Wetland Delineation Report

29.3-Acre Site SE of STH 59 & CTH X

City of Waukesha, Waukesha County, Wisconsin

RASN Project No. 1150426

August 12th, 2015

Prepared by:

Ms. Tina Myers, PWS
Ecologist/Project Manager
R.A. Smith National, Inc.

Prepared for:

Mr. Thomas Perez
Kapur & Associates, Inc.
7711 North Port Washington Rd.
Milwaukee, WI 53217

R.A. Smith National
Beyond Surveying and Engineering

16745 West Bluemound Road, Brookfield, Wisconsin 53005
(262) 781-1000

Table of Contents

Appendices

August 12th, 2015

INTRODUCTION

R.A. Smith National, Inc. (RASN) is pleased to provide this Wetland Delineation Report for a 29.3-acre Study Area southeast of the STH 59 and CTH X intersection in the City of Waukesha, Waukesha County, Wisconsin (Figure 1). The Study Area is more specifically located in the SE ¼ of Section 17, Township 6 North, Range 19 East. The delineation was completed at the request of Kapur and Associates, Inc.

The purpose of the wetland delineation was to identify the proximity and extent of wetlands for a planned development of the site. Five (5) wetlands, hereby referred to as "W-1" through "W-5", were identified within the Study Area (Figure 2, Appendix 1) by Senior Wetland Scientist Tina Myers on July 9th, 21st, 22nd, and 27th of 2015. Senior Wetland Scientist Heather Patti also assisted on July 27th. The total acreage of wetland within the Study Area is 8.35 acre (363,726 square feet) which is roughly 28 percent of the total site. No waterways were observed within the site, although a slight drainage pattern is visible within W-3. The Fox River lies approximately 250 feet due south and 600 feet due west of the site. A direct connection to the Fox River was observed for W-1, W-2 and W-3; therefore, these wetlands are assumed to be under the jurisdiction of both the WDNR and US Army Corps of Engineers (Corps). The other wetlands may or may not be under the Corps' jurisdiction and may require a determination. The delineation is presented here in terms of qualifications, methodology, results, and conclusions.

STATEMENT OF QUALIFICATIONS

Ms. Tina Myers, PWS with RASN was the technical lead and report author on this delineation project. She has over 15 years of multidisciplinary ecological experience and has been recognized as a Professional Wetland Scientist (PWS) by the Society of Wetland Scientists (SWS) since 2004. She is also recognized as a Certified Wetland Specialist (CWS) in Illinois. Tina earned a Bachelor's degree in Conservation Biology from the University of Milwaukee in 1998 and has taken a multitude of ongoing educational courses including the Corps Wetland Delineation Training which she took in 2006, Regional Supplement and Field Practicum which she took in 2012, Advanced Wetland Delineation Training which she took in 2013, and Critical Methods in Wetland Delineation which she takes annually. She has performed hundreds of wetlands delineations throughout Wisconsin and Illinois and is also experienced in wetland restoration, wetland and waterway permitting, wetland assessment, vegetation surveys including rare species surveys, wildlife surveys, and environmental monitoring.

Ms. Heather Patti, PWS and Ecologist with RASN, earned a Masters Degree in Botany and a minor in Ecology from North Carolina State University. Ms. Patti is experienced with a variety of aspects of wetland delineation, ecological restoration, including wetland, mixed hardwood, and prairie restoration. She provides over 15 years of experience in wetland delineation, assessment, and mitigation. Ms. Patti attended the Basic & Advanced Wetland Delineation course offered by UW-LaCrosse in 2005 & 2013, became a WDNR Assured Wetland Delineator in 2009, and attended the Hydric Soil Identification Course offered by UW-LaCrosse in 2011.

WETLAND DELINEATION METHODOLOGY

The wetland delineation consisted of a review of available maps and information followed by a site visit to document field conditions. The presence and absence of hydrophytic vegetation, wetland hydrology, and hydric soil indicators were documented using methodology defined in the *US Army Corps of Engineers* (USACE) *1987*

16745 W. Bluemound Rd., Suite 200 • Brookfield, WI 53005 • (262) 781-1000 • Fax (262) 781-8466
Appleton, WI • Madison, WI • Naperville, IL • Orange County, CA • Pittsburgh, PA • rasmithnational.com

Wetland Delineation Manual, *Regional Supplement to the 1987 Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Northcentral/Northeast Supplement) (USACE ERDC, 2012) and *Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources* (USACE St. Paul District, 2015). See References section for a complete list of guidance and sources utilized.

Vegetation

At the sample plots, herbaceous, shrub/sapling, tree and vine strata were typically measured using 5-foot, 15-foot and 30-foot radius plots, respectively. When necessary, plot sizes were adjusted to fit the plant community represented. Percent cover was visually estimated within the plots and dominant species were determined by applying the 50/20 rule and/or Prevalence Index. *The National Wetland Plant List: 2013 wetland ratings* (Lichvar, 2013) was used to determine the wetland indicator status of observed vegetation.

Hydrology

The nearest available Natural Resource Conservation Service (NRCS) WETS Table and the National Atmospheric and Oceanic Organization (NOAA) Advanced Hydrologic Prediction Service were analyzed to determine the antecedent hydrologic condition of the Study Area. Inundation, water table and/or saturation were measured at the sample plots, if present. Soil pits were generally left open for at least one hour prior to measurement to allow for the normalization of water level. Primary and secondary indicators of wetland hydrology were investigated and if present were noted on the data sheets.

Soils

At the sample plots, a soil pit was excavated to a depth of at least 20 to 24 inches, where possible. The color and texture of the soil matrix and associated mottling was recorded for each observed soil layer within the pit. The Munsell Soil Color Book was used to determine the color of observed moist soils. The soil was analyzed for hydric soil characteristics and, if met, hydric soil(s) was/were indicated on the data sheets.

Sources Reviewed

The United States Geological Survey (USGS) Topographic Map (Figure 1, Appendix 1), a two-foot contour map (Figure 2, Appendix 1), the WDNR Surface Water Data Viewer Map which includes the NRCS Soil Survey and Wisconsin Wetland Inventory (WWI) (Figure 3, Appendix 1), aerial photos from the years 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), and NOAA 90-Day Percent of Normal Precipitation Maps prior to each site visit (Figures 5A-C, Appendix 1), were reviewed prior to the wetland delineation in order to gain familiarity with the site's topography, wetland history, soils, and past land uses.

RESULTS

Existing Environmental Mapping

The USGS topographic map shows the general location of the Study Area and shows that the nearest mapped waterway, the Fox River, is approximately 250 due south and 600 feet due east of the Study Area (Figure 1, Appendix 1). As shown on the two-foot contour map (Figure 2), site drainage within the Study Area is easterly with the highest point at the 838-foot contour in the southwestern portion of the Study Area and the lowest point at the 790-foot contour within W-1. The majority of the site is relatively flat to gently rolling except for the westernmost areas where moderately steep grades were encountered.

The WDNR Surface Water Data Viewer map (Figure 3) indicates the presence of three mapped wetlands within the Study Area depicted as a green line. All three wetlands are shown as S3/E2K, meaning Scrub Shrub (S) Broad-leaved deciduous (3) / Emergent/Wet Meadow (E); Narrow-leaved Persistent (2), Wet Soil, Palustrine (K). The three mapped wetlands are depicted in the same approximate location as W-1 through W-5, but with some fairly significant discrepancies, especially in the southwest corner of the site where a mix of upland "old-field" vegetation and groundwater slope wetlands were present. The discrepancies between the WWI map and RASN's delineated boundaries are attributed to the level of wetland delineation employed during the investigation. The presence of wetlands and the location of wetland boundaries as determined by examination of aerial photography are not as accurate as physical examination of site conditions using methods outlined in the 1987 Corps annual and its Northcentral/Northeast Supplement.

The NRCS Web Soil Survey indicates the presence of nine mapped soils within the site (Table 1 and Figure 3). As shown on the table, there are three mapped hydric soils and three partially hydric soils within the Study Area.

Table 1. Mapped Soils within Study Area.

Soil Unit Name (Symbol)	Hydric Inclusion	Drainage Class	Percent of Study Area
Aztalan loam, 0-2% slopes (AzA)$	Navan	Somewhat poorly drained	19.0
Brookston silt loam, 0-3% slopes (BsA) $†	--	Poorly drained	36.3
Casco loam, 6-12% slopes, eroded (CeC2)	--	Well drained	7.1
Fox loam, 2-6% slopes (FoB)	--	Well drained	8.4
Kane silt loam, 1-3% slopes (KeA)$	Sebewa	Somewhat poorly drained	0.7
Lamartine silt loam, 1-4% slopes (LmB) $	Pella	Somewhat poorly drained	2.6
Navan silt loam (Na) $†	--	Poorly drained	13.2
Sebewa silt loam (Sm) $†	--	Poorly drained	0.5
Warsaw loam, 2-6% slopes (WeB)	--	Well drained	12.3

$ WDNR Wetland Indicator Soil
† NRCS Listed Hydric Soil

Based on a review of aerial photographs from 2000, 2005, 2007, and 2010 (Figures 4A-C), it appears that a large portion of the central part of the site had been previously farmed as shown on the 2000 aerial. It is apparent that plowing and planting in some areas did not occur due to the presence of wetlands. Cessation of farming appears to have occurred sometime between 2000 and 2005 and the areas previously farmed have gradually reverted into a mix of upland "old-field" and scrub shrub communities. The subdivision to the south was also constructed within this same timeframe. The wetland boundaries are somewhat difficult to interpret by aerial photograph interpretation alone for this particular site, although the shallow marsh areas are most apparent. A faint linear tone is observable within the area delineated as W-3 indicating a drainage pattern through this wetland which appears to flow east towards the Fox River.

Antecedent Hydrologic Condition

Based on the WETS Analysis Worksheet in Appendix 2, precipitation was within the normal range for the months of April through June. Additionally, NOAA's Advanced Hydrologic Prediction Service Maps (Figures 5A-C) which analyze precipitation data exactly 90 days prior to the date of each site visit indicate that climatic conditions were considered to be within 75-90% of normal precipitation which is on the dry end of the normal range. According to the Daily Precipitation Table in Appendix 2, there was 0.32 inches of precipitation recorded one week prior to the July 9th site visit. One week prior to the July 21st and 22nd site visits, there was 1.24 inches of precipitation recorded. And finally, no precipitation was recorded within one week prior to the final July 27th site visit. Altogether, there was approximately 2.02 inches recorded throughout the month of July which is considered drier than the normal range for the month of July according to the WETS table. Since conditions appeared to be on the drier end of the normal range and the fieldwork was completed during the normal dry

season, soil pits were dug to a depth of at least 24 inches or more in most cases to determine if a dry-season water table was present.

Field Investigation

All areas called out as wetland or containing wetland indicators on the above-mentioned maps were evaluated in the field during the site visit. Photos were taken of W-1 through W-5 along with adjacent upland areas and are included in Appendix 3. A total of thirty (30) sample plots were examined and five (5) wetlands were delineated by RASN (Figure 2). Pink wire flags with the words "Wetland Delineation" were used to mark wetland boundaries. Consecutively numbered orange wire flags were used to mark sample plots along the wetland boundary and other areas examined. RASN subsequently located each wetland boundary and sample plot flags using a Trimble GPS unit with sub-meter accuracy and prepared a wetland boundary map overlaid onto a two-foot contour map and recent aerial basemap. The data sheets were compiled and are included in Appendix 4. The following is a detailed description the delineated wetlands:

Wetland 1 – Fresh (wet) Meadow / Shallow Marsh (Ditch)

As shown on Figure 2 in Appendix 1, W-1 is a 1.02 acre wetland within the Study Area that is part of a larger complex extending off-site towards the east where it connects with the Fox River. It is labeled as S3/E2K on the WWI map. While the larger component of this wetland is fresh (wet) meadow dominated by invasive reed canary grass (*Phalaris arundinacea*), there is a shallow marsh ditch dominated by narrow-leaved cattail (*Typha angustifolia*) that drains east along the south side of STH 59 towards the main body of W-1. This wetland ditch also collects flow from W-2. The immediate adjacent upland consists of mixed old-field and scrub shrub plant communities which have developed since the cessation of farming. The dominant species observed throughout the uplands adjacent to W-1 as well as throughout much of the previously farmed areas within the site included common milkweed (*Asclepias syriaca*), Canada goldenrod (*Solidago canadensis*), Queen Anne's lace (*Daucus carota*), wild parsnip (*Pastinaca sativa*), bird-s-foot trefoil (*Lotus corniculatus*), Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), narrow-leaved goldenrod (*Euthamia graminifolia*), reed canary grass (*Phalaris arundinacea*), redtop grass (*Agrostis gigantea*), quackgrass (*Elymus repens*), red fescue (*Festuca rubra*), common buckthorn (*Rhamnus cathartica*), hybrid bush honeysuckle (*Lonicera x bella*), red-osier dogwood (*Cornus alba*), gray dogwood (*Cornus racemosa*), and box elder (*Acer negundo*). Please refer to the site photos in Appendix 3 for various depictions of W-1 and its adjacent upland plant community.

In general, there was distinct shift in topography and plant community composition along the ditched portion of W-1 and a more gradual shift along the main body of W-1. Hydrology in W-1 is likely sustained by surface water runoff from the surrounding upland landscape including direct stormwater flow from the ditched portion of W-1. Since it is also located within the 100-year floodplain of the Fox River, it also likely receives hydrology from the Fox River during high flood water events. Physical on-site evidence of wetland hydrology within the main body of W-1 near DP-2 included geomorphic position, and a positive FAC-Neutral test. Problem hydrology was noted on the data form since the hydroperiod is seasonal. Physical on-site evidence of wetland hydrology within the ditched portion of W-1 included surface saturation, a drainage pattern, geomorphic position, and a positive FAC Neutral test.

According to the NRCS Soil Survey of Waukesha County, Aztalan loam is the dominant mapped soil type within W-1 and most of the immediate adjacent upland. The NRCS hydric soil list classifies Aztalan loam as a somewhat poorly drained hydric soil. Two wetland data points were examined within W-1 and four were examined on the immediate adjacent upland (Appendix 4). The wetland soil profile observed near DP-2 met the A12 (Thick Dark Surface) NRCS Hydric Soil Indicator. A soil profile was not examined at DP-4 due to nearby underground

utilities, but based on plant community and evidence of hydrology, it is assumed that soils are hydric. Of the four upland data points examined (DP-1, DP-3, DP-5, and DP-6), none of them met a hydric soil indicator.

Wetland 2–Shallow Marsh / Shrub Carr

As shown on Figure 2 in Appendix 1, W-2 is a 3.03 acre depressional wetland within the Study Area that connects to an off-site roadside ditch south of STH 59. The wetland is labeled as S3/E2K on the WWI map. Both W-2 and its associated roadside ditch drain towards W-1 and ultimately towards the Fox River. The wetland contains primarily shallow marsh and shrub carr plant community components and is dominated by cattails (*Typha spp*.), reed canary grass, sandbar willow (*Salix interior*), meadow willow (*Salix petiolaris*), gray willow (*Salix bebbiana*), pussy willow (*Salix discolor*), silky dogwood (*Cornus amomum*), and red-osier and dogwood. The immediate adjacent upland consists of mixed old-field and scrub shrub plant communities which are described under W-1. Additionally, the upland wooded areas along the southern and western portions of this wetland were highly degraded and dominated by species such as broad-leaved enchanter's nightshade (*Circaea canadensis*), white avens (*Geum canadense*), garlic mustard (*Alliaria petiolata*), Virginia creeper (*Parthenocissus quinquefolia*), common buckthorn, hydric bush honeysuckle, and box elder. Please refer to the site photos in Appendix 3 for various depictions of W-2 and its adjacent upland plant community.

In general, there was distinct shift in topography and plant community composition along the boundary of W-2. Hydrology in W-2 is likely sustained by surface water runoff from the surrounding upland landscape. Physical on-site evidence of wetland hydrology within W-2 included a high water table, saturation, a dry season water table, geomorphic position, and a positive FAC-Neutral test. In general, hydrology was exhibited a seasonal hydroperiod along much of the wetland perimeter, but the interior appears to maintain a permanent hydroperiod.

According to the NRCS Soil Survey of Waukesha County, Navan silt loam is the dominant mapped soil type within W-2. The NRCS hydric soil list classifies Navan silt loam as a poorly drained hydric soil. Four wetland data points were examined within W-2 and four were examined on the immediate adjacent upland (Appendix 4). The wetland soil profiles observed within W-2 met the A2 (Histic Epipedon), A12 (Thick Dark Surface), and F6 (Redox Dark Surface) NRCS Hydric Soil Indicators. Of the four upland data points examined (DP-7, DP-10, DP-11, and DP-13), none of them met a hydric soil indicator.

Wetland 3–Fresh (wet) Meadow / Shallow Marsh / Shrub Carr

As shown on Figure 2 in Appendix 1, W-3 is a 3.66 acre depressional wetland within the Study Area that extends off site towards the south. The wetland is labeled as S3/E2K on the WWI map. This wetland appears to drain easterly towards the Fox River. The wetland contains primarily fresh (wet) meadow, shallow marsh, and shrub carr plant community components and is dominated by cattails, reed canary grass, sandbar willow (Salix interior), meadow willow (*Salix petiolaris*), gray willow (*Salix bebbiana*), pussy willow (*Salix discolor*), silky dogwood (*Cornus amomum*), and red-osier and dogwood. The immediate adjacent upland consists of mixed old-field and upland scrub shrub plant communities which are described under W-1. Additionally, there are smaller components of degraded mesic woodland which are dominated by species such as broad-leaved enchanter's nightshade, white avens, garlic mustard, Virginia creeper, common buckthorn, hydric bush honeysuckle, box elder, gray dogwood, and prickly ash (*Zanthoxylum americanum*). Please refer to the site photos in Appendix 3 for various depictions of W-3 and its adjacent upland plant communities.

In general, there was distinct shift in topography and plant community composition along the boundary of W-3, except near the far western end of W-3 where a groundwater slope was observed. Hydrology in W-3 is likely

sustained by surface water runoff from the surrounding upland landscape as well as some groundwater. Physical on-site evidence of wetland hydrology within W-3 included saturation (DP-20 only), inundation visible on aerial imagery (DP-16 and DP-30), a drainage pattern (DP-16 and DP-30), geomorphic position, and a positive FAC-Neutral test. In general, hydrology was exhibited a seasonal hydroperiod along much of the wetland perimeter, but the interior appears to maintain a permanent hydroperiod.

According to the NRCS Soil Survey of Waukesha County, Brookston silt loam is the dominant mapped soil type within W-3 and it also extends into portions of the upland. The NRCS hydric soil list classifies Navan silt loam as a poorly drained hydric soil. Four wetland data points were examined within W-3 and four were examined on the immediate adjacent upland (Appendix 4). The wetland soil profiles observed within W-3 met the A1 (Histosol) and A12 (Thick Dark Surface) NRCS Hydric Soil Indicators near DP-20 and DP-30 respectively; however, problematic hydric soils were observed near DP-16 due to a lack of redox features in the mineral soil below the thick dark A horizon. However, a hydrophytic plant community, low topographic position, and evidence of wetland hydrology were all present, so the soil was determined to be hydric based on best professional judgment. Of the four upland data points examined (DP-7, DP-10, DP-11, and DP-13), none of them met a hydric soil indicator.

Wetland 4–Shallow Marsh / Fresh (wet) Meadow Groundwater Seep Wetland

As shown on Figure 2 in Appendix 1, W-4 is a 0.44 acre wetland located on a hillslope within the Study Area between the 822-foot and 830-foot contours. The wetland is included in the mapped S3/E2K wetland as shown on the WWI map. The wetland contains primarily fresh (wet) meadow and shallow marsh plant community components dominated by cattails, reed canary grass, green bulrush (*Scirpus atrovirens*), and purple-stem American aster (*Symphyotrichum puniceum*). The immediate adjacent upland consists of mixed old-field and upland scrub shrub plant communities as described under W-1. Additionally, there are areas that are dominated either completely by reed canary grass or a mix of reed canary grass and Canada goldenrod. The presence of dominant reed canary grass in otherwise well drained upland areas are attributed to past site disturbance as opposed to wetland conditions as shown on the data form DP-23 for example. Please refer to the site photos in Appendix 3 for various depictions of W-4 and its adjacent upland plant communities.

Because this wetland was located on a slope, the shift from dominant wetland to old-field upland plant community, hydrology indicators such as oxidized rhizospheres on living roots, coupled with hydric soils that were moist versus non-hydric soils that were dry and friable, were the determining factors for delineating this boundary. Hydrology in W-4 appears to be sustained as a result of groundwater discharge. Physical on-site evidence of wetland hydrology within W-4 included oxidized rhizospheres on living roots (DP-22 and DP-26 only), a drainage pattern (DP-24 only), and a positive FAC-Neutral test. In general, hydrology was exhibited a seasonal hydroperiod along much of the wetland perimeter, but the interior appears to maintain a permanent hydroperiod.

According to the NRCS Soil Survey of Waukesha County, Brookston silt loam is the dominant mapped soil type within W-4 and its adjacent upland. The NRCS hydric soil list classifies Brookston silt loam as a poorly drained hydric soil. Three wetland data points were examined within W-4 and three were examined on the immediate adjacent upland (Appendix 4). The wetland soil profiles observed within W-4 met the A1 (Histosol), A2 (Histic Epipedon), A12 (Thick Dark Surface), and F6 (Redox Dark Surface) NRCS Hydric Soil Indicators. Of the three upland data points examined, none of them met a hydric soil indicator, none met wetland hydrology criterion, and only one contained a hydrophytic plant community (DP-23). As described earlier, this data point contained dominant reed canary grass which, based on a lack of hydrology indicators and hydric soil, was present due to historical disturbance as opposed to wetland conditions.

Wetland 5–Shallow Marsh / Fresh (wet) Meadow Groundwater Seep Wetland

As shown on Figure 2 in Appendix 1, W-5 is a small 0.20 acre wetland located on a hillslope within the Study Area approximately between the 816-foot and 820-foot contours. The wetland is included in the mapped S3/E2K wetland as shown on the WWI map. The wetland contains primarily fresh (wet) meadow and shallow marsh plant community components dominated by cattails, reed canary grass, and purple-stem American aster (*Symphyotrichum puniceum*). The immediate adjacent upland consists of mixed old-field and upland scrub shrub plant communities as described under W-1. Please refer to the site photos in Appendix 3 for various depictions of W-5 and its adjacent upland.

Because this wetland was located on a slope, the shift from dominant wetland to old-field upland plant community, hydrology indicators such as oxidized rhizospheres on living roots, coupled with hydric soils that were moist versus non-hydric soils that were dry and friable were the determining factors for delineating this boundary. Hydrology in W-5 appears to be sustained as a result of groundwater discharge. Physical on-site evidence of wetland hydrology within W-5 included oxidized rhizospheres on living roots, and a positive FAC-Neutral test.

According to the NRCS Soil Survey of Waukesha County, Brookston silt loam is the dominant mapped soil type within W-5 and its adjacent upland. The NRCS hydric soil list classifies Brookston silt loam as a poorly drained hydric soil. Due to its small size, one wetland data point was examined within W-5 and one was examined on the immediate adjacent upland (Appendix 4). The wetland soil profile observed within W-5 met the A2 (Histic Epipedon) and A11 (Depleted Below a Dark Surface) NRCS Hydric Soil Indicators. The upland data point (DP-27) did not meet a hydric soil indicator or any other wetland parameters.

CONCLUSION

Based on the wetland assessment completed by RASN, five (5) wetlands were identified within the Study Area (Figure 2). The total acreage of wetland within the Study Area is 8.35 acre (363,726 square feet) which is roughly 28 percent of the total site. No waterways were observed within the site, although a slight drainage pattern is visible within W-3. The Fox River lies approximately 250 feet due south and 600 feet due west of the site. A direct connection to the Fox River was observed for W-1 through W-3; therefore, these wetlands are assumed to be under the jurisdiction of both the WDNR and US Army Corps of Engineers (Corps). The other wetlands may or may not be under the Corps' jurisdiction and may require a determination. The roadside ditch that connects W-1 and W-2 may be considered an artificial wetland because it appears to have been excavated in upland soils; however, a formal artificial exemption request would need to be made to the WDNR for this determination.

RASN ecologists are required by the WDNR to provide their professional judgment on wetland susceptibility per revised NR 151 guidance (Guidance #3800-2015-02) (Appendix 5). In general, RASN believes W-1 would best fit into the less susceptible category due to the presence of what appears to be 90% invasive reed canary grass dominance, while the remaining wetlands would fit best into the moderately susceptible category.

The wetland boundary staked in the field by R.A. Smith National, Inc. is a professional finding based on accepted USACE and WDNR methodology at the time the wetlands were delineated. This wetland delineation field work and report is not intended to meet the requirements of an SEWRPC Environmental Corridor, WDNR Endangered Species Review, a navigability determination, or the location of either the Ordinary High Water Mark or floodplain.

Wetlands and waterways that are considered waters of the U.S. are subject to regulation under Section 404 of the Clean Water Act (CWA) and the jurisdictional regulatory authority lies with the USACE. Additionally, the WDNR has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350, and 353. In addition, the USACE and WDNR have jurisdictional authority to determine which features are exempt including stormwater ponds and conveyance features. If the client proposes to modify an existing stormwater feature, an Artificial Determination Exemption would need to be submitted. See the form on the WDNR Wetland Identification website (fee involved) http://dnr.wi.gov/topic/wetlands/identification.html. Furthermore, municipalities, townships and counties may have local zoning authority over certain areas or types of wetland and waterways. The determination that a wetland or waterway is subject to regulatory jurisdiction is made independently by the agencies.

Any activity in the delineated wetland may require U.S. Army Corps of Engineers permits and State of Wisconsin Department of Natural Resources Water Quality Certification, and local government permits. If the Client proceeds to change, modify or utilize the property in question without obtaining authorization from the appropriate regulatory agency, it will be done at the Client's own risk and R.A. Smith National, Inc shall not be responsible or liable for any resulting damages.

REFERENCES

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Lichvar, R.M. 2013. *The National Wetland Plant List:* 2013 wetland ratings. Phytoneuron 2013-49: 1-241

Munsell Color Corporation. 2010. *Munsell Soil Color Charts.*

Midwest Regional Climate Center. 2015. *Climate Data for Waukesha County, Wisconsin.* http://agacis.rccacis.org/55025/.

National Geographic Society. 2015. *USGS Topographic Map.* ArcGIS Online.

Natural Resource Conservation Service. 2014. *National Hydric Soils List.* National_Hydric_Soils_List_2014.xls.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. *Web Soil Survey*. http://websoilsurvey.nrcs.usda.gov.

USACE. 2015. *Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources.* St. Paul District Regulatory, St. Paul, Minnesota.

USACE. 2012. "*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*," ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

USACE. 2010. "*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*," ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), *National Hydric Soil List*.

USDA, NRCS. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

Wisconsin Department of Natural Resources. 2015. *Surface Water Data Viewer.* http://dnrmaps.wi.gov/sl/?Viewer=SWDV.

Wisconsin Department of Natural Resources, Wisconsin Coastal Management Program. 1995. *Basic Guide to Wisconsin Wetlands and Their Boundaries.* Madison, WI

Appendices

Appendix 1: Figures

Appendix 2: WETS Table Analysis, NRCS WETS Table & Daily Precipitation Table

Appendix 3: Site Photographs

Appendix 4: Wetland Determination Data Forms – Northcentral/Northeast Region

Appendix 5: NR 151 Wetland Susceptibility Table

Appendix 1: Figures

Figure 1: USGS Map/Site Location Map

Figure 2: Wetland Boundary Map

Figure 3: WDNR Surface Water Data Viewer Map

Figures 4A-D: Aerial Photographs (2000, 2005, 2007, & 2010)

Figures 5A-C: 90-day Departure from Normal Precipitation Maps

R.A. Smith National
Beyond Surveying and Engineering

0 1,000 2,000

1 inch = 2,000 feet

July 14, 2015

1150426

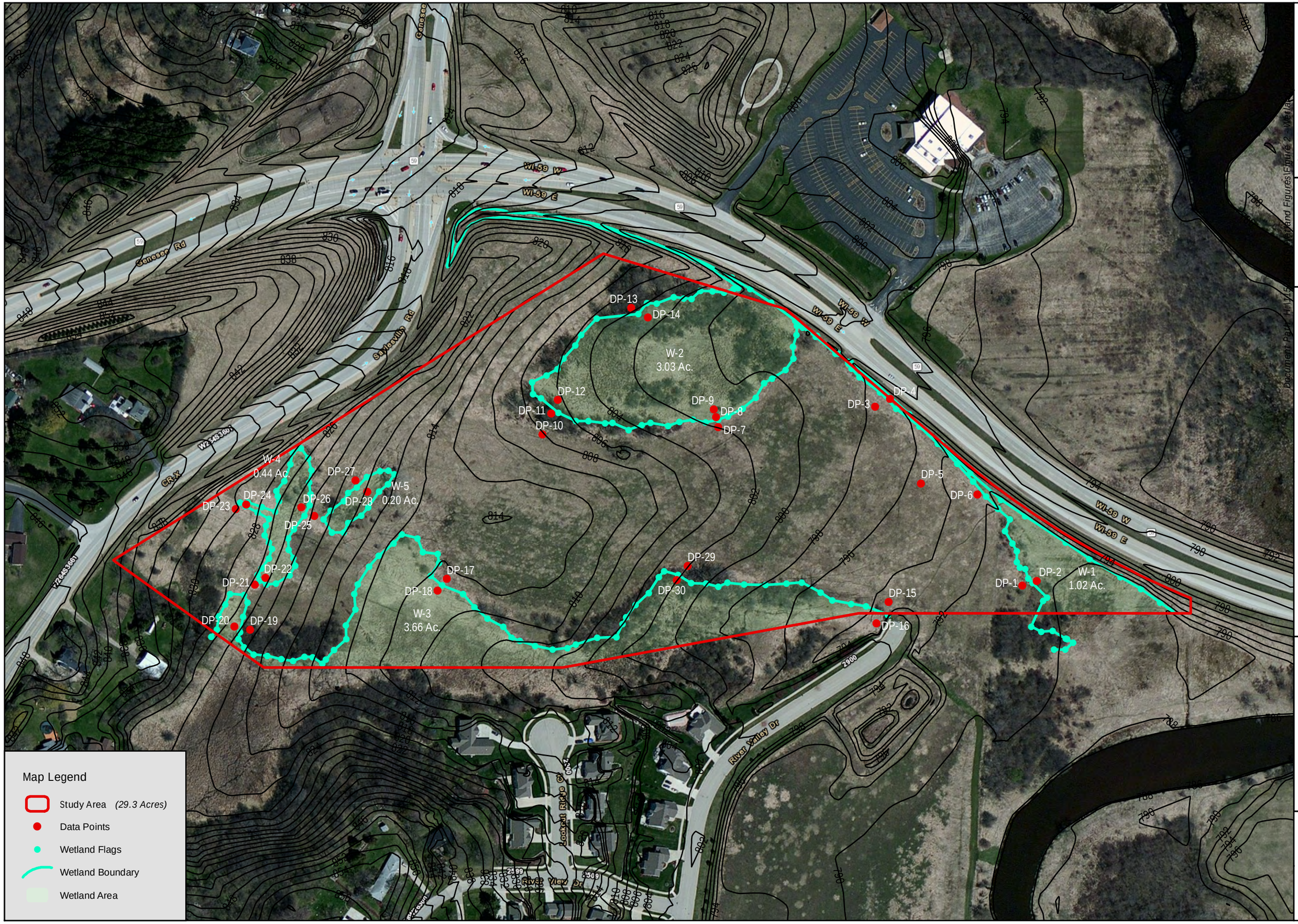
Document Path: H:\1150426\GIS\Wetland Figures\Figure 1 - Topographic Map.mxd

29.3-acre Study Area Southeast of STH 59 and CTH X City of Waukesha Waukesha County, WI

Figure 1
Topographic/
Site Location
Map

Map Legend

Study Area *(29.3 Acres)*



Map Legend

- Study Area *(29.3 Acres)*
- Data Points
- Wetland Flags
- Wetland Boundary
- Wetland Area

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors

R.A. Smith National
Beyond Surveying and Engineering

0 100 200
1 inch = 200 feet

August 11, 2015

1150426

29.3-acre Study Area
Southeast of STH 59 and CTH X
City of Waukesha
Waukesha County, WI

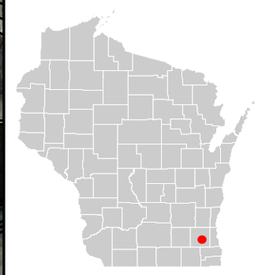


Figure 2
Wetland Boundary Map

Map Legend

- Study Area *(29.3 Acres)*
- WWI Wetlands
- Wetland Indicator Soils
- NRCS Wisconsin Soils
- Open Water Details
- WWI Points

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors

R.A. Smith National
Beyond Surveying and Engineering

0 100 200

1 inch = 200 feet

August 10, 2015

1150426

Document Path: H:\1150426\GIS\Wetland Figures\Figure 3 - Existing Conditions Map.mxd

29.3-acre Study Area Southeast of STH 59 and CTH X City of Waukesha Waukesha County, WI

Figure 3
WDNR Surface Water Data Viewer Map

Map Legend

Study Area *(29.3 Acres)*

Southeastern Wisconsin Regional Planning Commission, GIS Division, Waukesha County Department of Parks and Land Use, U.S. Geological Survey

R.A. Smith National
Beyond Surveying and Engineering

0 100 200

1 inch = 200 feet

July 14, 2015

1150426

Document Path: H:\1150426\GIS\Wetland Figures\Figure 4 - Aerial Photo Map.mxd

29.3-acre Study Area
Southeast of STH 59 and CTH X
City of Waukesha
Waukesha County, WI

Figure 4A
2000 Aerial Photo Map

Map Legend

Study Area *(29.3 Acres)*

Southeastern Wisconsin Regional Planning Commission, GIS Division, Waukesha County Department of Parks and Land Use, U.S. Geological Survey

R.A. Smith National
Beyond Surveying and Engineering

0 100 200

1 inch = 200 feet

July 14, 2015

1150426

Document Path: H:\1150426\GIS\Wetland Figures\Figure 4 - Aerial Photo Map.mxd

29.3-acre Study Area
Southeast of STH 59 and CTH X
City of Waukesha
Waukesha County, WI

Figure 4B
2005 Aerial Photo Map

Map Legend

Study Area *(29.3 Acres)*

Document Path: H:\1150426\GIS\Wetland Figures\Figure 4 - Aerial Photo Map.mxd

Southeastern Wisconsin Regional Planning Commission, GIS Division, Waukesha County Department of Parks and Land Use, U.S. Geological Survey

R.A. Smith National
Beyond Surveying and Engineering

0 100 200
1 inch = 200 feet

July 14, 2015

1150426

29.3-acre Study Area
Southeast of STH 59 and CTH X
City of Waukesha
Waukesha County, WI

Figure 4C
2007 Aerial Photo Map

Map Legend

Study Area *(29.3 Acres)*

Southeastern Wisconsin Regional Planning Commission, GIS Division, Waukesha County Department of Parks and Land Use, U.S. Geological Survey

R.A. Smith National
Beyond Surveying and Engineering

0 100 200

1 inch = 200 feet

July 14, 2015

1150426

Document Path: H:\1150426\GIS\Wetland Figures\Figure 4 - Aerial Photo Map.mxd

29.3-acre Study Area Southeast of STH 59 and CTH X City of Waukesha Waukesha County, WI

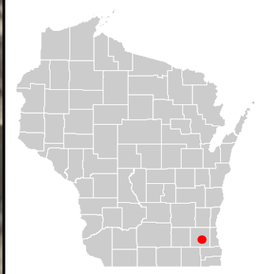
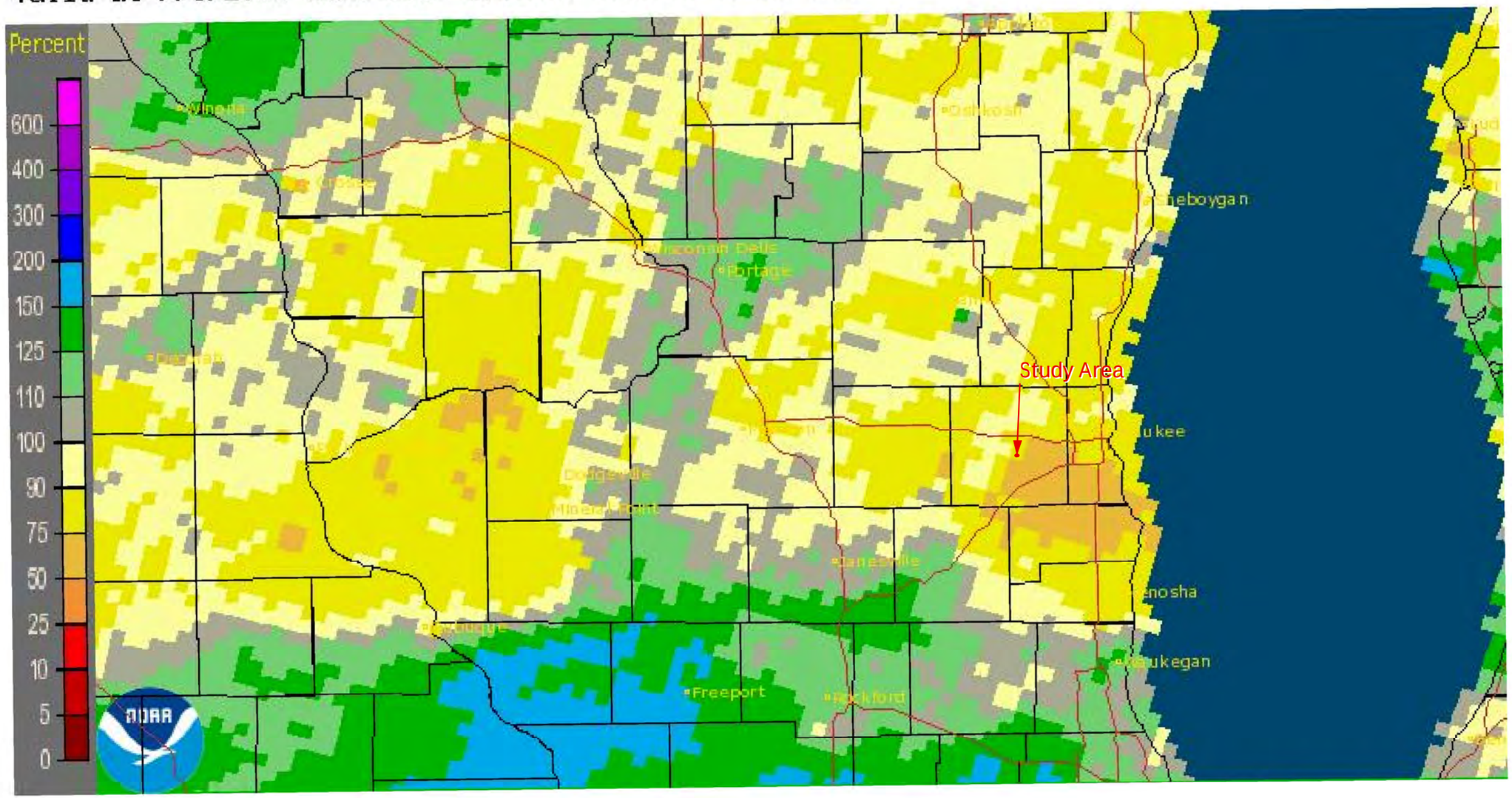


Figure 4D
2010 Aerial Photo Map

Milwaukee/Sullivan, WI (MKX): Current 90-Day Percent of Normal Precipitation
Valid at 7/9/2015 1200 UTC- Created 7/9/15 18:36 UTC



The project area falls within 75% to 90% of the normal precipitation range

Document Path: H:\1150426\GIS\Wetland Figures\Figure 5 - NOAA Precipitation Map.mxd

Data Sources:
NOAA AHPS website

0 10 20
1 inch = 23 miles

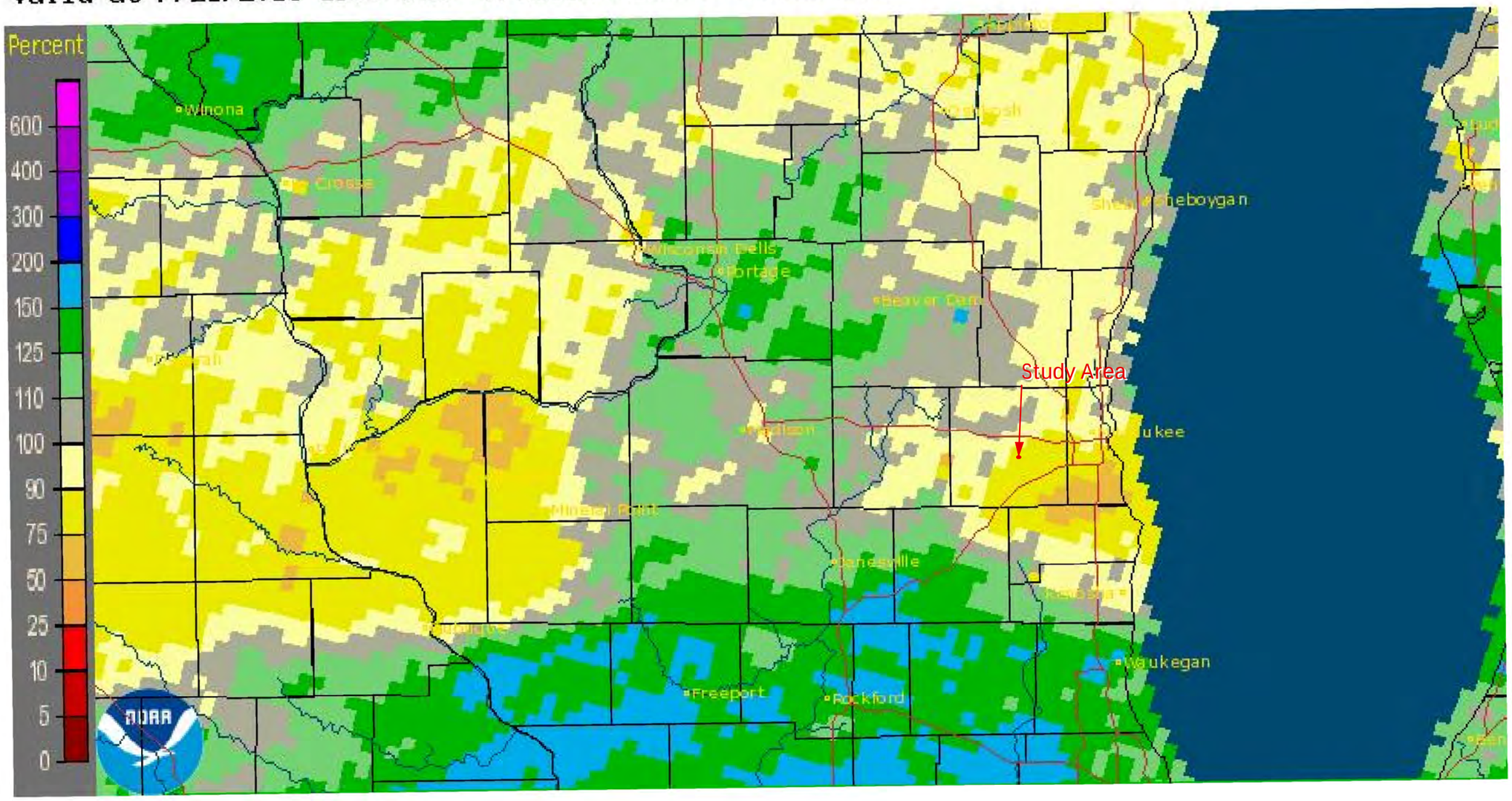
August 10, 2015

1150426

29.3-acre Study Area
Southeast of STH 59 and CTH X
City of Waukesha
Waukesha County, WI

Figure 5A
90-day
Percent of
Normal Precipitation
Map

Milwaukee/Sullivan, WI (MKX): Current 90-Day Percent of Normal Precipitation
Valid at 7/21/2015 1200 UTC- Created 7/22/15 13:53 UTC



The project area falls within 75% to 90% of the normal precipitation range

Document Path: H:\1150426\GIS\Wetland Figures\Figure 5 - NOAA Precipitation Map.mxd

Data Sources:
NOAA AHPS website

R.A. Smith National
Beyond Surveying and Engineering

0 10 20
1 inch = 23 miles

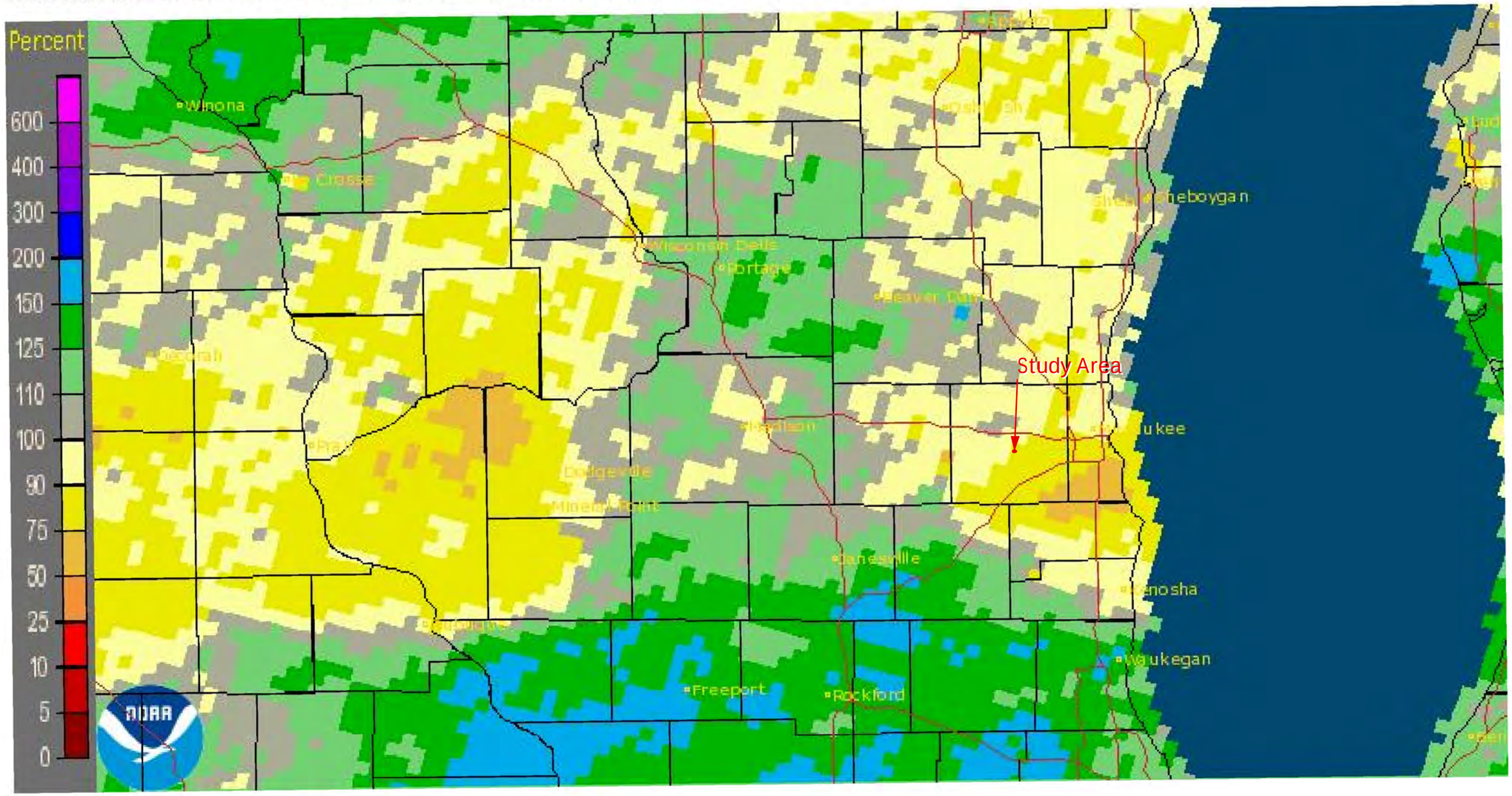
August 07, 2015

1150426

29.3-acre Study Area
Southeast of STH 59 and CTH X
City of Waukesha
Waukesha County, WI

Figure 5B
90-day
Percent of
Normal Precipitation
Map

Milwaukee/Sullivan, WI (MKX): Current 90-Day Percent of Normal Precipitation
Valid at 7/27/2015 1200 UTC- Created 7/27/15 18:36 UTC



The project area falls within 75% to 90% of the normal precipitation range

Document Path: H:\1150426\GIS\Wetland Figures\Figure 5 - NOAA Precipitation Map.mxd

Data Sources:
NOAA AHPS website

R.A. Smith National
Beyond Surveying and Engineering

0 10 20
1 inch = 23 miles

August 07, 2015

1150426

29.3-acre Study Area
Southeast of STH 59 and CTH X
City of Waukesha
Waukesha County, WI

Figure 5C
90-day
Percent of
Normal Precipitation
Map

Appendix 2:

WETS Table Analysis, NRCS WETS Table & Daily Precipitation Table

WETS Analysis Worksheet

Project Name: 29.3-acre Site SE of STH 59 and CTH X
Project Number: 1150426
Period of interest: April through June, 2015
County: Waukesha

Long-term rainfall records (from WETS table)

	Month	3 years in 10 less than	Normal	3 years in 10 greater than
1st month prior:	June	2.46	3.78	4.54
2nd month prior:	May	2.03	3.02	3.61
3rd month prior:	April	2.46	3.53	4.20
		Sum =	**10.33**	

Site determination

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
3.26	Normal	2	3	6
2.63	Normal	2	2	4
4.07	Normal	2	1	2
Sum = **9.96**			Sum*** =	**12**

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

**Condition value:

Dry = 1
Normal = 2
Wet = 3

***If sum is:

6 to 9	then period has been drier than normal
10 to 14	then period has been normal
15 to 18	then period has been wetter than normal

Determination:

	Wet
	Dry
X	Normal

Precipitation data source: WETS Table: Waukesha, WI8937, Waukesha County, WI

Reference: Donald E.Woodward, ed. 1997. *Hydrology Tools for Wetland Determination* , Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

WETS Table

USDA Field Office Climate Data

WETS Station : WAUKESHA, WI8937 Creation Date: 08/04/2015
Latitude: 4300 Longitude: 08815 Elevation: 00830
State FIPS/County(FIPS): 55133 County Name: Waukesha
Start yr. - 1971 End yr. - 2000

Month	Temperature (Degrees F.)			Precipitation (Inches)				
					30% chance will have		avg # of days w/.1 or more	avg total snow fall
	avg daily max	avg daily min	avg	avg	less than	more than		
January	27.5	11.4	19.5	1.48	0.87	1.79	5	13.0
February	32.8	16.5	24.7	1.31	0.74	1.62	4	7.9
March	43.9	26.6	35.3	2.28	1.34	2.77	5	6.9
April	57.0	37.5	47.3	3.53	2.46	4.20	7	2.9
May	70.1	48.5	59.3	3.02	2.03	3.61	7	0.0
June	80.0	58.1	69.1	3.78	2.46	4.54	7	0.0
July	84.2	63.4	73.8	3.83	2.82	4.49	7	0.0
August	81.5	61.8	71.7	4.77	3.28	5.69	8	0.0
September	73.4	53.0	63.2	3.52	2.00	4.34	6	0.0
October	61.0	41.8	51.4	2.62	1.59	3.17	5	0.1
November	45.4	29.8	37.6	2.63	1.64	3.18	5	2.9
December	32.6	17.8	25.2	1.87	1.13	2.26	5	9.8
Annual	-----	-----	-----	------	32.36	36.66	--	----
Average	57.5	38.9	48.2	------	------	------	--	----
Average	-----	-----	-----	34.64	------	------	59	44.9

GROWING SEASON DATES

Probability	Temperature		
	24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates Growing Season Length		
50 percent *	4/ 6 to 11/ 2 209 days	4/13 to 10/24 194 days	4/25 to 10/12 169 days
70 percent *	4/ 3 to 11/ 5 216 days	4/ 8 to 10/29 203 days	4/20 to 10/17 179 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

total 1893-2015 prcp

Station : WI8937, WAUKESHA
Unit = inches

yr	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	annl
93	M1.52	1.21	2.95	5.64	2.11	4.32	3.05	1.32	2.87	2.41	1.47	2.61	31.48
94	1.34	0.81	2.49	2.94	3.68	2.22	M1.16	1.73	M4.55	2.37	2.08	0.51	25.88
95	1.55	0.42	0.53	0.78	5.01	2.29	1.79	2.61	1.56	0.67	2.11	1.82	21.14
96	0.43	0.89	M1.82	M4.11	4.12	2.59	2.59	2.67	5.71	0.68	2.05	0.56	28.22
97	2.73	1.03	M3.28	M4.14	1.01	3.14	3.20	3.02	1.35	1.11	1.25	1.58	26.84
98	2.34	1.60	M3.24	2.05	1.92	1.54	2.81	4.08	1.55	4.10	0.98	0.50	26.71
99	0.64	0.77	1.47	M1.19	3.92	3.99	2.14	2.50	3.18	1.21	2.20	1.18	24.39
0	1.43	1.87	0.91	2.34	1.21	1.21	7.03	5.67	2.02	2.34	1.86	0.45	28.34
1	M1.02	1.23	2.95	0.35	1.88	1.35	2.01	0.77	2.67	M1.00	0.58	1.49	17.30
2	0.29	1.39	1.33	1.11	5.96	4.53	8.82	0.64	3.95	1.73	2.39	2.31	34.45
3	M0.48	0.72	M2.86	2.51	4.57	3.30	6.93	7.39	5.04	2.50	1.01	0.99	38.30
4	M0.81	0.86	3.54	M1.97	3.70	2.07	3.17	3.70	4.33	3.28	M0.22	M1.38	29.03
5	0.86	M1.21	2.50	1.49	6.71	5.69	2.77	4.33	1.44	3.19	2.19	M1.02	33.40
6	M3.54	1.23	1.61	1.69	2.08	3.47	4.29	2.40	2.84	2.36	2.54	M1.31	29.36
7	2.15	0.11	2.20	3.14	M3.22	5.03	6.35	4.07	5.21	1.25	1.26	1.45	35.44
8	1.03	1.20	M2.61	4.24	4.86	3.11	1.08	1.85	0.81	0.82	2.03	1.15	24.79
9	2.44	M0.93	0.75	6.84	2.28	2.63	0.46	3.73	3.32	0.48	2.19	2.96	29.01
10	1.48	0.46	0.13	3.92	3.81	1.57	1.34	3.27	2.58	1.02	M2.63	M0.26	22.47
11	0.29	2.50	0.42	3.08	1.80	2.78	3.30	2.33	4.78	3.58	4.17	M0.98	30.01
12	1.36	M1.66	1.38	2.26	8.24	0.92	4.93	3.11	5.05	3.09	M1.03	2.20	35.23
13	1.40	1.10	3.36	3.29	7.06	5.21	5.40	5.37	2.49	2.60	1.90	M0.49	39.67
14	1.02	1.85	2.70	2.29	6.90	6.41	1.32	1.80	6.15	4.43	M0.33	1.98	37.18
15	1.48	M1.62	1.38	0.75	7.95	3.84	2.40	2.86	10.00	0.95	2.72	0.65	36.60
16	3.09	1.37	3.69	4.60	3.07	5.92	0.41	4.46	M6.60	4.64	M2.15	2.34	42.34
17	1.30	M0.10	1.67	3.67	3.94	7.44	3.51	1.04	4.91	6.00	0.38	0.55	34.51
18	5.60	1.45	1.63	3.51	4.23	1.42	1.40	1.60	1.29	2.83	2.90	2.51	30.37
19	M0.32	2.93	4.09	3.45	2.93	3.16	2.93	1.41	6.97	4.39	M2.76	1.64	36.98
20	1.53	0.38	4.71	2.30	2.12	3.58	2.17	4.23	1.75	2.17	1.86	3.75	30.55
21	0.30	0.35	2.89	5.73	2.74	1.52	1.28	6.78	9.50	5.02	1.42	2.89	40.42
22	0.22	M2.37	M1.02	2.66	3.80	2.64	2.54	2.73	4.79	1.53	2.54	M1.26	28.10
23	1.92	0.83	M3.89	2.89	1.83	3.90	1.74	3.31	4.85	4.18	1.55	1.28	32.17
24	1.36	2.53	3.80	2.16	4.11	5.30	2.45	8.07	2.21	0.06	2.33	0.93	35.31
25	0.90	1.35	M1.33	2.66	1.77	3.65	3.82	2.53	5.30	3.08	1.60	1.65	29.64
26	1.16	1.95	2.14	M2.05	4.09	M3.30	2.12	1.35	4.65	3.01	M3.52	1.05	30.39
27	1.38	1.39	M2.52	4.63	3.96	2.65	3.48	0.75	4.03	5.07	M4.44	0.67	34.97
28	0.18	0.95	2.03	1.42	3.35	5.82	1.84	4.19	1.36	2.90	4.45	2.50	30.99
29	3.93	1.18	2.04	6.25	2.46	2.96	5.85	1.68	2.95	M2.71	0.58	M1.01	33.60
30	1.35	0.58	2.67	2.71	2.59	1.73	2.28	1.01	2.43	2.38	0.65	0.75	21.13
31	1.25	0.48	M1.89	1.24	2.65	2.68	1.30	2.79	4.16	3.11	4.95	0.77	27.27
32	1.94	1.00	1.67	0.21	1.16	1.82	1.80	1.86	0.53	3.50	2.65	1.38	19.52
33	0.99	1.36	2.81	2.37	8.74	3.27	4.43	2.73	3.46	1.61	1.01	0.83	33.61
34	0.50	0.65	2.21	1.49	5.60	2.26	1.75	0.66	4.23	1.75	6.47	0.88	28.45
35	1.55	1.97	1.55	3.12	2.25	3.58	2.67	3.69	1.73	1.57	3.66	1.16	28.50
36	M1.32	1.19	0.47	1.19	1.82	2.73	M0.72	6.32	4.40	3.12	0.48	2.57	26.33
37	3.27	1.99	1.17	3.90	1.47	3.33	2.72	1.75	1.19	2.59	0.45	2.10	25.93
38	3.91	2.82	2.43	1.36	3.91	5.11	4.58	7.30	7.77	1.52	1.97	0.89	43.57
39	2.05	1.88	M1.52	2.71	2.35	3.87		3.56	1.30	2.53	0.38	0.35	22.50
40	1.75	1.66	1.44	2.37	5.01	7.11	1.79	6.15	0.77	1.53	2.89	1.07	33.54
41	2.53	0.56	1.90	1.33	3.75	1.92	2.66	0.91	9.20	3.15	0.88	1.26	30.05
42	1.31	0.55	1.74	0.71	4.65	4.45	3.20	3.82	3.73	M2.38	4.50	3.40	34.44
43	2.21	0.68	3.18	1.58	4.86	4.28	3.50	3.29	0.51	0.91	2.27	0.66	27.93
44	1.33	1.94	2.40	3.23	2.34	3.80	2.84	2.35	2.16	0.41	2.29	1.33	26.42
45	0.42	1.23	1.42	2.86	6.09	2.80	2.58	3.75	5.97	0.75	2.94	1.06	31.87
46	2.63	1.64	2.81	1.40	2.24	3.61	1.10	2.00	2.67	1.78	2.24	1.75	25.87
47	3.27	0.25	1.43	3.68	6.07	4.30	2.73	3.26	4.74	2.93	3.10	1.48	37.24
48	1.52	1.80	3.48	2.75	3.47	2.98	2.68	0.89	1.17	0.62	2.87	2.62	26.85

49	2.12	2.10	1.90	1.59	3.01	5.72	4.60	1.24	1.59	1.72	0.37	1.97	27.93
50	2.59	1.10	2.68	3.77	2.09	4.74	5.68	2.14	2.81	0.65	1.00	2.83	32.08
51	1.76	1.87	4.02	5.00	2.68	3.18	3.37	3.13	2.68	5.68	3.92	2.39	39.68
52	2.17	0.93	4.22	2.09	3.50	4.10	11.41	3.10	0.90	0.12	3.41	2.05	38.00
53	1.35	1.90	1.51	3.46	2.94	2.81	4.12	4.00	2.05	0.60	0.47	1.93	27.14
54	1.30	1.06	1.63	3.80	2.71	7.52	7.13	5.18	3.39	2.87	1.47	2.67	40.73
55	0.84	1.16	1.21	3.49	2.81	5.51	M1.82	1.08	1.68	3.12	0.67	0.97	24.36
56	0.39	0.90	M2.00	3.99	4.04	2.50	6.80	3.75	0.30	0.51	1.76	1.44	28.38
57	1.06	0.69	1.63	2.94	4.87	5.45	1.89	2.08	M0.52	1.53	3.19	2.28	28.13
58	0.99	0.15	0.40	1.92	2.71	1.63	1.58	4.04	4.55	2.38	3.97	0.45	24.77
59	1.35	1.62	4.38	3.44	1.30	2.90	4.38	3.91	5.15	5.32	2.14	1.58	37.47
60	2.32	1.62	2.27	3.95	4.74	1.59	4.60	6.39	3.10	3.51	2.73	0.25	37.07
61	0.22	0.80	3.43	3.45	1.70	2.57	2.13	2.43	10.21	3.32	2.42	1.15	33.83
62	2.08	1.69	1.73	1.50	2.63	1.80	3.65	2.17	1.68	1.81	0.80	0.75	22.29
63	0.94	0.40	1.99	2.57	1.70	2.93	1.33	3.75	2.79	0.51	1.79	0.66	21.36
64	1.33	0.26	2.41	4.81	3.82	2.74	4.74	2.43	1.91	0.17	2.74	0.73	28.09
65	3.14	0.88	3.86	3.17	2.24	1.54	3.03	8.06	6.88	3.42	1.58	3.16	40.96
66	1.59	1.31	2.95	2.87	2.28	1.14	2.18	2.68	0.60	1.48	2.46	2.34	23.88
67	1.30	1.23	1.21	1.98	3.21	5.23	1.65	2.55	1.29	3.73	1.66	1.06	26.10
68	0.76	0.64	0.19	4.15	3.15	6.92	4.14	3.96	3.58	1.32	2.02	2.67	33.50
69	1.82	0.11	1.03	3.35	2.89	7.94	4.29	0.56	2.22	5.07	0.93	1.24	31.45
70	0.46	0.22	1.43	2.14	6.63	3.84	3.62	0.93	5.78	2.13	2.12	2.87	32.17
71	1.50	2.50	1.65	1.68	1.91	3.57	2.71	3.98	1.21	2.98	3.67	4.21	31.57
72	0.61	0.55	2.35	2.23	3.13	3.54	4.58	6.31	8.40	2.80	1.07	2.84	38.41
73	0.92	1.56	2.69	7.88	4.60	2.95	1.86	1.10	4.50	3.39	1.78	2.86	36.09
74	3.23	2.26	3.81	3.98	3.63	2.52	2.55	4.12	1.85	2.37	1.76	1.93	34.01
75	2.06	1.79	3.56	3.69	1.73	4.64	3.21	5.45	0.95	0.54	3.65	0.68	31.95
76	1.13	2.41	5.54	5.42	4.02	2.40	2.14	2.08	1.07	2.25	0.53	0.34	29.33
77	0.51	0.65	4.44	1.92	1.02	4.22	5.55	5.78	3.00	2.27	3.64	2.23	35.23
78	1.18	0.24	0.64	4.27	3.92	4.84	4.80	2.55	6.34	2.08	2.18	2.80	35.84
79	2.50	0.81	3.74	4.50	1.86	2.77	2.74	8.14	0.00	2.38	2.53	1.69	33.66
80	1.22	0.85	0.46	3.82	1.81	3.62	3.54	7.95	5.92	1.43	1.38	2.25	34.25
81	0.23	1.73	M0.43		1.37	2.67	3.02	7.43	5.10	3.09	2.41	1.02	28.50
82	2.79	0.75	2.03	3.27	3.11	2.62	3.60	3.04	0.57	2.72	5.41	3.52	33.43
83	0.48	1.60	M4.49	2.67	M3.80	1.76	2.46	4.34	4.63	M3.25	3.84	1.86	35.18
84	0.56	1.00	1.56	4.26	4.83	4.28	2.97	2.77	M2.74	5.43	3.18	3.92	37.50
85	1.35	1.93	2.89	1.52	1.84	2.46	1.95	2.81	4.48	M5.79	5.99	1.29	34.30
86	0.80	1.95	1.63	2.19	2.38	6.30	5.18	5.16	7.85	M1.69	0.57	0.74	36.44
87		M0.00	2.31	4.09	4.23	3.08	6.19	8.17	3.72	1.01	M1.24		34.04
88													
89													
90													
91							4.19	1.97	M5.78	M5.60	M3.07	1.47	22.08
92	M0.64	1.28	M1.88	2.25	M1.20	M1.87	4.24	M3.54	5.18	1.81	4.53	2.33	30.75
93	2.15	0.99	M1.39	6.45	1.97	7.33	5.64	4.34	4.28	0.60	1.56	0.38	37.08
94	1.95	2.70	0.64	1.60	0.99	3.52	6.64	5.10	1.43	0.63	3.68	0.93	29.81
95	1.52	0.10	2.00	3.83	3.29	0.53	3.08	10.83	0.93	4.26	3.10	0.64	34.11
96	1.71	0.82	0.52	3.19	2.78	7.83	3.88	2.54	2.23	5.02	0.80	1.57	32.89
97	1.78	3.20	0.92	2.46	2.38	6.78	4.04	5.53	1.80	1.43	1.09	M1.24	32.65
98	2.92	2.14	3.55	3.57	4.16	3.92	1.40	6.41	2.32	3.39	2.39	0.98	37.15
99	4.27	1.22	0.83	5.45	3.82	6.14	6.48	1.86	3.87	0.77	0.78	1.77	37.26
0	1.01	1.26	1.34	2.97	8.05	4.15	7.54	5.78	7.00	0.92	M2.41	M2.30	44.73
1	1.28	3.12	0.35	4.75	5.42	4.62	1.87	4.82	4.66	3.59	M1.54	M1.30	37.32
2	0.87	1.56	1.73	3.96	2.89	3.30	3.32	8.50	3.32	2.76	0.73	0.69	33.63
3	0.22	M0.11	1.49	1.35	5.67	2.22	3.33	0.51	1.90	1.64	M4.12	2.35	24.91
4	0.76	M0.72	2.84	2.31	9.44	5.11	2.02	M4.35	0.13	2.39	2.26	M1.35	33.68
5	M2.33	1.57	0.69	1.03	2.86	M2.19	M2.69	1.18	M3.64	0.43	M3.23	M0.87	22.71
6	0.97	0.68	1.55	3.22	M4.63	M2.18	M3.74	4.49	M2.98	M2.89	M2.56	M2.48	32.37
7	M0.97	M1.42	1.65	M3.88	2.05	4.01	M2.95	9.62	1.51	2.41	0.21	3.11	33.79
8	0.96	M2.08	2.38	5.58	2.23	10.27	4.08	1.04	4.07	2.97	1.03	4.12	40.81
9	1.05	2.11	3.89	5.51	3.39	7.31	0.87	3.67	1.82	4.98	1.80	3.53	39.93
10	0.86	0.99	0.49	3.86	3.75	11.11	9.23	1.48	2.70	1.81	1.09	0.96	38.33
11	0.85	2.26	2.69	3.38	2.44	5.29	2.98	3.16	4.27	1.49	2.59	1.59	32.99

12	1.74	0.98	3.42	2.37	5.03	0.58	3.06	2.10	2.33	4.00	0.62	3.70	29.93
13	2.71	3.84	1.64	7.57	7.24	7.29	2.29	3.54	2.38	2.73	2.85	1.09	45.17
14	1.24	1.50	1.21	4.04	5.20	5.80	3.21	5.23	1.22	2.60	1.97	0.69	33.91
15	0.88	M0.79	0.70	4.07	2.63	3.26	M2.02						14.35

Product generated by ACIS - NOAA Regional Climate Centers.

Daily Data

USDA Field Office Climate Data

WAUKESHA (478937)
Observed Daily Data
Month: Jul 2015

Day	Max Temp	Min Temp	Avg Temp	GDD B50	GDD B40	Total Prcpn	New Snow	Snow Depth
1						0.00		
2						0.00		
3						0.00		
4						0.00		
5						0.00		
6						0.00		
7						0.32		
8						0.00		
9						0.00		
10						0.00		
11						0.00		
12						0.00		
13						0.46		
14						0.01		
15						0.00		
16						0.00		
17						0.56		
18						0.01		
19						0.66		
20						0.00		
21						0.00		
22						0.00		
23						0.00		
24						0.00		
25						0.00		
26						0.00		
27						0.00		
28						0.00		
29						0.06		
30						0.00		
31						0.00		
Smry						2.08		

Product generated by ACIS - NOAA Regional Climate Centers.

Appendix 3:

Site Photographs

Photograph 1 (7/21/15): Southeast facing view of W-1, a large fresh (wet) meadow dominated by reed canary grass.

Photograph 2 (7/21/15): West facing view of W-1, a large fresh (wet) meadow. The wetland boundary was delineated in the approximate location of the shrubs observable in the background.

Photograph 3 (7/21/15): Southeast facing view of the shallow marsh ditch that connects to the main body of W-1. The photo was taken from the old farm access driveway off of CTH X.

Photograph 4 (7/21/15): South facing view of a shallow marsh community within W-2 from CTH X. Shrub carr plant community components are also visible in the background.

Photograph 5 (7/21/15): East facing view of the off-site wetland ditch that connects to W-2.

Photograph 6 (7/21/15): A general view W-2 (background) and the adjacent upland "old-field" plant community (foreground) taken approximately near DP-7.

Photograph 7 (7/22/15): West facing view of W-3 from the end of River Valley Drive.

Photograph 8 (7/22/15): Southwest view of W-3 from approximately DP-18.

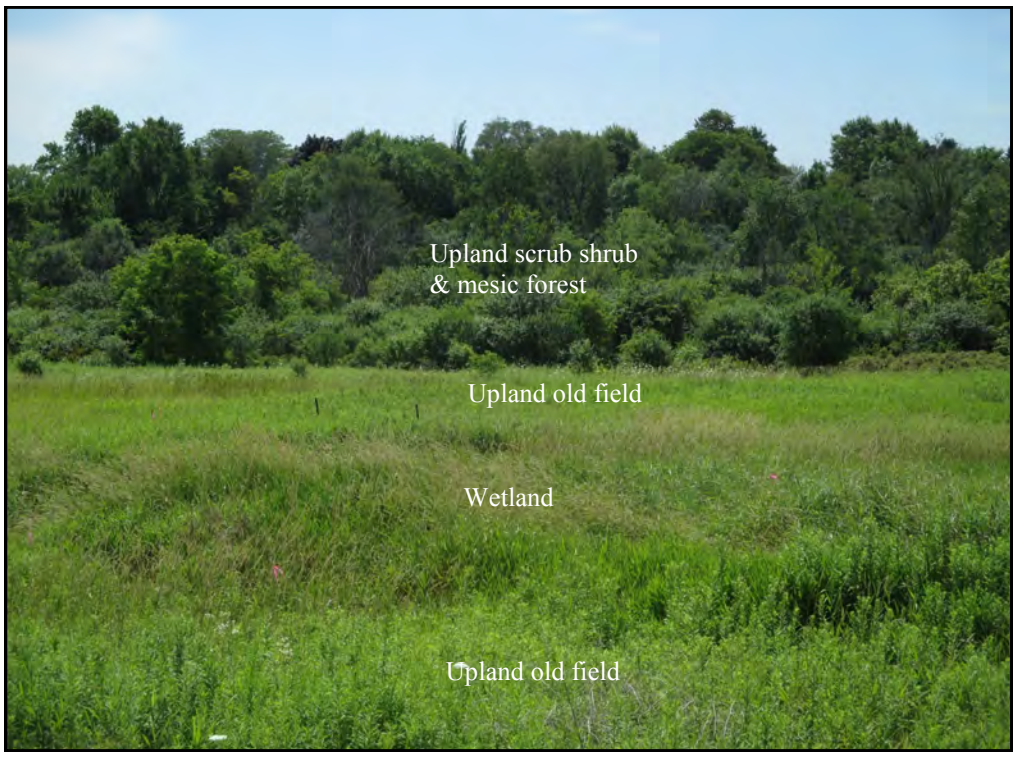
Photograph 9 (7/22/15): South facing view of W-3 near west end of wetland.

Photograph 10 (7/27/15): General view of W-4, a groundwater slope wetland.

Photograph 11 (7/27/15): East facing view of W-5, a groundwater slope wetland.

Photograph 12 (7/27/15): General south facing view of the upland old-field plant community observed within the site.

Photograph 13 (7/21/15): Interior view of one of the degraded upland woods within the site which were dominated mostly by invasive species such as common buckthorn (*Rhamnus cathartica*).



Photograph 14 (7/27/15): General view within the southwest corner of the site showing components of wetland, upland "old-field" degraded upland scrub shrub and mesic woodland .

Appendix 4:

Wetland Determination Data Forms – Northcentral/Northeast Region

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/9/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 1
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): slight hillslope Local relief (concave, convex, none): slightly convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Aztalan loam, 0-2% slopes (AzA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?**	**Yes**	**No X**
Hydric Soil Present?	Yes	No X			
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:	**none - Upland**	

Remarks: (Explain alternative procedures here or in a separate report.) **Data point is located wiithin a upland old-field scrub shrub community.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	5%	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Cornus amomum*	25%	Y	FACW
2. *Rhamnus cathartica*	5%	N	FAC
3.			
4.			
5.			
6.			
7.			
	30%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Poa pratensis*	40%	Y	FACU
2. *Symphyotrichum pilosum*	40%	Y	FACU
3. *Asclepias syriaca*	40%	Y	UPL
4. *Phalaris arundinacea*	25%	N	FACW
5. *Pastinaca sativa*	20%	N	UPL
6. *Cirsium arvense*	20%	N	FACU
7. *Parthenocissus quinquefolia*	10%	N	FACU
8. *Frangula alnus*	3%	N	FAC
9. *Ulmus americana*	3%	N	FACW
10.			
11.			
12.			
	201%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? **Yes** **No x**

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a mix of "old-field" and upland scrub shrub.**

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/2	100%					silt loam	
18-24	10YR 4/2	99%	10YR 5/6	1%	C	M	silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Hydric soil criterion is not met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water Table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5A) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/9/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 2
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): wetland depression/floodplain Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Aztalan loam, 0-2% slopes (AzA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-1

Remarks: (Explain alternative procedures here or in a separate report.) **Edge of a large fresh (wet) meadow wetland associated with the Fox River. The hydroperiod is temporary here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	5%	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Cornus amomum*	20%	Y	FACW
2. *Zanthoxylum americanum*	5%	N	FACU
3. *Viburnum lentago*	3%	N	FAC
4.			
5.			
6.			
7.			
	28%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	60%	Y	FACW
2. *Solidago gigantea*	40%	Y	FACW
3. *Asclepias syriaca*	25%	N	UPL
4. *Phalaris arundinacea*	5%	N	FACW
5. *Pastinaca sativa*	5%	N	UPL
6. *Cirsium arvense*	3%	N	FACU
7. *Parthenocissus quinquefolia*	2%	N	FACU
8.			
9.			
10.			
11.			
12.			
	140%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a fresh (wet) meadow with a few scattered shrubs along the edge.**

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	100%					silt loam	
20-26	10YR 5/1	90%	10YR 5/8	10%	C	M	si cl loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Thick dark A horizon, but meets A12 indicator.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **Wetland hydrology is seasonal in this location. Boundary was based on shift in plant community, presence of hydric soils, and best professional judgment. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5A) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 3
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): flat
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Aztalan loam, 0-2% slopes (AzA) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	If yes, optional Wetland Site ID: none - Upland
Wetland Hydrology Present?	Yes	No X	

Remarks: (Explain alternative procedures here or in a separate report.) **Plant community is an upland "old-field".**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Poa pratensis*	60%	Y	FACU
2. *Phalaris arundinacea*	50%	Y	FACW
3. *Symphyotrichum lanceolatum*	30%	N	FACW
4. *Solidago canadensis*	30%	N	FACU
5. *Cirsium arvense*	10%	N	FACU
6. *Sonchus oleraceus*	5%	N	FACU
7. *Taraxacum officinale*	3%	N	FACU
8.			
9.			
10.			
11.			
12.			
	188%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	108	x 4 =	432
UPL species	0	x 5 =	0
Column Totals:	188 (A)		592 (B)

Prevalence Index = B/A = 3.15

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes No x

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is an upland "old-field". Area was farmed back in 2000 and has been fallow for at least 10 years.**

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 3/2	100%					silt loam	
13-24	10YR 4/3	100%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Hydric soil criterion is not met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches):	
Water Table Present?	Yes ___	No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No **X**	Depth (inches):	

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Map (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 4
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): roadside ditch (man-made) Local relief (concave, convex, none): concave ditch
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Aztalan loam, 0-2% slopes (AzA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Welland Site ID: W-1

Remarks: (Explain alternative procedures here or in a separate report.) ***Excavated roadside ditch that has been present for many years - note that adjacent native soils are non-hydric (see DP-3), so the ditch was likely excavated in upland soils.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5'X 10')			
1. *Typha angustifolia*	60%	Y	OBL
2. *Phalaris arundinacea*	40%	Y	FACW
3. *Lythrum salicaria*	25%	N	OBL
4. *Pastinaca sativa*	5%	N	UPL
5. *Agrostis gigantea*	5%	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	135%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:

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

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

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

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

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a shallow marsh in a roadside ditch.**

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
*See comment								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes **X** No ___

Remarks: ***Soils not examined due to nearby buried cable and other potential buried utilities in ROW. However, based on plant community and drainage pattern, soils are presumed to be hydric (even though they are not the native profile).**

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	
Water Table Present?	Yes ___	No ___	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches):	surface

Is Wetland Hydrology Present? Yes **X** No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-B, Appendix 1), WETS Data (Appendix 2)**

Remarks: ***Although a soil profile was not examined, saturation was observed at the surface, so a high water table may also be present. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 5
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): flat
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Aztalan loam, 0-2% slopes (AzA) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?**	**Yes ____ No X**
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID:	**none - Upland**
Wetland Hydrology Present?	Yes ____	No X		

Remarks: (Explain alternative procedures here or in a separate report.) **Data point was examined here due to presence of some wetand species, but does not meet any wetland criteria. Plant community is an upland scrub-shrub in this location.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Salix bebbiana*	50%	Y	FACW
2. *Lonicera X bella*	20%	Y	FACU
3. *Cornus alba*	20%	Y	FACW
4. *Cornus racemosa*	20%	Y	FAC
5. *Cornus amomum*	10%	N	FACW
6.			
7.			
	120%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Festuca rubra*	75%	Y	FACU
2. *Solidago canadensis*	25%	Y	FACU
3. *Sonchus oleraceus*	25%	Y	FACU
4. *Euthamia graminifolia*	10%	N	FAC
5. *Asclepias syriaca*	10%	N	UPL
6. *Vitis riparia*	10%	N	FAC
7. *Agrostis gigantea*	10%	N	FACW
8. *Taraxacum officinale*	3%	N	FACU
9. *Pastinaca sativa*	3%	N	UPL
10.			
11.			
12.			
	171%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 7 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 43% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes ____ No x

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is an upland scrub shrub.**

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100%					silt loam	
12-24	10YR 4/3	95%	10YR 4/6	5%	C	M	silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Hydric soil criterion is not met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water Table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Map (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 6
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): very slight depression Local relief (concave, convex, none): very slightly concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Aztalan loam, 0-2% slopes (AzA) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?**	**Yes ____ No X**
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID:	**none - Upland**
Wetland Hydrology Present?	Yes ____	No X		

Remarks: (Explain alternative procedures here or in a separate report.) **Data point was examined here due to a subtle depression in this location and presence of some reed canary grass.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Poa pratensis*	80%	Y	FACU
2. *Phalaris arundinacea*	50%	Y	FACW
3. *Euthamia graminifolia*	20%	N	FAC
4. *Agrostis gigantea*	10%	N	FACW
5. *Festuca rubra*	10%	N	FACU
6. *Pastinaca sativa*	5%	N	UPL
7. *Lotus corniculatus*	5%	N	FACU
8.			
9.			
10.			
11.			
12.			
	180%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	20	x 3 =	60
FACU species	95	x 4 =	380
UPL species	5	x 5 =	25
Column Totals:	180 (A)		565 (B)
Prevalence Index = B/A =			3.14

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded "old-field" that was previously farmed. Farming ended sometime between 2000 and 2005.**

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/1	100%					silt loam	
9-24	10YR 4/3	100%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Hydric soil criterion is not met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water Table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 7
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Warsaw loam, 2-6% slopes (WeB) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: none - Upland
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.) **Old-field plant community - previously farmed.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Lonicera X bella*	3%	N	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	3%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Poa pratensis*	80%	Y	FACU
2. *Solidago canadensis*	60%	Y	FACU
3. *Euthamia graminifolia*	20%	N	FAC
4. *Asclepias syriaca*	20%	N	UPL
5. *Sonchus oleraceus*	10%	N	FACU
6. *Taraxacum officinale*	10%	N	FACU
7. *Phalaris arundinacea*	10%	N	FACW
8. *Solidago gigantea*	5%	N	FACW
9. *Geum aleppicum*	3%	N	FAC
10. *Pastinaca sativa*	3%	N	UPL
11.			
12.			
	221%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded "old-field" that was previously farmed. Farming ended sometime between 2000 and 2005.**

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/2	100%					silt loam	
20-24	10YR 2/1	100%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ____ No **X**

Remarks: **Hydric soil criterion is not met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No **X**	Depth (inches):	
Water Table Present?	Yes ____	No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No **X**	Depth (inches):	

Is Wetland Hydrology Present? Yes ____ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 8
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): wetland depression Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Navan silt loam (Na) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-2

Remarks: (Explain alternative procedures here or in a separate report.) **Fresh (wet) meadow zone transitioning to shallow marsh/shrub carr wetland. The hydroperiod is intermittent here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Euthamia graminifolia*	30%	Y	FAC
2. *Solidago canadensis*	25%	Y	FACU
3. *Phalaris arundinacea*	25%	Y	FACW
4. *Solidago gigantea*	20%	N	FACW
5. *Sonchus oleraceus*	10%	N	FACU
6. *Typha angustifolia*	5%	N	OBL
7. *Stachys tenuifolia*	5%	N	FACW
8. *Cornus alba*	5%	N	FACW
9. *Salix discolor*	5%	N	FACW
10.			
11.			
12.			
	130%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a fresh (wet) meadow - transition zone to shallow marsh.**

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/1	100%					silt loam	
18-24	10YR 4/2	98%	10YR 5/6	2%	C	M	si cl loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Hydric soil criterion is met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	
Water Table Present?	Yes ___	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Map (Figure 5, Appendix 1), WETS Data (Appendix 2)**

Remarks: **Wetland hydrology is seasonal in this location. Boundary was based on shift in plant community, presence of hydric soils, and best professional judgment. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 9
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): wetland depression Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Navan silt loam (Na) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-2

Remarks: (Explain alternative procedures here or in a separate report.) **Edge of shallow marsh/shrub carr wetland.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Salix bebbiana*	25%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	25%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	60%	Y	FACW
2. *Solidago gigantea*	30%	Y	FACW
3. *Typha angustifolia*	30%	Y	OBL
4. *Solidago canadensis*	30%	Y	FACU
5. *Euthamia graminifolia*	5%	N	FAC
6. *Carex stricta*	5%	N	OBL
7. *Stachys tenuifolia*	5%	N	FACW
8.			
9.			
10.			
11.			
12.			
	165%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located on the edge of a mixed shallow marsh/shrub carr community.**

SOIL

Sampling Point: 9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100%					muck	
12-20	10YR 4/2	90%	10YR 5/6	10%	C	M	si cl loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Hydric soil criterion is met.**

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- X Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	___
Water Table Present?	Yes X	No ___	Depth (inches):	12
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches):	0

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 10
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Fox loam, 2-6% slopes (FoB) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?**	**Yes ____ No X**
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID:	**none - Upland**
Wetland Hydrology Present?	Yes ____	No X		

Remarks: (Explain alternative procedures here or in a separate report.) **Upland scrub/shrub plant community - previously farmed.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Salix interior*	60%	Y	FACW
2. *Lonicera X bella*	25%	Y	FACU
3.			
4.			
5.			
6.			
7.			
	85%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Poa pratensis*	95%	Y	FACU
2. *Solidago canadensis*	30%	Y	FACU
3. *Euthamia graminifolia*	30%	Y	FAC
4. *Solidago gigantea*	20%	N	FACW
5. *Vitis riparia*	10%	N	FAC
6. *Taraxacum officinale*	5%	N	FACU
7. *Hypericum perforatum*	5%	N	UPL
8.			
9.			
10.			
11.			
12.			
	195%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded upland scrub shrub that was previously farmed. Farming ended sometime between 2000 and 2005. Data point was examined due to presence of Salix interior, but hydrophytic vegetation criterion is not met and soils are non-hydric.**

SOIL

Sampling Point: 10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/2	100%					silt loam	
11-24	10YR 4/3	100%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Hydric soil criterion is not met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches):	
Water Table Present?	Yes ___	No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No **X**	Depth (inches):	

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 11
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Fox loam, 2-6% slopes (FoB) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X
If yes, optional Wetland Site ID: none - Upland

Remarks: (Explain alternative procedures here or in a separate report.) **Degraded upland woodland bordering wetland edge with dominant FAC invasive species and one FACU species.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	50%	Y	FAC
2. *Rhamnus cathartica*	10%	N	FAC
3.			
4.			
5.			
6.			
7.			
	60%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Rhamnus cathartica*	60%	Y	FAC
2. *Lonicera X bella*	30%	Y	FACU
3.			
4.			
5.			
6.			
7.			
	90%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Rhamnus cathartica*	60%	Y	FAC
2. *Lonicera X bella*	10%	N	FACU
3. *Circaea canadensis*	5%	N	FACU
4. *Taraxacum officinale*	5%	N	FACU
5. *Geum canadense*	5%	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1. *Vitis riparia*	5%	Y	FAC
2.			
3.			
4.			
	5%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded upland woods dominated by invasive species.**

SOIL

Sampling Point: 11

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	100%					silt loam	
20-24	10YR 3/1	98%	10YR 5/6	2%	C	M	silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Hydric soil criterion is not met. Soils are dry.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water Table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 12
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): wetland depression Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Navan silt loam (Na) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-2

Remarks: (Explain alternative procedures here or in a separate report.) **Edge of shallow marsh wetland.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Salix interior*	50%	Y	FACW
2. *Cornus alba*	20%	Y	FACW
3.			
4.			
5.			
6.			
7.			
	70%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	100%	Y	FACW
2. *Typha latifolia*	20%	N	OBL
3. *Cornus alba*	5%	N	FACW
4. *Solidago gigantea*	5%	N	FACW
5. *Symphyotrichum puniceum*	5%	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	135%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located on the edge of a shallow marsh.**

SOIL

Sampling Point: 12

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100%					silt loam	
16-24	10YR 4/1	98%	10YR 5/6	2%	C	M	si cl loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Hydric soil criterion is met. Soils are moist.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 13
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Navan silt loam (Na) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No	**Is the Sampled Area within a Wetland?**	**Yes No X**
Hydric Soil Present?	Yes No X	If yes, optional Wetland Site ID:	**none - Upland**
Wetland Hydrology Present?	Yes No X		

Remarks: (Explain alternative procedures here or in a separate report.) **Degraded upland woodland bordering wetland edge with dominant FAC invasive species commonly found in uplands.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	60%	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	60%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Rhamnus cathartica*	70%	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	70%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Rhamnus cathartica*	60%	Y	FAC
2. *Circaea canadensis*	20%	N	FACU
3. *Parthenocissus quinquefolia*	10%	N	FACU
4. *Lonicera X bella*	10%	N	FACU
5. *Frangula alnus*	3%	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	103%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? **Yes X No**

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded upland woods dominated by invsive species.**

SOIL

Sampling Point: 13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	100%					silt loam	
20-24	10YR 3/1	100%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ____ No **X**

Remarks: **Hydric soil criterion is not met. Soils are dry.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No **X**	Depth (inches):	
Water Table Present?	Yes ____	No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No **X**	Depth (inches):	

Is Wetland Hydrology Present? Yes ____ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 14
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): wetland depression Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Navan silt loam (Na) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-2

Remarks: (Explain alternative procedures here or in a separate report.) **Data point is located on the edge of a shrub carr/ shallow marsh. The hydroperiod is intermittent here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	30%	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	30%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Rhamnus cathartica*	30%	Y	FAC
2. *Lonicera X bella*	10%	Y	FACU
3.			
4.			
5.			
6.			
7.			
	40%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	70%	Y	FACW
2. *Angelica atropurpurea*	30%	Y	OBL
3. *Rhamnus cathartica*	10%	N	FAC
4. *Vitis riparia*	10%	N	FAC
5. *Parthenocissus quinquefolia*	5%	N	FACU
6. *Solidago canadensis*	5%	N	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	130%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located on the edge of a shrub carr/ shallow marsh.**

SOIL

Sampling Point: 14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	100%					silt loam	
5-16	10YR 2/1	90%	5YR 4/6	10%	C	M	silt loam	
16-24	10YR 4/1	80%	5YR 4/6	20%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Hydric soil criterion is met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	
Water Table Present?	Yes ___	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/21/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 15
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): flat to very slightly convex
Slope (%): 1% Lat: Long: Datum:
Soil Map Unit Name: Aztalan loam, 0-2% slopes (AzA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?**	**Yes**	**No X**
Hydric Soil Present?	Yes	No X	If yes, optional Wetland Site ID:	**none - Upland**	
Wetland Hydrology Present?	Yes	No X			

Remarks: (Explain alternative procedures here or in a separate report.) **Plant community is an upland old field/scrub shrub that was previoulsy farmed.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	5%	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Cornus amomum*	15%	Y	FACW
2. *Lonicera X bella*	10%	Y	FACU
3. *Rhamnus cathartica*	10%	Y	FAC
4. *Cornus racemosa*	5%	N	FAC
5.			
6.			
7.			
	40%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Poa pratensis*	100%	Y	FACU
2. *Solidago canadensis*	50%	Y	FACU
3. *Cirsium arvense*	10%	N	FACU
4. *Taraxacum officinale*	10%	N	FACU
5. *Euthamia graminifolia*	5%	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	175%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	25	x 3 =	75
FACU species	180	x 4 =	720
UPL species	0	x 5 =	0
Column Totals:	220 (A)		825 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is an upland old field/scrub shrub that was previoulsy farmed. Farming ended sometime between 2000 and 2005.**

SOIL

Sampling Point: 15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100%					silt loam	
10-24	10YR 4/3	100%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Hydric soil criterion is not met. Soils are dry.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches):	
Water Table Present?	Yes ___	No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No **X**	Depth (inches):	

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/22/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 16
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Aztalan loam, 0-2% slopes (AzA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil *Y or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-3

Remarks: (Explain alternative procedures here or in a separate report.) ***Problem soil due to lack of redox features below the deep dark A horizon. Data point is located within a fresh (wet) meadow with a drainage pattern. The hydroperiod is intermittent here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	70%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located within a degraded fresh (wet) meadow dominated by invasive reed canary grass.**

SOIL

Sampling Point: 16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-19	10YR 2/1	100%					silt loam	
19-24	10YR 4/2	90%					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- *X Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes *X No ___

Remarks: **Does not meet an indicator, but is considered a problem soil because no redox features were observed below the A horizon. However, there is evidence of wetland hydrology on aerial photography and area meets hydrophytic vegetation criteria. Also it is in a concave depression.**

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)
- *X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range. *Dark linear pattern on aerial indicating water flow.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/22/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 17
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X
If yes, optional Wetland Site ID: none - Upland

Remarks: (Explain alternative procedures here or in a separate report.) **Located within a degraded "old-field" which is dominated by invasive reed canary grass. The grass is growing upslope and the area lacks wetland hydrology.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Rhamnus cathartica*	3%	N	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	3%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Solidago canadensis*	70%	Y	FACU
2. *Phalaris arundinacea*	30%	Y	FACW
3. *Cirsium arvense*	10%	N	FACU
4. *Solidago gigantea*	5%	N	FACW
5. *Symphyotrichum puniceum*	3%	N	OBL
6. *Agrostis gigantea*	3%	N	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	121%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	38	x 2 =	76
FAC species	3	x 3 =	9
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	124 (A)		408 (B)

Prevalence Index = B/A = 3.29

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded upland old field/scrub shrub that was previoulsy farmed. Farming ended sometime between 2000 and 2005. The reed canary grass is growing upslope but the presence of *Solidago canadensis* (FACU) and the lack of hydrology indicators indicates upland.**

SOIL

Sampling Point: 17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-28	10YR 2/1	100%					silt loam	
28-30	10YR 3/2	98%	7.5YR 5/6	2%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Does not meet a hydric soil indicator. Soils are dry. Based on landscape position and lack of all but one secondary hydrology indcators, this area is determined to be an upland.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water Table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range. Only 1 secondary indicator present, but this is attributed to past site disturbance and presence of invasive reed caary grass.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/22/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 18
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____
If yes, optional Wetland Site ID: W-3

Remarks: (Explain alternative procedures here or in a separate report.) **Data point is located within a degraded fresh (wet) meadow dominated by invasive reed canary grass. The hydroperiod is intermittent here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	100%	Y	FACW
2. *Solidago canadensis*	10%	N	FACU
3. *Solidago gigantea*	5%	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	115%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located within a degraded fresh (wet) meadow dominated by invasive reed canary grass.**

SOIL

Sampling Point: 18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100%					silt loam	
16-28	10YR 2/1	93%	10YR 5/2	5%	D	M	silty clay loam	
			10YR 5/6	2%	C	M		
28-30	10YR 5/2	90%	10YR 5/6	10%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- *X Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? **Yes** *X **No** ___

Remarks: **Hydrophytic vegetation criteria is met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Is Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range. Farming was avoided here based on older aerial photography (see 2000 aerial)**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/22/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 19
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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	X	No		
Hydric Soil Present?	Yes		No	X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Wetland Hydrology Present?	Yes		No	X	If yes, optional Wetland Site ID: none - Upland

Remarks: (Explain alternative procedures here or in a separate report.) **Plant community is a dense upland scrub/shrub dominated by invasive FAC species.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Rhamnus cathartica*	50%	Y	FAC
2. *Lonicera X bella*	50%	Y	FACU
3. *Cornus racemosa*	40%	Y	FAC
4.			
5.			
6.			
7.			
	140%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Rhamnus cathartica*	40%	Y	FAC
2. *Lonicera X bella*	3%	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	43%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1. *Vitis riparia*	2%	N	FAC
2.			
3.			
4.			
	2%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded upland scrub shrub dominated by invasive FAC species.**

SOIL

Sampling Point: 19

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 2/1	100%					silt loam	
17-24	10YR 3/2	100%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Hydric soil criterion is not met. Soils are dry.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water Table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/22/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 20
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): groundwater slope wetland Local relief (concave, convex, none): convex
Slope (%): 10% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-3

Remarks: (Explain alternative procedures here or in a separate report.) **Degraded groundwater slope wetland dominated by invasive reed canary grass.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	100%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located within a degraded fresh (wet) meadow groundwater slope wetland dominated by invasive reed canary grass.**

SOIL

Sampling Point: 20

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100%					muck	
8-18	10YR 2/1	80%	2.5YR 3/6	20%	C	M	muck	
18-24	10YR 2/1	80%	10YR 4/6	20%	C	M	clayey muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [X] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Mucky Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) **(LRR R, MLRA 149B)**
- [ ] Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- [ ] Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- [ ] Loamy Mucky Mineral (F1) **(LRR K, L)**
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- [ ] 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- [ ] Coast Prairie Redox (A16) **(LRR K, L, R)**
- [ ] 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- [ ] Dark Surface (S7) **(LRR K, L, M)**
- [ ] Polyvalue Below Surface (S8) **(LRR K, L)**
- [ ] Thin Dark Surface (S9) **(LRR K, L)**
- [ ] Iron-Manganese Masses (F12) **(LRR K, L, R)**
- [ ] Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- [ ] Red Parent Material (TF2)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Mesic Spodic (TA6)
- [ ] Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No

Remarks: **Hydric soil criterion is met.**

HYDROLOGY

Wetland Hydrology Indicators:

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

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [X] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15)
- [ ] 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)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [X] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [X] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): **surface**

Is Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5B) also indicates normal range, however it is the dry end of the normal range. Farming was avoided here based on older aerial photography (see 2000 aerial). Water is easily squeezed out of muck soil. Groundwater slope.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 21
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 3-5% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X	Is the Sampled Area within a Wetland?	Yes ____ No X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID:	none - Upland
Wetland Hydrology Present?	Yes ____	No X		

Remarks: (Explain alternative procedures here or in a separate report.) **Plant community is degraded "old-field".**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Solidago canadensis*	60%	Y	FACU
2. *Phalaris arundinacea*	30%	Y	FACW
3. *Symphyotrichum puniceum*	10%	N	OBL
4. *Equisetum arvense*	2%	N	FAC
5. *Cirsium arvense*	2%	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	104%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	30	x 2 =	60
FAC species	2	x 3 =	6
FACU species	62	x 4 =	248
UPL species	0	x 5 =	0
Column Totals:	104	(A)	324 (B)

Prevalence Index = B/A = 3.12

Hydrophytic Vegetation Indicators:

__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:

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

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

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

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

Is Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded old-field dominated mostly by Canada goldenrod with reed canary grass as a co-dominant.**

SOIL

Sampling Point: 21

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-25	10YR 2/1	100%					silt loam	
25-30	10YR 2/2	99%	5YR 5/6	1%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Does not meet a hydric soil indicator. Soils are dry.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches): ___
Water Table Present?	Yes ___	No **X**	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No **X**	Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 22
Investigator(s): Tina M. Myers, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): groundwater slope wetland Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____
If yes, optional Wetland Site ID: W-4

Remarks: (Explain alternative procedures here or in a separate report.) **Groundwater slope wetland - fresh (wet) meadow plant community.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Symphyotrichum puniceum*	70%	Y	OBL
2. *Phalaris arundinacea*	20%	N	FACW
3. *Equisetum arvense*	10%	N	FAC
4. *Carex stricta*	10%	N	OBL
5. *Solidago canadensis*	5%	N	FACU
6. *Solidago gigantea*	5%	N	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	120%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located within a fresh (wet) meadow groundwater slope wetland.**

SOIL

Sampling Point: 22

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	70%	2.5YR 4/8	30%	C	M/PL	muck	oxydized rhizospheres
16-24	10YR 4/1	70%	10YR 5/6	30%	C	M	mucky clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [X] Histosol (A1)
- [X] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Depleted Below Dark Surface (A11)
- [X] Thick Dark Surface (A12)
- [ ] Sandy Mucky Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (**LRR R, MLRA 149B**)
- [ ] Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- [ ] Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- [ ] Loamy Mucky Mineral (F1) (**LRR K, L**)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- [ ] 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- [ ] Coast Prairie Redox (A16) (**LRR K, L, R**)
- [ ] 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- [ ] Dark Surface (S7) (**LRR K, L, M**)
- [ ] Polyvalue Below Surface (S8) (**LRR K, L**)
- [ ] Thin Dark Surface (S9) (**LRR K, L**)
- [ ] Iron-Manganese Masses (F12) (**LRR K, L, R**)
- [ ] Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- [ ] Red Parent Material (TF2)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Mesic Spodic (TA6)
- [ ] Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes [X] No [ ]

Remarks: **Hydric soil criterion is met.**

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)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15)
- [ ] Hydrogen Sulfide Odor (C1)
- [X] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [X] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ] No [X]	Depth (inches):	
Water Table Present?	Yes [ ] No [X]	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes [ ] No [X]	Depth (inches):	

Is Wetland Hydrology Present? Yes [X] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figure 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range. Farming was avoided here based on older aerial photography (see 2000 aerial). Soils are not saturated at this time, but are moist throughout the profile compared to the dry soils observed near DP-21. Groundwater slope wetland.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 23
Investigator(s): Tina M. Myers, PWS & Heather D. Patti, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 10% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID: none - Upland

Remarks: (Explain alternative procedures here or in a separate report.) **Plant community is degraded "old-field" with reed canary grass growing upslope. The reed canary appears to be growing here due to disturbance rather than wetland conditions.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	100%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded old-field dominated by reed canary grass.**

SOIL

Sampling Point: 23

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/1	100%					silt loam	
18-24	10YR 3/2	100%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No X

Remarks: **Does not meet a hydric soil indicator. Soils are dry and friable.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 24
Investigator(s): Tina M. Myers, PWS & Heather D. Patti, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-4

Remarks: (Explain alternative procedures here or in a separate report.) **Fresh (wet) meadow plant community. The hydroperiod is intermittent here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	100%	Y	FACW
2. *Cirsium arvense*	10%	N	FACU
3. *Solidago canadensis*	5%	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	115%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located within a fresh (wet) meadow.**

SOIL

Sampling Point: 24

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	100%	2.5YR 4/8	30%	C	M	silt loam	
7-24	10YR 3/2	40%	10YR 5/6	30%	C	M	silt loam	some small cobble present
7-24	10YR 4/3	30%					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Hydric soil criterion is met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	
Water Table Present?	Yes ___	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range. Farming was avoided here based on older aerial photography (see 2000 aerial). There appears to be a drainage pattern visible on the aerial photographs in this location that leads into a groundwater slope wetland.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 25
Investigator(s): Tina M. Myers, PWS & Heather D. Patti, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 5% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?**	**Yes ____ No X**
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID:	**none - Upland**
Wetland Hydrology Present?	Yes ____	No X		

Remarks: (Explain alternative procedures here or in a separate report.) **Plant community is degraded "old-field".**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Solidago canadensis*	70%	Y	FACU
2. *Poa pratensis*	50%	Y	FACU
3. *Phalaris arundinacea*	50%	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	170%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded old-field.**

SOIL

Sampling Point: 25

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 2/1	100%					silt loam	
13-24	10YR 4/2	99%	10YR 5/4	1%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Does not meet a hydric soil indicator. Soils are dry.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches): ___
Water Table Present?	Yes ___	No **X**	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No **X**	Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 26
Investigator(s): Tina M. Myers, PWS & Heather D. Patti, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): groundwater slope wetland Local relief (concave, convex, none): convex
Slope (%): 1-2% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____
If yes, optional Wetland Site ID: W-4

Remarks: (Explain alternative procedures here or in a separate report.) **Shallow marsh plant community. The hydroperiod is intermittent here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Salix bebbiana*	5%	Y	FACW
2. *Acer negundo*	5%	Y	FAC
3.			
4.			
5.			
6.			
7.			
	10%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Typha X glauca*	100%	Y	OBL
2. *Phalaris arundinacea*	50%	Y	FACW
3. *Solidago canadensis*	10%	N	FACU
4. *Symphyotrichum puniceum*	5%	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	165%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located within a shallow marsh groundwater slope wetland.**

SOIL

Sampling Point: 26

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	95%	2.5YR 4/8	5%	C	M/PL	muck	
16-24	10YR 5/1	80%	10YR 5/8	30%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Hydric soil criterion is met. Soils are moist, but not saturated.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range. Farming was avoided here based on older aerial photography (see 2000 aerial). This appears to be a groundwater slope wetland.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 27
Investigator(s): Tina M. Myers, PWS & Heather D. Patti, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?**	**Yes ____**	**No X**
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID:		none - Upland
Wetland Hydrology Present?	Yes ____	No X			

Remarks: (Explain alternative procedures here or in a separate report.) **Plant community is degraded "old-field".**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Poa pratensis*	100%	Y	FACU
2. *Solidago canadensis*	70%	Y	FACU
3. *Phalaris arundinacea*	10%	Y	FACW
4. *Asclepias syriaca*	5%	N	UPL
5. *Sonchus oleraceus*	5%	N	FACU
6. *Solidago gigantea*	5%	N	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	195%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded old-field.**

SOIL

Sampling Point: 27

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100%					silt loam	
16-24	10YR 3/2	70%	10YR 5/6	30%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Does not meet a hydric soil indicator. Soils are dry.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches):	
Water Table Present?	Yes ___	No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No **X**	Depth (inches):	

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 28
Investigator(s): Tina M. Myers, PWS & Heather D. Patti, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): groundwater slope wetland Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N Soil N or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No
If yes, optional Wetland Site ID: W-5

Remarks: (Explain alternative procedures here or in a separate report.) **Shallow marsh plant community. The hydroperiod is intermittent here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Phalaris arundinacea*	50%	Y	FACW
2. *Typha X glauca*	40%	Y	OBL
3. *Symphyotrichum lanceolatum*	40%	Y	FACW
4. *Symphyotrichum puniceum*	5%	N	OBL
5. *Cirsium arvense*	2%	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	137%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located within a shallow marsh groundwater slope wetland.**

SOIL

Sampling Point: 28

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	95%	7.5YR 4/6	5%	C	M/PL	muck	
10-24	10YR 4/1	85%	2.5Y 5/6	10%	C	M	silty clay loam	
			2.5Y 5/4	5%	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Hydric soil criterion is met. Soils are moist, but not saturated.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range.Farming was avoided here based on older aerial photography (see 2000 aerial). Groundwater slope wetland**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 &CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 29
Investigator(s): Tina M. Myers, PWS & Heather D. Patti, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 2-3% Lat: Long: Datum:
Soil Map Unit Name: Warsaw loam, 2-6% slopes (WeB) WWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X	**Is the Sampled Area within a Wetland?**	**Yes**	**No X**
Hydric Soil Present?	Yes	No X			
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:	**none - Upland**	

Remarks: (Explain alternative procedures here or in a separate report.) **Plant community is degraded upland "old-field/scrub/shrub".**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. ***Salix interior***	25%	Y	FACW
2. ***Zanthoxylum americanum***	20%	Y	FACU
3.			
4.			
5.			
6.			
7.			
	45%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. ***Poa pratensis***	100%	Y	FACU
2. ***Solidago canadensis***	60%	Y	FACU
3. ***Asclepias syriaca***	25%	N	UPL
4. ***Salix petiolaris***	5%	N	FACW
5. ***Quercus rubra***	3%	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	193%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ Rapid Test for Hydrophytic Vegetation
__ 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.

Definitions of Vegetation Strata:

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

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

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

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

Is Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.) **Plant community is a degraded upland old-field/scrub shrub.**

SOIL

Sampling Point: 29

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	100%					silt loam	
20-24	10YR 4/2	99%	10YR 5/6	1%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes ___ No **X**

Remarks: **Does not meet a hydric soil indicator. Soils are dry.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water Table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Is Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **No wetland hydrology indicators observed. WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range.**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: 29.3-Acre Site Southeast of STH 59 & CTH X City/County: Waukesha/Waukesha Sampling Date: 7/27/15
Applicant/Owner: Kapur & Associates, Inc. State: WI Sampling Point: 30
Investigator(s): Tina M. Myers, PWS & Heather D. Patti, PWS Section, Township, Range: SE 1/4 Sec 17, T6N, R19E
Landform (hillslope, terrace, etc.): wetland depression Local relief (concave, convex, none): concave
Slope (%): 0% Lat: Long: Datum:
Soil Map Unit Name: Brookston silt loam, 0-3% slopes (BsA) WWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If needed, explain any answers in Remarks.)
Are Vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N Soil N or Hydrology N 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____
If yes, optional Wetland Site ID: W-3

Remarks: (Explain alternative procedures here or in a separate report.) **Shrub carr community. The hydroperiod is intermittent here.**

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: equiv to 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0%	= Total Cover	
Sapling/Shrub Stratum (Plot size: equiv to 15' radius)			
1. *Salix discolor*	80%	Y	FACW
2. *Cornus amomum*	60%	Y	FACW
3.			
4.			
5.			
6.			
7.			
	140%	= Total Cover	
Herb Stratum (Plot size: equiv to 5' radius)			
1. *Circaea canadensis*	40%	Y	FACU
2. *Solidago gigantea*	20%	Y	FACW
3. *Geum canadense*	20%	Y	FAC
4. *Carex bebbii*	5%	N	OBL
5. *Juncus canadensis*	5%	N	OBL
6. *Pastinaca sativa*	3%	N	UPL
7. *Rhamnus cathartica*	3%	N	FAC
8. *Symphyotrichum puniceum*	3%	N	OBL
9.			
10.			
11.			
12.			
	99%	= Total Cover	
Woody Vine Stratum (Plot size: equiv to 30' radius)			
1.			
2.			
3.			
4.			
	0%	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X 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.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 (1m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Is Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.) **Data point is located within a shrub carr along outer perimer of wetland.**

SOIL

Sampling Point: 30

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 2/1	100%					silt loam	
13-24	10YR 4/1	95%	2.5Y 5/4	5%	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Mesic Spodic (TA6)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: **none**

Depth (inches): **n/a**

Is Hydric Soil Present? Yes X No ___

Remarks: **Hydric soil criterion is met.**

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- *X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	___
Water Table Present?	Yes ___	No X	Depth (inches):	___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	___

Is Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **USGS Map (Figure 1, Appendix 1), WDNR Surface Water Data Viewer Map (Figure 3, Appendix 1), aerial photos from 2000, 2005, 2007 and 2010 (Figures 4A-D, Appendix 1), NOAA Precip Maps (Figures 5A-C, Appendix 1), WETS Data (Appendix 2)**

Remarks: **WETS data indicates normal climatic conditions for April-June. NOAA map (Figure 5C) also indicates normal range, however it is the dry end of the normal range. *Drainage pattern is observable on aerials.**

Appendix 5:

NR 151 Wetland Susceptibility Table

Wetland Category for Stormwater Permitting *			
Wetland	Highly Susceptible	Moderately Susceptible	Less Susceptible
W-1			X
W-2		X	
W-3		X	
W-4		X	
W-5		X	

Less Susceptible: Dominated by 90% or greater invasive species

Moderately Susceptible: Sedge meadows, fens, bogs, forested wetlands, fresh wet meadows, shallow/deep marshes, various swamps

Highly Susceptible: Trout streams, threatened and endangered species, fish and wildlife refuges, calcareous fens, wild and scenic rivers

* These designations apply to any project requiring NR 151 stormwater permitting and are based on wetland delineation field work and the professional opinion of R.A. Smith National, Inc. Final determination of wetland susceptibilty rests with the WDNR. Some of the characteristics of a Highly Susceptible wetland may not be apparent to RASN due to confidential data or data beyond the scope of this delineation (i.e. rare species, high quality trout stream etc). Navigable waterways may also be subject to NR 151 protective area standards.