = <u>100</u>
4. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5. _____	_____	_____	_____	FACU species <u>45</u> x 4 = <u>180</u>
<u>0</u> = Total Cover				UPL species <u>5</u> x 5 = <u>25</u>
				Column Totals: <u>100</u> (A) <u>305</u> (B)
				Prevalence Index = B/A = <u>3.05</u>
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <i>Phalaris arundinacea</i>	<u>50</u>	Yes	FACW	___ Dominance Test is >50%
2. <i>Asclepias syriaca</i>	<u>30</u>	Yes	FACU	___ Prevalence Index is ≤3.0 ¹
3. <i>Cirsium arvense</i>	<u>15</u>	No	FACU	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <i>Solanum elaeagnifolium</i>	<u>5</u>	No	UPL	___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				

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

Hydrophytic vegetation was not noted within the sample point.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury Park City/County: Long Grove, Lake Sampling Date: 9-21-2020
 Applicant/Owner: Joe Rizza Enterprises, Inc. State: Illinois Sampling Point: DP 4
 Investigator(s): Robert Vanni Section, Township, Range: Sec 26, T43N, R 10E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): 0-2 Lat: 42.181527 Long: -88.027979 Datum: _____
 Soil Map Unit Name: Peotone silty clay loam (330A) NWI or WWI classification: Yes

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: The data point was taken within a small depression where a series of drainiles were found. This area is not considered part of the delineated wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <i>Phalaris arundinacea</i>	70	Yes	FACW	
2. <i>Asclepias syriaca</i>	30	Yes	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)
 Hydrophytic vegetation was noted within the sample point.

SOIL

Sampling Point: DP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16"	10 YR 2/1	100			C	M	SiCL	
16-22"	10 YR 3/1	95	10 YR 4/2	5	C	M	SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
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Remarks:

Hydric soil was noted within the sample point.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>>22"</u> (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Wetland hydrology was not present during our on-site investigation.		

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury Park City/County: Long Grove, Lake Sampling Date: 9-21-2020
 Applicant/Owner: Joe Rizza Enterprises, Inc. State: Illinois Sampling Point: DP 5
 Investigator(s): Robert Vanni Section, Township, Range: Sec 26, T43N, R 10E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): 0-2 Lat: 42.180799 Long: -88.027997 Datum: _____
 Soil Map Unit Name: Peotone silty clay loam (330A) NWI or WWI classification: Yes

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: The data point was taken within a small depression where a series of drainiles converge. This area is not considered part of the delineated wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
2. _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
3. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
4. _____	_____	_____	_____	FACU species <u>85</u> x 4 = <u>340</u>
5. _____	_____	_____	_____	UPL species <u>5</u> x 5 = <u>25</u>
<u>0</u> = Total Cover				Column Totals: <u>100</u> (A) <u>385</u> (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = <u>3.85</u>
1. <i>Asclepias syriaca</i>	75	Yes	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Solanum elaeagnifolium</i>	5	No	UPL	
3. <i>Cirsium arvense</i>	10	No	FACU	
4. <i>Phalaris arundinacea</i>	10	No	FACW	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				

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

Hydrophytic vegetation was not noted within the sample point.

APPENDIX D

Huddleston McBride Draintile Evaluation

APPENDIX E

Corps of Engineers Jurisdictional Determination Letter



DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
231 SOUTH LA SALLE STREET
CHICAGO, ILLINOIS 60604-1437

REPLY TO
ATTENTION OF:

September 15, 2017

Technical Services Division
Regulatory Branch
LRC-2017-00690

SUBJECT: Jurisdictional Determination for the Property Located at 3699 Canterbury Drive in Long Grove, Lake County, Illinois (Latitude 42.181047, Longitude -88.02801)

Joe Rizza
Joe Rizza Enterprises, Inc.
8150 West 159th Street
Orland Park, Illinois 60462

Dear Mr. Rizza:

This is in response to your request that the U.S. Army Corps of Engineers complete a jurisdictional determination for the above-referenced site submitted on your behalf by Midwest Ecological. The subject project has been assigned number LRC-2017-00690. Please reference this number in all future correspondence concerning this project.

Following a review of the information you submitted, this office has determined that the subject property contains "waters of the United States".

Wetland A has been determined to be under the jurisdiction of this office and therefore, subject to Federal regulation.

This office concurs with the submitted wetland delineation, and wetland boundaries at the subject site. This confirmation is valid for a period of five years from the date of this letter unless new information warrants revision of the delineation prior to the expiration date.

For a detailed description of our determination please refer to the enclosed decision document. This determination covers only your project as depicted in the Wetland Delineation Report dated May 20, 2017, prepared by Midwest Ecological.

This determination is valid for a period of five (5) years from the date of the letter, unless new information warrants revision of the determination before the expiration date or a District Commander has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

This letter is considered an approved jurisdictional determination for your subject site. If you object to this determination, you may appeal, according to 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and a Request for Appeal (RFA) form. If you request to appeal the above determination, you must submit a completed RFA form to the Great Lakes/Ohio River Division Office at the following address:

Jacob Siegrist
Appeal Review Officer
Great Lakes and Ohio River Division
CELRD-PD-REG
550 Main Street, Room 10032
Cincinnati, Ohio 45202-3222
Phone: (513) 684-2699 Fax: (513) 684-2460

In order to be accepted, your RFA must be complete, meet the criteria for appeal and be received by the Division Office within sixty (60) days of the date of the NAP. If you concur with the determination in this letter, submittal of the RFA form to the Division office is not necessary.

This determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

It is your responsibility to obtain any required state, county, or local approvals for impacts to wetland areas not under the Department of the Army jurisdiction. For projects in unincorporated areas of Lake County, please contact Lake County Planning, Building and Development at (847) 377-2600. For projects in incorporated areas of Lake County, please contact the Lake County Stormwater Management Commission at (847) 377-7700.

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States, including wetlands. A Department of the Army permit is required for any proposed work involving the discharge of dredged or fill material within the jurisdiction of this office. To initiate the permit process, please submit a joint permit application form along with detailed plans of the proposed work. Information concerning our program, including the application form and an application checklist, can be found at and downloaded from our website:
<http://www.lrc.usace.army.mil/Missions/Regulatory.aspx>

If you have any questions, please contact Mr. Michael J. Machalek of my staff by telephone at (312) 846-5534 or email at Mike.J.Machalek@usace.army.mil.

Sincerely,

CHERNICH.K
ATHLEEN.G.
1230365616

Digitally signed by
CHERNICH.KATHLEEN.G.12303
65616
DN: c=US, o=U.S. Government,
ou=DoD, ou=PKI, ou=USA,
cn=CHERNICH.KATHLEEN.G.12
30365616
Date: 2017.09.22 10:28:35
-05'00'

Kathleen G. Chernich
Chief, East Section
Regulatory Branch

Enclosures

Copy Furnished w/out Enclosures

Lake County Stormwater Management Commission (Kurt Woolford)
Lake County Planning, Building and Development Department (Matthew Meyers)
Midwest Ecological (Rob Vanni)

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Joe Rizza, Joe Rizza Enterprises Inc.

File Number: LRC-2017-00690

Date: September 15, 2017

Attached is:

See Section below

	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A. INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit or a Letter of Permission (LOP), you may sign the permit document and return it to the district commander for final authorization. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district commander. Your objections must be received by the district commander within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district commander will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district commander will send you a proffered permit for your reconsideration, as indicated in Section B below.

B. PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit or a Letter of Permission (LOP), you may sign the permit document and return it to the district commander for final authorization. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.

C. PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.

D. APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.

E. PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Regulatory Branch
Chicago District Corps of Engineers
231 South LaSalle Street, Suite 1500
Chicago, IL 60604-1437
Phone: (312) 846-5530
Fax: (312) 353-4110

If you only have questions regarding the appeal process you may also contact:

Jacob Siegrist
Appeal Review Officer
Great Lakes and Ohio River Division
CELRD-PD-REG
550 Main Street, Room 10032
Cincinnati, Ohio 45202-3222
Phone: (513) 684-2699 Fax: (513) 684-2460

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Commanders personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<hr/> Signature of appellant or agent.	Date:	Telephone number:
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APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 15, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Chicago District, Joe Rizza Enterprises, Inc., LRC-2017-690

C. PROJECT LOCATION AND BACKGROUND INFORMATION: 3699 Canterbury Drive

State: Illinois County/parish/borough: **Lake** City: Long Grove

Center coordinates of site (lat/long in degree decimal format): Lat. 42.181047°N, Long. -88.02801° W.

Universal Transverse Mercator: Zone 16

Name of nearest waterbody: Buffalo Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Des Plaines River**

Name of watershed or Hydrologic Unit Code (HUC): **Des Plaines (07120004)**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: September 15, 2017

Field Determination. Date(s): September 11, 2017

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: Defined in People of State of Ill. ex rel. Scott v. Hoffman, No. P-CIV-76-45, slip op. at 7 (S.D.Ill. Jan. 20, 1979).

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: 0.48 acres.

c. Limits (boundaries) of jurisdiction based on: **Midwest Supplement**

Elevation of established OHWM (if known): .

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: **Pick List.**

Summarize rationale supporting determination: As defined in People of State of Ill. ex rel. Scott v. Hoffman, No. P-CIV-76-45, slip op. at 7 (S.D.Ill. Jan. 20, 1979).

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft). Or, acres.
 Wetlands adjacent to TNWs: acres.

2. RPWs that flow directly or indirectly into TNWs.

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Buffalo Creek flows year-round being 15-20 feet wide and 3 feet deep; and is shown as a solid blue-line stream on the USGS maps.
 Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters:

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetland A is a sloped wetland/tributary that runs directly into and spreads out where it abuts Buffalo Creek.**
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: **0.48** acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Midwest Ecological Wetland Delineation Report dated May 20, 2017.
 Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 Office concurs with data sheets/delineation report.
 Office does not concur with data sheets/delineation report.
 Data sheets prepared by the Corps:
 Corps navigable waters' study:
 U.S. Geological Survey Hydrologic Atlas: Lake Zurich HA 208, 1966,
 USGS NHD data.
 USGS 8 and 12 digit HUC maps.
 U.S. Geological Survey map(s). Cite scale & quad name: Lake Zurich 7.5", 1993, Pick List, Pick List.
 USDA Natural Resources Conservation Service Soil Survey. Citation: **Soil Survey of Lake County, Illinois (2005).**
 National wetlands inventory map(s). Cite name: Lake Zurich,
 State/Local wetland inventory map(s): **Lake County ADID, Pick List.**
 FEMA/FIRM maps:
 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
 Photographs: Aerial (Name & Date):
or Other (Name & Date):
 Previous determination(s). File no. and date of response letter:
 Applicable/supporting case law: People of State of Ill. ex rel. Scott v. Hoffman, No. P-CIV-76-45, (S.D.Ill. Jan. 20, 1979)
 Applicable/supporting scientific literature:
 Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: Site visit on September 11, 2017 to walk wetland boundary to confirm flagging and verify jurisdictional status.