



LYMAN-RICHEY
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Gretna Bottom 2 Wetland Mitigation Bank Site Development Plan

Sarpy County, Nebraska
May 1, 2023

USACE No. 2017-00703 Plant 40
USACE No. 2016-00221 Plant 52



**Gretna Bottom 2 Wetland Mitigation Bank
Lyman-Richey Corporation / U.S. Army Corps of Engineers
Signature Page**

This Agreement, entered into by the Lyman-Richey Corporation (Bank Sponsor or LRC) and the U.S. Army Corps of Engineers (USACE), is for the purpose of establishing the Gretna Bottom 2 Wetland Mitigation Bank (Bank). The Bank will be used to mitigate unavoidable wetland impacts, as approved by USACE, who is responsible for administering Section 404 of the Clean Water Act. The creation, operation, and use of the Bank will be in accordance with the Lyman-Richey Umbrella Wetland and Stream Mitigation Banking Agreement.

The Interagency Review Team (IRT) that provided technical support to USACE included the following agencies: EPA, NRCS, USFWS, NDEE, and NGPC. These agencies sign in support of the creation of this Bank (under separate cover).

The goal of the Bank is to create palustrine, riverine floodplain wetlands to compensate for losses of wetland functions, while improving the aquatic resource environment. Water regime modifiers for mitigation wetlands are temporarily flooded and seasonally flooded.

The objectives of the Bank are to develop approximately 46.20 acres of mitigation wetlands for allocation toward future LRC projects. In addition, the Bank will establish 6.40 acres of native grassed buffer around the mitigation wetlands to enhance and preserve aquatic functions of the Bank.

The primary geographical service area for the Bank is the Lower Platte watershed (HUC 8 ID: 10200202), a small portion of the Salt HUC 8 watershed (HUC 8 ID: 10200203), and a portion of the Lower Platte-Shell HUC 8 watershed (HUC 8 ID: 10200201) that are located within the Lower Platte Alluvial Plain Ecoregion. At the discretion of USACE, credits may be approved outside of the primary geographic service area.

USACE approval of the Bank constitutes the regulatory approval required for the Bank to be used to provide compensatory mitigation for Department of the Army permits pursuant to 33 CFR 332.8(a)(1). The Bank is not a contract between the Bank Sponsor or Property Owners and USACE, or any other agency of state or federal government which may be signatory hereto. Any dispute arising under this Agreement will not give rise to any claim by the Bank Sponsor or Property Owners for monetary damages. This provision is controlling notwithstanding any other provision or statement in the Agreement to the contrary.

Insert Name and Position
Lyman-Richey Corporation, Bank Sponsor

Date Signed

Insert Name and Position
U.S. Army Corps of Engineers, Omaha District

Date Signed

**Gretna Bottom 2 Wetland Mitigation Bank
Interagency Review Team
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BY: _____ Date Signed: _____
U.S. Environmental Protection Agency, Region 7

BY: _____ Date Signed: _____
State Conservationist
Natural Resources Conservation Service

BY: _____ Date Signed: _____
U.S. Fish and Wildlife Service

BY: _____ Date Signed: _____
Nebraska Department of Environment and Energy

BY: _____ Date Signed: _____
Nebraska Game and Parks Commission

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1 Project Overview

Lyman-Richey Corporation (LRC) proposes to construct and operate the Gretna Bottom 2 Wetland Mitigation Bank (Bank), in accordance with its Umbrella Wetland and Stream Mitigation Banking Agreement (Umbrella Agreement). Planned construction is intended to facilitate mitigation wetland development only – no portion of the Bank would be mined.

The purpose of this Site Development Plan is to detail establishment, use, operation, and maintenance of the Bank. The contents provided herein are consistent with those outlined in 33 CFR 332.4(c).

1.1 Gretna Bottom 2 Mitigation Bank

The 52.60-acre Bank is located just east of the Platte River in Sarpy County, Nebraska (see Appendix A, Figure A1). More specifically, the Bank is located north of the intersection of Fairview Road and South 252nd Street in Section 09, Township 13 North, Range 10 East. The Bank consists of fallow agricultural field/unmaintained land in proximity to the active mining operations at LRC's Plant 52. The Bank was delineated as part of LRC's Plant 52 Project in 2017 (USACE File No. 2016-00221). No wetlands or waterways were identified within the Bank.

The Bank is located in the Lower Platte watershed (HUC 8 ID: 10200202) and the Lower Platte Alluvial Plain Level IV Ecoregion. The Geographic Service Area (GSA) for the Bank would include the Lower Platte HUC 8 watershed, a small portion of the Salt HUC 8 watershed (HUC 8 ID: 10200203) on the eastern side, and the lower portion of the Lower Platte-Shell HUC 8 watershed (HUC 8 ID: 10200201) that are located within the Lower Platte Alluvial Plain Ecoregion (see Appendix A, Figure A2).

1.2 Plant 40 and Plant 52 Project-Specific Mitigation

Plant 40 (2017-00703) and Plant 52 (2016-00221) are existing LRC sand and gravel mining operations. The Plant 52 site is located immediately east of the Bank (see Appendix A, Figure A3). Plant 40 is located in Waterloo, Nebraska, in Sections 19 and 24, Township 15 North, Range 10 East (41.2511376, -96.3413903). Plant 40 and Plant 52 are separate, stand alone, permitted actions with proposed permittee-responsible mitigation within the footprint of the Bank. The majority of the mitigation requirements of Plant 40 and Plant 52 were satisfied via LRC's Gretna Bottom 1 Mitigation Bank and by credit purchase from the Bundy Wetland Mitigation Bank. Additionally, 20.04 acres at the Gretna Bottom 2 Mitigation Bank property would provide necessary mitigation for 2023/2024 Plant 40 and Plant 52 mining impacts. The property is of adequate size and location to fulfill these project-specific mitigation requirements, while also developing wetland bank credits with the surplus acreage.

2 Objectives

Bank objectives are as follows:

- Create 5.12 acres of emergent wetland and 0.40 acre of scrub-shrub wetland to fulfill the balance of wetland mitigation requirements of Plant 40.
- Create 14.52 acres of emergent wetland to fulfill the balance of wetland mitigation requirements of Plant 52.
- Create and bank 27.76 wetland mitigation bank credits for future LRC projects.
- Establish 6.40 acres of native grassed buffer around the mitigation wetlands.
- Realize the following ecological functions/values in the Platte River floodplain: wildlife habitat, groundwater recharge, flood storage, and water quality.

3 Site Selection

Multiple factors were considered for site selection:

1. Landscape Position – The Bank lies just downstream of the Elkhorn River confluence with the Platte River and within the Platte River floodplain. Prior to agricultural conversion, wetlands and wet meadows were prevalent within the Platte and Elkhorn River floodplains. Many of these wetlands have been lost as a result of agricultural practices.
2. Technical Suitability – Considerations necessary to facilitate successful and sustainable wetland development include the following:
 - a. Hydrology – The Bank’s location within the Platte River floodplain, and the associated availability of groundwater, would provide the necessary hydrology (14 or more consecutive days during the growing season) to achieve the Bank’s objectives. No additional water rights would be needed to maintain the requisite hydrology.
 - b. Feasibility – With minor grading, the Bank can utilize available groundwater hydrology to develop wetland conditions. No water control structures would need to be constructed or seasonally manipulated to achieve the desired objectives. A select range of grading contours, in combination with seasonally fluctuating groundwater levels, would allow specific water regimes and associated wetland vegetation.
 - c. Reference Sites – The presence of existing wetlands near the Bank indicates the potential for wetland development on the Bank. Gretna Bottom 1 Mitigation Bank is located immediately southeast of the Bank. Gretna Bottom 1 utilized similar design criteria as the Bank and has certified wetland credits after its third year of monitoring. Additional mitigation banks with certified credits are located 1.5 to 2.5 miles south of the Bank, within the same Platte River floodplain. These banks support similar vegetation and hydrologic conditions (emergent to semi-permanently flooded wetlands), creating riverine floodplain wetland complexes.

- d. Compatibility – The Bank is surrounded by agriculture and Plant 52. Its placement in the Platte River floodplain is compatible with existing land uses, as well as the future reclamation of Plant 52 to wetland and open water areas.
 - e. Upland Buffer – The size of the Bank allows for a minimum 50-foot upland buffer (the buffer exceeds 50 feet in many areas). LRC would clearly delineate the Bank’s boundary and employ best management practices to prevent inadvertent impact from adjacent mining activities, which are proceeding east and north in future years: away from the Bank.
3. LRC Planning – LRC anticipates future mining activities, and associated unavoidable impacts to waters of the U.S., within the GSA over the next 20 years.

4 Protection Instrument

LRC would initially own the Bank and establish a conservation easement or implement other protective real estate mechanisms. The real estate mechanism would be filed with the Sarpy County Registrar of Deeds. LRC would provide a certified copy of the document to USACE within 60 days of the completion of construction.¹ Regardless of potential, future LRC relinquishment of ownership, these restrictive preservation mechanisms would protect the mitigation wetlands in perpetuity.

5 Baseline Information

The Bank is located in the FEMA designated floodway of the Platte River, just downstream of the Elkhorn River confluence. The Bank would be in close proximity to the first Gretna Bottom Wetland Mitigation Site, as well as several open water pits associated with past mining activities. The Bank has historically been (and is currently) maintained for agricultural practices. Ten historic aerial photographs, ranging from 1953 to 2020, are provided as Appendix B. Surrounding land use is also agricultural.

5.1 Aquatic Resources

A wetland delineation report for Plant 52, developed in accordance with the *Army Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and *Midwest Regional Supplement* (USACE 2010), was submitted to USACE as part of the Plant 52 Section 404 Permit Application (see Appendix C). No wetlands or waterways were delineated within the Bank. The Bank would be situated within Plant 52’s original Phase 1 footprint. Due to unexpected changes in geologic conditions identified within the original Phase 1 area, mining has ceased with no further expansion of mining operations in the area.

¹ LRC understands that no mitigation credit would be released until the site protection files are verified (in addition to the Site Plan being approved and the financial assurances being confirmed).

5.2 Hydrology

A Groundwater Analysis Technical Memorandum was developed by HDR in 2021 (see Appendix D). The analysis found groundwater elevations within the Bank ranging from 1,066.1 to 1,070.4 feet, with the lowest groundwater elevations occurring in the southern part of the Bank. The depth to water table across the Bank ranges from 0 to 6.6 feet, with the mean depth to water table equating 2.7 feet below ground surface. Groundwater elevations and depth to groundwater surfaces were interpolated and mapped from surrounding well data in order to inform Bank design.

5.3 Water Quality

Approximately 0.14 mile west of the Bank, the Platte River (LP1-10000) is listed as a Category 5 impaired waterway in the 2020 Nebraska Water Quality Integrated Report. The Platte River is impaired for aquatic life – fish consumption, for recreation due to *E. coli*, and public drinking water due to Arsenic (NDEE 2021). An *E. coli* Total Maximum Daily Load (TMDL) was approved in 2007.

5.4 Vegetation

Because the Bank has been regularly cultivated and has experienced routine disturbance from adjacent mining, the area is dominated by non-wetland, ruderal species, including: field pennycress (*Thlaspi arvense*), pigweed (*Amaranthus spp.*), horseweed (*Conyza canadensis*), common ragweed (*Ambrosia artemisiifolia*), great ragweed (*Ambrosia trifida*), red cedar (*Juniperus virginiana*), mullein foxglove (*Dasistoma macrophylla*), buffalograss (*Bouteloua dactyloides*), field bindweed (*Convolvulus arvensis*), honey locust (*Gleditsia triacanthos*), annual sunflower (*Helianthus annuus*), common crabgrass (*Digitaria sanguinalis*), Virginia plantain (*Plantago virginica*), and smooth brome (*Bromus inermis*).

5.5 Soils

According to the U.S. Department of Agriculture (USDA)/NRCS Soils Survey Geographic (SSURGO) database for Sarpy County, Nebraska, there are three mapped soil series within the Bank (see Appendix A, Figure A4):

- Inglewood-Novina complex, occasionally flooded (Non-Hydric)
- Gibbon loamy sand, overwash, 0-2 percent slopes, occasionally flooded (Non-Hydric)
- Gibbon-Wann complex, occasionally flooded (Non-Hydric)

The Inglewood series consists of very deep moderately well drained soils formed in sandy alluvium on floodplains. Slopes typically range 0 to 3 percent.

The Novina series consists of very deep moderately well drained soils. They formed in loamy and sandy alluvium on floodplains and stream terraces. Slopes range from 0 to 2 percent.

The Gibbon series consists of very deep, somewhat poorly drained soils that formed in stratified, calcareous alluvium. These soils are on floodplains in river valleys of Central Loess Plains, MLRA 75. Slopes range from 0 to 2 percent.

The Wann series includes very deep, somewhat poorly drained soils formed in stratified calcareous alluvium. These soils are on floodplains in river valleys in Central Loess Plains, MLRA 75. Slope ranges 0 to 2 percent.

5.6 Wildlife

Existing wildlife species are those typically found on agricultural land in the area: white-tailed deer, rabbits, mice, eastern wild turkeys, pheasants, and crows.

6 Determination of Credits

6.1 Project-Specific Mitigation

2023/2024 Plant 40 and Plant 52 impacts require 20.04 acres of project-specific wetland mitigation, as detailed in Table 1. Impacts would be offset in the southern portion of the Bank via project-specific mitigation (see Appendix A, Figure A5).

Table 1. Plant 40 and Plant 52 Project-Specific Mitigation Matrix

Year	Wetland Impacts			Wetland Mitigation			
	Wetland Type ¹	Nebraska Subclass	Acres	Wetland Type ¹	Nebraska Subclass	Ratio	Acres
Plant 40 (2017-00703)							
2023	PEMAC	Riverine Channel	0.01	PEMAC	Riverine Floodplain	4:1	0.04
	PEMAC	Riverine Floodplain	0.01	PEMAC	Riverine Floodplain	2:1	0.02
	PEMF	Riverine Channel	0.09	PEMAC	Riverine Floodplain	8:1	0.72
	PSSA	Riverine Channel	0.10	PSSA	Riverine Floodplain	4:1	0.40
	WIAS	Riverine Floodplain	1.47	PEMAC	Riverine Floodplain	2:1	2.94
2024	PEMAC	Riverine Floodplain	0.70	PEMAC	Riverine Floodplain	2:1	1.40
TOTAL			2.38	TOTAL			5.52
Plant 52 (2016-00221)							
2023	WIAS	Riverine Floodplain	4.43	PEMAC	Riverine Floodplain	2:1	8.86
2024	WIAS	Riverine Floodplain	2.83	PEMAC	Riverine Floodplain	2:1	5.66
TOTAL			7.26	TOTAL			14.52
GRAND TOTAL			9.64	GRAND TOTAL			20.04

Note: ¹ WIAS = Wetland in an agricultural setting; PEMAC = Palustrine Emergent Temporarily/Seasonally Flooded Wetland; PSSA = Palustrine Scrub-Shrub Temporarily Flooded Wetland.

6.2 Wetland Credit Production

At which time that USACE determines that all Plant 40- and Plant 52-specific mitigation obligations have been met, wetland mitigation bank credits would be requested for surplus wetland acreage that has shown consistent establishment on the Bank. Credits would be certified when USACE has verified that the Bank meets performance standards (see Section 9). Table 2 considers Plant 40- and Plant 52-specific mitigation and details the amount of surplus wetland area that may be certified as bank credit.

Table 2. Wetland Credit Potential

Type	Anticipated Acres	Plant 40 Debit (Acres)	Plant 52 Debit (Acres)	Net Bank Credits
PEMA/C	39.10	-5.12	-14.52	19.46 ¹
PSSA	5.20	-0.40	N/A	4.80 ¹
PFOA	1.90	N/A	N/A	1.90 ¹
Buffer	6.40	N/A	N/A	1.60 ²
TOTAL	52.60	-5.52	-14.52	27.76

Notes:

¹ Credits for wetland creation are produced at a ratio of 1:1 (LRC 2019).

² Credits for buffer are produced at a ratio of 4:1 (LRC 2019).

6.3 Wetland Credit Availability

A general schedule of credit availability, including allowable pre-crediting, is provided in Table 3. Pre-crediting is only applicable to the surplus area of the Bank that is not associated with Plant 40- and Plant 52-specific mitigation (see Table 2). Pre-crediting may be applied to 30 percent of the planned, surplus mitigation wetlands that satisfy wetland criteria (as defined in the USACE 1987 Wetland Delineation Manual and 2010 Regional Supplement), but are pending IRT certification. Partial bank certification is allowable, at the discretion of the IRT.

Table 3. Schedule of Wetland Credit Availability

Bank Status	Available Credits Released ¹	Cumulative Credits Released ¹
Site Development Plan Approval <i>(pre-crediting)</i>	1.39 (5%)	1.39 (5%)
Construction Complete <i>(pre-crediting)</i>	2.78 (10%)	4.16 (15%)
Satisfies Wetland Criteria ² <i>(pre-crediting)</i>	4.16 (15%)	8.33 (30%)
Certified	27.76 (100%)	27.76 (100%)

Notes:

¹ Based on total anticipated credits.

² Wetland criteria are defined in the *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and *Midwest Regional Supplement* (USACE 2010).

7 Mitigation Work Plan

The Plant 40- and Plant 52-specific emergent and scrub-shrub wetland impacts would be mitigated at a variety of ratios ranging from 2:1 to 8:1 (see Table 1). The resulting project-specific mitigation need is 20.04 acres of emergent and scrub-shrub wetlands to be located in the southern portion of the Bank. The remainder of the Bank would be optimized for wetland credit establishment. The entirety of the Bank would be buffered with native grasses and forbs. No stream mitigation is proposed at the Bank. The design drawing is provided as Appendix E.

7.1 Grading Plan

The Grading Plan is intended to facilitate groundwater interaction and mitigation wetland development (see Appendix E). Groundwater elevations range from 1,071 feet on the north to 1,066 feet on the south (see Appendix D). Proposed PEMA/C wetland elevations are 1 to 2 feet higher than the water table, across the Bank. Proposed PFOA and PSSA wetland elevations are 1 to 2 feet higher than the proposed PEMA/C elevations. The proposed contours are designed to provide connected depressions that mimic the natural, north to south Platte River drainage pattern.

Grading would be performed by a professional grading contractor. During construction, the contractor would use sediment and erosion control best management practices, as appropriate.

7.2 Hydrology

Groundwater would be the primary hydrology source for the Bank. The Grading Plan was informed by groundwater analysis and should result in post-construction groundwater interaction that provides inundation and/or soil saturation for extended periods during the growing season. Local stormwater runoff would equate a minor, secondary source. Additional hydrologic considerations are as follows:

- There are multiple groundwater monitoring wells in close proximity to the Bank that could continue to be used to evaluate groundwater levels.
- Plans do not include any type of water control structure.
- No additional water rights would be required.

7.3 Vegetation

The “OBL Wetland” seed mixture would be applied in the 39.1 acres planned for emergent wetland development. The “FACW Wetland” seed mixture would be applied in the 7.1 acres planned for forested and scrub-shrub wetland development. Appendix F details both seed mixtures.

7.4 Soils

On-site soils would be used for vegetation establishment. Topsoil would be stockpiled and preserved during grading, and re-spread in planned wetland and buffer areas. Erosion control measures would be used during grading.

7.5 Habitat

The Bank, and associated wetland and upland vegetation, would provide wildlife habitat, and would supplement the valuable and broad-reaching habitat of the adjacent Platte River. More specifically, it is anticipated that the Bank would receive increased use by waterfowl, beaver, muskrat, and various species of amphibians and reptiles.

7.6 Buffer

A minimum 50-foot-wide buffer would be developed around the Bank perimeter. An upland meadow seed mixture composed of grasses and forbs would be applied to the 6.4 acres of planned buffer (see Appendix F).

7.7 Construction Schedule

Bank construction is contingent upon Site Development Plan approval and the issuance of a Section 404 permit amendment for Plant 40 and Plant 52. The Bank would be constructed concurrent with, or in advance of, the 2023-2024 Plant 40 and Plant 52 project impacts.

8 Maintenance and Invasive Species Control

LRC is financially responsible for the Bank and associated maintenance activities, which may include: mowing of native grasses to establish buffer, post-construction erosion control, and general maintenance of wetland areas. Additionally, the Bank would be inspected regularly for the presence of invasive/noxious weeds. If identified, such species would be mowed or sprayed, at the recommendation of a qualified biologist and following approval by USACE.

9 Performance Standards

Bank development is expected to satisfy the below-listed, annual performance standards. When evaluating these standards, wetland hydrology indicators are those defined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010). Hydric soil indicators are intentionally absent from the annual performance standards because they may take more than 10 years to develop. Success of the upland buffer would be determined by the establishment of at least 75 percent perennial cover.

9.1 Emergent Wetland Mitigation

- Year 1 – Annual and perennial grasses and forbs recruited from the soil, the native wetland seed mixture, and from propagules received from adjoining wetlands will begin to become established. These new plants will be interspersed, and bare ground may be apparent. Weedy annual species may be present and abundant. Absolute ground cover is at least 25 percent by the end of the first growing season. At least one primary hydrology indicator is present, distinct, and appropriate for the targeted water regime(s). Volunteer native tree species are establishing (but are not expected to be dominant within the community).

- Year 2 – The plant distribution shall meet the 1987 Manual Dominance Test – more than 50 percent of the dominant species are FAC or wetter. Absolute ground cover, species abundance, and species diversity are greater than Year 1. Undesirable species (noxious weeds, *Typha*, *Phragmites*, *Phalaris*, etc.) are neither dominant nor trending toward dominance. Weedy annuals may still be present or even dominant, but should be decreasing. Absolute ground cover is at least 50 percent. At least one primary hydrology indicator is present, distinct, and appropriate for the targeted water regime(s). Volunteer native tree species are establishing (but are not expected to be dominant within the community).
- Year 3 – The plant distribution shall meet the 1987 Manual Dominance Test – more than 50 percent of the dominant species are FAC or wetter. Additionally, at least three native hydrophytes are among the list of dominants. Weedy annuals may still be present, but are on a continuing decline. Absolute ground cover is at least 75 percent. At least one primary hydrology indicator is present, distinct, and appropriate for the targeted water regime(s). Volunteer native tree species are establishing (but are not expected to be dominant within the community).
- Year 4 – The Year 3 thresholds for vegetation and hydrology continue to be met. Weedy annuals are rare. Volunteer native tree species are establishing (but are not expected to be dominant within the community).
- Year 5 – The Year 3 and 4 thresholds for vegetation and hydrology continue to be met and show all signs of sustainability. The wetland acreage required by the permit will meet the dominance test for wetland vegetation and at least three native hydrophytes will be among the dominant species. Absolute ground cover is at least 75 percent. At least one primary hydrology indicator is present, distinct, and appropriate for the targeted water regime(s). Undesirable species have been stabilized as a non-dominant. Volunteer native tree species are establishing (but are not expected to be dominant within the community).

9.2 Scrub-Shrub and Forested Wetland Mitigation

Scrub-shrub and forested wetland performance standards are listed below. Volunteer shrubs and trees may be selectively retained for potential substitution/replacement.

- Year 1 – Planted shrub and tree species are establishing for the appropriate water regime. Dead shrubs and trees will be replaced. Annual and perennial grasses and forbs recruited from the soil, the native wetland seed mixture, and propagules received from adjoining wetlands will begin to become established. Weedy annual species may be present and abundant. Absolute ground cover is at least 25 percent. At least one primary hydrology indicator is present, distinct, and appropriate for the target landscape.
- Year 2 – Re-planted shrub and tree species are establishing for the appropriate water regime. Species are viable in size and disease resistant. Shrub and tree replacement trending less. All dead shrubs and trees will be replaced. Absolute ground cover, species abundance, and species diversity are greater than Year 1. Undesirable species (i.e. noxious weeds, *Typha spp.*, *Phragmites spp.*, *Phalaris spp.*) are neither dominant nor trending toward dominance. Weedy annuals may still be present or even dominant, but should be less than Year 1. Absolute ground cover is at least 50 percent. At least one primary hydrology indicator is present, distinct, and appropriate for the target landscape.
- Year 3 – Re-planted shrub and tree species are establishing for the appropriate water regime. Species are viable in size and disease resistant. Shrub and tree replacement trending less. All dead shrubs and trees will be replaced. The plant

distribution shall meet the dominance test standards in the 87 Manual and Regional Supplement. Additionally, there are at least three native hydrophytes among the list of dominants. Absolute ground cover, species abundance, and species diversity are greater than the previous year. Weedy annuals may still be present, but should be less than the previous year. Absolute ground cover is at least 75 percent. At least one primary hydrology indicator is present, distinct, and appropriate for the target landscape.

- Years 4 and 5 – Shrubs and trees are viable in size and disease resistant. The survival rate, after year 4, shall not be less than 75 percent. If the survival rate is less than 75 percent, the dead shrubs and trees will be replaced. If survival rate of planted shrub and tree species is less than 75 percent of the original count, the shrubs and trees will be replaced to the original 100 percent planting count. A shrub and tree stratum baseline survey will estimate percent for the PSSA and PFOA wetland mitigation areas. The shrub and tree stratum survey will show increasing percent of coverage over the previous year. The baseline survey will include voluntary shrubs and trees.

10 Monitoring

LRC would be fiscally and administratively responsible for annual success monitoring of the Bank. Annual monitoring would identify and document mitigation wetland development and would include the below-defined content.

Wetland monitoring would consist of a comprehensive wetland determination, as described in the *USACE 1987 Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010). These methods would be used to determine if successful wetland development has occurred. Transects would be established during the first year of monitoring. In year one, sample points would be taken along each transect in locations where conditions transitioned from upland to wetland, or from one wetland type to another. These established sampling point locations would be used in subsequent years of monitoring to document the Bank's development. Sample points would be examined for the following wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Sample point data would be recorded on wetland determination data forms, associated with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010). Ground-level photo points would also be established during the first year of monitoring to document Bank conditions. The same photo point locations would be used in the following years of monitoring to illustrate the progression of the Bank.

Wetland monitoring would identify the extents of wetland vegetation and hydrology via on-site investigation during the growing season. Global Positioning System (GPS) would be used to map wetland/upland boundaries. Groundwater data from localized wells may be obtained and evaluated. Findings would be analyzed against the performance standards defined in Section 9. Results would be documented in annual monitoring reports that would include narration, figures, wetland determination data forms, and photographs. Annual monitoring reports would be submitted to USACE by December 31.

11 Long-Term Management Plan

LRC would own the Bank and would be responsible for the construction, maintenance, and long-term management of the Bank.² LRC would prepare and file a protective real estate instrument, as discussed in Section 4.

At some point in the future, LRC may elect to transfer ownership of the Bank, or otherwise engage the assistance of other organizations in the long-term management or maintenance of the Bank. In the event LRC intends to transfer ownership, management, or maintenance obligations, LRC shall first obtain consent from USACE. Prior to the closure of the Bank, a long-term management plan would be submitted to USACE for approval.

12 Adaptive Management Plan

In the event that the Bank fails to achieve performance standards, LRC would be responsible for adaptive management and would develop, coordinate, and implement appropriate remedial actions in accordance with the following subsections.

12.1 Procedural Steps

The Bank would be adaptively managed to account for changing and unforeseen circumstances. This would include changes in adjacent land uses, upstream or downstream management issues, or variances in anticipated hydrology. This also includes changes in responsible party. Adaptive management would be achieved through the following process:

- Problem Assessment – Identify issues that are prohibiting the Bank from achieving performance standards.
- Action Design – Determine how to address the undesired situation and present the solution. Coordinate the Action Design with USACE, and potentially other resource agencies. Include methods to monitor the success of the Action Design.
- Implementation – Implement the Action Design.
- Monitoring – Monitor the problem area, consistent with the methods established with the Action Design.
- Evaluation and Feedback – Document monitoring results in an annual monitoring report (or more frequently, if necessary).

12.2 Extraordinary Circumstances

If during the course of annual monitoring, the likelihood of achieving success criteria appears unlikely, LRC would prepare an analysis of the cause(s) of failure in that year's monitoring report and propose a remedial action. If circumstances beyond LRC's control (for example, significant changes in annual precipitation compared to baseline analysis) occurred during a year of monitoring affecting the development of the site, discussions with USACE would occur to determine if the situation is now normal for the site. In this

² LRC would not be responsible for the requirements of this Site Development Plan, if precluded from performing monitoring, maintenance, or management activities by acts of war, acts of God, rebellion, strikes, or natural catastrophes that are beyond the control of LRC.

event, remedial actions would be proposed. Remedial actions may include additional excavation, reseeding, additional review of local or regional hydrology, re-evaluation of management techniques, and/or development of a new mitigation site. In the event all, or a portion, of the mitigation site fails to achieve the success criteria set forth, LRC would be required to replace the acres on-site or off-site at appropriate ratios.

LRC may request, and USACE may approve, changes to the construction, operation, objectives, performance standards, timelines, or credit generation and award schedule of the Site if an act or event causes substantial damage such that it is determined to be a result of extraordinary circumstances; such act or event has a significant adverse impact on the quality of the aquatic functions, native vegetation, or soils of the Site; and such act or event was beyond the reasonable control of LRC, its agents, contractors, or consultants to prevent or mitigate. Extraordinary circumstances include natural or human-caused catastrophic events or deliberate and unlawful acts by third parties. Examples of a natural catastrophic event include, but are not limited to: a flood equal to or greater in magnitude than the 100-year flood event; earthquakes; drought that is significantly longer than the periodic multi-year drought cycles that are typical of weather patterns in the Midwest; as well as events of the following type when they reach a substantially damaging nature: disease, wildfire, depredation, regional pest infestation, or significant fluviogeomorphic change. Examples of a human-caused catastrophic event include, but are not limited to, substantial damage resulting from war, insurrection, riot or other civil disorders, spill of a hazardous or toxic substance, or fire. Examples of a deliberate and unlawful act include, but are not limited to, substantial damage resulting from the dumping of a hazardous or toxic substance, as well as significant acts of vandalism or arson. The consequences of any extraordinary circumstances shall not affect the status of previously released bank credits, whether or not they have yet been sold, used, or transferred.

13 Financial Assurances

LRC would be responsible for all phases of Bank development: construction, monitoring, maintenance, remedial measures, and overall success.

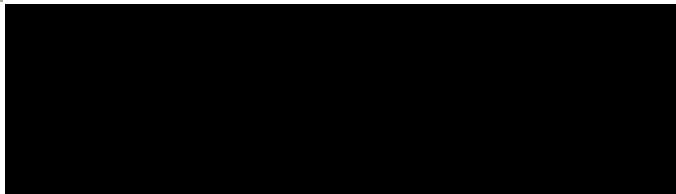
LRC, a company of good standing and long history within Nebraska, has the financial capacity to implement the Bank, as described herein. LRC would provide documentation (e.g. letter of credit) that identifies LRC's securing of adequate funding for operation and maintenance of the Bank. Written documentation of LRC's financial resource commitments would be provided to USACE under separate cover.

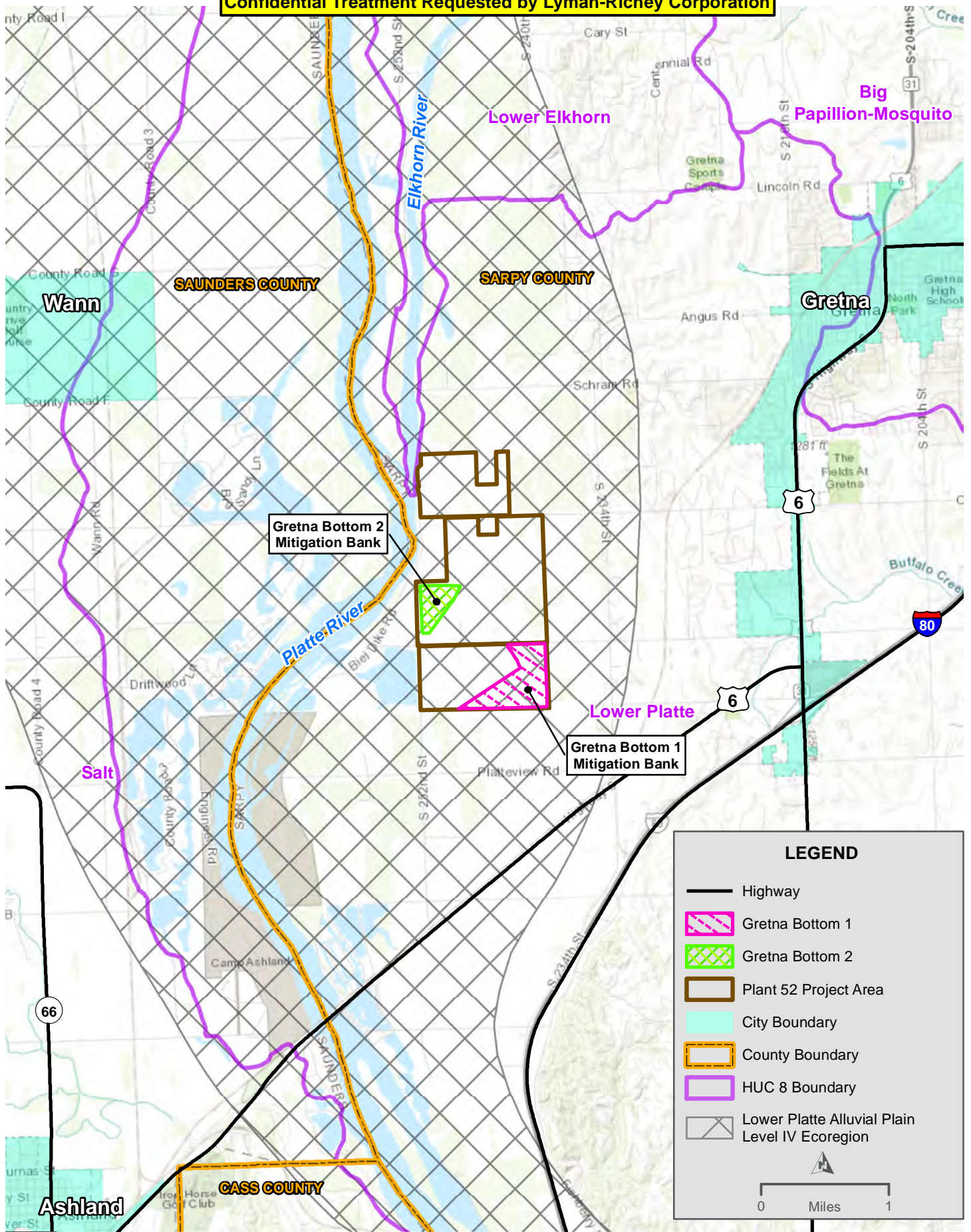
14 References

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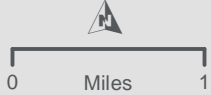
Appendix A
Figures





LEGEND

- Highway
- Gretna Bottom 1
- Gretna Bottom 2
- Plant 52 Project Area
- City Boundary
- County Boundary
- HUC 8 Boundary
- Lower Platte Alluvial Plain Level IV Ecoregion

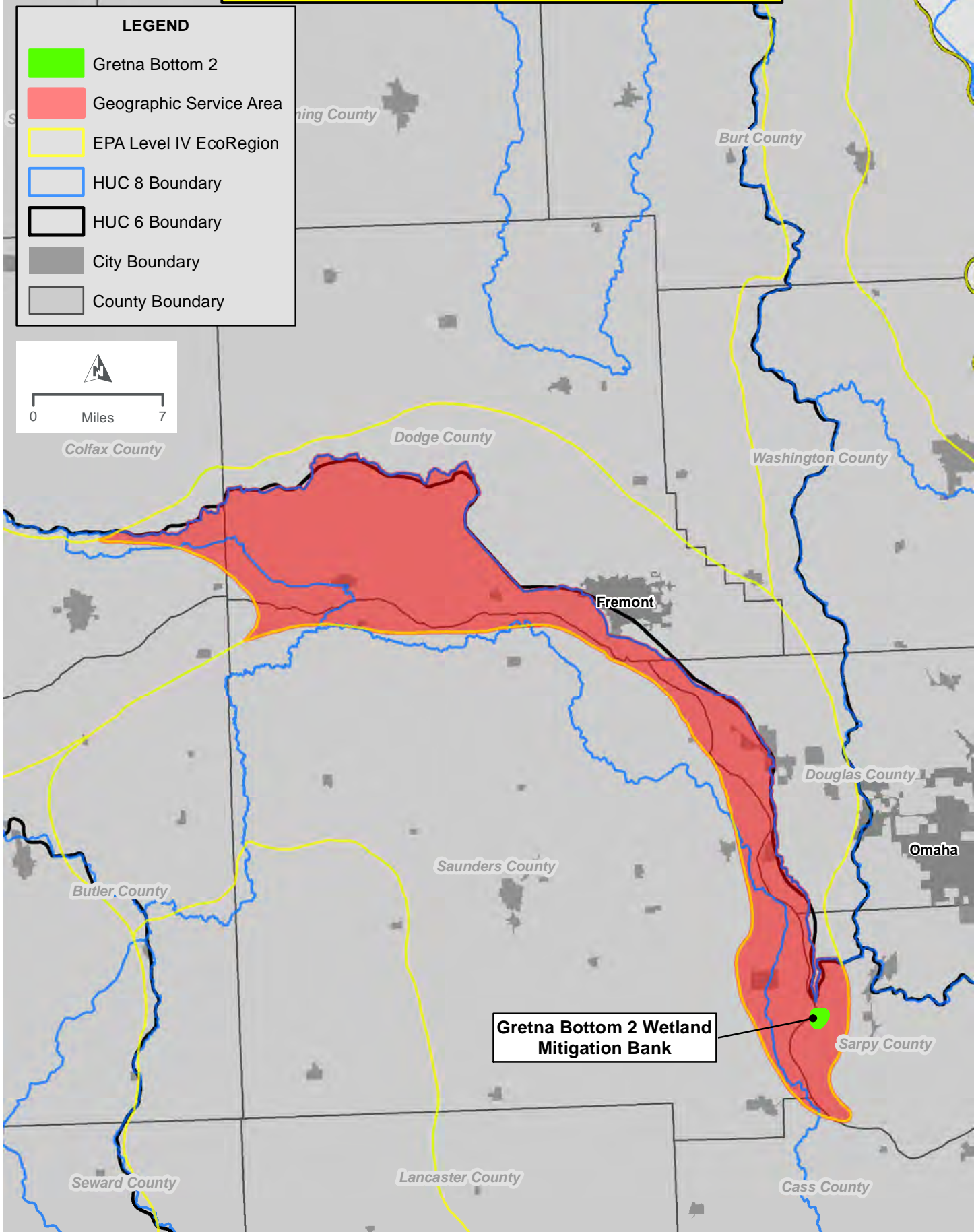


**WETLAND MITIGATION BANK LOCATION
GRETNA BOTTOM 2 WETLAND MITIGATION BANK**

FIGURE A1



LYMAN-RICHEY CORPORATION
Since 1884



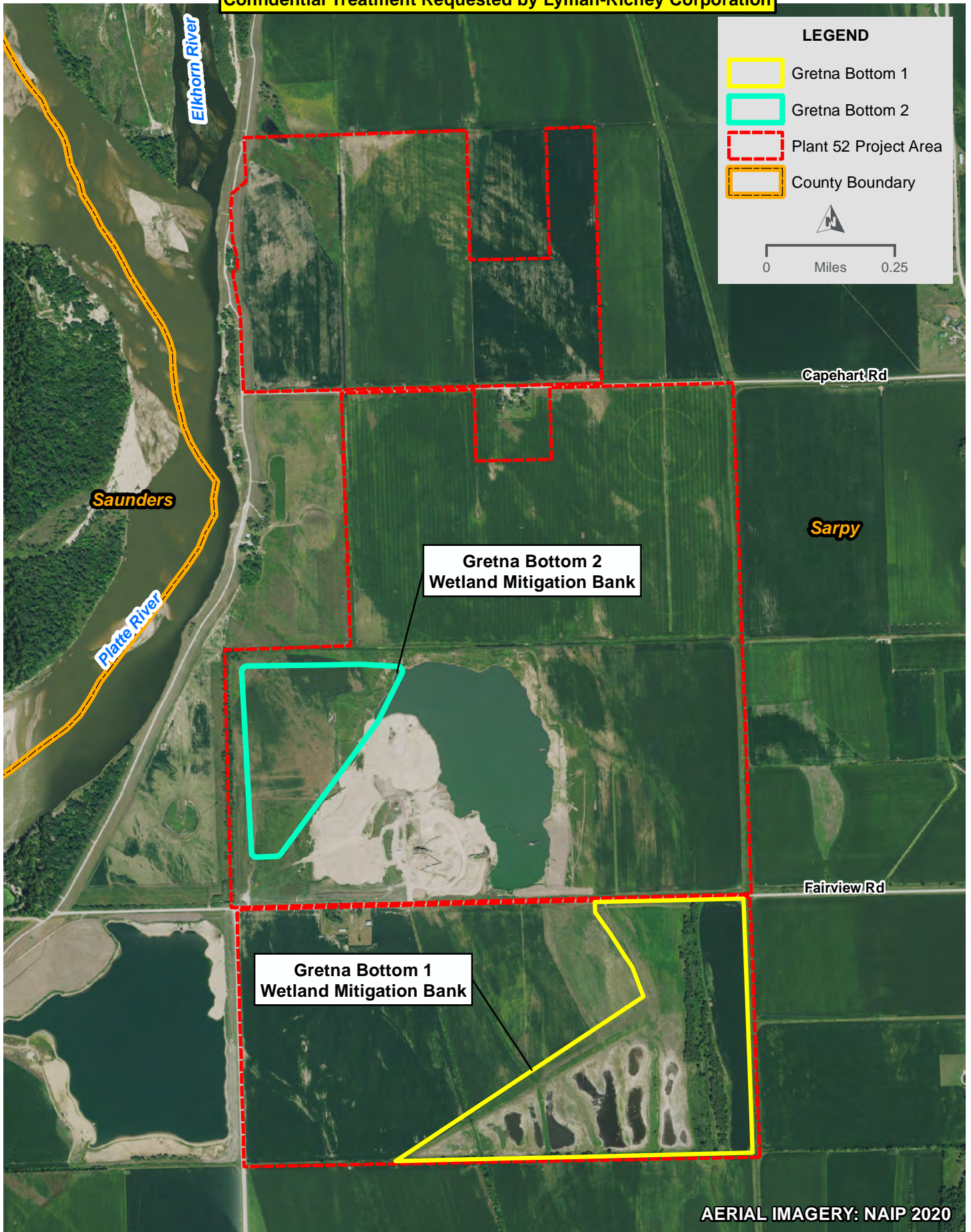
Gretna Bottom 2 Wetland Mitigation Bank



LYMAN-RICHEY CORPORATION

GEOGRAPHIC SERVICE AREA
GRETNA BOTTOM 2 WETLAND MITIGATION BANK

FIGURE A2




LYMAN-RICHEY CORPORATION
Since 1884

**PLANT 52 PROJECT LOCATION
GRETNA BOTTOM 2 WETLAND MITIGATION BANK**




FIGURE A3

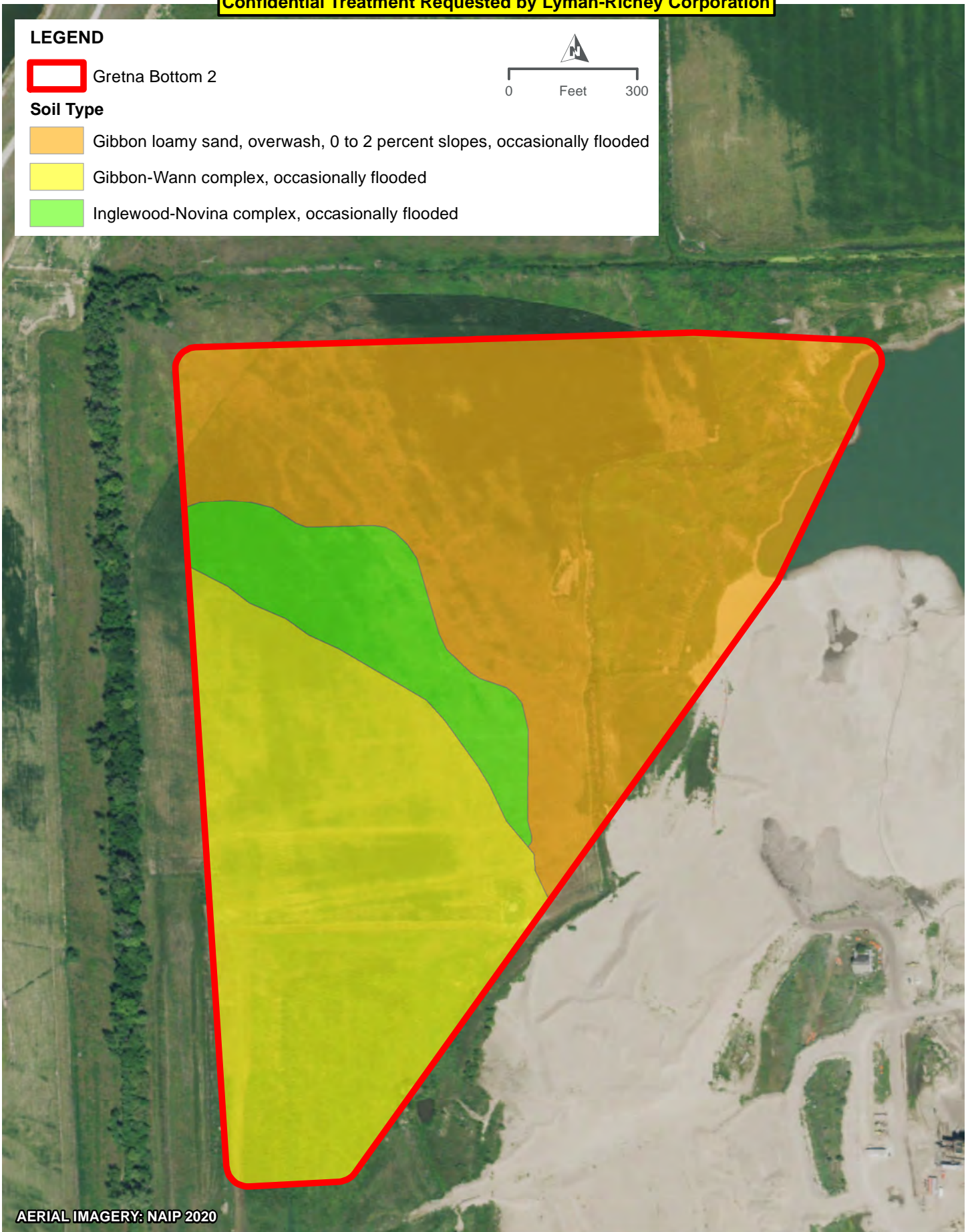
LEGEND

 Gretna Bottom 2



Soil Type

-  Gibbon loamy sand, overwash, 0 to 2 percent slopes, occasionally flooded
-  Gibbon-Wann complex, occasionally flooded
-  Inglewood-Novina complex, occasionally flooded



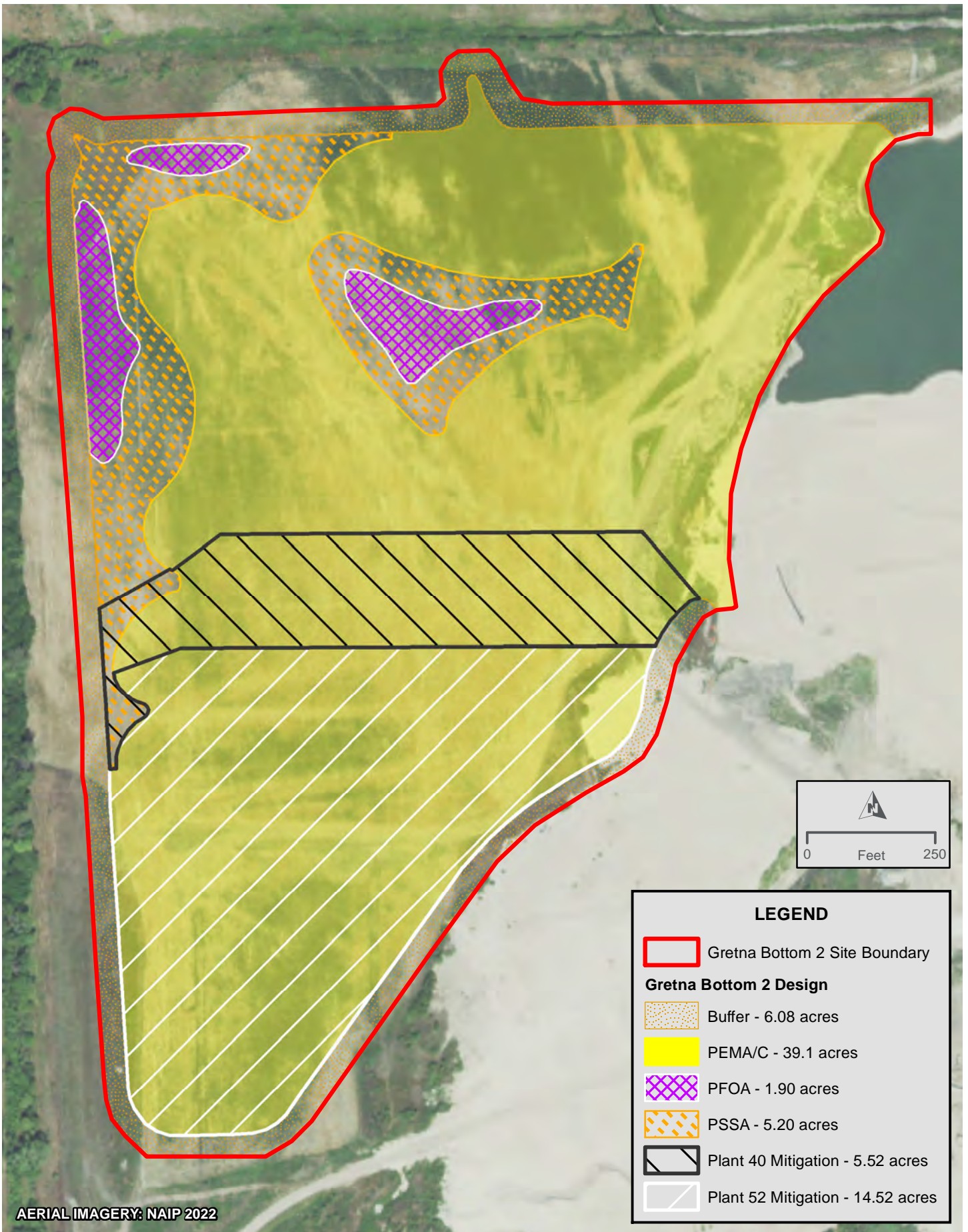
AERIAL IMAGERY: NAIP 2020



LYMAN-RICHEY CORPORATION
SINCE 1984

SOILS
GRETNA BOTTOM 2 WETLAND MITIGATION BANK

FIGURE A4



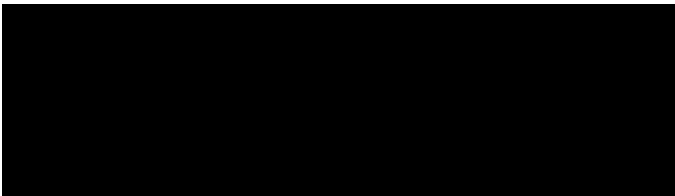



AERIAL IMAGERY: NAIP 2022



LYMAN-RICHEY CORPORATION
Since 1884

**PROJECT-SPECIFIC MITIGATION
GRETNA BOTTOM 2 WETLAND MITIGATION BANK**

FIGURE A5



Appendix B
Historic Aerial
Photographs

1953

FL-152.48mm

FL-152.48mm

WV ASC M 3 AMS JUNE 30 1953 128

WV ASC M 3 AMS JUNE 30 1953 128

167

168



APR 26 1966

4 240

GS-SWAT

1966



APR 26 1966

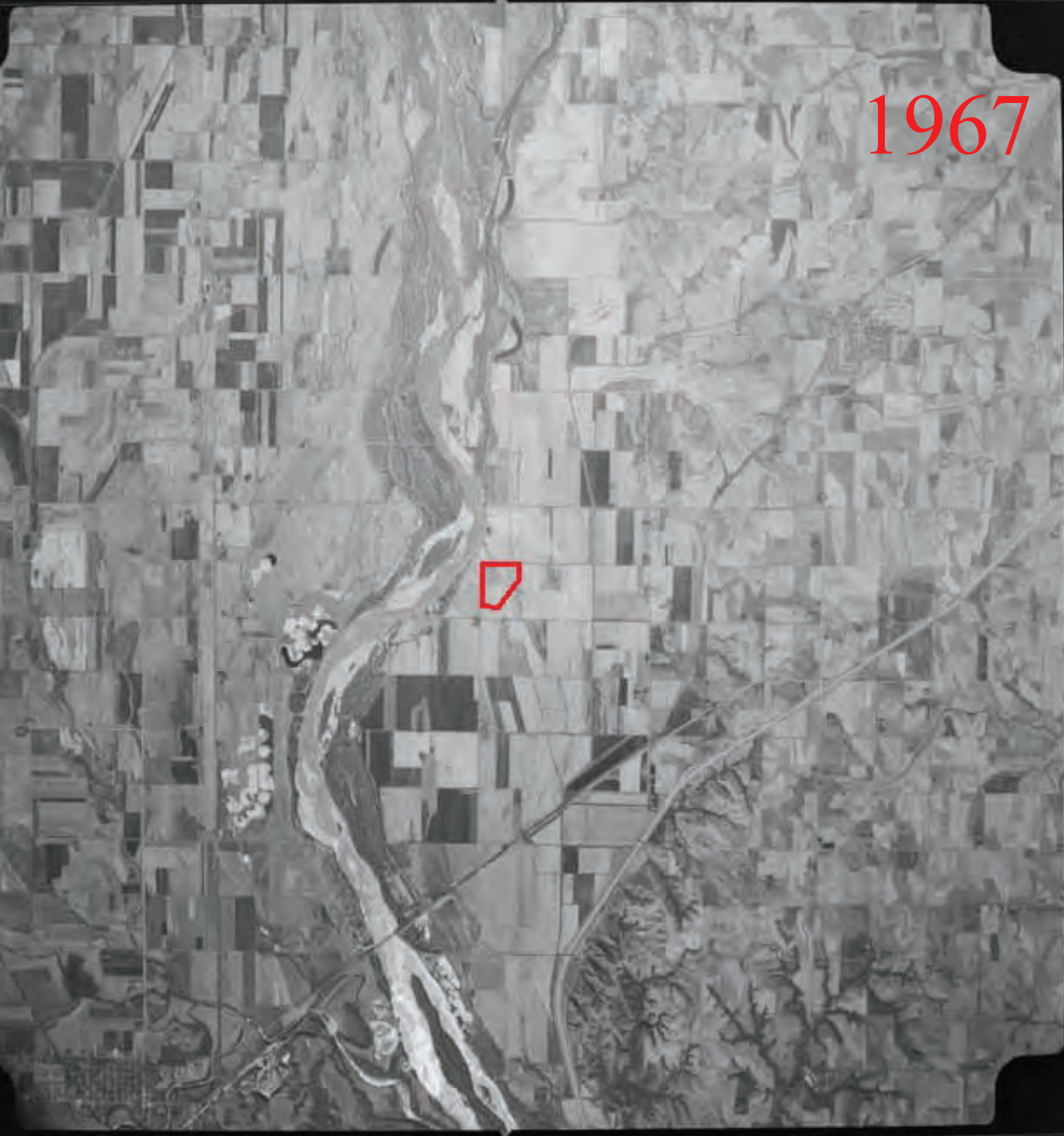
4 239

GS-SWAT

12-17-67 1306 SAG 6 1-51 H-18000 GS-SWCJ

CA 306
SAG 6
1-51-18

12-17-67 1310 SAG 6 1-52 H-18000 GS-SWCJ



1967

CA 306
SAG 6
1-52-18



5-10-78 0942 UAG-245

1-28 H40000 GS-VEPL

1978



1993



Biel-Dike Rd

Fair View Rd

1999



Biel Dike Rd

Fair View Rd

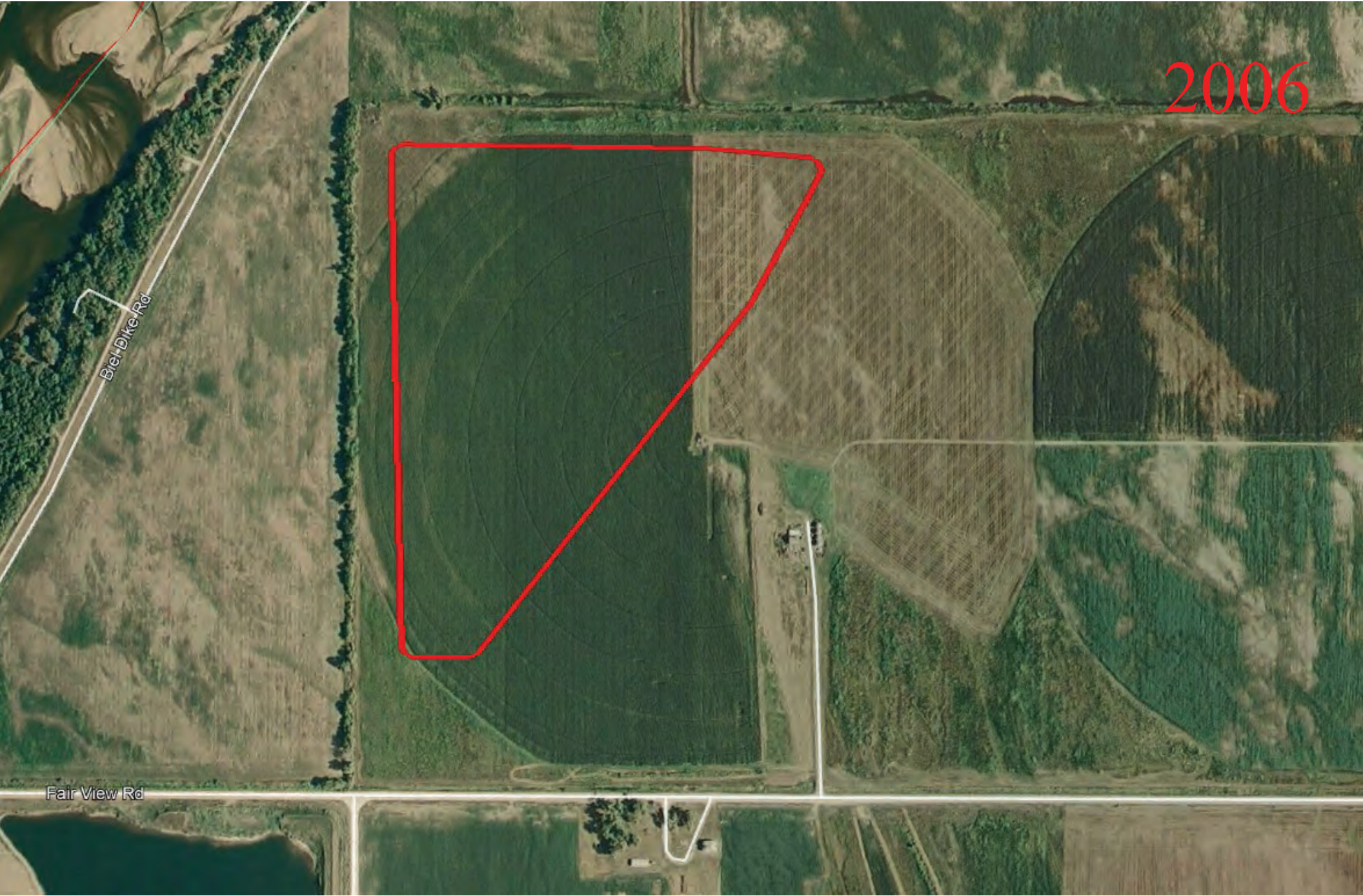
2003

Biel Dike Rd

Fair View Rd



2006



Biel-Dike Rd

Fair View Rd

2013



Biel Dike Rd


Fair View Rd

2020



Biel Dike Rd

Fair View Rd

The page features several large, solid-colored rectangular blocks: a grey block at the top right, a red block on the left side, a grey block at the bottom left, and a black block at the bottom right.

Appendix C
Plant 52 Wetland
Delineation Report



LYMAN-RICHEY
CORPORATION
Since 1884

Gretna Bottoms

Lyman-Richey Corporation

Sarpy County, Nebraska

Wetland Delineation Report

June 2015

Lyman-Richey Corporation Gretna Bottoms

Wetland Delineation Report Sarpy County, Nebraska

1. PROJECT BACKGROUND

Lyman-Richey Corporation is planning to begin operation of a new sand and gravel mining site located southwest of Gretna in Sarpy County, Nebraska. HDR performed an on-site investigation of wetlands and other water resources on April 28-30, 2015.

2. PROJECT LOCATION

The approximate 1,060-acre site is located along Capehart and Fairview Roads adjacent to the confluence of the Platte and Elkhorn Rivers in Sarpy County, Nebraska (approximately 3.6 miles southwest of Gretna, NE). The proposed project would be located in Sections 4, 9, and 16, Township 13 North, Range 10 East (Appendix A, Figure 1 – Project Location Map).

3. WETLAND DELINEATION METHODOLOGY

A desktop analysis of the Study Area was performed prior to the on-site investigation. Information used for this analysis included the following:

- National Wetlands Inventory (NWI) database (USFWS, 1981 - present)
- National Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database
- USDA NAIP aerial photography (USDA NAIP, 2014)
- National Wetland Plant List – Midwest Region (Lichvar et al., 2014)

On-site wetland delineations were performed in April of 2015 in accordance with the 1987 Corps of Engineers *Wetlands Delineation Manual and Midwest Regional Supplement to the 1987 Wetlands Delineation Manual* (Version 2.0).

The limits of delineated wetlands were determined in the field based on the presence, or assumed presence, of all three required wetland parameters (hydrophytic vegetation, hydric soils, and wetland hydrology). During the delineations, HDR wetland scientists evaluated the potential for Federal jurisdiction of delineated resources.

Delineated wetland boundaries and identified waterways are depicted on Figure 2, Sheets 1-4 (Appendix A). Wetland data forms are provided in Appendix B.

4. AGRICULTURAL WETLAND DELINEATION METHODOLOGY

In association with the desktop survey and specific to the agricultural areas within the Study Area, agricultural wetland determinations were completed in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region pertaining to agricultural lands (Environmental Laboratory, 2010). Prior to field determinations, a desktop survey was conducted using ten years of National Agriculture Imagery Program (NAIP) color aerial imagery (USDA, 2014) to identify farmland that displayed wetland signatures. The ten years of imagery analyzed were 2003, 2004, 2005, 2006, 2007, 2009, 2010, 2012, 2013, and 2014. The years 2004, 2006, 2009, and 2010 represent normal years of precipitation. Years 2003, 2005, 2012, and 2013 were dryer than average, and years 2007 and 2014 were wetter than average. Specific wetland signatures include:

- Hydrophytic vegetation
- Surface water
- Flooded or drowned-out crops
- Stressed crops
- Difference in vegetation within a field due to different planting dates
- Inclusion of wet areas as “set aside”
- Patches of greener vegetation during years of below normal precipitation

Areas that displayed wetland signatures in six or more of the ten selected years of NAIP imagery or three years with the presence of an NWI mapped wetland were identified as potential wetlands and geospatially referenced using Geographic Information Systems (GIS).

Following the desktop survey, HDR conducted ground-truthing from April 28-30, 2015 to determine the presence or absence of hydric soil for each of the potential agricultural wetlands. For larger areas, multiple soil samples were analyzed. Hydric soil determinations were made in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. Based on field observations, a “Wetland Determination Data Form – Midwest Region” was completed for each sample point. These forms are presented in Appendix A. Sample points were mapped in the field using global positioning system (GPS) technology. Photographic documentation of the sampled areas is included in Appendix C.

5. DELINEATION RESULTS

5.1 Delineated Wetlands

The on-site wetland delineation identified 16 palustrine emergent wetlands, one palustrine forested wetland, and three palustrine scrub-shrub wetlands totaling 28.18 acres. Appendix B contains all wetland data forms, Table 1 includes a summary of the delineated wetland areas, and Figure 2, Sheets 1-4 (Appendix A) provide aerial views of delineated wetlands.

As part of the agricultural wetland determinations, the mapping conventions identified a total of 17 potential agricultural wetlands. Field investigations found nine of the potential agricultural wetlands displaying indicators of hydric soil and therefore met agricultural wetland criteria. The

areas which met agricultural wetland criteria are summarized in Table 2 and the locations of agricultural wetlands are displayed on Figure 2, Sheets 1-4 (Appendix A).

Table 1. Delineated Wetlands

Sample Point ¹	Figure 2 Sheet No.	Wetland Classification (Cowardin ² Nebraska Subclass)	Area (acres)
S-03	1 & 2	PEMA/PEMC Riverine Floodplain	3.14
S-06	1	PEMA/PEMC Riverine Floodplain	2.54
S-09	1	PEMA/PEMC Riverine Floodplain	0.14
S-13	1 & 2	PEMA/PEMC Riverine Floodplain	1.04
S-15	1, 2, & 3	PEMA/PEMC Riverine Floodplain	1.18
S-18	1, 2, 3, & 4	PEMA/PEMC Riverine Floodplain	3.02
S-20	3 & 4	PEMA/PEMC Riverine Floodplain	0.86
S-23	3 & 4	PEMA/PEMC Riverine Floodplain	0.58
S-24	3 & 4	PEMA/PEMC Riverine Floodplain	1.32
S-26	3 & 4	PEMA/PEMC Riverine Floodplain	2.25
S-29	2 & 3	PSSA Riverine Floodplain	0.08
S-31	2 & 3	PEMA/PEMC Riverine Floodplain	0.23
S-34	4	PEMA/PEMC Riverine Floodplain	0.42
S-36	3 & 4	PEMA/PEMC Riverine Floodplain	0.23
S-38	3 & 4	PEMA/PEMC Riverine Floodplain	1.00
S-39	3 & 4	PSSA Riverine Floodplain	2.66
S-40	3 & 4	PFOA Riverine Floodplain	2.21
S-45	4	PSSA Riverine Floodplain	1.97
S-47	4	PEMA/PEMC Riverine Floodplain	0.57
S-51	3 & 4	PEMA/PEMC Riverine Floodplain	2.74
Total			28.18

Notes:

- 1 Sample Points not provided did not meet wetland criteria.
- 2 PEMA = Palustrine Emergent Temporarily Flooded; PEMC = Palustrine Emergent Seasonally Flooded; PFOA = Palustrine Forested Temporarily Flooded; PSSA = Palustrine Scrub-Shrub Temporarily Flooded

Table 2. Agricultural Wetland Results

Sample Point	FSA Aerials - Enter wetland signature from list below ¹										Meets Desktop Determination	Meets Hydric Soil Criteria (Sample Points)	Acres
	2003	2004	2005	2006	2007	2009	2010	2012	2013	2014			
Ag-01	--	4*	4*	4*	4*	--	4*	--	4*	4*	N	N (Ag-01, 02)	--
Ag-03	4*	--	4*	4*	4*	--	4*	--	4*	4*	N	N (Ag-03)	--
Ag-04	4	4	4	--	--	--	4	4	4	4	Y	Y (Ag-04)	0.44
Ag-06	4	4	--	--	--	4	4	4	4	4	Y	Y (Ag-06, 07, 08)	2.47
Ag-09	4*	--	--	--	--	1*	1*	1*	4*	1*	N	N (Ag-09)	--
Ag-10	--	4*	1*	1*	--	1*	1*	1*	--	4*	N	N (Ag-10)	--
Ag-11	--	4*	1*	1*	--	1*	1*	1*	--	--	N	N (Ag-11)	--
Ag-12	4*	4*	1*	1*	--	1*	1*	1*	--	--	N	N (Ag-12)	--
Ag-13	4*	4*	1*	1*	--	1*	1*	1*	--	--	N	N (Ag-13)	--
Ag-14	4*	4*	--	--	--	--	1*	1*	4*	1*	N	N (Ag-14)	--
Ag-15	4	4	4	4	4	4	--	4	4	4	Y	Y (Ag-15, 16)	3.82
Ag-17	4	--	4	4	4	4	--	4	4	4	Y	Y (Ag-17, 18)	3.79
Ag-19	4	4	4	4	4	4	--	4	4	4	Y	Y (Ag-19, 20)	2.18
Ag-21	4	4	--	4	--	--	4	4	--	4	Y	Y (Ag-21)	1.99
Ag-22**	4	--	4	4	--	--	--	--	--	4	N	Y (Ag-22)	1.34
Ag-23	4	--	--	4	4	4	4	4	--	4	Y	Y (Ag-23)	3.70
AG-24		4	4			4	4	4		4	Y	Y (Ag-24)	0.18
												Total	19.91

Notes: ¹ Wetland Signatures:

- 1 - Hydrophytic vegetation (observed as different color than crop or forage)
- 2 - Surface water (oxbows, depressions, etc.)
- 3 - Flooded or drowned out crops, wet/base soil within cropped fields
- 4 - Stressed crops due to wetness (crop stress is seen on the aerials as areas of yellowish tined crop, or sparse canopy coverage of crop)
- 5 - Difference in vegetation within field due to different planting dates
- 6 - Inclusion of wet areas as set aside
- 7 - Patches of greener vegetation during the years of below normal precipitation (use only as a signature for a “dry year”)
- * - Field visit determined signatures were due to stress from dryness, not wetness; non-hydric soil present
- ** - Area did not meet desktop determination; however, obvious wetland signatures were observed in the field

5.2 Other Water Resources

In addition to delineating wetlands, the survey also identified five non-wetland water resources (e.g. waterway, pond, lake, canal, etc.). Table 3 provides a summary of the non-wetland water resources. According to the National Hydrography Dataset (NHD) (USGS, 2014), only one named waterway intersects the Study Area (the Western Sarpy Ditch). The NHD is a national coverage of drainage networks (including rivers, streams, canals, lakes, ponds, etc.) developed by the USGS that is designed to be used in general mapping and in the analysis of surface water systems (USGS, 2014). The Waters of the U.S. Determination Data Forms used to evaluate these waterways are located in Appendix B. In addition to linear waterways, two open water areas were delineated within the Study Area. Figure 2, Sheets 1-4 (Appendix A) depict the locations of the waterways and open water areas in the Study Area.

Table 3. Non-Wetland Water Resources

Report ID	Figure 2 Sheet No.	Name	Type
S-02	1	Unnamed	Open Water
WUS-01	1, 2, & 3	Unnamed	Perennial Waterway
WUS-02	1, 2, 3, & 4	Western Sarpy Ditch	Perennial Waterway
WUS-03	1 & 2	Unnamed	Intermittent Waterway
S-33	3 & 4	Unnamed	Open Water

6. DISCUSSION

The Study Area consists primarily of agricultural land within the Elkhorn and Platte River floodplains. Hydrology in the area is likely supplied by groundwater and overbank flooding of the Elkhorn and Platte Rivers. Although several NHD mapped waterways are within the Study Area, only three waterways were observed to be present during the field visit. Several of the ditches containing these NHD mapped waterways were inundated, however, there was no evidence of flow and wetland vegetation was established within the slopes of the ditches; therefore these areas were mapped as emergent wetlands.

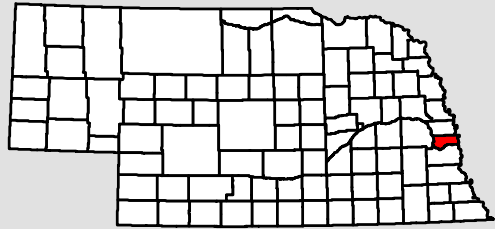
7. REFERENCES

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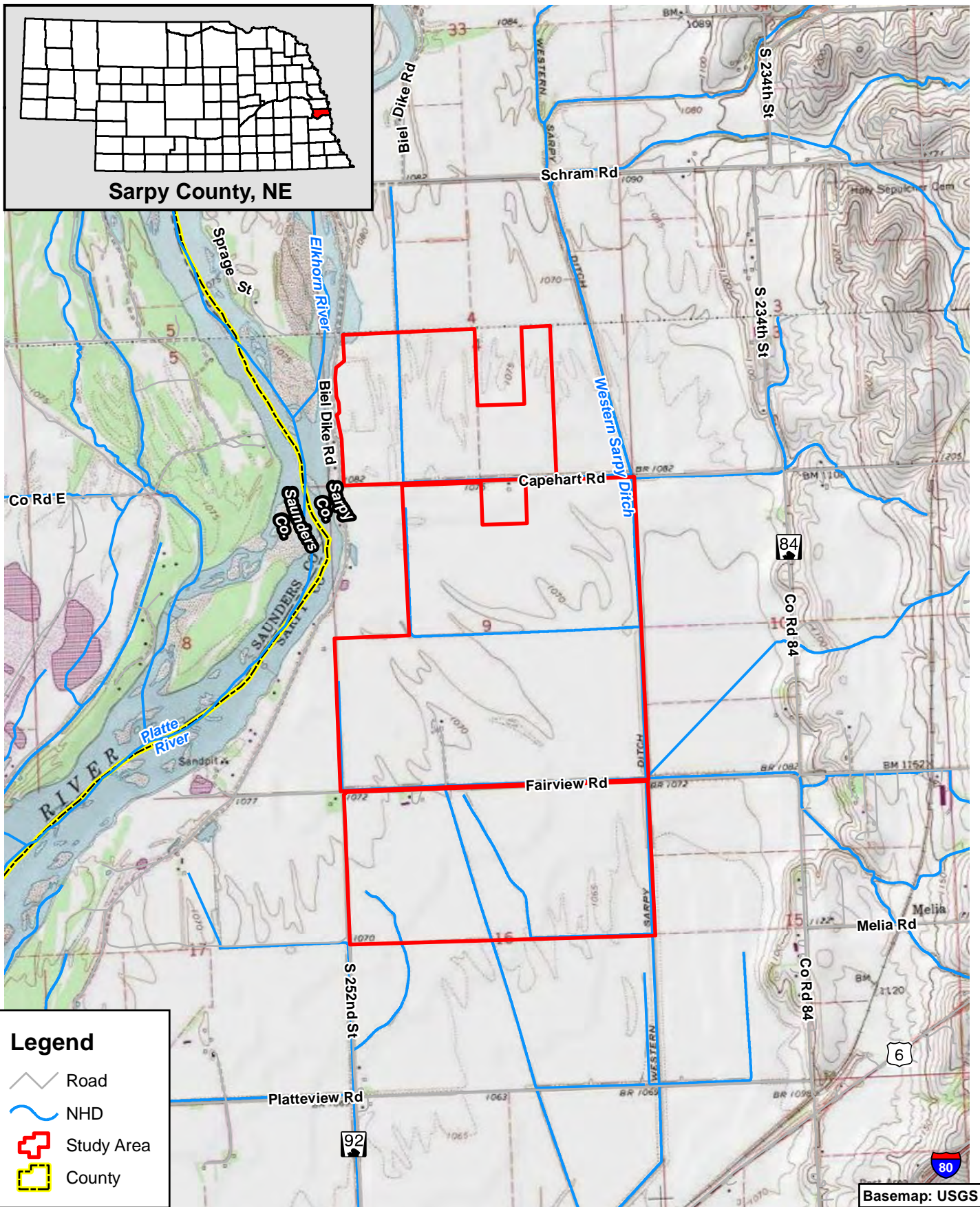
Appendix A

Figure 1 – Project Location Map

Figure 2 – Aquatic Resources

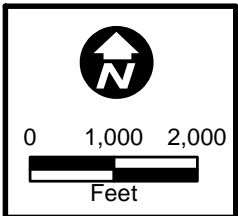


Sarpy County, NE



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Basemap: USGS



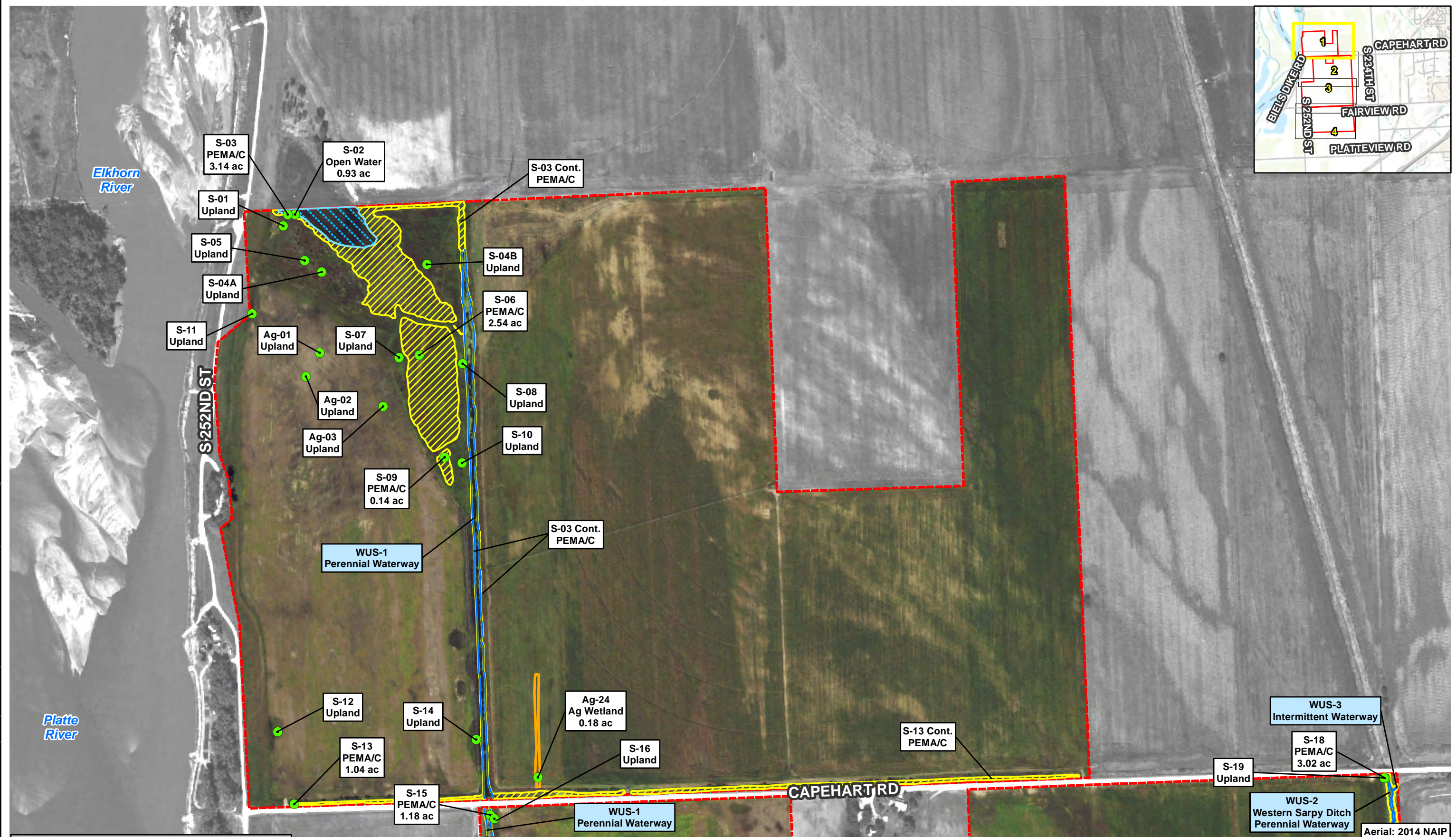
Project Location
 Lyman-Richey Corporation
 Gretna Bottoms
 Wetland Delineation Report



LYMAN-RICHEY CORPORATION
 SINCE 1884



DATE	June 2015
FIGURE	1

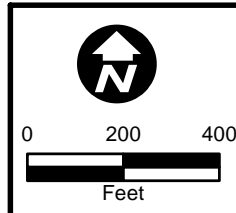


Legend

- Sample Point
- ~ Waters of the U.S.
- Study Area
- Agricultural Wetland
- Open Water
- PEMA/PEMC Wetland
- PFOA Wetland
- PSSA Wetland



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Aquatic Resources

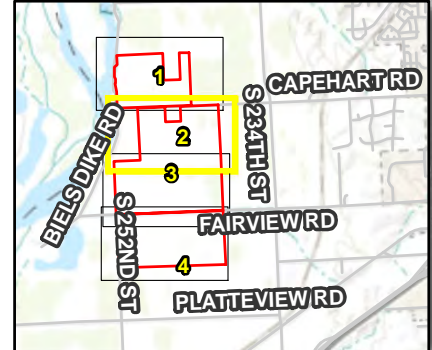
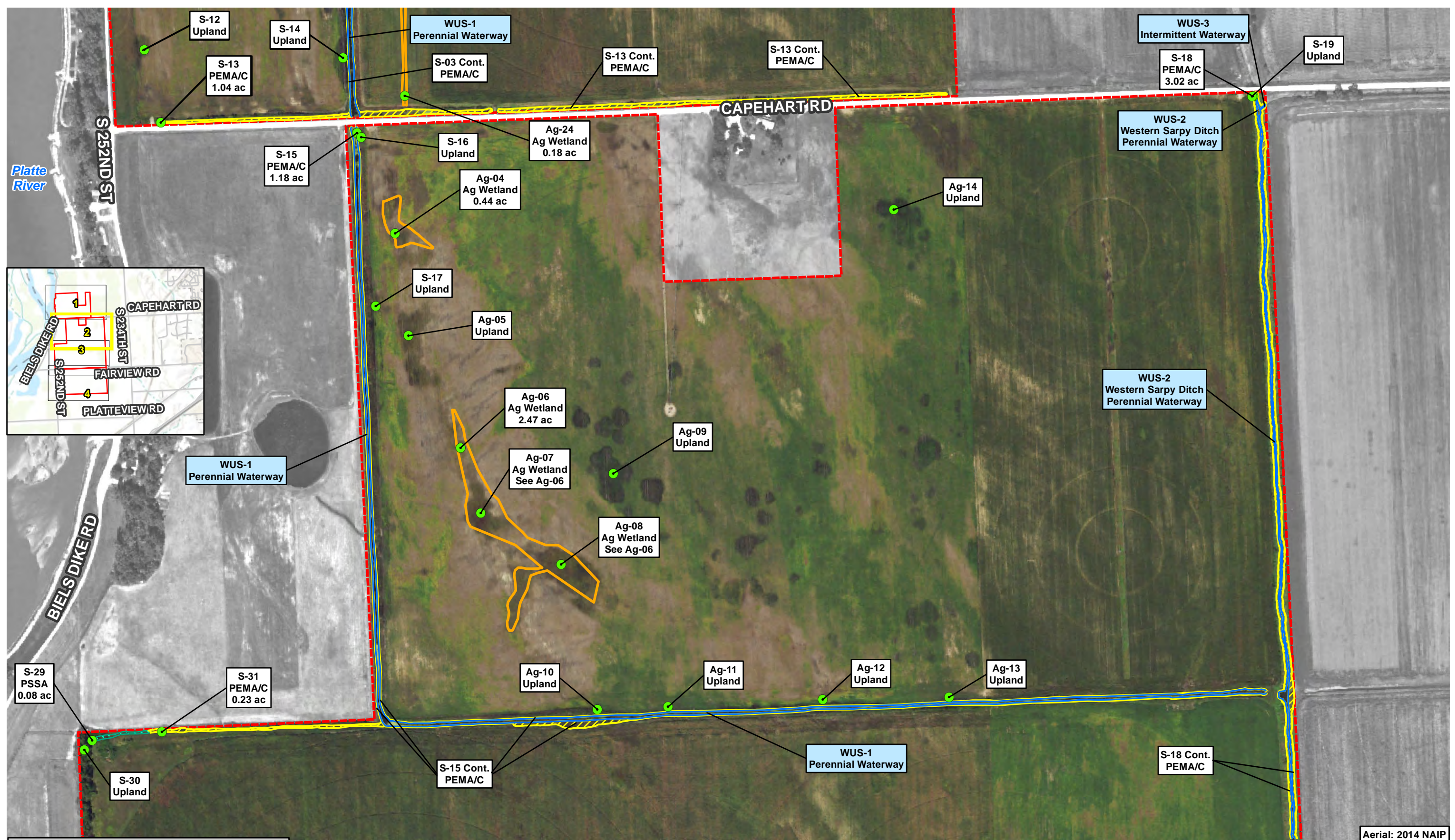
Lyman-Richey Corporation
Gretna Bottoms
Wetland Delineation Report

DATE: June 2015

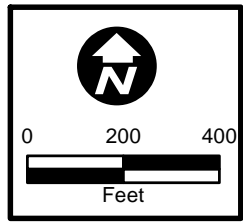
FIGURE: 2

Sheet 1 of 4

Aerial: 2014 NAIP



Legend	
	Sample Point
	Waters of the U.S.
	Study Area
	Agricultural Wetland
	Open Water
	PEMA/PEMC Wetland
	PFOA Wetland
	PSSA Wetland



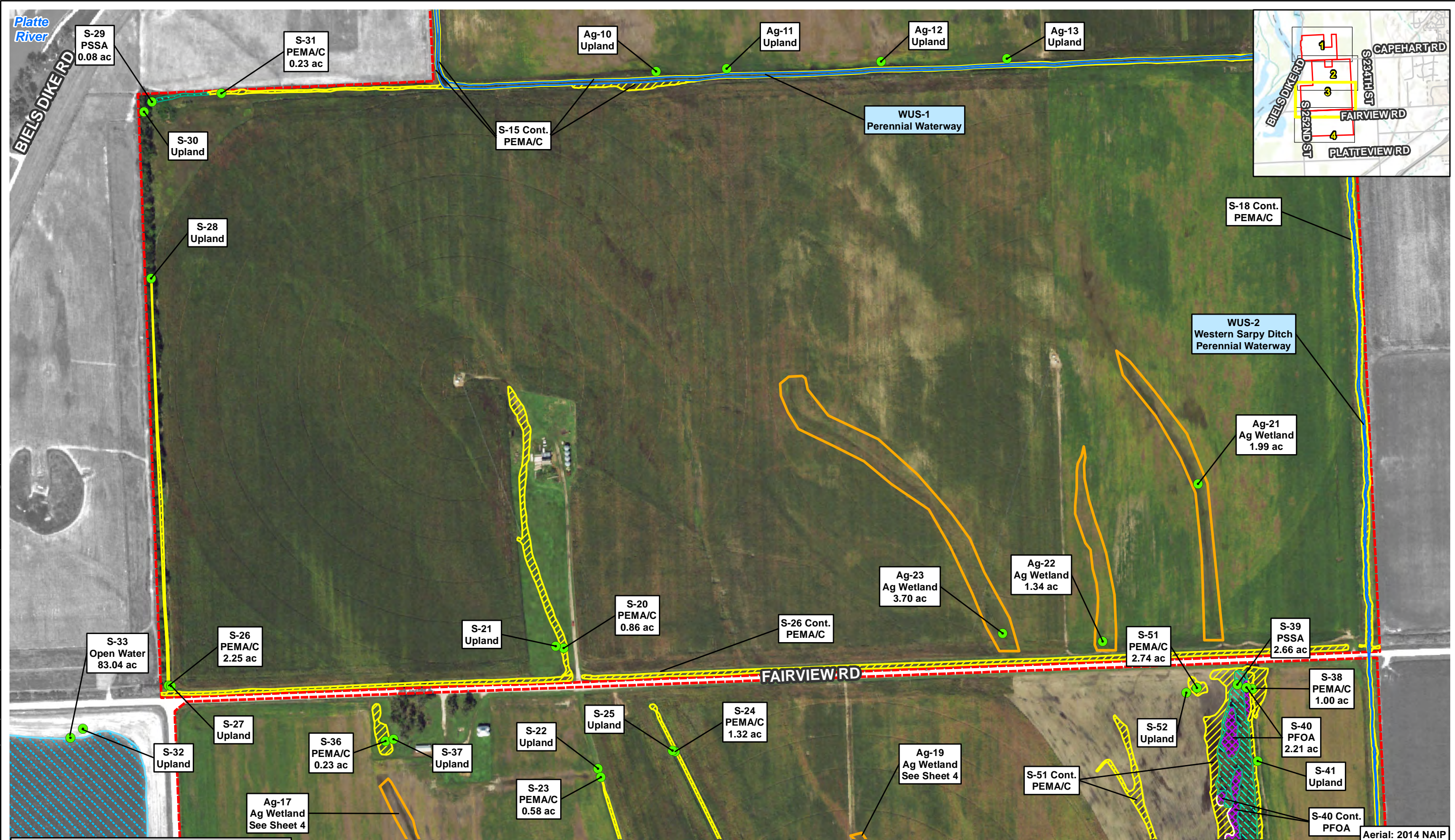
Aquatic Resources
 Lyman-Richey Corporation
 Gretna Bottoms
 Wetland Delineation Report



DATE	June 2015
FIGURE	2
	Sheet 2 of 4

Aerial: 2014 NAIP

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Legend

- Sample Point
- ~ Waters of the U.S.
- Study Area
- Agricultural Wetland
- Open Water
- PEMA/PEMC Wetland
- PFOA Wetland
- PSSA Wetland



LYMAN-RICHEY CORPORATION
Since 1884

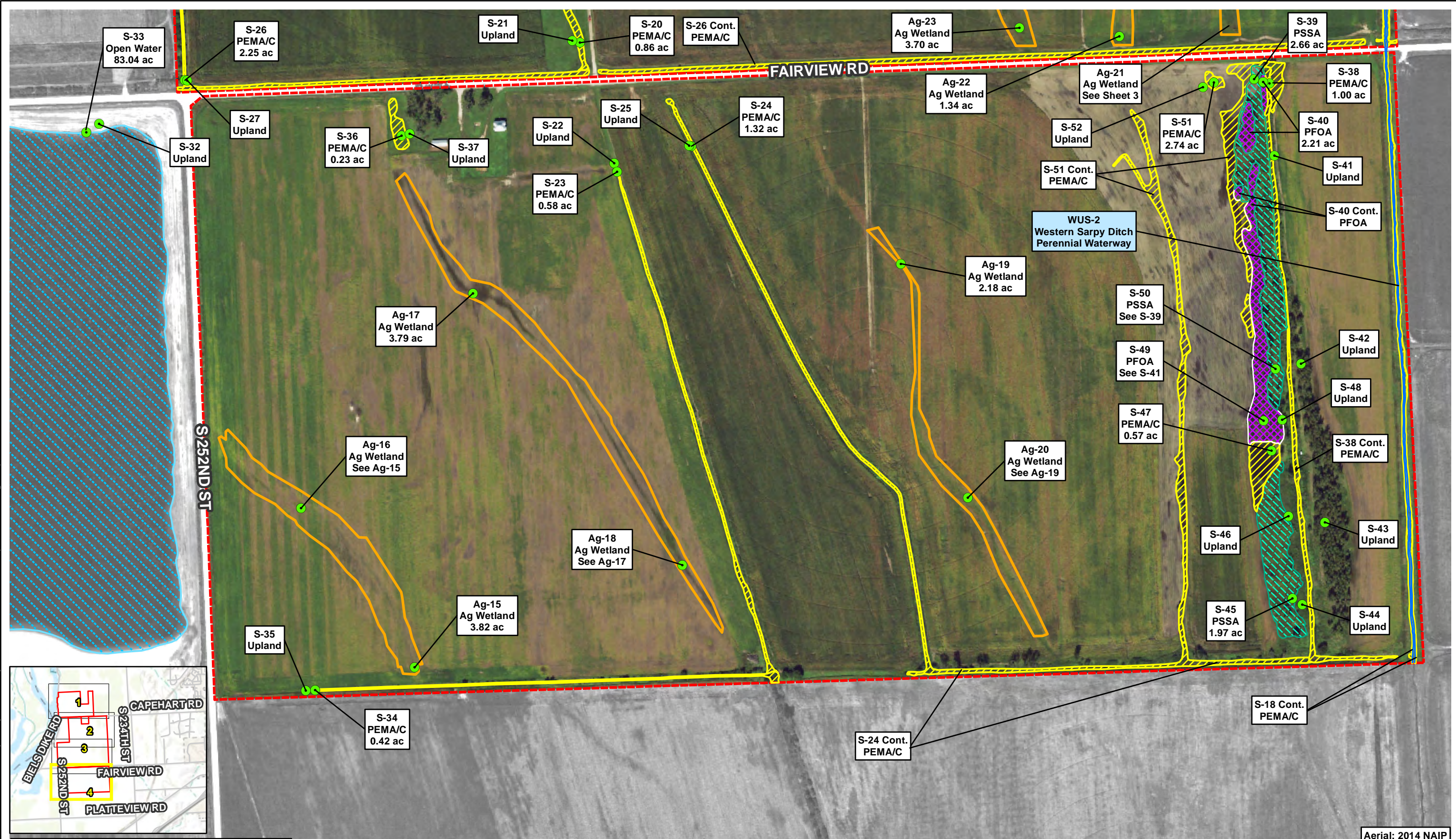
0 200 400
Feet

Aquatic Resources
Lyman-Richey Corporation
Gretna Bottoms
Wetland Delineation Report



DATE	June 2015
FIGURE	2
	Sheet 3 of 4

Aerial: 2014 NAIP



Aerial: 2014 NAIP

Legend

- Sample Point
- ~ Waters of the U.S.
- Study Area
- Agricultural Wetland
- PEMA/PEMC Wetland
- PFOA Wetland
- PSSA Wetland
- Open Water



LYMAN-RICHEY CORPORATION
Since 1884

0 200 400
Feet

Aquatic Resources
Lyman-Richey Corporation
Gretna Bottoms
Wetland Delineation Report



DATE	June 2015
FIGURE	2
	Sheet 4 of 4

Appendix B

Wetland Determination and Waters of the U.S. Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-01
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.123288314774 Long: -96.308440858776 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland agricultural field. The area failed to meet hydric soils and wetland hydrology criteria; however, the area does meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
<u>Tree Stratum</u>				Dominance Test Worksheet:	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Plantago rugelii</u>	30	Y	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
	30 =Total Cover				
<u>Vine Stratum</u>				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>0</u>	x 2 = <u>0</u>
				FAC species <u>30</u>	x 3 = <u>90</u>
				FACU species <u>0</u>	x 4 = <u>0</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>30</u> (A)	<u>90</u> (B)
				<i>Prevalence Index = B/A=</i> <u>3.00</u>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 Hydrophytic vegetation criteria is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR 4 / 2	100					FINE SAND	
4 to 18	10YR 6 / 2	60					COARSE SAND	Mixed Matrix
4 to 18	10YR 2 / 1	40					SILTY CLAY LOAM	Mixed Matrix
18 to 24	10YR 4 / 1	75	7.5YR 4/6	5	C	M	SILTY CLAY LOAM	Mixed Matrix
18 to 24	10YR 5 / 2	20					COARSE SAND	Mixed Matrix

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-02
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1230117481571 Long: -96.3086758436195 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area in an agricultural field. The area failed to meet hydric soils and wetland hydrology criteria; however, the area does meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
<u>Plantago rugelii</u>	30	Y	FAC		
	30 =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
		Total % Cover of:		Multiply by:	
OBL species	<u>0</u>			x 1 =	<u>0</u>
FACW species	<u>0</u>			x 2 =	<u>0</u>
FAC species	<u>30</u>			x 3 =	<u>90</u>
FACU species	<u>0</u>			x 4 =	<u>0</u>
UPL species	<u>0</u>			x 5 =	<u>0</u>
Column Totals:	<u>30</u> (A)				<u>90</u> (B)
				<i>Prevalence Index = B/A=</i> <u>3.00</u>	
Hydrophytic Vegetation Indicators:					
<u> </u> Rapid Test for Hydrophytic Vegetation					
<u>X</u> Dominance Test > 50%					
<u>X</u> Prevalence Index ≤ 3.0					
<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)					
<u> </u> Problematic Hydrophytic Vegetation (Explain)					
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>					

Remarks: (Include photo numbers here or on a separate sheet.)
 Hydrophytic vegetation criteria is met.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR 3 / 2	100					FINE SAND	
4 to 6	10YR 5 / 2	100					COARSE SAND	
6 to 18	10YR 2 / 1	100					SILTY CLAY LOAM	
18 to 24	10YR 3 / 1	100					SILT LOAM	

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

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<p>Indicators for Problematic Hydric Soils: ³</p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<p><input type="checkbox"/> Restrictive Layer (if observed): Type: _____ Depth (inches): _____</p>		<p>Hydric Soil Present? Yes _____ No <u>X</u></p>
<p>Remarks: The observed soil profile failed to display indicators of hydric soil.</p>		

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

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one is required; check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) <input type="checkbox"/> Other (Explain in Remarks)		<p>Secondary Indicators (minimum of two required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imag.(C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____</p>		<p>Wetland Hydrology Present? Yes _____ No <u>X</u></p>
<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</p>		
<p>Remarks: The area failed to meet wetland hydrology criteria.</p>		

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-03
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): None Local Relief (concave, convex, none): Convex
 Slope(%): 0 Lat: 41.1226136175376 Long: -96.3074690819426 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area in an agricultural field. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>
<u>Tree Stratum</u>			
<u>Shrub Stratum</u>			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)			
Thlaspi arvense	20	Y	FACU
Descurainia incana	10	Y	UPL
Lamium amplexicaule	2	N	UPL
	32 =Total Cover		
<u>Vine Stratum</u>			

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: 0.0% (A/B)

Prevalence Index Worksheet:

	Total % Cover of:		Multiply by:
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>20</u>	x 4 =	<u>80</u>
UPL species	<u>12</u>	x 5 =	<u>60</u>
Column Totals:	<u>32</u> (A)		<u>140</u> (B)
	<i>Prevalence Index = B/A=</i>		<u>4.38</u>

Hydrophytic Vegetation Indicators:

 Rapid Test for Hydrophytic Vegetation

 Dominance Test > 50%

 Prevalence Index ≤ 3.0

 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 10	10YR 2 / 1	100					SILT LOAM	
10 to 18	10YR 5 / 2	100					COARSE SAND	
18 to 26	10YR 2 / 1	90					SILT LOAM	Mixed Matrix
18 to 26	10YR 5 / 2	10					COARSE SAND	Mixed Matrix

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-04
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1164207116002 Long: -96.3055040521251 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
<u>Bidens vulgata</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>75</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>2.93</u>	
<u>Stellaria media</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>		
<u>Equisetum hyemale</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
<u>Digitaria sanguinalis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
	<u>75</u> =Total Cover				
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by hydrophytic vegetation and displays approximately 25% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 18	10YR	2 / 1	90	7.5YR 4/6	10	C	M	SILTY CLAY LOAM

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-05
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1151832578564 Long: -96.3053635134579 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an upland area in an agricultural field. The area displayed indicators of hydrophytic vegetation and wetland hydrology; however, the area failed to meet hydric soil criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
<u>Tree Stratum</u>				Dominance Test Worksheet:	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Bidens vulgata</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
	<u>40</u> =Total Cover			Prevalence Index Worksheet:	
<u>Vine Stratum</u>				Total % Cover of: <u> </u> Multiply by: <u> </u>	
				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>40</u> x 2 = <u>80</u>	
				FAC species <u>0</u> x 3 = <u>0</u>	
				FACU species <u>0</u> x 4 = <u>0</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column Totals: <u>40</u> (A) <u>80</u> (B)	
				<i>Prevalence Index = B/A=</i> <u>2.00</u>	
				Hydrophytic Vegetation Indicators:	
				<u>X</u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation and displayed approximately 60% bare ground.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1 to 8	10YR	4 / 2	100				SAND	
8 to 18	10YR	5 / 2	100				SAND	
18 to 26	10YR	4 / 1	100				SAND	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes X No _____ Depth (inches): 18
Saturation Present? Yes X No _____ Depth (inches): 10

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-06
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.113811262968 Long: -96.3046100516217 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>																																	
<u>Tree Stratum</u>				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
<u>Shrub Stratum</u>																																				
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)																																				
<u>Equisetum hyemale</u>	100	Y	FACW	Prevalence Index Worksheet: <table border="0"> <tr> <td></td> <td align="center">Total % Cover of:</td> <td></td> <td align="center">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td></td> <td align="center">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>100</u></td> <td></td> <td align="center">x 2 = <u>200</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td></td> <td align="center">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td></td> <td align="center">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td></td> <td align="center">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u> (A)</td> <td></td> <td align="center"><u>200</u> (B)</td> </tr> <tr> <td></td> <td align="center" colspan="3"><i>Prevalence Index = B/A =</i> <u>2.00</u></td> </tr> </table>		Total % Cover of:		Multiply by:	OBL species	<u>0</u>		x 1 = <u>0</u>	FACW species	<u>100</u>		x 2 = <u>200</u>	FAC species	<u>0</u>		x 3 = <u>0</u>	FACU species	<u>0</u>		x 4 = <u>0</u>	UPL species	<u>0</u>		x 5 = <u>0</u>	Column Totals:	<u>100</u> (A)		<u>200</u> (B)		<i>Prevalence Index = B/A =</i> <u>2.00</u>		
	Total % Cover of:		Multiply by:																																	
OBL species	<u>0</u>		x 1 = <u>0</u>																																	
FACW species	<u>100</u>		x 2 = <u>200</u>																																	
FAC species	<u>0</u>		x 3 = <u>0</u>																																	
FACU species	<u>0</u>		x 4 = <u>0</u>																																	
UPL species	<u>0</u>		x 5 = <u>0</u>																																	
Column Totals:	<u>100</u> (A)		<u>200</u> (B)																																	
	<i>Prevalence Index = B/A =</i> <u>2.00</u>																																			
<u>Vine Stratum</u>	100																																			
	=Total Cover																																			
				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																																

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR 3 / 2	95	7.5YR 4/6	5	C	M	SAND	
8 to 15	10YR 4 / 2	100					SAND	
15 to 18	10YR 2 / 1	100					SILTY CLAY LOAM	
18 to 22	10YR 4 / 2	100					SAND	
22 to 26	10YR 2 / 1	100					SILTY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-07
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1130186220679 Long: -96.3043335792732 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>
<u>Tree Stratum</u>			
<u>Shrub Stratum</u>			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)			
<u>Bidens vulgata</u>	10	Y	FACW
<u>Eleocharis palustris</u>	10	Y	OBL
	20 =Total Cover		
<u>Vine Stratum</u>			

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: 100.0% (A/B)

Prevalence Index Worksheet:

	Total % Cover of:		Multiply by:
OBL species	<u>10</u>	x 1 =	<u>10</u>
FACW species	<u>10</u>	x 2 =	<u>20</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>20</u> (A)		<u>30</u> (B)
	<i>Prevalence Index = B/A=</i>		<u>1.50</u>

Hydrophytic Vegetation Indicators:

X Rapid Test for Hydrophytic Vegetation

X Dominance Test > 50%

X Prevalence Index ≤ 3.0

 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation and displayed approximately 80% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 10	10YR	3 / 2	100				SAND	
10 to 22	10YR	5 / 1	95	7.5YR 4/6	5	C	M	SANDY LOAM

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-08
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1123591697791 Long: -96.3030928406751 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
<u>Bidens vulgata</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
<u>Eleocharis palustris</u>	<u>5</u>	<u>N</u>	<u>OBL</u>		
	<u>35</u> =Total Cover				
<u>Vine Stratum</u>				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				<u>5</u>	x 1 = <u>5</u>
				<u>30</u>	x 2 = <u>60</u>
				<u>0</u>	x 3 = <u>0</u>
				<u>0</u>	x 4 = <u>0</u>
				<u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>35</u> (A)	<u>65</u> (B)
				<i>Prevalence Index = B/A = <u>1.86</u></i>	
				Hydrophytic Vegetation Indicators:	
				<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input checked="" type="checkbox"/> Dominance Test > 50%	
				<input checked="" type="checkbox"/> Prevalence Index ≤ 3.0	
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation and displayed approximately 65% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR 3 / 2	100					SILTY SAND	
4 to 6	10YR 2 / 1	98	7.5YR 4/6	2	C	M	SILTY CLAY LOAM	
6 to 16	10YR 3 / 2	98	7.5YR 4/6	2	C	M	SAND	
16 to 18	10YR 2 / 1	98	7.5YR 4/6	2	C	M	SILTY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 6

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-09
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): None Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1134240817761 Long: -96.3022014807705 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area located in an agricultural field. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>																																		
<u>Tree Stratum</u>				Dominance Test Worksheet:																																	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)																																	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>1</u> (B)																																	
<u>Equisetum hyemale</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																	
	<u>100</u> =Total Cover			Prevalence Index Worksheet:																																	
<u>Vine Stratum</u>				<table border="0"> <tr> <td>Total % Cover of:</td> <td></td> <td>Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>100</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>200</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>100</u> (A)</td> <td></td> <td style="text-align: center;"><u>200</u> (B)</td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;"><i>Prevalence Index = B/A=</i> <u>2.00</u></td> </tr> </table>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>100</u>	x 2 =	<u>200</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u> (A)		<u>200</u> (B)			<i>Prevalence Index = B/A=</i> <u>2.00</u>	
Total % Cover of:		Multiply by:																																			
OBL species	<u>0</u>	x 1 =	<u>0</u>																																		
FACW species	<u>100</u>	x 2 =	<u>200</u>																																		
FAC species	<u>0</u>	x 3 =	<u>0</u>																																		
FACU species	<u>0</u>	x 4 =	<u>0</u>																																		
UPL species	<u>0</u>	x 5 =	<u>0</u>																																		
Column Totals:	<u>100</u> (A)		<u>200</u> (B)																																		
		<i>Prevalence Index = B/A=</i> <u>2.00</u>																																			
				Hydrophytic Vegetation Indicators:																																	
				<u>X</u> Rapid Test for Hydrophytic Vegetation																																	
				<u>X</u> Dominance Test > 50%																																	
				<u>X</u> Prevalence Index ≤ 3.0																																	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)																																	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)																																	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																																	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR	5 / 3	100				SAND	
8 to 20	10YR	3 / 2	95	7.5YR 4/6	5	C	M	SILTY SAND
20 to 26	10YR	2 / 1	98	7.5YR 4/6	2	C	M	SILTY CLAY LOAM

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 16

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-10
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): None Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1105967314113 Long: -96.3026171236534 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:
 The area characterized by this data form is an upland area in an agricultural field. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:																																	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)																																	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>2</u> (B)																																	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																	
<u>Equisetum hyemale</u>	60	Y	FACW	Prevalence Index Worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td></td> <td>Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>80</u></td> <td>x 2 =</td> <td align="center"><u>160</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>7</u></td> <td>x 3 =</td> <td align="center"><u>21</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>15</u></td> <td>x 4 =</td> <td align="center"><u>60</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>102</u> (A)</td> <td></td> <td align="center"><u>241</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;"><i>Prevalence Index = B/A=</i></td> <td></td> <td align="center"><u>2.36</u></td> </tr> </table>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>80</u>	x 2 =	<u>160</u>	FAC species	<u>7</u>	x 3 =	<u>21</u>	FACU species	<u>15</u>	x 4 =	<u>60</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>102</u> (A)		<u>241</u> (B)	<i>Prevalence Index = B/A=</i>			<u>2.36</u>
Total % Cover of:		Multiply by:																																			
OBL species	<u>0</u>	x 1 =	<u>0</u>																																		
FACW species	<u>80</u>	x 2 =	<u>160</u>																																		
FAC species	<u>7</u>	x 3 =	<u>21</u>																																		
FACU species	<u>15</u>	x 4 =	<u>60</u>																																		
UPL species	<u>0</u>	x 5 =	<u>0</u>																																		
Column Totals:	<u>102</u> (A)		<u>241</u> (B)																																		
<i>Prevalence Index = B/A=</i>			<u>2.36</u>																																		
<u>Helianthus annuus</u>	10	N	FACU																																		
<u>Phalaris arundinacea</u>	10	N	FACW																																		
<u>Solidago gigantea</u>	10	N	FACW																																		
<u>Galium aparine</u>	5	N	FACU																																		
<u>Rumex crispus</u>	5	N	FAC																																		
<u>Cornus drummondii</u>	2	Y	FAC																																		
	102 =Total Cover																																				
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 10	10YR	4 / 2	100				SAND	
10 to 22	10YR	3 / 1	100				SILTY CLAY LOAM	
22 to 26	10YR	3 / 1	95	7.5YR 4/6	5	C	M	SILTY CLAY LOAM

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-11
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): None Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1105921570562 Long: -96.3014907372212 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland agricultural area. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
Equisetum hyemale	70	Y	FACW		
Thlaspi arvense	30	Y	FACU		
Urtica dioica	5	N	FACW		
	105 =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
		Total % Cover of:		Multiply by:	
		OBL species <u>0</u>		x 1 = <u>0</u>	
		FACW species <u>75</u>		x 2 = <u>150</u>	
		FAC species <u>0</u>		x 3 = <u>0</u>	
		FACU species <u>30</u>		x 4 = <u>120</u>	
		UPL species <u>0</u>		x 5 = <u>0</u>	
		Column Totals: <u>105</u> (A)		<u>270</u> (B)	
				<i>Prevalence Index = B/A=</i> <u>2.57</u>	
Hydrophytic Vegetation Indicators:					
<u> </u> Rapid Test for Hydrophytic Vegetation					
<u> </u> Dominance Test > 50%					
<u>X</u> Prevalence Index ≤ 3.0					
<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)					
<u> </u> Problematic Hydrophytic Vegetation (Explain)					
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>					

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR	4 / 2	100				SAND	
6 to 14	10YR	5 / 2	100				SAND	
14 to 24	10YR	3 / 3	100				SILTY SANDY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-12
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): None Local Relief (concave, convex, none): Convex
 Slope(%): 0 Lat: 41.1105991883905 Long: -96.2990293647521 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area located on the edge of an agricultural field. The area failed to meet hydrophytic vegetation, hydric soils, and wetland hydrology criteria.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
<u>Tree Stratum</u>				Dominance Test Worksheet:	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
Equisetum hyemale	20	Y	FACW	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
Thlaspi arvense	20	Y	FACU		
Bidens vulgata	5	N	FACW		
Carex brevior	5	N	FAC		
Centaurea macalusa	5	N	FACU		
Descurainia incana	5	N	UPL		
Galium aparine	5	N	FACU		
	65 =Total Cover				
<u>Vine Stratum</u>				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>25</u>	x 2 = <u>50</u>
				FAC species <u>5</u>	x 3 = <u>15</u>
				FACU species <u>30</u>	x 4 = <u>120</u>
				UPL species <u>5</u>	x 5 = <u>25</u>
				Column Totals: <u>65</u> (A)	<u>210</u> (B)
				<i>Prevalence Index = B/A=</i> <u>3.23</u>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u> </u> Dominance Test > 50%	
				<u> </u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation and displays approximately 40% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 10	10YR	3 / 2	100				COARSE SAND	
10 to 22	10YR	2 / 2	98	7.5YR 4/6	2	C	M	SAND

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-13
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 1 Lat: 41.1105652003788 Long: -96.297022029496 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area at the edge of an agricultural field. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:																																			
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)																																			
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>2</u> (B)																																			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																																			
Descurainia incana	40	Y	UPL	Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;"><u>72</u></td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;"><u>4.00</u></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>20</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>40</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>12</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>48</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>40</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>200</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>72</u> (A)</td> <td></td> <td style="text-align: center;"><u>288</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align: center;"><i>Prevalence Index = B/A=</i></td> <td colspan="2"></td> </tr> </table>		Total % Cover of:	<u>72</u>	Multiply by:	<u>4.00</u>	OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>20</u>	x 2 =	<u>40</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>12</u>	x 4 =	<u>48</u>	UPL species	<u>40</u>	x 5 =	<u>200</u>	Column Totals:	<u>72</u> (A)		<u>288</u> (B)	<i>Prevalence Index = B/A=</i>					
Total % Cover of:	<u>72</u>	Multiply by:	<u>4.00</u>																																				
OBL species	<u>0</u>	x 1 =	<u>0</u>																																				
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FAC species	<u>0</u>	x 3 =	<u>0</u>																																				
FACU species	<u>12</u>	x 4 =	<u>48</u>																																				
UPL species	<u>40</u>	x 5 =	<u>200</u>																																				
Column Totals:	<u>72</u> (A)		<u>288</u> (B)																																				
<i>Prevalence Index = B/A=</i>																																							
Equisetum hyemale	20	Y	FACW																																				
Thlaspi arvense	10	N	FACU																																				
Cirsium arvense	2	N	FACU																																				
	72 =Total Cover																																						
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																			
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																			

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation and displays approximately 30% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR	4 / 2	100				SAND	
6 to 10	10YR	5 / 1	100				SAND	
10 to 22	10YR	3 / 1	98	7.5YR 4/6	2	C	M	SANDY LOAM

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/29/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-14
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): None Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1164473855921 Long: -96.2975690131385 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area in an agricultural field. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
<u>Tree Stratum</u>				Dominance Test Worksheet:	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Equisetum hyemale</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
	<u>100</u> =Total Cover				
<u>Vine Stratum</u>				Prevalence Index Worksheet:	
	Total % Cover of:		Multiply by:		
	<u>0</u>			x 1 = <u>0</u>	
	<u>100</u>			x 2 = <u>200</u>	
	<u>0</u>			x 3 = <u>0</u>	
	<u>0</u>			x 4 = <u>0</u>	
	<u>0</u>			x 5 = <u>0</u>	
	Column Totals: <u>100</u> (A)		<u>200</u> (B)		
	<i>Prevalence Index = B/A=</i> <u>2.00</u>				
	Hydrophytic Vegetation Indicators:				
	<u>X</u> Rapid Test for Hydrophytic Vegetation				
	<u>X</u> Dominance Test > 50%				
	<u>X</u> Prevalence Index ≤ 3.0				
	<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)				
	<u> </u> Problematic Hydrophytic Vegetation (Explain)				
	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR	4 / 2	100				SAND	
6 to 14	10YR	5 / 1	100				SAND	
14 to 22	10YR	2 / 1	98	7.5YR 4/6	2		SILTY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-15
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.0962704747287 Long: -96.3075324399699 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation X, Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION — Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species</u>	<u>Indicator</u> <u>Status</u>	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																																										
	Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td align="right">Total % Cover of:</td> <td align="center"><u>0</u></td> <td align="right">Multiply by:</td> <td align="center"><u>1</u></td> <td align="center">=</td> <td align="center"><u>0</u></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 2 =</td> <td align="center"><u>0</u></td> <td></td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> <td></td> <td align="center"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> <td></td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> <td></td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>0</u> (A)</td> <td></td> <td></td> <td></td> <td align="center"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u> </u>				Total % Cover of:	<u>0</u>	Multiply by:	<u>1</u>	=	<u>0</u>	OBL species	<u>0</u>	x 2 =	<u>0</u>		<u>0</u>	FACW species	<u>0</u>	x 3 =	<u>0</u>		<u>0</u>	FAC species	<u>0</u>	x 4 =	<u>0</u>		<u>0</u>	FACU species	<u>0</u>	x 5 =	<u>0</u>		<u>0</u>	UPL species	<u>0</u>					Column Totals:	<u>0</u> (A)				<u>0</u> (B)
	Total % Cover of:	<u>0</u>	Multiply by:	<u>1</u>	=	<u>0</u>																																								
	OBL species	<u>0</u>	x 2 =	<u>0</u>		<u>0</u>																																								
FACW species	<u>0</u>	x 3 =	<u>0</u>		<u>0</u>																																									
FAC species	<u>0</u>	x 4 =	<u>0</u>		<u>0</u>																																									
FACU species	<u>0</u>	x 5 =	<u>0</u>		<u>0</u>																																									
UPL species	<u>0</u>																																													
Column Totals:	<u>0</u> (A)				<u>0</u> (B)																																									
Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																														
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																														

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR 3 / 1	98	7.5YR 4/6	2	C	M	LOAMY SAND	
6 to 16	10YR 2 / 1	95	7.5YR 4/6	5	C	M	LOAMY SAND	
16 to 20	10YR 2 / 1	98	7.5YR 4/6	2	C	M	SANDY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed surface saturation; wetland hydrology criteria is met.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-16
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.0982418095661 Long: -96.3092343144373 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation X, Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION — Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species</u>	<u>Indicator</u> <u>Status</u>	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																																										
	Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"></td> <td style="text-align: center;">Total % Cover of:</td> <td style="width: 10%;"></td> <td style="text-align: center;">Multiply by:</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0</u> (A)</td> <td></td> <td style="text-align: center;"><u>0</u> (B)</td> <td></td> <td></td> </tr> </table> <p style="text-align: center;"><i>Prevalence Index = B/A=</i> <u> </u></p>					Total % Cover of:		Multiply by:			OBL species	<u>0</u>	x 1 =	<u>0</u>			FACW species	<u>0</u>	x 2 =	<u>0</u>			FAC species	<u>0</u>	x 3 =	<u>0</u>			FACU species	<u>0</u>	x 4 =	<u>0</u>			UPL species	<u>0</u>	x 5 =	<u>0</u>			Column Totals:	<u>0</u> (A)		<u>0</u> (B)		
		Total % Cover of:		Multiply by:																																										
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FACW species	<u>0</u>	x 2 =	<u>0</u>																																											
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FACU species	<u>0</u>	x 4 =	<u>0</u>																																											
UPL species	<u>0</u>	x 5 =	<u>0</u>																																											
Column Totals:	<u>0</u> (A)		<u>0</u> (B)																																											
Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																														
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																														

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 12	10YR 2 / 1	100					SANDY LOAM	
12 to 16	10YR 2 / 1	98	7.5YR 4/6	2	C	M	SANDY LOAM	
16 to 20	10YR 2 / 1	70					SANDY LOAM	
16 to 20	10YR 4 / 1	25	7.5YR 4/6	5	C	M	SANDY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/29/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-17
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1007409389447 Long: -96.3063511743306 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION — Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species</u>	<u>Indicator</u> <u>Status</u>	Dominance Test Worksheet:	
				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
				Total Number of Dominant Species Across all Strata:	<u>0</u> (B)
				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0%</u> (A/B)
				Prevalence Index Worksheet:	
	Total % Cover of:	Multiply by:			
	OBL species <u>0</u>	x 1 = <u>0</u>			
	FACW species <u>0</u>	x 2 = <u>0</u>			
	FAC species <u>0</u>	x 3 = <u>0</u>			
	FACU species <u>0</u>	x 4 = <u>0</u>			
	UPL species <u>0</u>	x 5 = <u>0</u>			
	Column Totals: <u>0</u> (A)	<u>0</u> (B)			
				<i>Prevalence Index = B/A =</i> _____	
				Hydrophytic Vegetation Indicators:	
				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input type="checkbox"/> Dominance Test > 50%	
				<input type="checkbox"/> Prevalence Index ≤ 3.0	
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present?	
				Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 18	10YR	2 / 1	98	7.5YR 4/6	2	C	M	SANDY CLAY LOAM

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area meets wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-18
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.0973623746755 Long: -96.3032074337095 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation X, Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION — Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species</u>	<u>Indicator</u> <u>Status</u>	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																																										
	Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td align="right">Total % Cover of:</td> <td align="center"><u>0</u></td> <td align="right">Multiply by:</td> <td align="center"><u>1</u></td> <td align="center">=</td> <td align="center"><u>0</u></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 2 =</td> <td align="center"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> <td></td> <td></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>0</u> (A)</td> <td></td> <td></td> <td></td> <td><u>0</u> (B)</td> </tr> </table> <p align="center"><i>Prevalence Index = B/A=</i> <u> </u></p>				Total % Cover of:	<u>0</u>	Multiply by:	<u>1</u>	=	<u>0</u>	OBL species	<u>0</u>	x 2 =	<u>0</u>			FACW species	<u>0</u>	x 3 =	<u>0</u>			FAC species	<u>0</u>	x 4 =	<u>0</u>			FACU species	<u>0</u>	x 5 =	<u>0</u>			UPL species	<u>0</u>					Column Totals:	<u>0</u> (A)				<u>0</u> (B)
	Total % Cover of:	<u>0</u>	Multiply by:	<u>1</u>	=	<u>0</u>																																								
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Column Totals:	<u>0</u> (A)				<u>0</u> (B)																																									
Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																														
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																														

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²			
0 to 4	10YR	3 / 1	100				SANDY LOAM		
4 to 15	10YR	2 / 1	98	7.5YR 4/6	2	C	M	SANDY CLAY LOAM	
15 to 20	10YR	2 / 1	90	7.5 YR 4/6	10	C	M	SANDY CLAY LOAM	Depletions

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015

Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-19

Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E

Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave

Slope(%): 0 Lat: 41.1008416898662 Long: -96.2995595246869 Datum: NAD 1983

Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None

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

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

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

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

Table with 3 columns: Hydrophytic Vegetation Present?, Hydric Soil Present?, Wetland Hydrology Present?, Is the Sampled Area within a Wetland? with Yes/No options.

Remarks: The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION- Use scientific names of plants. Includes sections for Dominance Test Worksheet, Prevalence Index Worksheet, and Hydrophytic Vegetation Indicators with various sub-questions and input fields.

Remarks: (Include photo numbers here or on a separate sheet.) No vegetation was observed.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²			
0 to 4	10YR	3 / 1	100				CLAY LOAM		
4 to 18	10YR	2 / 1	65	7.5YR 4/6	5	C	M	SANDY CLAY LOAM	Mixed Matrix
4 to 18	10YR	4 / 1	25	7.5YR 4/6	5	C	M	SAND	Mixed Matrix

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-20
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.0980297584248 Long: -96.2986221310248 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation X, Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION — Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species</u>	<u>Indicator</u> <u>Status</u>	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																																			
	Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td align="right">Total % Cover of:</td> <td></td> <td align="right">Multiply by:</td> <td></td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>0</u></td> <td>x 2 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>0</u> (A)</td> <td></td> <td align="center"><u>0</u> (B)</td> <td></td> </tr> </table> <p align="center"><i>Prevalence Index = B/A=</i> <u> </u></p>				Total % Cover of:		Multiply by:			OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>0</u>	x 3 =	<u>0</u>		FACU species	<u>0</u>	x 4 =	<u>0</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>0</u> (A)		<u>0</u> (B)	
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Column Totals:	<u>0</u> (A)		<u>0</u> (B)																																				
Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																							
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																							

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	3 / 1	100				SANDY LOAM	
4 to 15	10YR	2 / 1	98	7.5YR 4/6	2	C	M	SANDY CLAY LOAM
15 to 18	10YR	2 / 1	65	7.5YR 4/6	5	C	M	SANDY CLAY LOAM
15 to 18	10YR	5 / 1	25	7.5YR 4/6	5	C	M	SAND

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 2

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-21
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1053495007394 Long: -96.2942698981054 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation X, Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	

Remarks:
 The area characterized by this data form is a wetland area located in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION — Use scientific names of plants. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th><u>Absolute % Cover</u></th> <th><u>Dominant Species</u></th> <th><u>Indicator Status</u></th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>										Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>											
Prevalence Index Worksheet: <table border="1" style="width: 100%;"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table> <p align="center"><i>Prevalence Index = B/A=</i> <u> </u></p>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:													
OBL species <u>0</u>	x 1 = <u>0</u>													
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UPL species <u>0</u>	x 5 = <u>0</u>													
Column Totals: <u>0</u> (A)	<u>0</u> (B)													
Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>														

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	2 / 1		100			LOAMY SAND	
4 to 18	10YR	4 / 1	7.5YR 4/6	5	C	M	SANDY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 3
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): Surface

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-22
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.103499952948 Long: -96.2958967397959 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation X, Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	

Remarks:
 The area characterized by this data form is a wetland area located in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION — Use scientific names of plants. <table border="1"> <thead> <tr> <th><u>Absolute % Cover</u></th> <th><u>Dominant Species</u></th> <th><u>Indicator Status</u></th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>										Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>											
Prevalence Index Worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table> <p align="center"><i>Prevalence Index = B/A =</i> <u> </u></p>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:													
OBL species <u>0</u>	x 1 = <u>0</u>													
FACW species <u>0</u>	x 2 = <u>0</u>													
FAC species <u>0</u>	x 3 = <u>0</u>													
FACU species <u>0</u>	x 4 = <u>0</u>													
UPL species <u>0</u>	x 5 = <u>0</u>													
Column Totals: <u>0</u> (A)	<u>0</u> (B)													
Hydrophytic Vegetation Indicators: ___ Rapid Test for Hydrophytic Vegetation ___ Dominance Test > 50% ___ Prevalence Index ≤ 3.0 ___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>														

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 3	10YR 2 / 1	100					SANDY CLAY LOAM	
3 to 14	10YR 3 / 1	95	7.5YR 4/6	5	C	M	SANDY CLAY LOAM	
14 to 16	10YR 5 / 1	95	7.5YR 4/6	5	C	M	SAND	
16 to 18	10YR 2 / 1	95	7.5YR 4/6	5	C	M	CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-23
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1036508217579 Long: -96.2974816357999 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation X, Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION — Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species</u>	<u>Indicator</u> <u>Status</u>	Dominance Test Worksheet:	
				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
				Total Number of Dominant Species Across all Strata:	<u>0</u> (B)
				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0%</u> (A/B)
				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
	<u>0</u>			OBL species <u>0</u> x 1 = <u>0</u>	
	<u>0</u>			FACW species <u>0</u> x 2 = <u>0</u>	
	<u>0</u>			FAC species <u>0</u> x 3 = <u>0</u>	
	<u>0</u>			FACU species <u>0</u> x 4 = <u>0</u>	
	<u>0</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	<u>0</u> (A)			Column Totals:	<u>0</u> (B)
				<i>Prevalence Index = B/A=</i> <u> </u>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u> </u> Dominance Test > 50%	
				<u> </u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present?	
				Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	2 / 1	100				SANDY LOAM	
4 to 18	10YR	2 / 1	95	7.5YR 4/6	5	C	M	SANDY CLAY LOAM

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: Ag-24
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1180714919469 Long: -96.3052574881193 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is a wetland area in an agricultural field. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. Agricultural crops had not been planted as of the date of the field visit.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata:	<u>2</u> (B)
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0%</u> (A/B)
<u>Bidens vulgata</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
<u>Rumex altissimus</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
	<u>10</u> =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>10</u>	x 2 = <u>20</u>
				FAC species <u>0</u>	x 3 = <u>0</u>
				FACU species <u>0</u>	x 4 = <u>0</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>10</u> (A)	<u>20</u> (B)
				<i>Prevalence Index = B/A =</i> <u>2.00</u>	
Hydrophytic Vegetation Indicators:					
<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation					
<input checked="" type="checkbox"/> Dominance Test > 50%					
<input checked="" type="checkbox"/> Prevalence Index ≤ 3.0					
<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)					
<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)					
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 14	10YR 3 / 2	85	7.5YR 4/6	5	C	M	SANDY LOAM	Mixed Matrix
0 to 14	10YR 4 / 1	10					SAND	Mixed Matrix
14 to 18	10YR 2 / 1	98	7.5YR 4/6	2	C	M	SANDY CLAY LOAM	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-01
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Toe of Slope Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1248386511058 Long: -96.308934558801 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:
 The area characterized by this data form is an upland area adjacent to open water. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
Juniperus virginiana	2	N	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
	2	=Total Cover			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
Asclepias incarnata	40	Y	OBL	Total % Cover of:	Multiply by:
Polygonum aviculare	30	Y	FAC	OBL species <u>40</u>	x 1 = <u>40</u>
Solidago gigantea	10	N	FACW	FACW species <u>10</u>	x 2 = <u>20</u>
Digitaria sanguinalis	5	N	FACU	FAC species <u>30</u>	x 3 = <u>90</u>
Taraxacum officinale	5	N	FACU	FACU species <u>12</u>	x 4 = <u>48</u>
	90	=Total Cover		UPL species <u>0</u>	x 5 = <u>0</u>
<u>Vine Stratum</u>				Column Totals: <u>92</u> (A)	<u>198</u> (B)
				Prevalence Index = B/A = <u>2.15</u>	
				Hydrophytic Vegetation Indicators:	
				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input checked="" type="checkbox"/> Dominance Test > 50%	
				<input checked="" type="checkbox"/> Prevalence Index ≤ 3.0	
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation and displayed approximately 10% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 18	10YR	5 / 2		100			COARSE SAND	
18 to 26	10YR	6 / 2		100			COARSE SAND	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 18

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-02
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1249707275119 Long: -96.3087400747861 Datum: NAD 1983
 Soil Map Unit Name: Platte, Inglewood, & Barney soils, frequently flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u> </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u> </u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks:
 The area characterized by this data form is an open water pond.

VEGETATION — Use scientific names of plants. <table border="1" style="float: right; margin-left: 20px;"> <thead> <tr> <th style="text-align: center;"><u>Absolute % Cover</u></th> <th style="text-align: center;"><u>Dominant Species</u></th> <th style="text-align: center;"><u>Indicator Status</u></th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>										Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>											
Prevalence Index Worksheet: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table> <p style="text-align: center;"><i>Prevalence Index = B/A=</i> <u> </u></p>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:													
OBL species <u>0</u>	x 1 = <u>0</u>													
FACW species <u>0</u>	x 2 = <u>0</u>													
FAC species <u>0</u>	x 3 = <u>0</u>													
FACU species <u>0</u>	x 4 = <u>0</u>													
UPL species <u>0</u>	x 5 = <u>0</u>													
Column Totals: <u>0</u> (A)	<u>0</u> (B)													
Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Hydrophytic Vegetation Present?</td> <td>Yes <u> </u> No <u> </u></td> </tr> </table>	Hydrophytic Vegetation Present?	Yes <u> </u> No <u> </u>												
Hydrophytic Vegetation Present?	Yes <u> </u> No <u> </u>													

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:
No soil sample was observed, area is an open water pond.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): Unknown
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displays open water.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-03
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.124973569687 Long: -96.3088561939429 Datum: NAD 1983
 Soil Map Unit Name: Platte, Inglewood, & Barney soils, frequently flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an emergent wetland area adjacent to open water. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.7%</u> (A/B)	
Rumex crispus	20	Y	FAC	Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>245</u> (B) Prevalence Index = B/A = <u>2.45</u>	
Solidago gigantea	20	Y	FACW		
Cyperus esculentus	10	Y	FACW		
Dasistoma macrophylla	10	Y	FACU		
Phalaris arundinacea	10	Y	FACW		
Rumex altissimus	10	Y	FACW		
Typha latifolia	10	Y	OBL		
Galium aparine	5	N	FACU		
Xanthium strumarium	5	N	FAC		
	100 = Total Cover				
<u>Vine Stratum</u>					
				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u>X</u> Dominance Test > 50% <u>X</u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	4 / 2	100				COARSE SAND	
4 to 12	10YR	3 / 2	90	7.5YR 4/6	10	C	M	FINE SAND 10% Dry

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 6

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

Saturation Present? Yes X No _____ Depth (inches): Surface

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-04A
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1242613466832 Long: -96.3083549811338 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an upland area located adjacent to open water. The area failed to display indicators of hydrophytic vegetation and hydric soil; however, the area met wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Juniperus virginiana</u>	10	Y	FACU	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
	10	=Total Cover		Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Prevalence Index Worksheet:	
<u>Juniperus virginiana</u>	5	Y	FACU	Total % Cover of:	Multiply by:
	5	=Total Cover		OBL species <u>0</u> x 1 = <u>0</u>	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				FACW species <u>35</u> x 2 = <u>70</u>	
<u>Dasistoma macrophylla</u>	20	Y	FACU	FAC species <u>0</u> x 3 = <u>0</u>	
<u>Descurainia incana</u>	20	Y	UPL	FACU species <u>60</u> x 4 = <u>240</u>	
<u>Solidago gigantea</u>	20	Y	FACW	UPL species <u>20</u> x 5 = <u>100</u>	
<u>Cyperus esculentus</u>	10	N	FACW	Column Totals: <u>115</u> (A) <u>410</u> (B)	
<u>Galium aparine</u>	10	N	FACU	<i>Prevalence Index = B/A =</i> <u>3.57</u>	
<u>Ambrosia artemisiifolia</u>	5	N	FACU	Hydrophytic Vegetation Indicators:	
<u>Digitaria sanguinalis</u>	5	N	FACU	<u> </u> Rapid Test for Hydrophytic Vegetation	
<u>Rumex altissimus</u>	5	N	FACW	<u> </u> Dominance Test > 50%	
<u>Trifolium repens</u>	5	N	FACU	<u> </u> Prevalence Index ≤ 3.0	
	100	=Total Cover		<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
<u>Vine Stratum</u>				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR	4 / 2		100			COARSE SAND	
6 to 16	10YR	5 / 2		100			COARSE SAND	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-04B
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1242970315113 Long: -96.3066747625926 Datum: NAD 1983
 Soil Map Unit Name: Platte, Inglewood, & Barney soils, frequently flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>			
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			

Remarks:
 The area characterized by this data form is an upland area located east of a large wetland complex. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>																																									
<u>Tree Stratum</u>				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																																								
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>) Juniperus virginiana	10	Y	FACU																																									
	10	=Total Cover																																										
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>) Solidago gigantea	30	Y	FACW	Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 10%;"></th> <th style="width: 10%;">Multiply by:</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">40</td> <td>x 2 =</td> <td style="text-align: center;">80</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">10</td> <td>x 3 =</td> <td style="text-align: center;">30</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">25</td> <td>x 4 =</td> <td style="text-align: center;">100</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">15</td> <td>x 5 =</td> <td style="text-align: center;">75</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">90</td> <td>(A)</td> <td style="text-align: center;">285</td> <td>(B)</td> </tr> <tr> <td colspan="3" style="text-align: center;"><i>Prevalence Index = B/A=</i></td> <td style="text-align: center;"><u>3.17</u></td> <td></td> </tr> </tbody> </table>	Total % Cover of:		Multiply by:			OBL species	0	x 1 =	0		FACW species	40	x 2 =	80		FAC species	10	x 3 =	30		FACU species	25	x 4 =	100		UPL species	15	x 5 =	75		Column Totals:	90	(A)	285	(B)	<i>Prevalence Index = B/A=</i>			<u>3.17</u>	
Total % Cover of:		Multiply by:																																										
OBL species	0	x 1 =	0																																									
FACW species	40	x 2 =	80																																									
FAC species	10	x 3 =	30																																									
FACU species	25	x 4 =	100																																									
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Column Totals:	90	(A)	285	(B)																																								
<i>Prevalence Index = B/A=</i>			<u>3.17</u>																																									
Descurainia incana	15	Y	UPL																																									
Equisetum arvense	10	N	FAC																																									
Rumex altissimus	10	N	FACW																																									
Ambrosia artemisiifolia	5	N	FACU																																									
Galium aparine	5	N	FACU																																									
Trifolium repens	5	N	FACU																																									
	80	=Total Cover																																										
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test > 50% <input type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																								

Remarks: (Include photo numbers here or on a separate sheet.)
 The area failed to meet hydrophytic vegetation criteria.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR	4 / 2	100				COARSE SAND	20% Clay
8 to 18	10YR	5 / 2	100				COARSE SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-05
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1244089255251 Long: -96.3086186179023 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an upland area located adjacent to open water. The area failed to display indicators of hydric soil; however, the area met hydrophytic vegetation and wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
Salix nigra	10	Y	OBL	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
Celtis occidentalis	5	Y	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)	
Juniperus virginiana	5	Y	FACU		
	20 =Total Cover				
<u>Shrub Stratum</u>					
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
Carex festucacea	45	Y	FACW	Total % Cover of:	Multiply by:
Solidago gigantea	20	Y	FACW	OBL species <u>10</u>	x 1 = <u>10</u>
Descurainia incana	10	N	UPL	FACW species <u>65</u>	x 2 = <u>130</u>
Galium aparine	10	N	FACU	FAC species <u>15</u>	x 3 = <u>45</u>
Rumex crispus	10	N	FAC	FACU species <u>20</u>	x 4 = <u>80</u>
Digitaria sanguinalis	5	N	FACU	UPL species <u>10</u>	x 5 = <u>50</u>
	100 =Total Cover			Column Totals: <u>120</u> (A) <u>315</u> (B)	
<u>Vine Stratum</u>				<i>Prevalence Index = B/A = <u>2.63</u></i>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR	5 / 2	100				LOAMY SAND	
8 to 16	10YR	2 / 2	98	7.5YR 4/6	2	C	M	SANDY CLAY LOAM

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 8

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-06
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1232130945238 Long: -96.3068578803988 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a low-lying area containing an enclosed wetland. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
Eleocharis palustris	60	Y	OBL	Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>115</u> (A) <u>195</u> (B) Prevalence Index = B/A = <u>1.70</u>	
Persicaria lapathifolia	30	Y	FACW		
Convolvulus arvensis	10	N	FACU		
Persicaria pensylvanica	10	N	FACW		
Lappula redowskii	5	N	FAC		
	115 =Total Cover				
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u>X</u> Dominance Test > 50% <u>X</u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 22	10YR	2 / 1	100				SILTY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile displayed a very dark profile and although redox features were not observed, given the presence of obligate vegetation and primary indicators of wetland hydrology, soils are assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes X No _____ Depth (inches): 16
Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-07
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.123193159064 Long: -96.3071812917435 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland described by S-06. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>																																	
<u>Tree Stratum</u>				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																																
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)																																				
Gleditsia triacanthos	5	Y	FACU																																	
	5	=Total Cover		Prevalence Index Worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td></td> <td>Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center">0</td> <td>x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">0</td> <td>x 2 =</td> <td align="center">0</td> </tr> <tr> <td>FAC species</td> <td align="center">0</td> <td>x 3 =</td> <td align="center">0</td> </tr> <tr> <td>FACU species</td> <td align="center">115</td> <td>x 4 =</td> <td align="center">460</td> </tr> <tr> <td>UPL species</td> <td align="center">0</td> <td>x 5 =</td> <td align="center">0</td> </tr> <tr> <td>Column Totals:</td> <td align="center">115 (A)</td> <td></td> <td align="center">460 (B)</td> </tr> <tr> <td colspan="2"></td> <td align="center">Prevalence Index = B/A=</td> <td align="center"><u>4.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0	FACW species	0	x 2 =	0	FAC species	0	x 3 =	0	FACU species	115	x 4 =	460	UPL species	0	x 5 =	0	Column Totals:	115 (A)		460 (B)			Prevalence Index = B/A=	<u>4.00</u>
Total % Cover of:		Multiply by:																																		
OBL species	0	x 1 =	0																																	
FACW species	0	x 2 =	0																																	
FAC species	0	x 3 =	0																																	
FACU species	115	x 4 =	460																																	
UPL species	0	x 5 =	0																																	
Column Totals:	115 (A)		460 (B)																																	
		Prevalence Index = B/A=	<u>4.00</u>																																	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)																																				
Bouteloua dactyloides	40	Y	FACU																																	
Convolvulus arvensis	30	Y	FACU																																	
Cirsium arvense	20	N	FACU																																	
Helianthus annuus	10	N	FACU																																	
Taraxacum officinale	10	N	FACU																																	
	110	=Total Cover																																		
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 14	10YR	2 / 1	100				SILT LOAM	
14 to 18	10YR	3 / 1	100				SILT LOAM	
18 to 24	10YR	3 / 1	100				SILT LOAM	Gravel/pebble

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-08
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.1230888833318 Long: -96.306175468705 Datum: NAD 1983
 Soil Map Unit Name: Platte, Inglewood, & Barney soils, frequently flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Remarks:
 The area characterized by this data form is an upland area surrounding an emergent wetland and adjacent to the wetland described in S-06. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION- Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet:
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Total Number of Dominant Species Across all Strata: <u>1</u> (B)
Gleditsia triacanthos	2	N	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
Salix nigra	2	N	OBL	
	4	=Total Cover		
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:
Poa pratensis	40	Y	FAC	Total % Cover of: <u>2</u> Multiply by: <u>1</u> = <u>2</u>
Convolvulus arvensis	20	N	FACU	OBL species <u>2</u> x 1 = <u>2</u>
Helianthus annuus	20	N	FACU	FACW species <u>5</u> x 2 = <u>10</u>
Digitaria sanguinalis	10	N	FACU	FAC species <u>45</u> x 3 = <u>135</u>
Equisetum arvense	5	N	FAC	FACU species <u>58</u> x 4 = <u>232</u>
Solidago gigantea	5	N	FACW	UPL species <u>0</u> x 5 = <u>0</u>
Cirsium arvense	2	N	FACU	Column Totals: <u>110</u> (A) <u>379</u> (B)
Setaria glauca	2	N	FACU	<i>Prevalence Index = B/A =</i> <u>3.45</u>
Taraxacum officinale	2	N	FACU	
	106	=Total Cover		
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators:
				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
				<input checked="" type="checkbox"/> Dominance Test > 50%
				<input type="checkbox"/> Prevalence Index ≤ 3.0
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: (Include photo numbers here or on a separate sheet.)
 The area meets hydrophytic vegetation criteria.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 18	10YR	2 / 1	100				SILT LOAM	
18 to 22	10YR	2 / 1	100				SILT LOAM	Gravel/pebble

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria. The area is elevated above the adjacent wetland and waterway.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-09
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1219711727951 Long: -96.3065232780844 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is an isolated depression containing an emergent wetland. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
<u>Scirpus atrovirens</u>	40	Y	OBL	Prevalence Index Worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>110</u> (A) <u>230</u> (B) Prevalence Index = B/A = <u>2.09</u>	
<u>Carex festucacea</u>	20	Y	FACW		
<u>Rumex altissimus</u>	20	Y	FACW		
<u>Convolvulus arvensis</u>	10	N	FACU		
<u>Lappula redowskii</u>	10	N	FAC		
	100 =Total Cover				
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR 2 / 1	100					SILT LOAM	
8 to 18	10YR 2 / 1	95	7.5YR 4/6	5	C	M	SILT LOAM	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-10
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.1218947199203 Long: -96.3062492801722 Datum: NAD 1983
 Soil Map Unit Name: Platte, Inglewood, & Barney soils, frequently flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland described in S-09. The area displayed indicators of hydrophytic vegetation; however, the area failed to meet hydric soil and wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
Cornus drummondii	20	Y	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)	
	20	=Total Cover			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
Equisetum arvense	70	Y	FAC	Total % Cover of:	Multiply by:
Helianthus annuus	20	Y	FACU	OBL species <u>0</u>	x 1 = <u>0</u>
Solidago gigantea	10	N	FACW	FACW species <u>10</u>	x 2 = <u>20</u>
	100	=Total Cover		FAC species <u>90</u>	x 3 = <u>270</u>
				FACU species <u>20</u>	x 4 = <u>80</u>
<u>Vine Stratum</u>				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>120</u> (A)	<u>370</u> (B)
				<i>Prevalence Index = B/A = <u>3.08</u></i>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u> </u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR 3 / 2	100					SILT LOAM	Mixed with gravel
6 to 9	10YR 4 / 2	98	7.5YR 4/6	2	C	M	SAND	
9 to 12	10YR 2 / 2	98	7.5YR 4/6	2	C	M	SILT LOAM	
12 to 18	10YR 2 / 1	98	7.5YR 4/6				SILT LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile does not meet hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-11
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1237932290505 Long: -96.3094907991427 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an upland area in an agricultural field. The area displayed indicators of wetland hydrology; however, the area failed to meet hydric soil and hydrophytic vegetation criteria.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>
<u>Tree Stratum</u>			
<u>Shrub Stratum</u>			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)			
<u>Digitaria sanguinalis</u>	20	Y	FACU
<u>Equisetum hyemale</u>	20	Y	FACW
<u>Plantago virginica</u>	10	Y	FACU
	50 =Total Cover		
<u>Vine Stratum</u>			

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: 33.3% (A/B)

Prevalence Index Worksheet:

	Total % Cover of:		Multiply by:
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>20</u>	x 2 =	<u>40</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>30</u>	x 4 =	<u>120</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>50</u> (A)		<u>160</u> (B)
	<i>Prevalence Index = B/A=</i>		<u>3.20</u>

Hydrophytic Vegetation Indicators:

 Rapid Test for Hydrophytic Vegetation

 Dominance Test > 50%

 Prevalence Index ≤ 3.0

 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
 The area fails to meet hydrophytic vegetation criteria.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	3 / 1		100			SILT LOAM	
4 to 12	10YR	6 / 2		100			COARSE SAND	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Coarse Sand
 Depth (inches): 12

Hydric Soil Present? Yes No X

Remarks:
 The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches):
 Water Table Present? Yes No X Depth (inches):
 Saturation Present? Yes X No Depth (inches): surface

Wetland Hydrology Present? Yes X No

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

Remarks:
 The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-12
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None
 Slope(%): 2 Lat: 41.118754625402 Long: -96.3093660350141 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area on the edge of an agricultural field. The area displayed indicators of hydrophytic vegetation and hydric soil; however, the area failed to meet wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
<u>Equisetum hyemale</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>		
	<u>100</u> =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
		Total % Cover of:	Multiply by:		
OBL species	<u>0</u>	x 1 =	<u>0</u>		
FACW species	<u>100</u>	x 2 =	<u>200</u>		
FAC species	<u>0</u>	x 3 =	<u>0</u>		
FACU species	<u>0</u>	x 4 =	<u>0</u>		
UPL species	<u>0</u>	x 5 =	<u>0</u>		
Column Totals:	<u>100</u> (A)		<u>200</u> (B)		
				<i>Prevalence Index = B/A=</i> <u>2.00</u>	
Hydrophytic Vegetation Indicators:					
<u>X</u> Rapid Test for Hydrophytic Vegetation					
<u>X</u> Dominance Test > 50%					
<u>X</u> Prevalence Index ≤ 3.0					
<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)					
<u> </u> Problematic Hydrophytic Vegetation (Explain)					
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>					

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	4 / 2		100			SILTY SAND	
4 to 22	10YR	3 / 1	7.5YR 4/6	95	5	C	M	SILTY SAND
22 to 26	10YR	2 / 1		100				SILTY SAND

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-13
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1178722949842 Long: -96.3091523547569 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a ditch north of Capehart Road. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>
<u>Tree Stratum</u>			
<u>Shrub Stratum</u>			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)			
Carex festucacea	50	Y	FACW
Phalaris arundinacea	30	Y	FACW
Rumex crispus	20	Y	FAC
	100 =Total Cover		
<u>Vine Stratum</u>			

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: 100.0% (A/B)

Prevalence Index Worksheet:

	Total % Cover of:	Multiply by:
OBL species	<u>0</u>	x 1 = <u>0</u>
FACW species	<u>80</u>	x 2 = <u>160</u>
FAC species	<u>20</u>	x 3 = <u>60</u>
FACU species	<u>0</u>	x 4 = <u>0</u>
UPL species	<u>0</u>	x 5 = <u>0</u>
Column Totals:	<u>100</u> (A)	<u>220</u> (B)
	<i>Prevalence Index = B/A=</i> <u>2.20</u>	

Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation

Dominance Test > 50%

Prevalence Index ≤ 3.0

Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	2 / 1		100			SILT LOAM	
4 to 18	10YR	3 / 1	7.5YR 4/6	5	C	M	SILT LOAM	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-14
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 4 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.1185559387498 Long: -96.3062161824024 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area located on the edge of an agricultural field. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
<u>Tree Stratum</u>				Dominance Test Worksheet:	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Equisetum hyemale</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
	<u>100</u> =Total Cover				
<u>Vine Stratum</u>				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>100</u>	x 2 = <u>200</u>
				FAC species <u>0</u>	x 3 = <u>0</u>
				FACU species <u>0</u>	x 4 = <u>0</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>100</u> (A)	<u>200</u> (B)
				<i>Prevalence Index = B/A=</i> <u>2.00</u>	
				Hydrophytic Vegetation Indicators:	
				<u>X</u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR	4 / 2	100				SILTY SAND	
8 to 12	10YR	5 / 2	100				SILTY SAND	
12 to 16	10YR	7 / 2	100				FINE SAND	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-15
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 2 Lat: 41.1176344994968 Long: -96.306052829315 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland fringe to WUS-1. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>
<u>Tree Stratum</u>			
<u>Shrub Stratum</u>			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)			
<u>Rumex crispus</u>	30	Y	FAC
<u>Lemna minor</u>	20	Y	OBL
<u>Phalaris arundinacea</u>	20	Y	FACW
<u>Schoenoplectus tabernaemontani</u>	10	N	OBL
	80 =Total Cover		
<u>Vine Stratum</u>			

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: 100.0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>80</u> (A)	<u>160</u> (B)
<i>Prevalence Index = B/A = <u>2.00</u></i>	

Hydrophytic Vegetation Indicators:

 Rapid Test for Hydrophytic Vegetation

X Dominance Test > 50%

X Prevalence Index ≤ 3.0

 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR 3 / 1	90	7.5YR 4/6	10	C	M	SILT LOAM	
4 to 12	10YR 2 / 1	95	7.5YR 4/6	5	C	M	SILT LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input checked="" type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 0.5-1
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-16
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None
 Slope(%): 2 Lat: 41.1175950025879 Long: -96.305978409281 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland described by S-15. The area failed to display indicators of hydrophytic vegetation, hydric soil and wetland hydrology.

VEGETATION - Use scientific names of plants.

Absolute % Cover Dominant Species Indicator Status

Tree Stratum

Shrub Stratum

Herb Stratum (Plot size: 6 Ft)

Species	Absolute % Cover	Dominant Species	Indicator Status
Rumex crispus	30	Y	FAC
Bouteloua dactyloides	10	Y	FACU
Digitaria sanguinalis	10	Y	FACU
Galium aparine	10	Y	FACU
Helianthus annuus	10	Y	FACU
Solidago gigantea	10	Y	FACW
Trifolium repens	10	Y	FACU
Descurainia incana	5	N	UPL
Urtica dioica	5	N	FACW
100 =Total Cover			

Vine Stratum

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across all Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>15</u>	x 2 =	<u>30</u>
FAC species	<u>30</u>	x 3 =	<u>90</u>
FACU species	<u>50</u>	x 4 =	<u>200</u>
UPL species	<u>5</u>	x 5 =	<u>25</u>
Column Totals:	<u>100</u> (A)		<u>345</u> (B)
<i>Prevalence Index = B/A=</i>			<u>3.45</u>

Hydrophytic Vegetation Indicators:

 Rapid Test for Hydrophytic Vegetation
 Dominance Test > 50%
 Prevalence Index ≤ 3.0
 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation (Explain)
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
 The area failed to display indicators of hydrophytic vegetation



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 18	10YR	2 / 1		100			SILT LOAM	Gravel
18 to 24	10YR	3 / 1		100			SILT LOAM	Gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/28/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-17
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 1 Lat: 41.115577843298 Long: -96.3058595454427 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:
 The area characterized by this data form is an upland area on the edge of an agricultural field. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
Equisetum hyemale	80	Y	FACW	Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>85</u> x 2 = <u>170</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>220</u> (B) Prevalence Index = B/A= <u>2.20</u>	
Rumex crispus	10	N	FAC		
Bidens vulgata	5	N	FACW		
Digitaria sanguinalis	5	N	FACU		
	100 =Total Cover				
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR	3 / 2	100				SAND	
8 to 18	10YR	3 / 2	98	7.5YR 4/6	2	C	M	SILTY CLAY LOAM
18 to 26	10YR	2 / 2	98	7.5YR 4/6	2	C	M	SILTY CLAY LOAM

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria; the area is elevated above the adjacent waterway.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/29/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-18
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 10 Lat: 41.1176247183099 Long: -96.2917784413741 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is an emergent wetland fringe of WUS-2. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
Phalaris arundinacea	70	Y	FACW		
Helianthus annuus	20	Y	FACU		
Bromus inermis	10	N	FACU		
	100 =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>70</u>	x 2 = <u>140</u>
				FAC species <u>0</u>	x 3 = <u>0</u>
				FACU species <u>30</u>	x 4 = <u>120</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>100</u> (A)	<u>260</u> (B)
				<i>Prevalence Index = B/A=</i> <u>2.60</u>	
				Hydrophytic Vegetation Indicators:	
				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input type="checkbox"/> Dominance Test > 50%	
				<input checked="" type="checkbox"/> Prevalence Index ≤ 3.0	
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation with upland vegetation on the edge of the area.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 12	10YR	3 / 1	95	7.5YR 4/6	5		SILT LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/29/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-19
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 15 Lat: 41.117629029445 Long: -96.2917972712554 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>			
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland characterized in S-18. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION — Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>																									
<u>Tree Stratum</u>				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																								
<u>Shrub Stratum</u>																												
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)																												
Bromus inermis	90	Y	FACU	Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"></td> <td style="text-align: center;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 2 = <u>20</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>90</u></td> <td style="text-align: center;">x 4 = <u>360</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>100</u> (A)</td> <td style="text-align: center;"><u>380</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;"><i>Prevalence Index = B/A=</i></td> <td style="text-align: center;"><u>3.80</u></td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>10</u>	x 2 = <u>20</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>90</u>	x 4 = <u>360</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>100</u> (A)	<u>380</u> (B)	<i>Prevalence Index = B/A=</i>		<u>3.80</u>
	Total % Cover of:	Multiply by:																										
OBL species	<u>0</u>	x 1 = <u>0</u>																										
FACW species	<u>10</u>	x 2 = <u>20</u>																										
FAC species	<u>0</u>	x 3 = <u>0</u>																										
FACU species	<u>90</u>	x 4 = <u>360</u>																										
UPL species	<u>0</u>	x 5 = <u>0</u>																										
Column Totals:	<u>100</u> (A)	<u>380</u> (B)																										
<i>Prevalence Index = B/A=</i>		<u>3.80</u>																										
Phalaris arundinacea	10	N	FACW																									
	100	=Total Cover																										
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																								

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR	3 / 1		100			SILT LOAM	
8 to 18	10YR	4 / 1		100			SILT LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-20
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1036967907409 Long: -96.3044813234725 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a wetland swale located north of Fairview Road. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>
<u>Tree Stratum</u>			
<u>Shrub Stratum</u>			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)			
<u>Carex festucacea</u>	70	Y	FACW
<u>Poa pratensis</u>	30	Y	FAC
	100 =Total Cover		
<u>Vine Stratum</u>			

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: 100.0% (A/B)

Prevalence Index Worksheet:

	Total % Cover of:	Multiply by:
OBL species	<u>0</u>	x 1 = <u>0</u>
FACW species	<u>70</u>	x 2 = <u>140</u>
FAC species	<u>30</u>	x 3 = <u>90</u>
FACU species	<u>0</u>	x 4 = <u>0</u>
UPL species	<u>0</u>	x 5 = <u>0</u>
Column Totals:	<u>100</u> (A)	<u>230</u> (B)
<i>Prevalence Index = B/A=</i>		<u>2.30</u>

Hydrophytic Vegetation Indicators:

 Rapid Test for Hydrophytic Vegetation

X Dominance Test > 50%

X Prevalence Index ≤ 3.0

 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 16	10YR 4 / 1	55	7.5YR 4/6	5	C	M	SAND	Mixed Matrix
0 to 16	10YR 3 / 1	40					SAND	Mixed Matrix
16 to 20	10YR 3 / 1	95	7.5YR 4/6	5	C	M	LOAMY SAND	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 6

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-21
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.103726434434 Long: -96.3046006726108 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland characterized in S-20. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata:	<u>2</u> (B)
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50.0%</u> (A/B)
Bromus inermis	60	Y	FACU		
Poa pratensis	30	Y	FAC		
Carex festucacea	10	N	FACW		
	100 =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>10</u>	x 2 = <u>20</u>
				FAC species <u>30</u>	x 3 = <u>90</u>
				FACU species <u>60</u>	x 4 = <u>240</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>100</u> (A)	<u>350</u> (B)
				<i>Prevalence Index = B/A=</i> <u>3.50</u>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u> </u> Dominance Test > 50%	
				<u> </u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>

Remarks: (Include photo numbers here or on a separate sheet.)
 The area fails to meet hydrophytic vegetation criteria.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR	4 / 2	100				SAND	
6 to 14	10YR	5 / 1	100				SAND	
14 to 18	10YR	3 / 1	95	7.5YR 4/6	5	C	M	LOAMY SAND

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to meet hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to display indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-22
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1022327675993 Long: -96.3040155660066 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland characterized in S-23. The area is located in a grassed waterway south of Fairview Road. The area displayed indicators of hydric soil; however, the area failed to meet hydrophytic vegetation and wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>1</u>	(B)
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u>	(A/B)
Bromus inermis	70	Y	FACU	Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>85</u> x 4 = <u>340</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>370</u> (B) Prevalence Index = B/A = <u>3.70</u>	
Carex festucacea	15	N	FACW		
Festuca arundinacea	10	N	FACU		
Trifolium repens	5	N	FACU		
	100	=Total Cover			
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR	3 / 2	100				LOAMY SAND	
8 to 16	10YR	4 / 1	90	7.5YR 4/6	10	C	M	LOAMY SAND
16 to 22	10YR	2 / 1	98	7.5YR 4/6	2	C	M	SILTY CLAY LOAM

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-23
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1021227354407 Long: -96.3039756128052 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a grassed waterway south of Fairview Road. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:																																	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)																																	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>3</u> (B)																																	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																	
Phalaris arundinacea	40	Y	FACW	Prevalence Index Worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td></td> <td>Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center">25</td> <td>x 1 =</td> <td align="center">25</td> </tr> <tr> <td>FACW species</td> <td align="center">65</td> <td>x 2 =</td> <td align="center">130</td> </tr> <tr> <td>FAC species</td> <td align="center">0</td> <td>x 3 =</td> <td align="center">0</td> </tr> <tr> <td>FACU species</td> <td align="center">10</td> <td>x 4 =</td> <td align="center">40</td> </tr> <tr> <td>UPL species</td> <td align="center">0</td> <td>x 5 =</td> <td align="center">0</td> </tr> <tr> <td>Column Totals:</td> <td align="center">100 (A)</td> <td></td> <td align="center">195 (B)</td> </tr> <tr> <td colspan="2"></td> <td align="center" colspan="2"><i>Prevalence Index = B/A=</i> <u>1.95</u></td> </tr> </table>		Total % Cover of:		Multiply by:		OBL species	25	x 1 =	25	FACW species	65	x 2 =	130	FAC species	0	x 3 =	0	FACU species	10	x 4 =	40	UPL species	0	x 5 =	0	Column Totals:	100 (A)		195 (B)			<i>Prevalence Index = B/A=</i> <u>1.95</u>	
Total % Cover of:		Multiply by:																																			
OBL species	25	x 1 =	25																																		
FACW species	65	x 2 =	130																																		
FAC species	0	x 3 =	0																																		
FACU species	10	x 4 =	40																																		
UPL species	0	x 5 =	0																																		
Column Totals:	100 (A)		195 (B)																																		
		<i>Prevalence Index = B/A=</i> <u>1.95</u>																																			
Carex festucacea	25	Y	FACW																																		
Eleocharis palustris	25	Y	OBL																																		
Bromus inermis	10	N	FACU																																		
	100 =Total Cover																																				
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 18	10YR	3 / 1	95	7.5YR 4/6	5	C	M	SANDY LOAM

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 2

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-24
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1023957155295 Long: -96.3027768762319 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a grassed waterway south of Fairview Road. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>2</u>	(B)
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u>	(A/B)
Typha latifolia	30	Y	OBL	Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>110</u> (B) Prevalence Index = B/A = <u>1.38</u>	
Schoenoplectus tabernaemontani	20	Y	OBL		
Phalaris arundinacea	15	N	FACW		
Urtica dioica	10	N	FACW		
Carex festucacea	5	N	FACW		
	80 =Total Cover				
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The area displayed inundation and obligate wetland species. Soils were assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 6-12
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-25
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Top of Slope Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1024054907921 Long: -96.3028155287866 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is upland to the wetland characterized in S-24. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
Cornus drummondii	10	Y	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
	10	=Total Cover			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
Urtica dioica	30	Y	FACW	Total % Cover of:	Multiply by:
Persicaria pensylvanica	20	Y	FACW	OBL species <u>0</u> x 1 = <u>0</u>	
Carex festucacea	10	N	FACW	FACW species <u>60</u> x 2 = <u>120</u>	
Helianthus annuus	10	N	FACU	FAC species <u>20</u> x 3 = <u>60</u>	
Rumex crispus	10	N	FAC	FACU species <u>25</u> x 4 = <u>100</u>	
Bromus inermis	5	N	FACU	UPL species <u>0</u> x 5 = <u>0</u>	
Cirsium arvense	5	N	FACU	Column Totals: <u>105</u> (A) <u>280</u> (B)	
Galium aparine	5	N	FACU	<i>Prevalence Index = B/A =</i> <u>2.67</u>	
	95	=Total Cover			
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²			
0 to 6	10YR	4 / 2	100				SANDY LOAM		
6 to 14	10YR	3 / 2	100				SANDY LOAM		
14 to 18	10YR	3 / 1	98	7.5YR 4/6	2	C	M	SANDY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 14

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria. The area is elevated above the adjacent emergent wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-26
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1034491493484 Long: -96.3107915455989 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a drainage ditch north of Fairview Road. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
<u>Morus rubra</u>	10	Y	FACU		
	10	=Total Cover		Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)	
<u>Cornus drummondii</u>	10	Y	FAC		
	10	=Total Cover			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
<u>Phalaris arundinacea</u>	40	Y	FACW	Total % Cover of:	Multiply by:
<u>Carex festucacea</u>	20	Y	FACW	OBL species <u>0</u>	x 1 = <u>0</u>
<u>Urtica dioica</u>	5	N	FACW	FACW species <u>65</u>	x 2 = <u>130</u>
<u>Rumex crispus</u>	2	N	FAC	FAC species <u>12</u>	x 3 = <u>36</u>
	67	=Total Cover		FACU species <u>10</u>	x 4 = <u>40</u>
<u>Vine Stratum</u>				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>87</u> (A)	<u>206</u> (B)
				<i>Prevalence Index = B/A = <u>2.37</u></i>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The narrow drainage ditch was dominated by emergent hydrophytes with shrubs and trees growing on the side slopes and above the wetland.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 18	10YR	3 / 1	95	7.5YR 4/6	5	C	M	SANDY LOAM

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-27
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1034453970473 Long: -96.3107520162537 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland characterized in S-26. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Morus rubra</u>	20	Y	FACU	Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
	20 =Total Cover			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Prevalence Index Worksheet:	
<u>Cornus drummondii</u>	10	Y	FAC	Total % Cover of:	Multiply by:
	10 =Total Cover			OBL species <u>0</u>	x 1 = <u>0</u>
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				FACW species <u>0</u>	x 2 = <u>0</u>
<u>Bromus inermis</u>	100	Y	FACU	FAC species <u>10</u>	x 3 = <u>30</u>
	100 =Total Cover			FACU species <u>120</u>	x 4 = <u>480</u>
<u>Vine Stratum</u>				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>130</u> (A)	<u>510</u> (B)
				<i>Prevalence Index = B/A=</i> <u>3.92</u>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u> </u> Dominance Test > 50%	
				<u> </u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present?	
				Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 12	10YR	4 / 1		100			SANDY LOAM	
12 to 18	10YR	4 / 2		100			SANDY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria. The area is elevated above the adjacent wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-28
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1083650642103 Long: -96.3107912878053 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area located in a drainage ditch north of the wetland characterized in S-26. The area failed to display indicators of hydrophytic vegetation, hydric soil and wetland hydrology.

VEGETATION— Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
Tree Stratum (Plot size: <u>30 Ft</u>)				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
<u>Celtis occidentalis</u>	40	Y	FAC	
<u>Morus rubra</u>	30	Y	FACU	
	70 =Total Cover			
Shrub Stratum (Plot size: <u>15Ft</u>)				Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>105</u> x 4 = <u>420</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>190</u> (A) <u>665</u> (B) Prevalence Index = B/A= <u>3.50</u>
<u>Cornus drummondii</u>	20	Y	FAC	
	20 =Total Cover			
Herb Stratum (Plot size: <u>6 Ft</u>)				
<u>Bromus inermis</u>	50	Y	FACU	
<u>Convolvulus arvensis</u>	10	N	FAC	
<u>Digitaria sanguinalis</u>	10	N	FACU	
<u>Solidago canadensis</u>	10	N	FACU	
<u>Urtica dioica</u>	10	N	FACW	
<u>Galium aparine</u>	5	N	FACU	
<u>Rumex crispus</u>	5	N	FAC	
	100 =Total Cover			
Vine Stratum				
				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>

Remarks: (Include photo numbers here or on a separate sheet.)
 The area fails to meet hydrophytic vegetation criteria.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR	3 / 1		100			SANDY LOAM	
6 to 14	10YR	4 / 2		100			SAND	
14 to 18	10YR	3 / 1		100			SAND	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-29
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1104847846526 Long: -96.310660588168 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a scrub-shrub wetland located in a drainage ditch north of the upland characterized by S-28 and S-30. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
Salix nigra	40	Y	OBL	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
Populus deltoides	30	Y	FAC		
Acer saccharinum	10	N	FACW		
	80 =Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
Phalaris arundinacea	40	Y	FACW	Total % Cover of:	Multiply by:
Rumex crispus	10	N	FAC	OBL species <u>40</u>	x 1 = <u>40</u>
Solidago gigantea	10	N	FACW	FACW species <u>60</u>	x 2 = <u>120</u>
	60 =Total Cover			FAC species <u>40</u>	x 3 = <u>120</u>
				FACU species <u>0</u>	x 4 = <u>0</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
<u>Vine Stratum</u>				Column Totals: <u>140</u> (A)	<u>280</u> (B)
				<i>Prevalence Index = B/A = <u>2.00</u></i>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	3 / 2	100				SAND	
4 to 18	10YR	5 / 1	90	7.5YR 4/6	10	C	M	SAND

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-30
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1103729270143 Long: -96.3107933900882 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			

Remarks:
 The area characterized by this data form is an upland area located in a drainage-way adjacent to the wetland characterized in S-29. The area failed to display indicators of hydrophytic vegetation and wetland hydrology; however, the area met hydric soil criteria.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
Tree Stratum (Plot size: <u>30 Ft</u>)				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
Acer saccharinum	50	Y	FACW	
Morus rubra	20	Y	FACU	
	70 =Total Cover			
Shrub Stratum				Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 55 x 2 = 110 FAC species 5 x 3 = 15 FACU species 110 x 4 = 440 UPL species 0 x 5 = 0 Column Totals: 170 (A) 565 (B) <i>Prevalence Index = B/A=</i> <u>3.32</u>
Herb Stratum (Plot size: <u>6 Ft</u>)				
Bromus inermis	90	Y	FACU	
Carex festucacea	5	N	FACW	
Rumex crispus	5	N	FAC	
	100 =Total Cover			
Vine Stratum				
				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>

Remarks: (Include photo numbers here or on a separate sheet.)
 The area fails to meet hydrophytic vegetation criteria.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²			
0 to 6	10YR	3 / 2	100				SAND		
6 to 16	10YR	4 / 2	98	7.5YR 4/6	2	C	M	SAND	
16 to 18	10YR	4 / 2	70					SAND	
16 to 18	10YR	4 / 2	30					COARSE SAND	Pebbles

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-31
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 9 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1105533180641 Long: -96.3095482680981 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a drainage ditch east of S-29. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
Salix interior	20	Y	FACW	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
	20	=Total Cover			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
Phragmites australis	30	Y	FACW	Total % Cover of:	Multiply by:
Eleocharis palustris	20	Y	OBL	OBL species <u>30</u>	x 1 = <u>30</u>
Equisetum hyemale	20	Y	FACW	FACW species <u>80</u>	x 2 = <u>160</u>
Convolvulus arvensis	10	N	FAC	FAC species <u>10</u>	x 3 = <u>30</u>
Phalaris arundinacea	10	N	FACW	FACU species <u>0</u>	x 4 = <u>0</u>
Typha latifolia	10	N	OBL	UPL species <u>0</u>	x 5 = <u>0</u>
	100	=Total Cover		Column Totals: <u>120</u> (A)	<u>220</u> (B)
<u>Vine Stratum</u>				<i>Prevalence Index = B/A = <u>1.83</u></i>	
				Hydrophytic Vegetation Indicators:	
				<u>X</u> Rapid Test for Hydrophytic Vegetation	
				<u>X</u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The area displayed inundation and obligate wetland species. Soils were assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 3
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area is located in a drainage ditch and was inundated at the time of the field visit; wetland hydrology criteria is met.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-32
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 17 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 5-10 Lat: 41.1029718672676 Long: -96.312183817684 Datum: NAD 1983
 Soil Map Unit Name: Inglewood-Novina complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation X, Soil X, Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No X
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area located adjacent to an open water area. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria. The area appeared to be recently graded and planted with a rye grass cover crop.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata:	<u>1</u> (B)
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0%</u> (A/B)
<u>Lolium perenne</u>	<u>100</u>	<u>Y</u>	<u>FACU</u>		
	<u>100</u> =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
		Total % Cover of:	Multiply by:		
OBL species	<u>0</u>	x 1 =	<u>0</u>		
FACW species	<u>0</u>	x 2 =	<u>0</u>		
FAC species	<u>0</u>	x 3 =	<u>0</u>		
FACU species	<u>100</u>	x 4 =	<u>400</u>		
UPL species	<u>0</u>	x 5 =	<u>0</u>		
Column Totals:	<u>100</u> (A)		<u>400</u> (B)		
				<i>Prevalence Index = B/A=</i> <u>4.00</u>	
Hydrophytic Vegetation Indicators:					
<u> </u> Rapid Test for Hydrophytic Vegetation					
<u> </u> Dominance Test > 50%					
<u> </u> Prevalence Index ≤ 3.0					
<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)					
<u> </u> Problematic Hydrophytic Vegetation (Explain)					
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>					

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR	4 / 1		100			LOAMY SAND	
6 to 18	10YR	4 / 2		60			SANDY LOAM	
6 to 18	10YR	3 / 1		40			SANDY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile contains disturbed soils; the area appeared to have been recently graded.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-33
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 17 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1028727730784 Long: -96.3123898601382 Datum: NAD 1983
 Soil Map Unit Name: Inglewood-Novina complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an open water lake with steeply incised banks.

VEGETATION — Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species</u>	<u>Indicator</u> <u>Status</u>	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																																			
	Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td align="right">Total % Cover of:</td> <td></td> <td align="right">Multiply by:</td> <td></td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>0</u></td> <td>x 2 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>0</u> (A)</td> <td></td> <td align="center"><u>0</u> (B)</td> <td></td> </tr> </table> <p align="center"><i>Prevalence Index = B/A=</i> <u> </u></p>				Total % Cover of:		Multiply by:			OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>0</u>	x 3 =	<u>0</u>		FACU species	<u>0</u>	x 4 =	<u>0</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>0</u> (A)		<u>0</u> (B)	
	Total % Cover of:		Multiply by:																																				
	OBL species	<u>0</u>	x 1 =	<u>0</u>																																			
FACW species	<u>0</u>	x 2 =	<u>0</u>																																				
FAC species	<u>0</u>	x 3 =	<u>0</u>																																				
FACU species	<u>0</u>	x 4 =	<u>0</u>																																				
UPL species	<u>0</u>	x 5 =	<u>0</u>																																				
Column Totals:	<u>0</u> (A)		<u>0</u> (B)																																				
Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u> </u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																							
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																							

Remarks: (Include photo numbers here or on a separate sheet.)
 No vegetation was observed as the area is open water.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
No soil sample was observed. Area is open water.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): unknown
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology as it is open water.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-34
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.0960461301044 Long: -96.3091308175191 Datum: NAD 1983
 Soil Map Unit Name: Nishna silty clay loam, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a drainage ditch east of South 252nd Street. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
<u>Spartina pectinata</u>	30	Y	FACW	Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>7</u> x 4 = <u>28</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>62</u> (A) <u>143</u> (B) <i>Prevalence Index = B/A =</i> <u>2.31</u>	
<u>Phalaris arundinacea</u>	20	Y	FACW		
<u>Bromus inermis</u>	5	N	FACU		
<u>Rumex crispus</u>	5	N	FAC		
<u>Galium aparine</u>	2	N	FACU		
	62 =Total Cover				
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation and approximately 40% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR 3 / 1	100					SANDY LOAM	
4 to 16	10YR 3 / 1	80					SANDY LOAM	Mixed Matrix
4 to 16	10YR 4 / 1	15	7.5YR 4/6	5	C	M	SANDY LOAM	Mixed Matrix
16 to 18	10YR 4 / 1	90	7.5YR 4/6	10	C	M	SILTY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 2

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-35
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 2 Lat: 41.0960463703751 Long: -96.3092814381929 Datum: NAD 1983
 Soil Map Unit Name: Nishna silty clay loam, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland characterized in S-34. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>
<u>Tree Stratum</u>			
<u>Shrub Stratum</u>			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)			
Bromus inermis	90	Y	FACU
Galium aparine	10	N	FACU
Descurainia incana	2	N	UPL
Taraxacum officinale	2	N	FACU
	104 =Total Cover		

Vine Stratum

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across all Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet:

	Total % Cover of:	Multiply by:
OBL species	<u>0</u>	x 1 = <u>0</u>
FACW species	<u>0</u>	x 2 = <u>0</u>
FAC species	<u>0</u>	x 3 = <u>0</u>
FACU species	<u>102</u>	x 4 = <u>408</u>
UPL species	<u>2</u>	x 5 = <u>10</u>
Column Totals:	<u>104</u> (A)	<u>418</u> (B)
<i>Prevalence Index = B/A=</i>		<u>4.02</u>

Hydrophytic Vegetation Indicators:

 Rapid Test for Hydrophytic Vegetation
 Dominance Test > 50%
 Prevalence Index ≤ 3.0
 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation (Explain)
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 18	10YR	3 / 2	98	7.5YR 4/6	2		SANDY CLAY LOAM	Sand mixed in top 4-6 inches

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-36
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1026710969593 Long: -96.3073782787339 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a grass swale south of Fairview Road. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>3</u>	(B)
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u>	(A/B)
Carex festucacea	35	Y	FACW		
Spartina pectinata	35	Y	FACW		
Bromus inermis	20	Y	FACU		
Phalaris arundinacea	10	N	FACW		
	100 =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>80</u>	x 2 = <u>160</u>
				FAC species <u>0</u>	x 3 = <u>0</u>
				FACU species <u>20</u>	x 4 = <u>80</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>100</u> (A)	<u>240</u> (B)
				<i>Prevalence Index = B/A= <u>2.40</u></i>	
Hydrophytic Vegetation Indicators:					
<u> </u> Rapid Test for Hydrophytic Vegetation					
<u>X</u> Dominance Test > 50%					
<u>X</u> Prevalence Index ≤ 3.0					
<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)					
<u> </u> Problematic Hydrophytic Vegetation (Explain)					
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>					

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	3 / 1		100			SANDY LOAM	
4 to 18	10YR	3 / 1		60			SANDY LOAM	Mixed Matrix
4 to 18	10YR	4 / 1	7.5YR 4/6	5	C	M	SANDY LOAM	Mixed Matrix

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-37
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 1 Lat: 41.1026922233839 Long: -96.3072483528788 Datum: NAD 1983
 Soil Map Unit Name: Gibbon-Wann complex, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area located adjacent to the wetland characterized in S-36. The area failed to display indicators of hydrophytic vegetation and wetland hydrology; however, the area met hydric soil criteria.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
Bromus inermis	85	Y	FACU		
Spartina pectinata	10	N	FACW		
Carex festucacea	5	N	FACW		
	100 =Total Cover				
<u>Vine Stratum</u>					
				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>15</u>	x 2 = <u>30</u>
				FAC species <u>0</u>	x 3 = <u>0</u>
				FACU species <u>85</u>	x 4 = <u>340</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>100</u> (A)	<u>370</u> (B)
				<i>Prevalence Index = B/A=</i> <u>3.70</u>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u> </u> Dominance Test > 50%	
				<u> </u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR 3 / 2	95	7.5YR 4/6	5	C	M	SANDY CLAY LOAM	
6 to 18	10YR 2 / 1	95	7.5YR 4/6	5	C	M	SANDY CLAY LOAM	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches): _____
 Water Table Present? Yes No X Depth (inches): _____
 Saturation Present? Yes No X Depth (inches): _____

Wetland Hydrology Present? Yes No X

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

Remarks:
The area failed to meet wetland hydrology criteria. The area is elevated above the adjacent wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-38
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1028750002072 Long: -96.2936138888241 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a drainage ditch south of Fairview Road. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
<u>Shrub Stratum</u>				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
<u>Schoenoplectus tabernaemontani</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	Prevalence Index Worksheet:	
<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
<u>Schoenoplectus tabernaemontani</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>		
<u>Equisetum hyemale</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
<u>Typha latifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		
	<u>90</u> =Total Cover			Total % Cover of:	Multiply by:
<u>Vine Stratum</u>				OBL species <u>60</u>	x 1 = <u>60</u>
				FACW species <u>30</u>	x 2 = <u>60</u>
				FAC species <u>0</u>	x 3 = <u>0</u>
				FACU species <u>0</u>	x 4 = <u>0</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>90</u> (A)	<u>120</u> (B)
				<i>Prevalence Index = B/A = <u>1.33</u></i>	
				Hydrophytic Vegetation Indicators:	
				<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input checked="" type="checkbox"/> Dominance Test > 50%	
				<input checked="" type="checkbox"/> Prevalence Index ≤ 3.0	
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The area displayed inundation and obligate wetland species. Soils were assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 2-3
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The drainage ditch was inundated with 2-3 inches of water; wetland hydrology criteria is met.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-39
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 1 Lat: 41.1028565254418 Long: -96.2935703491583 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is a scrub-shrub wetland located on fringes of a drainage ditch. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
<u>Tree Stratum</u>				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				
Salix interior	30	Y	FACW	
Cornus drummondii	10	Y	FAC	
	40	=Total Cover		
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>110</u> x 2 = <u>220</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>140</u> (A) <u>310</u> (B) Prevalence Index = B/A = <u>2.21</u>
Phalaris arundinacea	50	Y	FACW	
Rumex crispus	20	Y	FAC	
Rumex altissimus	10	N	FACW	
Solidago gigantea	10	N	FACW	
Urtica dioica	10	N	FACW	
	100	=Total Cover		
<u>Vine Stratum</u>				
				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test > 50% <input checked="" type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR 2 / 2	100					SANDY LOAM	
4 to 18	10YR 3 / 1	90	7.5YR 4/6	10	C	M	SANDY LOAM	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile met hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 3

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-40
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 5 Lat: 41.1028862087787 Long: -96.2936689167868 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is a forested wetland located along a drainage ditch south of Fairview Road. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
<u>Populus deltoides</u>	60	Y	FAC	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
	60	=Total Cover		Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Prevalence Index Worksheet:	
<u>Cornus drummondii</u>	10	Y	FAC	Total % Cover of: <u>0</u> Multiply by: <u>1</u> = <u>0</u>	
<u>Salix interior</u>	5	Y	FACW	OBL species <u>0</u> x 2 = <u>190</u>	
	15	=Total Cover		FACW species <u>95</u> x 3 = <u>210</u>	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				FAC species <u>70</u> x 4 = <u>40</u>	
<u>Equisetum hyemale</u>	50	Y	FACW	FACU species <u>10</u> x 5 = <u>0</u>	
<u>Spartina pectinata</u>	30	Y	FACW	UPL species <u>0</u> x 5 = <u>0</u>	
<u>Parthenocissus quinquefolia</u>	10	N	FACU	Column Totals: <u>175</u> (A) <u>440</u> (B)	
<u>Parthenocissus quinquefolia</u>	10	N	FACW	<i>Prevalence Index = B/A = <u>2.51</u></i>	
	100	=Total Cover		Hydrophytic Vegetation Indicators:	
<u>Vine Stratum</u>				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input checked="" type="checkbox"/> Dominance Test > 50%	
				<input checked="" type="checkbox"/> Prevalence Index ≤ 3.0	
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR 3 / 1	95	7.5YR 4/6	5	C	M	SANDY LOAM	
6 to 16	10YR 4 / 2	95	7.5YR 4/6	5	C	M	SANDY LOAM	
16 to 18	10YR 2 / 1	98	7.5YR 4/6	2	C	M	SANDY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-41
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.1019791770236 Long: -96.2935132080851 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area located adjacent to the wetlands characterized in S-39 and S-40. The area failed to display indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
Salix interior	5	Y	FACW	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
	5	=Total Cover			
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
Bromus inermis	90	Y	FACU	Total % Cover of:	Multiply by:
Solidago gigantea	2	N	FACW	OBL species <u>0</u>	x 1 = <u>0</u>
	92	=Total Cover		FACW species <u>17</u>	x 2 = <u>34</u>
				FAC species <u>0</u>	x 3 = <u>0</u>
				FACU species <u>90</u>	x 4 = <u>360</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
<u>Vine Stratum</u>				Column Totals: <u>107</u> (A)	<u>394</u> (B)
				<i>Prevalence Index = B/A = <u>3.68</u></i>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u> </u> Dominance Test > 50%	
				<u> </u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present?	
				Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area fails to meet hydrophytic vegetation criteria.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 12	10YR 3 / 1	100					SANDY LOAM	
12 to 16	10YR 2 / 1	100					SANDY LOAM	
16 to 18	10YR 2 / 1	75					SANDY LOAM	Mixed Matrix
16 to 18	10YR 4 / 1	20	7.5YR 4/6	5	C	M	SANDY LOAM	Mixed Matrix

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria. The area is elevated above the adjacent wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-42
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.0994645447108 Long: -96.2932325085731 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>			
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			

Remarks:
 The area characterized by this data form is an upland forested area east of the emergent wetland characterized by S-38. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION- Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet:																
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)																
<u>Populus deltoides</u>	70	Y	FAC	Total Number of Dominant Species Across all Strata: <u>4</u> (B)																
	70	=Total Cover																		
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)																
<u>Cornus drummondii</u>	2	N	FAC																	
	2	=Total Cover																		
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>102</u></td> <td>x 3 = <u>306</u></td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>172</u> (A)</td> <td><u>526</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;"><i>Prevalence Index = B/A = <u>3.06</u></i></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>102</u>	x 3 = <u>306</u>	FACU species <u>40</u>	x 4 = <u>160</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>172</u> (A)	<u>526</u> (B)	<i>Prevalence Index = B/A = <u>3.06</u></i>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>30</u>	x 2 = <u>60</u>																			
FAC species <u>102</u>	x 3 = <u>306</u>																			
FACU species <u>40</u>	x 4 = <u>160</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>172</u> (A)	<u>526</u> (B)																			
<i>Prevalence Index = B/A = <u>3.06</u></i>																				
<u>Bromus inermis</u>	30	Y	FACU																	
<u>Poa pratensis</u>	30	Y	FAC																	
<u>Solidago gigantea</u>	20	Y	FACW																	
<u>Equisetum hyemale</u>	10	N	FACW																	
<u>Parthenocissus quinquefolia</u>	10	N	FACU																	
	100	=Total Cover																		
<u>Vine Stratum</u>																				

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 12	10YR	4 / 2		100			SAND	
12 to 18	10YR	4 / 2	7.5YR 4/6	78	2	C	M	SAND
12 to 18	10YR	5 / 1		20				SAND

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-43
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.0975451439107 Long: -96.2929590212885 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland forested area east of the emergent wetland characterized by S-38. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
<u>Populus deltoides</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
	<u>70</u> =Total Cover			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60.0%</u> (A/B)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Prevalence Index Worksheet:	
<u>Juniperus virginiana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Total % Cover of:	Multiply by:
	<u>5</u> =Total Cover			OBL species <u>0</u> x 1 = <u>0</u>	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				FACW species <u>65</u> x 2 = <u>130</u>	
<u>Carex festucacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	FAC species <u>82</u> x 3 = <u>246</u>	
<u>Bromus inermis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	FACU species <u>35</u> x 4 = <u>140</u>	
<u>Elymus virginicus</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	UPL species <u>15</u> x 5 = <u>75</u>	
<u>Bouteloua dactyloides</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Column Totals: <u>197</u> (A) <u>591</u> (B)	
<u>Bromus hordeaceus</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	<i>Prevalence Index = B/A=</i> <u>3.00</u>	
<u>Rumex crispus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
<u>Solidago gigantea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	<u> </u> Rapid Test for Hydrophytic Vegetation	
<u>Descurainia incana</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	<u>X</u> Dominance Test > 50%	
<u>Salix interior</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<u>X</u> Prevalence Index ≤ 3.0	
<u>Cornus drummondii</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
	<u>122</u> =Total Cover			<u> </u> Problematic Hydrophytic Vegetation (Explain)	
<u>Vine Stratum</u>				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR 4 / 2	100					SANDY LOAM	
8 to 16	10YR 3 / 1	100					LOAMY SAND	
16 to 18	10YR 3 / 1	80					LOAMY SAND	Mixed Matrix
16 to 18	10YR 5 / 1	15	7.5YR 4/6	5	C	M	LOAMY SAND	Mixed Matrix

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
No indicators of wetland hydrology were observed. The area slopes away from the adjacent emergent wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-44
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.0965669621895 Long: -96.2933755295153 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland characterized S-45. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	Dominance Test Worksheet:	
<u>Tree Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
Cornus drummondii	70	Y	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)	
Salix interior	10	N	FACW		
	80 =Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Prevalence Index Worksheet:	
Bromus inermis	40	Y	FACU	Total % Cover of: <u>0</u> Multiply by: <u>0</u>	
Cannabis sativa	20	Y	FAC	OBL species <u>0</u> x 1 = <u>0</u>	
Rumex altissimus	20	Y	FACW	FACW species <u>50</u> x 2 = <u>100</u>	
Cirsium arvense	10	N	FACU	FAC species <u>90</u> x 3 = <u>270</u>	
Solidago gigantea	10	N	FACW	FACU species <u>50</u> x 4 = <u>200</u>	
Urtica dioica	10	N	FACW	UPL species <u>0</u> x 5 = <u>0</u>	
	110 =Total Cover			Column Totals: <u>190</u> (A) <u>570</u> (B)	
<u>Vine Stratum</u>				<i>Prevalence Index = B/A = <u>3.00</u></i>	
				Hydrophytic Vegetation Indicators:	
				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input checked="" type="checkbox"/> Dominance Test > 50%	
				<input checked="" type="checkbox"/> Prevalence Index ≤ 3.0	
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 12	10YR	3 / 1		100			LOAMY SAND	
12 to 18	10YR	4 / 2		100			SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria. The area is elevated above the adjacent wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-45
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.0966455779029 Long: -96.2935288732082 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a scrub-shrub wetland area. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>
<u>Tree Stratum</u>			
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)			
Salix interior	80	Y	FACW
	80	=Total Cover	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)			
Spartina pectinata	50	Y	FACW
Rumex altissimus	30	Y	FACW
Carex festucacea	10	N	FACW
Reynoutria japonica	10	N	FACU
	100	=Total Cover	
<u>Vine Stratum</u>			

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: 100.0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>170</u>	x 2 = <u>340</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>180</u> (A)	<u>380</u> (B)
<i>Prevalence Index = B/A = <u>2.11</u></i>	

Hydrophytic Vegetation Indicators:

X Rapid Test for Hydrophytic Vegetation

X Dominance Test > 50%

X Prevalence Index ≤ 3.0

 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR 2 / 1	100					SILTY CLAY LOAM	
6 to 18	10YR 2 / 1	95	7.5YR 4/6	5	C	M	SILTY CLAY LOAM	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-46
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.0976404198435 Long: -96.2935342773848 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland characterized by S-45. The area failed to display indicators of hydric soil, hydrophytic vegetation, and wetland hydrology.

VEGETATION — Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>																																									
<u>Tree Stratum</u>				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																																								
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>) Salix interior	20	Y	FACW																																									
	20	=Total Cover																																										
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>) Bouteloua dactyloides	50	Y	FACU	Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%;"><u>Total % Cover of:</u></th> <th style="width: 10%;"></th> <th style="width: 10%;"><u>Multiply by:</u></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td></td> <td>x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">40</td> <td></td> <td>x 2 =</td> <td style="text-align: center;">80</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">10</td> <td></td> <td>x 3 =</td> <td style="text-align: center;">30</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">70</td> <td></td> <td>x 4 =</td> <td style="text-align: center;">280</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td></td> <td>x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">120</td> <td style="text-align: center;">(A)</td> <td></td> <td style="text-align: center;">390 (B)</td> </tr> <tr> <td colspan="4" style="text-align: right;"><i>Prevalence Index = B/A=</i></td> <td style="text-align: center;"><u>3.25</u></td> </tr> </tbody> </table>		<u>Total % Cover of:</u>		<u>Multiply by:</u>		OBL species	0		x 1 =	0	FACW species	40		x 2 =	80	FAC species	10		x 3 =	30	FACU species	70		x 4 =	280	UPL species	0		x 5 =	0	Column Totals:	120	(A)		390 (B)	<i>Prevalence Index = B/A=</i>				<u>3.25</u>
	<u>Total % Cover of:</u>		<u>Multiply by:</u>																																									
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<i>Prevalence Index = B/A=</i>				<u>3.25</u>																																								
Solidago canadensis	20	Y	FACU																																									
Elymus virginicus	10	N	FACW																																									
Rumex altissimus	10	N	FACW																																									
Rumex crispus	10	N	FAC																																									
	100	=Total Cover																																										
<u>Vine Stratum</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test > 50% <input type="checkbox"/> Prevalence Index ≤ 3.0 <input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																								

Remarks: (Include photo numbers here or on a separate sheet.)
 The area fails to display dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR	4 / 2	100				SAND	
6 to 20	10YR	5 / 2	100				SAND	
20 to 22	10YR	2 / 1	100				SILTY CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 18

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria. The area is elevated above the adjacent wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-47
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.0984318044372 Long: -96.2937609246499 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:
 The area characterized by this data form is an emergent wetland area. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
<u>Tree Stratum</u>				Dominance Test Worksheet:	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
Eleocharis palustris	50	Y	OBL	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
Alisma subcordatum	10	N	OBL		
Phalaris arundinacea	10	N	FACW		
	70 =Total Cover				
<u>Vine Stratum</u>				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>60</u>	x 1 = <u>60</u>
				FACW species <u>10</u>	x 2 = <u>20</u>
				FAC species <u>0</u>	x 3 = <u>0</u>
				FACU species <u>0</u>	x 4 = <u>0</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>70</u> (A)	<u>80</u> (B)
				<i>Prevalence Index = B/A=</i> <u>1.14</u>	
				Hydrophytic Vegetation Indicators:	
				<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
				<input checked="" type="checkbox"/> Dominance Test > 50%	
				<input checked="" type="checkbox"/> Prevalence Index ≤ 3.0	
				<input type="checkbox"/> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation and displayed approximately 20% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The area displayed inundation and obligate wetland species. Soils were assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 2-6
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-48
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Convex
 Slope(%): 1-2 Lat: 41.0988014123167 Long: -96.2935700784608 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 The area characterized by this data form is an upland area located adjacent to the wetland characterized by S-49. The area failed to display indicators of hydric soil and wetland hydrology; however, the area met hydrophytic vegetation criteria.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>																																	
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)																																
Populus deltoides	30	Y	FAC																																	
	30	=Total Cover																																		
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Prevalence Index Worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td></td> <td>Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>40</u></td> <td>x 2 =</td> <td align="center"><u>80</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>60</u></td> <td>x 3 =</td> <td align="center"><u>180</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>72</u></td> <td>x 4 =</td> <td align="center"><u>288</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>172</u> (A)</td> <td></td> <td align="center"><u>548</u> (B)</td> </tr> <tr> <td></td> <td></td> <td align="center">Prevalence Index = B/A=</td> <td align="center"><u>3.19</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>40</u>	x 2 =	<u>80</u>	FAC species	<u>60</u>	x 3 =	<u>180</u>	FACU species	<u>72</u>	x 4 =	<u>288</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>172</u> (A)		<u>548</u> (B)			Prevalence Index = B/A=	<u>3.19</u>
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>40</u>	x 2 =	<u>80</u>																																	
FAC species	<u>60</u>	x 3 =	<u>180</u>																																	
FACU species	<u>72</u>	x 4 =	<u>288</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>172</u> (A)		<u>548</u> (B)																																	
		Prevalence Index = B/A=	<u>3.19</u>																																	
Ceanothus cuneatus	20	Y	FAC																																	
Cornus drummondii	10	Y	FAC																																	
Salix interior	10	Y	FACW																																	
	40	=Total Cover																																		
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u>X</u> Dominance Test > 50% <u> </u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
Bromus inermis	70	Y	FACU																																	
Elymus virginicus	20	N	FACW																																	
Rumex altissimus	10	N	FACW																																	
Cirsium arvense	2	N	FACU																																	
	102	=Total Cover																																		
<u>Vine Stratum</u>																																				

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²			
0 to 14	10YR	3 / 1	100				SANDY LOAM		
14 to 18	10YR	3 / 1	70				SANDY LOAM	Mixed Matrix	
14 to 18	10YR	4 / 1	25	7.5YR 4/6	5	C	M	SANDY LOAM	Mixed Matrix

¹Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The observed soil profile failed to display indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
The area failed to meet wetland hydrology criteria. The area is elevated above the adjacent wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-49
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.0987986731252 Long: -96.2938667321247 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a forested wetland. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria.

VEGETATION - Use scientific names of plants.

	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>																																	
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
Populus deltoides	70	Y	FAC																																	
	70	=Total Cover																																		
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>)				Prevalence Index Worksheet: <table border="0"> <tr> <td></td> <td align="center">Total % Cover of:</td> <td></td> <td align="center">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td></td> <td align="center">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>115</u></td> <td></td> <td align="center">x 2 = <u>230</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>90</u></td> <td></td> <td align="center">x 3 = <u>270</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td></td> <td align="center">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td></td> <td align="center">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>205</u> (A)</td> <td></td> <td align="center"><u>500</u> (B)</td> </tr> <tr> <td></td> <td align="center" colspan="3"><i>Prevalence Index = B/A =</i> <u>2.44</u></td> </tr> </table>		Total % Cover of:		Multiply by:	OBL species	<u>0</u>		x 1 = <u>0</u>	FACW species	<u>115</u>		x 2 = <u>230</u>	FAC species	<u>90</u>		x 3 = <u>270</u>	FACU species	<u>0</u>		x 4 = <u>0</u>	UPL species	<u>0</u>		x 5 = <u>0</u>	Column Totals:	<u>205</u> (A)		<u>500</u> (B)		<i>Prevalence Index = B/A =</i> <u>2.44</u>		
	Total % Cover of:		Multiply by:																																	
OBL species	<u>0</u>		x 1 = <u>0</u>																																	
FACW species	<u>115</u>		x 2 = <u>230</u>																																	
FAC species	<u>90</u>		x 3 = <u>270</u>																																	
FACU species	<u>0</u>		x 4 = <u>0</u>																																	
UPL species	<u>0</u>		x 5 = <u>0</u>																																	
Column Totals:	<u>205</u> (A)		<u>500</u> (B)																																	
	<i>Prevalence Index = B/A =</i> <u>2.44</u>																																			
Cornus drummondii	20	Y	FAC																																	
Salix interior	10	Y	FACW																																	
	30	=Total Cover																																		
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u>X</u> Dominance Test > 50% <u>X</u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
Phalaris arundinacea	50	Y	FACW																																	
Carex festucacea	30	Y	FACW																																	
Elymus virginicus	10	N	FACW																																	
Rumex altissimus	10	N	FACW																																	
Solidago gigantea	5	N	FACW																																	
	105	=Total Cover																																		
<u>Vine Stratum</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																																

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 3	10YR 3 / 1	100					SILT LOAM	
3 to 12	10YR 5 / 1	90	7.5YR 4/6	10	C	M	SAND	
12 to 18	10YR 5 / 1	60	7.5YR 4/6	5	C	M	SANDY CLAY LOAM	Mixed Matrix
12 to 18	10YR 3 / 1	35					SANDY CLAY LOAM	Mixed Matrix

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 3

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-50
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): None
 Slope(%): 0 Lat: 41.0994179045042 Long: -96.2936431810679 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is a scrub-shrub wetland located adjacent to the forested wetland characterized by S-49. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology criteria.

VEGETATION - Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
<u>Tree Stratum</u>				Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
<u>Shrub Stratum</u> (Plot size: <u>15Ft</u>) Cornus drummondii <u>20</u> <u>Y</u> <u>FAC</u> Salix interior <u>20</u> <u>Y</u> <u>FACW</u> _____ <u>40</u> =Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>) Phalaris arundinacea <u>70</u> <u>Y</u> <u>FACW</u> Carex festucacea <u>20</u> <u>Y</u> <u>FACW</u> Rumex altissimus <u>10</u> <u>N</u> <u>FACW</u> _____ <u>100</u> =Total Cover				Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>120</u> x 2 = <u>240</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>140</u> (A) <u>300</u> (B) Prevalence Index = B/A= <u>2.14</u>
<u>Vine Stratum</u>				
				Hydrophytic Vegetation Indicators: <u> </u> Rapid Test for Hydrophytic Vegetation <u>X</u> Dominance Test > 50% <u>X</u> Prevalence Index ≤ 3.0 <u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

Remarks: (Include photo numbers here or on a separate sheet.)
 The area displayed dominant hydrophytic vegetation.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR	3 / 1	100				SANDY LOAM	
4 to 15	10YR	3 / 1	95	7.5YR 4/6	5	C	M	SANDY LOAM
15 to 18	10YR	4 / 1	95	7.5YR 4/6	5	C	M	SANDY LOAM

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-51
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave
 Slope(%): 0 Lat: 41.1028953208251 Long: -96.294426285091 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an emergent wetland located in a depression. The area displayed indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
<u>Tree Stratum</u>				Dominance Test Worksheet:	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
Eleocharis palustris	55	Y	OBL	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
Solanum rostratum	20	Y	FACU		
Digitaria sanguinalis	10	N	FACU		
Rumex altissimus	5	N	FACW		
	90 =Total Cover			Prevalence Index Worksheet:	
<u>Vine Stratum</u>				Total % Cover of: <u>90</u> (A) Multiply by: <u>185</u> (B)	
				Prevalence Index = B/A= <u>2.06</u>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u> </u> Dominance Test > 50%	
				<u>X</u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area meets hydrophytic vegetation criteria.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 22	10YR	2 / 1		100			SANDY CLAY LOAM	
22 to 28	10YR	2 / 1	7.5YR 4/6	5	C	M	CLAY LOAM	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile displayed a very dark colored matrix and although the profile fails to meet hydric soil criteria, soils are assumed hydric given the presence of hydrophyte and surface saturation.

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surf. (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gretna Bottoms City/County: Sarpy County Sampling Date: 4/30/2015
 Applicant/Owner: Lyman-Richey Corporation State: NE Sampling Point: S-52
 Investigators: Ben Fisher Austin Zigler Section, Township, Range S 16 T 13N R 10E
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex
 Slope(%): 2 Lat: 41.1028433170443 Long: -96.294601936801 Datum: NAD 1983
 Soil Map Unit Name: Gibbon loamy fine sand, overwash, occasionally flooded NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)
 Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>		

Remarks:
 The area characterized by this data form is an upland area adjacent to the wetland characterized in S-51. The area displayed indicators of hydric soil and wetland hydrology; however, the area failed to meet hydrophytic vegetation criteria.

VEGETATION- Use scientific names of plants.	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
<u>Tree Stratum</u>				Dominance Test Worksheet:	
<u>Shrub Stratum</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
<u>Herb Stratum</u> (Plot size: <u>6 Ft</u>)				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
<u>Lolium perenne</u>	70	Y	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
<u>Plantago rugelii</u>	20	Y	FAC		
<u>Salix interior</u>	2	N	FACW		
	92 =Total Cover				
<u>Vine Stratum</u>				Prevalence Index Worksheet:	
				Total % Cover of:	Multiply by:
				OBL species <u>0</u>	x 1 = <u>0</u>
				FACW species <u>2</u>	x 2 = <u>4</u>
				FAC species <u>20</u>	x 3 = <u>60</u>
				FACU species <u>70</u>	x 4 = <u>280</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals: <u>92</u> (A)	<u>344</u> (B)
				<i>Prevalence Index = B/A=</i> <u>3.74</u>	
				Hydrophytic Vegetation Indicators:	
				<u> </u> Rapid Test for Hydrophytic Vegetation	
				<u> </u> Dominance Test > 50%	
				<u> </u> Prevalence Index ≤ 3.0	
				<u> </u> Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
				<u> </u> Problematic Hydrophytic Vegetation (Explain)	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The area is dominated by upland vegetation and displayed approximately 10% bare ground.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 6	10YR 3 / 2	95	7.5YR 4/6	5	C	M	LOAMY SAND	
6 to 10	10YR 4 / 2	95	7.5YR 4/6	5	C	M	LOAMY SAND	
10 to 16	10YR 2 / 1	100					SILTY CLAY LOAM	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils: ³

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Dark Surface (S7)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
The observed soil profile meets hydric soil criteria.

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 Surf. (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imag.(C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

Remarks:
The area displayed indicators of wetland hydrology.

WATERS OF THE U.S. DETERMINATION DATA FORM

Project/Site: Gretna Bottoms Applicant/Owner: Lyman-Richey Corporation Investigator: Ben Fisher & Austin Zigler (HDR)	Date: 4/28/2015 County: Sarpy County State: NE PLSS: S04 & S09, T13N, R10E
<u>Details of Stream Crossing:</u>	
Is this watercourse named? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Name(s): Are wetlands associated with this crossing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Report ID: WUS-1

Physical Characteristics of the Ordinary High Water Mark

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Defined Bed And Bank | <input checked="" type="checkbox"/> Presence Of Litter/Debris | <input type="checkbox"/> Shelving |
| <input checked="" type="checkbox"/> Natural Line Impressed On Bank | <input type="checkbox"/> Presence Of Wrack Lines | <input checked="" type="checkbox"/> Scour |
| <input type="checkbox"/> Sediment Sorting | <input checked="" type="checkbox"/> Vegetation Matted Down, Bent, Or Absent | <input type="checkbox"/> Deposition |
| <input type="checkbox"/> Changes In Character Of Soil | <input checked="" type="checkbox"/> Leaf Litter Disturbed Or Washed Away | <input type="checkbox"/> Water Staining |
| <input checked="" type="checkbox"/> Destruction Of Terrestrial Vegetation | <input type="checkbox"/> Multiple Observed Flow Events | <input type="checkbox"/> Change In Plant Community |

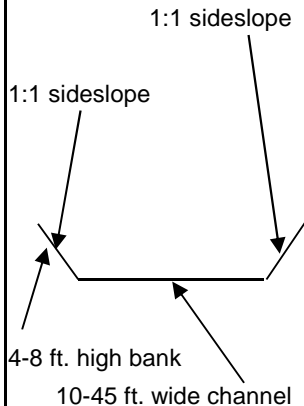
Remarks: The area characterized by this data form is a mapped waterway associated with wetlands. A defined bed and bank, natural line impressed on bank, destruction of terrestrial vegetation, litter, debris, disturbed vegetation, and scour were observed. The waterway was observed to have a channel width between 10 and 45 feet (the majority of the channel averaged a 15-foot channel) with 4-8 feet high banks possessing a 1:1 slope. The waterway was conveyed through a culvert under Capehart Road and diverted east to intersect the Western Sarpy Ditch south of Capehart Road.

Hydrologic Data

- Flow regime: Data sources: USGS
- | | | | | |
|--|--|---|--|---|
| <input checked="" type="checkbox"/> Perennial flow | <input type="checkbox"/> Intermittent flow | <input type="checkbox"/> Ephemeral flow | <u>Direct observation</u> | <u>Indirect knowledge</u> |
| | | | <input type="checkbox"/> Gaging Station: | <input checked="" type="checkbox"/> USGS mapping: Canal/Ditch |
| | | | <input type="checkbox"/> Other: | <input type="checkbox"/> USDA mapping: -- |
| | | | | <input type="checkbox"/> Other: |

Site Sketch/Photo

Typical Channel X Section
(facing upstream)



WATERS OF THE U.S. DETERMINATION DATA FORM

Project/Site: Gretna Bottoms Applicant/Owner: Lyman-Richey Corporation Investigator: Ben Fisher & Austin Zigler (HDR)	Date: 4/29/2015 County: Sarpy County State: NE PLSS: S09, S10, S15, T13N, R10E
<u>Details of Stream Crossing:</u>	
Is this watercourse named? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Name(s): Western Sarpy Ditch Are wetlands associated with this crossing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Report ID: WUS-2	

Physical Characteristics of the Ordinary High Water Mark

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Defined Bed And Bank | <input checked="" type="checkbox"/> Presence Of Litter/Debris | <input type="checkbox"/> Shelving |
| <input checked="" type="checkbox"/> Natural Line Impressed On Bank | <input type="checkbox"/> Presence Of Wrack Lines | <input checked="" type="checkbox"/> Scour |
| <input type="checkbox"/> Sediment Sorting | <input checked="" type="checkbox"/> Vegetation Matted Down, Bent, Or Absent | <input type="checkbox"/> Deposition |
| <input type="checkbox"/> Changes In Character Of Soil | <input type="checkbox"/> Leaf Litter Disturbed Or Washed Away | <input type="checkbox"/> Water Staining |
| <input checked="" type="checkbox"/> Destruction Of Terrestrial Vegetation | <input type="checkbox"/> Multiple Observed Flow Events | <input type="checkbox"/> Change In Plant Community |

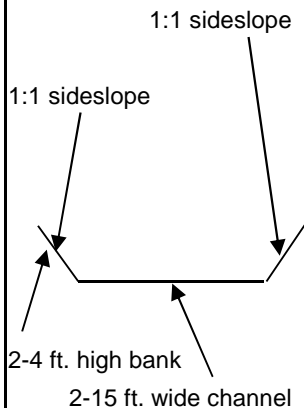
Remarks: The area characterized by this data form is a mapped waterway associated with wetlands. A defined bed and bank, natural line impressed on bank, destruction of terrestrial vegetation, litter, debris, disturbed vegetation, and scour were observed. The waterway was observed to have a channel width between 2 and 15 feet with 2-4 feet high banks possessing a 1:1 slope. The waterway was observed on the eastern edge of the Study Area throughout the entire length of the Project.

Hydrologic Data

- Flow regime: Data sources: USGS
- | | | | | |
|--|--|---|---|---------------------------------|
| <input checked="" type="checkbox"/> Perennial flow | <input type="checkbox"/> Intermittent flow | <input type="checkbox"/> Ephemeral flow | <u>Direct observation</u> | <u>Indirect knowledge</u> |
| <input type="checkbox"/> Gaging Station: | <input type="checkbox"/> Other: | <input checked="" type="checkbox"/> USGS mapping: Canal/Ditch | <input type="checkbox"/> USDA mapping: -- | <input type="checkbox"/> Other: |

Site Sketch/Photo

Typical Channel X Section
(facing upstream)



WATERS OF THE U.S. DETERMINATION DATA FORM

Project/Site: Gretna Bottoms Applicant/Owner: Lyman-Richey Corporation Investigator: Ben Fisher & Austin Zigler (HDR)	Date: 4/29/2015 County: Sarpy County State: NE PLSS: S10, T13N, R10E
<u>Details of Stream Crossing:</u>	
Is this watercourse named? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Name(s): Are wetlands associated with this crossing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Report ID: WUS-3

Physical Characteristics of the Ordinary High Water Mark

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Defined Bed And Bank | <input type="checkbox"/> Presence Of Litter/Debris | <input type="checkbox"/> Shelving |
| <input checked="" type="checkbox"/> Natural Line Impressed On Bank | <input type="checkbox"/> Presence Of Wrack Lines | <input checked="" type="checkbox"/> Scour |
| <input type="checkbox"/> Sediment Sorting | <input checked="" type="checkbox"/> Vegetation Matted Down, Bent, Or Absent | <input type="checkbox"/> Deposition |
| <input type="checkbox"/> Changes In Character Of Soil | <input type="checkbox"/> Leaf Litter Disturbed Or Washed Away | <input type="checkbox"/> Water Staining |
| <input checked="" type="checkbox"/> Destruction Of Terrestrial Vegetation | <input type="checkbox"/> Multiple Observed Flow Events | <input type="checkbox"/> Change In Plant Community |

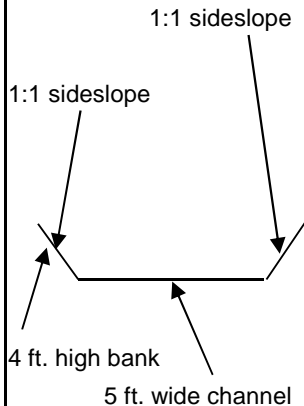
Remarks: The area characterized by this data form is a mapped waterway associated with wetlands. A defined bed and bank, natural line impressed on bank, destruction of terrestrial vegetation, disturbed vegetation, and scour were observed. The waterway was observed to have a channel width of 5 feet with 4 feet high banks possessing a 1:1 slope. The waterway was observed on the eastern edge of the Study Area immediately south of Capehart Road and extending east.

Hydrologic Data

- Flow regime: Data sources: USGS
- | | | |
|---|--|--|
| <input type="checkbox"/> Perennial flow | <u>Direct observation</u> | <u>Indirect knowledge</u> |
| <input checked="" type="checkbox"/> Intermittent flow | <input type="checkbox"/> Gaging Station: | <input checked="" type="checkbox"/> USGS mapping: Intermittent |
| <input type="checkbox"/> Ephemeral flow | <input type="checkbox"/> Other: | <input type="checkbox"/> USDA mapping: -- |
| | | <input type="checkbox"/> Other: |

Site Sketch/Photo

Typical Channel X Section
(facing upstream)



Appendix C

Ground-Level Site Photography



Photo 1: S-01. Upland area adjacent to open water. Orientation northeast.



Photo 2: S-02. Open water pond. Orientation northwest.



Photo 3: S-03. Emergent wetland adjacent to open water. Orientation east.



Photo 4A: S-04A. Upland area located adjacent to open water. Orientation northeast.



Photo 4B: S-04B. Upland area located east of a large wetland complex. Orientation northwest.



Photo 5: S-05. Upland area located adjacent to open water. Orientation southeast.



Photo 6: S-06. Low-lying area containing an enclosed wetland. Orientation north.



Photo 7: S-07. Upland area adjacent to the wetland described by S-06. Orientation east.



Photo 8: S-08. Upland area surrounding an emergent wetland and adjacent to the wetland described in S-06. Orientation north.



Photo 9: S-09. Depression containing an emergent wetland. Orientation west.



Photo 10: S-10. Elevated upland adjacent to the wetland described in S-09. Orientation south.



Photo 11: S-11. Upland area at the edge of an agricultural field. Orientation west.



Photo 12: S-12. Upland area with patch of hydrophytic vegetation. Orientation north.



Photo 13: S-13. Emergent wetland located in a ditch. Orientation east.



Photo 14: S-14. Upland area with hydrophytic vegetation on the edge of an agricultural field. Orientation west.



Photo 15: S-15. Wetland fringe to WUS-1. Orientation south.



Photo 16: S-16. Upland area adjacent to the wetland described in S-15. Orientation south.



Photo 17: S-17. Upland area on hillslope. Orientation south.



Photo 18. S-18. Emergent wetland fringe leading into WUS-2. Orientation south.



Photo 19: S-19. Upland area adjacent to the wetland characterized in S-18. Orientation south.



Photo 20: S-20. Wetland swale located north of Fairview Road. Orientation north.



Photo 21: S-21. Upland area adjacent to the wetland characterized in S-20. Orientation north.



Photo 22: S-22. Upland area located in grassed waterway adjacent to the wetland characterized in S-23. Orientation north.



Photo 23: S-23. Emergent wetland located in grassed waterway. Orientation north.



Photo 24: S-24. Emergent wetland in waterway. Orientation north.



Photo 25: S-25. Upland to the wetland characterized in S-24. Orientation northwest.



Photo 26: S-26. Wetland located in a drainage-way. Orientation south.



Photo 27: S-27. Upland area adjacent to the wetland characterized in S-26. Orientation northwest.



Photo 28: S-28. Upland area located north of the wetland characterized in S-26. Orientation north.



Photo 29: S-29. Scrub-shrub wetland located in a drainage-way. Orientation northeast.



Photo 30: S-30. Upland area located in a drainage ditch adjacent to the wetland characterized in S-29. Orientation northwest.



Photo 31: S-31. Emergent wetland located in a drainage-way. Orientation west.



Photo 32: S-32. Upland area located outside of an open water area. Orientation east.



Photo 33: S-33. Open-water lake with steeply incised banks. Orientation east.



Photo 34: S-34. Emergent wetland located in a drainage ditch. Orientation east.



Photo 35: S-35. Upland area located west of S-34. Orientation west.



Photo 36: S-36. Wetland located south of Fairview Road. Orientation southwest.



Photo 37: S-37. Upland area located adjacent to the wetland characterized in S-36. Orientation north.



Photo 38: S-38. Emergent wetland located adjacent to forested and scrub-shrub wetlands. Orientation north.



Photo 39: S-39. Scrub-shrub wetland located adjacent to S-38. Orientation north.



Photo 40: S-40. Forested upland located adjacent to S-38. Orientation north.



Photo 41: S-41. Upland area located adjacent to the wetlands characterized in S-39 and S-40. Orientation south.



Photo 42: S-42. Upland area sloped away from emergent wetland. Orientation south.



Photo 43: S-43. Upland area that is sloped away from a drainage bank. Orientation north.



Photo 44: S-44. Upland area located adjacent to S-45. Orientation northwest.



Photo 45: S-45. Scrub-shrub wetland located in a low area. Orientation northwest.



Photo 46: S-46. Upland area located adjacent to scrub-shrub wetland. Orientation west.



Photo 47: S-47. Emergent wetland located north of S-45. Orientation southwest.



Photo 48: S-48. Upland area located adjacent to forested wetland. Orientation north.



Photo 49: S-49. Forested wetland in a low-lying area. Orientation north.



Photo 50: S-50. Scrub-shrub wetland. Orientation southeast.



Photo 51: S-51. Emergent wetland located in a depression. Orientation northeast.



Photo 52: S-52. Upland area located adjacent to the wetland characterized in S-51. Orientation south.



Photo 53: Ag-01. Upland agricultural field. Orientation west.



Photo 54: Ag-02. Upland area in an agricultural field. Orientation north.



Photo 55: Ag-03. Upland area in an agricultural field that is slightly elevated from the surround area. Orientation south.



Photo 56: Ag-04. Low wetland area in an agricultural field. Orientation east.



Photo 57: Ag-05. Slight upland depression in an agricultural field. Orientation northeast.



Photo 58: Ag-06. Wetland area in an agricultural field. Orientation northeast.



Photo 59: Ag-07. Low-lying upland area in an agricultural field. Orientation southeast.



Photo 60: Ag-08. Low-lying wetland area in an agricultural field. Orientation west.



Photo 61: Ag-09. Upland agricultural area located in a field. Orientation north.



Photo 62: Ag-10. Upland area in an agricultural field. Orientation northeast.



Photo 63: Ag-11. Upland agricultural area. Orientation west.



Photo 64: Ag-12. Upland area located on the edge of an agricultural field. Orientation west.



Photo 65: Ag-13. Upland area at the edge of an agricultural field. Orientation east.



Photo 66: Ag-14. Upland area in an agricultural field. Orientation east.



Photo 67: Ag-15. Slightly depressed wetland area in an agricultural field. Orientation southeast.



Photo 68: Ag-16. Wetland area in an agricultural field. Orientation northwest.



Photo 69: Ag-17. Wetland area in an agricultural field. Orientation northwest.



Photo 70: Ag-18. Wetland area in an agricultural field. Orientation southeast.



Photo 71: Ag-19. Slightly depressed wetland area in an agricultural field. Orientation south.



Photo 72: Ag-20. Wetland area in an agricultural field. Orientation northwest.



Photo 73: Ag-21. Wetland depression located in an agricultural field. Orientation south.




Photo 74: Ag-22. Wetland depression located in an agricultural field. Orientation west.



Photo 75: Ag-23. Depressed wetland area in an agricultural field. Orientation southwest.



Photo 76: Ag-24. Wetland area in an agricultural field that leads down to a waterway. Orientation north.

The page features several large, solid-colored rectangular blocks. A grey block is at the top right. A red block is on the left side, extending from the top to the middle. A light grey block is at the bottom left. A black block is at the bottom right. The title text is positioned to the right of the red block.

Appendix D
Groundwater Analysis
Technical Memorandum

Technical Memorandum



To: Lyman-Richey Corporation
From: HDR
Date: August 30, 2021
Subject: Groundwater Analysis – Gretna Bottom 2 Wetland Bank

1.0 Introduction

Lyman-Richey Corporation (LRC) has contracted HDR Engineering, Inc. (HDR) to develop a Site Development Plan for the Gretna Bottom 2 Wetland Mitigation Bank (Gretna Bottom 2, or the Project). The Project area consists of the unmined western portion of the Phase 1 mining area and portions of the existing mine areas. The Project is intended to mitigate wetland impacts associated with future, undefined sand and gravel operations and may allow commercial sale of wetland mitigation credits to outside entities.

This Technical Memorandum (TM) describes groundwater analysis performed for the Project. Groundwater levels (elevations), depth to groundwater below land surface, and surface and near-surface soil texture data are presented, based on available data. Groundwater elevations (water table) and depth to groundwater surfaces are interpolated and mapped as part of this analysis for use in development of the Project's grading plan, which is expected to be hydrologically driven by groundwater.

2.0 Analysis Methods

The groundwater analysis was performed using available groundwater-level information measured near the Project, including: 1) recent sub-daily measurements from three monitoring wells (one of which was replaced due to flooding), and 2) historic static groundwater-level depth measurements from well registration records. High-resolution topographic data was also used in the analysis.

Sub-daily (8-hour) groundwater-level elevation (GWL) records (aggregated from hourly measurements) were obtained for eight wells from personnel at the Lower Platte South NRD, along with well coordinates. The Lower Platte South NRD staff corrected the GWLs for barometric pressure changes from measurements at a nearby station established by the NRD staff. The wells with the GWL data from the Lower Platte South NRD staff are referred to herein as Eastern Nebraska Water Resources Assessment (ENWRA) Project wells. The GWLs were collected between 8/27/2008 and 11/13/2020 via pressure transducer and electronic data logger at multiple depths. Only the records from the shallowest measurement depths were evaluated for the current study presented in this TM. Three ENWRA Project monitoring wells were selected for analysis of GWLs based on proximity to the Project. One of these wells was replaced after being completely lost in the spring flooding of 2019. The wells assessed (including the replacement well) are named "Ash-01_15", "Ash-01_17R", and "Ash-05_15". The replacement well, Ash-01_17R, is located about 2,300 feet southwest of Ash-01_15. Summary statistics of GWLs were calculated for each well, including all available records.

A gap in record for Ash-01_15 occurs after 11/1/2018 until the end of record on 11/13/2020 (2.03 years). The record of well Ash-01-17R begins on 5/22/2020, 1.56 years after the last available record from Ash-01_15. Two gaps in record exist for well Ash-05_15, extending from 9/23/2011 to 11/11/2016, and from 11/6/2020 to 11/13/2020 (5.16 years in total). Some other minor gaps exist in GWL records, mostly for a day, but up to a week, in duration. Time series of the GWLs from these well records are plotted on **Figure 1**.

Measurements of historic static (non-pumping) depth to water table, including recorded lithology on geologic logs, generated during drilling and construction of registered wells nearest the Project, obtained from the Nebraska Department of Natural Resource (NDNR) Interactive Registered Groundwater Wells Map (<https://dnr.nebraska.gov/data/groundwater-data>), were reviewed. Depth to groundwater from the NDNR logs was converted to GWLs by subtracting static depth to water table from the most recently available Light Detection And Ranging (LiDAR)-derived land surface elevations. Gridded 0.7-meter (2.5-foot) resolution LiDAR land surface elevations over the Project are from the 3D Elevation Program (3DEP 2016). The 3DEP 2016 LiDAR elevations were compared to a 2015 topographic survey of the Project supplied by LRC and differences in elevation are negligible (within 1 foot and most are equal to 0 feet). Additionally, the Project topography has changed little according to LRC since the 2015 topographic survey, despite the 2019 flooding.

Average GWLs from the three ENWRA Project wells, and the GWLs based on the NDNR logs were converted to a 10-foot gridded continuous (raster) surface and 0.5-foot contour lines across the Project using Inverse ‘Natural Neighbor’ interpolation and ‘Contour’ geoprocessing tools built-into the ArcGIS environment. A publically-available statewide water-table contour map, with a 10-foot contour interval representing spring 1995 conditions, obtained as a shapefile from University of Nebraska-Lincoln Conservation and Survey Division staff, was used as a basis for comparison and corroboration of GWLs and general groundwater flow direction. Another basis of comparison was made between the GWLs from two data points analyzed anew in this study that are the same data points (geographically) from the Phase 1 Gretna Bottoms project, including the Ash-01_15 ENWRA Project well, and the registered well G-158991. Differences are attributed to the use of a different period of record to generate an average GWL, and to a different source/timeframe of topographic data used to derive GWLs, respectively.

The raster surface of GWLs was then used to determine and map a continuous raster surface of the depth to the water table, calculated by subtracting the mapped GWLs from the gridded LiDAR elevations. Values of depth to water table that were negative were converted to values of zero. No other sources of data were used to estimate and map the water table or depth to groundwater. Elevations are in feet relative to the North American Vertical Datum of 1988 (NAVD 88). Spatial data is projected in Nebraska state plane (North American Datum of 1983 [NAD83]) with units of feet.

3.0 Results

Summary statistics of GWLs from the ENWRA Project wells, calculated using all available records (covering 8/27/2008–11/13/2020), are listed in **Table 1**. Average GWLs differ by up to 9.9 feet, but the distance between these well is as much as 7,300 feet (Ash-01_15 to Ash_05_15). Individually, the records indicate GWLs vary by between 4.0 and 9.3 feet, with absolute GWLs varying from 1,057.2 feet (Ash-05_15) up to 1,077.0 feet (Ash-01_15). Time series of the GWLs (hydrographs) from the ENWRA Project well records are plotted on **Figure 1**.

Based on the well registration records, the static depth to water table near the Project ranges from 1.5 to 12 feet (**Table 2**). The geologic logs on these well registration records indicate that clay, silty clay, sandy clay, sand, and gravel exists from land surface down to over 50 feet. The lithology and the static GWLs recorded on the well registration records indicates that the water table can be found within the tighter materials, including clay, silty clay, and sandy clay, as well as higher permeability materials, including sand and gravel (see **Table 2**). This heterogeneity in near-surface soil types is consistent with the floodplain environment of the Platte River and Elkhorn River valleys and floodplain.

The estimated 0.5-foot contours of the water table based on the ENWRA Project well GWL averages and GWLs from registered well records (single measurements), are overlaid with the gridded LiDAR land surface topography on **Figure 2**. The land surface slopes from northwest to southeast across the Project, with the lowest elevations occurring in the east-central and southern parts. The mean land surface elevation is 1,072.4 feet, ranging from 1,067.1 to 1,075.4 feet. A slight ridge trends through the Project in a thin strip from the northwest corner to the east-central edge of the Project. The mapped water table generally mimics the land surface topography, sloping northwest to southeast, including a ridge of higher elevation trending from the northwest corner to the east-central part of the Project. The mean GWL equals 1,069.7 feet, ranging from 1,066.1 to 1,070.4 feet. The lowest GWLs occur in the southern part of the Project.

Depth to the water table is overlaid with the estimated 0.5-foot contours of the water table on **Figure 3** (note that the scale of **Figure 3** is larger, relative to that of **Figure 2**, allowing for easier viewing of details at the Project site). The mean depth to the water table equals 2.7 feet below land surface (0.75-foot standard deviation). The depth to water table across the Project ranges from approximately 0 to 6.6 feet, with both extremes occurring near a north-south oriented linear feature (possibly a trench) that occurs in the southern part of the Project. The central and east-central parts of the Project have the smallest depth to water table, while the southern, northwestern, and northeastern corners of the Project have the largest depths to water table.

The publically-available statewide water-table contours are also illustrated on **Figures 2 and 3**, and these indicate that the broad (or regional) groundwater flow direction and hydraulic gradients are similar to those depicted by the water-table contours generated from the analysis of this study. Since these statewide 10-foot contours do not provide specific, fine-resolution, details at the Project, they tend to indicate a smooth gradient and do not illustrate the same variations in hydraulic gradients as mapped in this study at and in the vicinity of the Project. Namely, the hydraulic gradients as mapped in this study are low (shallow) across much of the Project but increase at the southern part of the Project, and to a lesser extent on the eastern part of the Project (GWLs decline abruptly to the south, southeast, and east).

Two data points analyzed anew in this study are the same data points (geographically) as used in the Phase 1 Gretna Bottoms project, including the Ash-01_15 ENWRA Project well, and the registered well G-158991. At these two measurement points, the differences between the Phase 1 and Phase 2 groundwater analyses are considered negligible, at no more than 0.3 feet. The GWL calculated for the new (Phase 2) analysis at Ash-01_15 is 0.2 feet lower, and the GWL calculated at G-158991 is 0.3 feet lower, than the GWLs from the Phase 1 study. The differences noted here are small, thus they are of no consequence.

4.0 Limitations

The findings in this technical memorandum are intended to allow analysis of groundwater levels (GWLs) across the Project relying on readily available public information/data. As with any scientific investigation, the findings depend on the available data and on information provided and published from other sources. While HDR has used its best efforts in preparing this technical memorandum, HDR has assumed that third party or client data is accurate, complete, reliable, and current. The analysis presented herein does not constitute a detailed evaluation of actual site conditions since no measurements were obtained within the Project. The results presented in this report are interpretations and must be used with caution. Use of this work product by others is at their own risk and the user assumes liability for further use.

The existing gravel-mining ponds near the Project, as depicted on project satellite imagery (background map layers), were not accounted for—their presence should have an effect on the GWLs at the Project by having a flat gradient (single water level) across their entire surface. In addition, potential for inaccuracies in mapped GWLs arise from the limited spatial density of the observation points. In some areas, these discrepancies are expected to have the potential to be larger than in other areas, the magnitude of which can be approximated by comparison between the different information available on the depth to groundwater (and GWLs) and is expected to be larger as the distance between points of interest and points with available measurement information increases. Partly, the magnitude of uncertainty can be related to the type of measurement data, including whether a measurement was made from a monitoring well screened in the shallow aquifer with measurements from pressure transducer, or from a registered well (irrigation, commercial, or industrial) screened in deeper intervals and having longer screens as compared to the monitoring wells with measurements made using a sounding device usually shortly after drilling (same day to a few weeks in most cases). Therefore, there is potential that the deeper well measurements have a lower level of precision and accuracy when it comes to representing the water table than monitoring well measurements obtained from shallow intervals. Furthermore, it is important to note that average GWLs were used from the monitoring wells, while GWL measurements were only available for one time period from well registration records, as inputs used to generate the mapped GWLs.

5.0 References

- HDR Engineering, Inc. (HDR), 2018. Gretna Bottoms 404 Permitting Revised Groundwater Analysis Report. Technical Memorandum Prepared for Lyman-Richey Corporation. July.
- HDR Engineering, Inc. (HDR), 2021. 2020 Wetland Mitigation Monitoring Report. Gretna Bottom Wetland Mitigation Bank, USACE File No. 2017-01848. Sarpy County, Nebraska. Prepared for Lyman-Richey Corporation. March.
- 3DEP (3D Elevation Program). 2016. LiDAR Data is QL2 (0.7-Meter). U.S. Geological Survey, Papio-Missouri River NRD, Douglas, Lancaster, and Sarpy Counties, and the Cities of Omaha, Lincoln, Fremont, and Blair. Collection of LiDAR Data Took Place from December 8, 2016 through February 3, 2017.

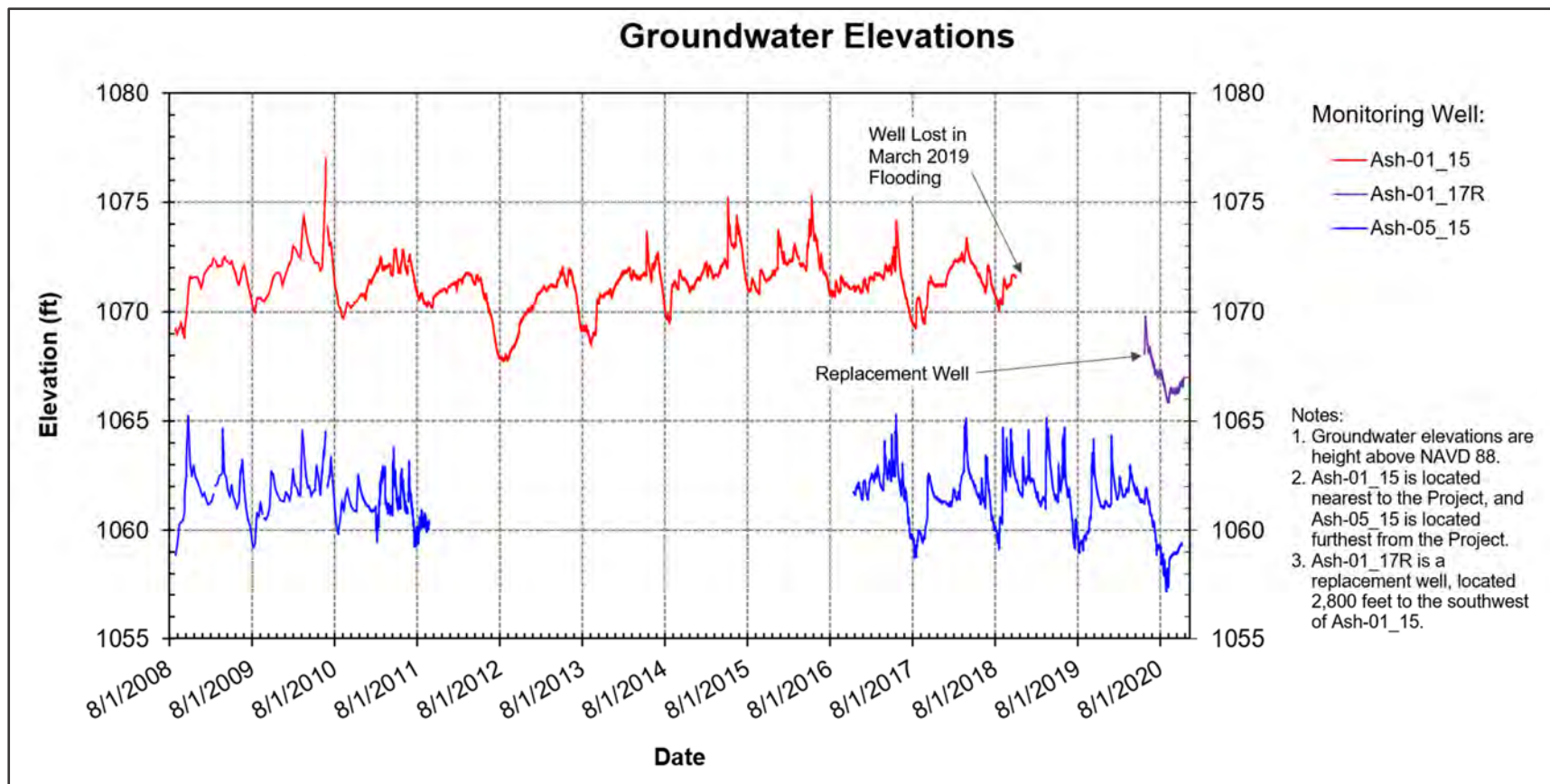


FIGURE 1. Time Series of Groundwater Elevation Records (Hydrographs) from ENWRA Project Wells
 (Note: Elevations are in feet above the North American Vertical Datum of 1988)

TABLE 1. Groundwater Elevation Summary Statistics for ENWRA Project Wells

Groundwater Elevation Statistic	Monitoring Well		
	Ash-01_15	Ash-01_17R	Ash-05_15
Minimum	1067.7	1065.8	1057.2
Average	1071.3	1067.1	1061.4
Maximum	1077.0	1069.8	1065.3
Range	9.3	4.0	8.1
Standard Deviation	1.1	0.9	1.3
Number of Measurements	8,998	527	5,583
Measurement Date Range	8/27/2008 – 11/1/2018	5/22/2020 – 11/13/2020	8/27/2008 – 11/5/2020
Length of Measurement Record (days)	3,718	175	4,453
Length of Measurement Record (years)	10.18	0.48	12.19

Notes:

1. Groundwater elevations are in feet relative to the North American Vertical Datum of 1988.
2. Length of measurement records do not include data gaps.
3. Ash-01_17R is a replacement well located 2,800 feet southwest of Ash-01_15.

TABLE 2. Registered Well Static Groundwater-Level Depths and Lithology

Well Registration Number	Static Groundwater-Level Depth (feet)	Date of Measurement (feet)	Total Depth of Well (feet)	Lithology ¹ (Depths in feet)
G-060900	4	12/22/1978	60	Topsoil (0–3); Fine Sand (3–10); Medium Sand (10–17)
G-082391	4	4/7/1994	52	Topsoil/Sand (0–4); Clay (4–13); Coarse Sand (13–38)
G-088058	1.5	4/10/1996	116	Silty Clay (4–9); Sand and Gravel (9–50)
G-088059	4	4/11/1996	86	Silty Clay (4–11); Sand and Gravel (11–41)
G-109425	3	3/28/2000	50	Sand (0–3); Silty Clay (3–10); Sand and Gravel (10–51)
G-157943	3	9/9/2010	60	Topsoil (0–5); Clay (5–8); Fine Sand (8–12); Sand with Gravel (12–17)
G-158991	8	5/4/2011	73	Sandy Clay (0–6); Sand with Gravel (6–59)
G-177591	8	8/3/2015	52	Clay (0–2); Fine Sand (2–20)
G-180920	12	9/14/2016	51	Clay (0–2); Fine Sand (2–20)
G-180921	12	9/16/2016	71	Clay (0–8); Fine Sand (8–28)
G-184658	7	4/16/2018	45	Med.-Coar. Sand (0–4); Clay (4–12); Sandy Clay (12–45)

Notes:

1. Lithology from well registration record geologic (driller's) logs showing intervals with top depths no deeper than 15 feet.

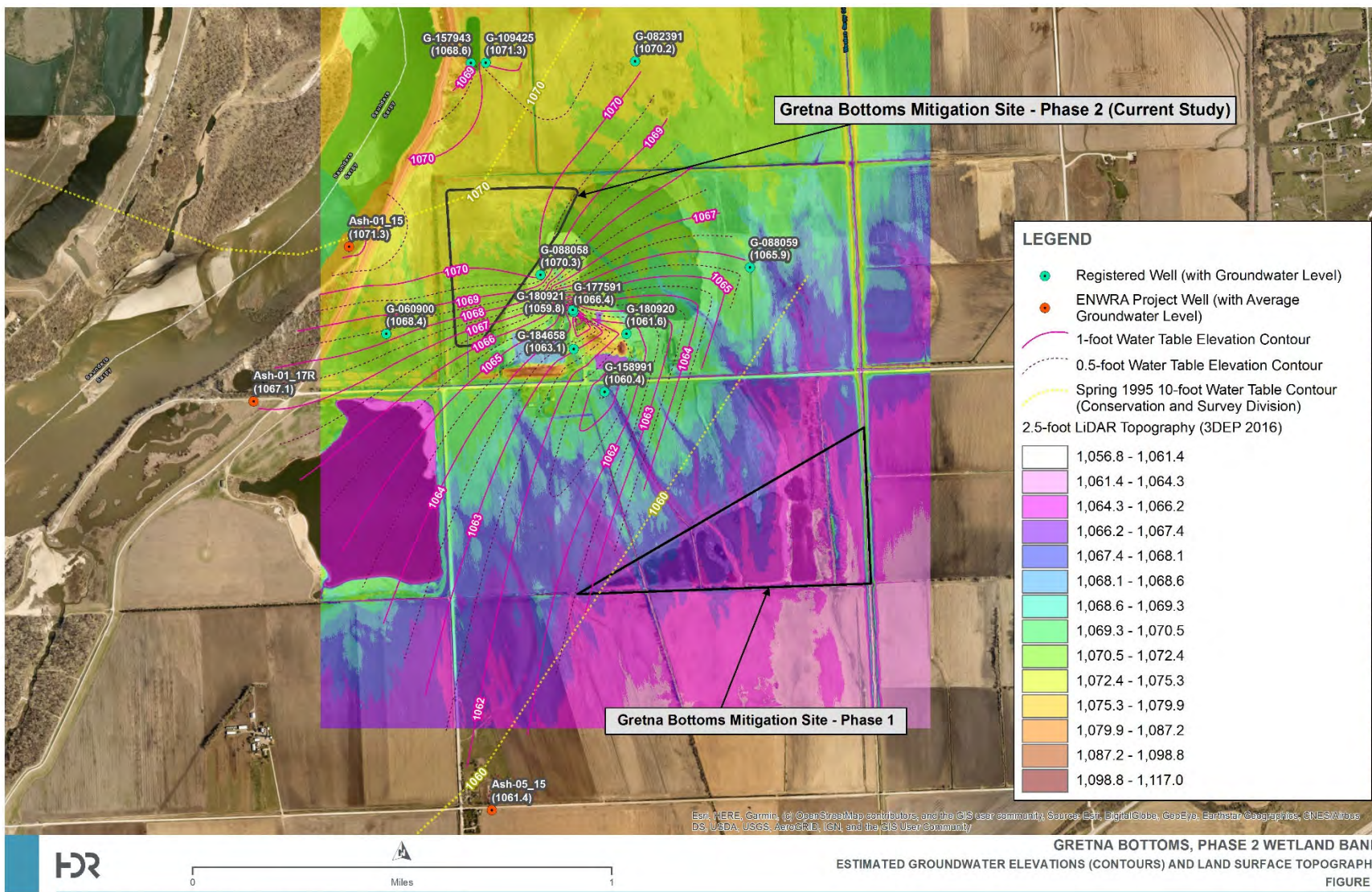


FIGURE 2. Mapped Water Table Contours and LiDAR Land Surface Topography
 (Note: Elevations are in feet above the North American Vertical Datum of 1988)

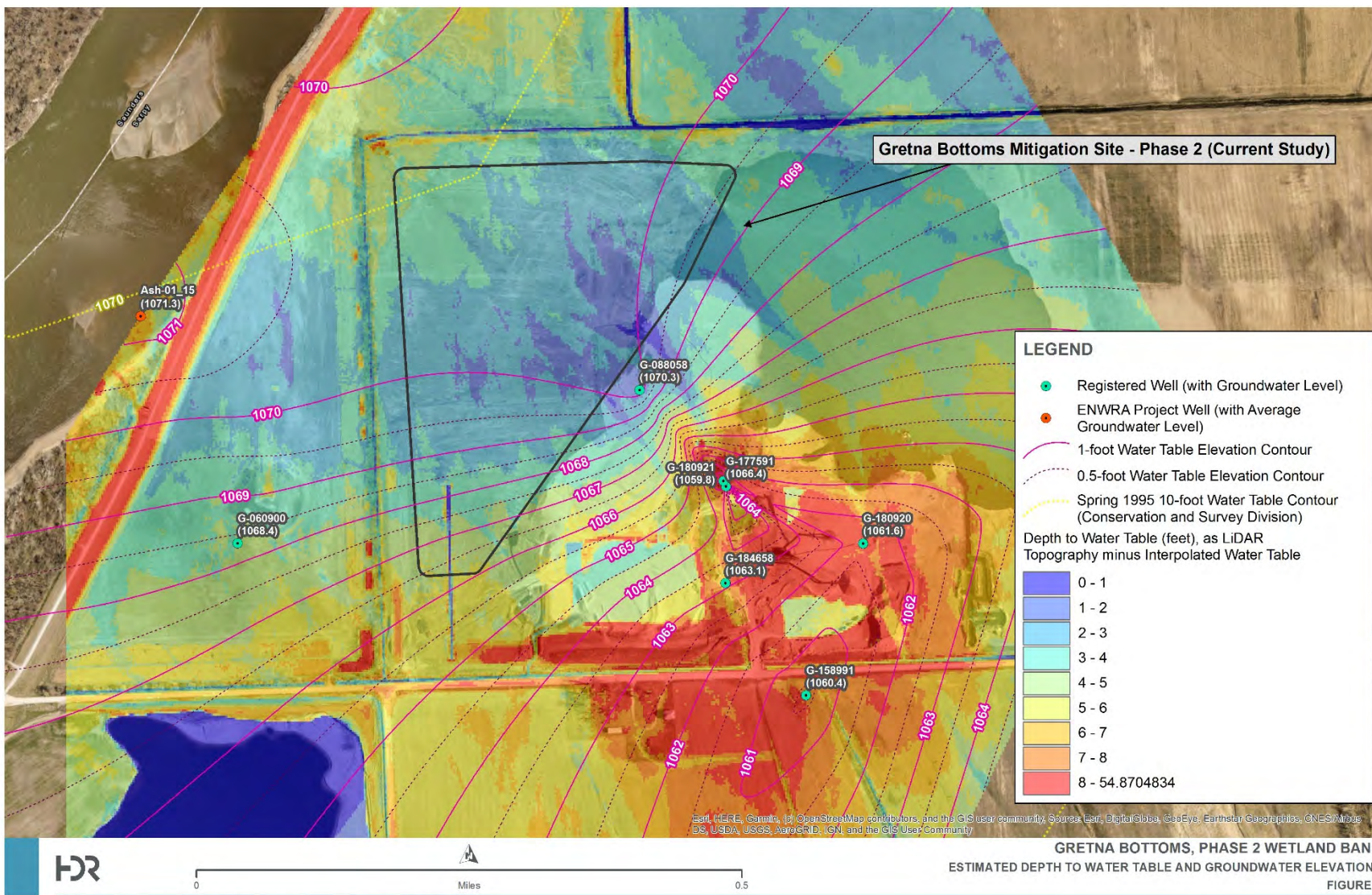
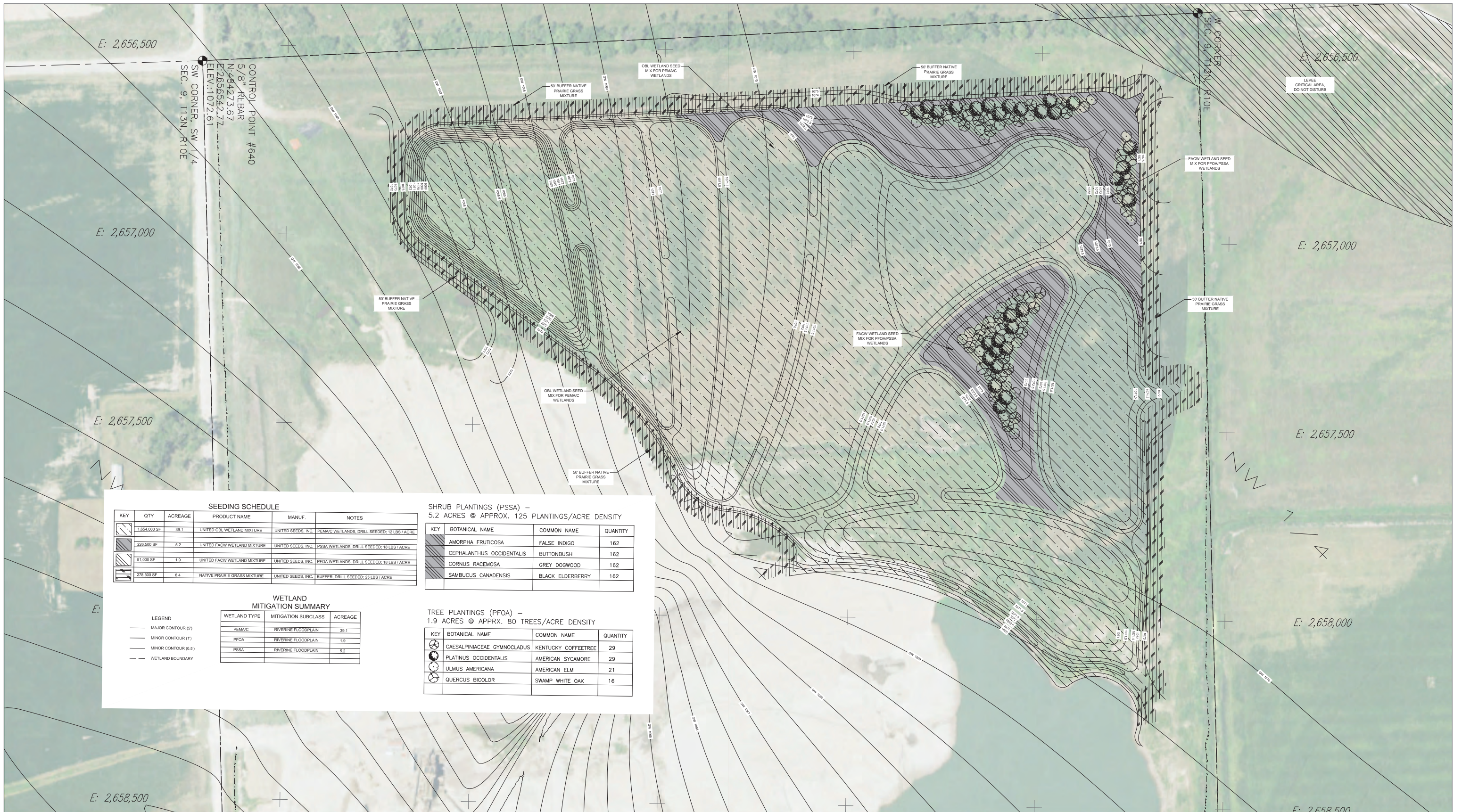


FIGURE 3. Mapped Depth to Water Table and Water Table Contours
 (Note: Elevations are in feet above the North American Vertical Datum of 1988)



Appendix E
Design Drawing



CONTROL POINT #640
 5/8" REBAR
 N: 484273.67
 E: 2655542.72
 ELEV: 1072.61
 SW CORNER, SW 1/4
 SEC. 9, T13N, R10E

SEEDING SCHEDULE

KEY	QTY	ACREAGE	PRODUCT NAME	MANUF.	NOTES
[Symbol]	1,654,000 SF	39.1	UNITED OBL WETLAND MIXTURE	UNITED SEEDS, INC.	PEMAC WETLANDS, DRILL SEEDED, 12 LBS / ACRE
[Symbol]	228,500 SF	5.2	UNITED FACW WETLAND MIXTURE	UNITED SEEDS, INC.	PSSA WETLANDS, DRILL SEEDED, 18 LBS / ACRE
[Symbol]	81,000 SF	1.9	UNITED FACW WETLAND MIXTURE	UNITED SEEDS, INC.	PFOA WETLANDS, DRILL SEEDED, 18 LBS / ACRE
[Symbol]	278,500 SF	6.4	NATIVE PRAIRIE GRASS MIXTURE	UNITED SEEDS, INC.	BUFFER, DRILL SEEDED, 28 LBS / ACRE

WETLAND MITIGATION SUMMARY

WETLAND TYPE	MITIGATION SUBCLASS	ACREAGE
PEMAC	RIVERINE FLOODPLAIN	39.1
PFOA	RIVERINE FLOODPLAIN	1.9
PSSA	RIVERINE FLOODPLAIN	5.2

SHRUB PLANTINGS (PSSA) – 5.2 ACRES @ APPROX. 125 PLANTINGS/ACRE DENSITY

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY
[Symbol]	AMORPHA FRUTICOSA	FALSE INDIGO	162
[Symbol]	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	162
[Symbol]	CORNUS RACEMOSA	GREY DOGWOOD	162
[Symbol]	SAMBUCUS CANADENSIS	BLACK ELDERBERRY	162

TREE PLANTINGS (PFOA) – 1.9 ACRES @ APPROX. 80 TREES/ACRE DENSITY

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY
[Symbol]	CAESALPINIACEAE GYMNOCLADUS	KENTUCKY COFFEETREE	29
[Symbol]	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	29
[Symbol]	ULMUS AMERICANA	AMERICAN ELM	21
[Symbol]	QUERCUS BICOLOR	SWAMP WHITE OAK	16

LEGEND

- MAJOR CONTOUR (5')
- MINOR CONTOUR (1')
- MINOR CONTOUR (0.5')
- WETLAND BOUNDARY

AERIAL IMAGERY: 2020 USDA NAIP

PROJECT TITLE: LYMAN-RICHEY CORPORATION, GRETNA BOTTOM PHASE 2

PROJECT NUMBER: 10296199

REFERENCE SHEET



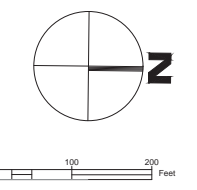
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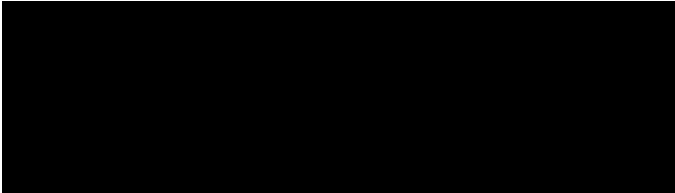



PROJECT MANAGER: Q. DAMGAARD

REFERENCE DOCUMENT

DATE: 02/04/2022

EXHIBIT NUMBER: 1





Appendix F Seed Mixtures



United OBL Wetland Mixture is formulated to accurately represent species found in Zone 3 (Iowa) and Zone 5 (Nebraska) as designated by the [USDA Wetland Indicator Status](#). OBL wetland species are found in standing water areas and **United OBL Wetland Mixture** is a complete mixture using Sedges, Rushes and Wildflowers. Special emphasis of species selection was placed on seed count per pound to minimize domination of smaller sized seeds.

Seeding Rates:	Seeding Dates:	Germination Times:
12 LBS / ACRE (drill seeded)	March-July	10-30 Days as a Mixture
15 LBS/ ACRE (broadcast or dormant seed)	Mid November-March (dormant seeded)	



Botanical Name	Common Name	% of Mix	PLS Rate (12LBS/AC)	Flower Color	Mature Height
<i>Alisma subcordatum</i>	Mud Plantain	.42%	.0504	White	1'
<i>Asclepias incarnata</i>	Swamp Milkweed	8.33%	.9996	Pink	3-5'
<i>Aster puniceus</i>	Purple Aster	.25%	.03	Violet	5-6'
<i>Bidens cernua</i>	Bur Marigold	2.08%	.2496	Yellow	3'
<i>Calamagrostis canadensis</i>	Blue Jointgrass	.21%	.0252		5'
<i>Carex cosmos</i>	Bristly Sedge	.63%	.0756		8-24'
<i>Carex bebbi</i>	Bebb's Sedge	6.25%	.75		2'
<i>Carex lurida</i>	Lurid Sedge	2.08%	.2496		3'
<i>Carex nebraskensis</i>	Nebraska Sedge	14.58%	1.7496		3'
<i>Carex stinata</i>	Awl Sedge	4.17%	.5004		1.5-3'
<i>Carex stricta</i>	Tussock Sedge	.08%	.0096		3'
<i>Carex vulpinoidea</i>	Fox Sedge	19.17%	2.3004		3'
<i>Chelone glabra</i>	Turtlehead	.08%	.0096	Cream	5'
<i>Echinochloa muricata</i>	Barnyard Grass	14.58%	1.7496		2'
<i>Cleocharis palustris</i>	Spike Rush	6.67%	.8004		1.5'
<i>Eupatorium fistulosum</i>	Joe Pye Weed	2.08%	.2496	Pink	5'
<i>Glyceria striata</i>	Fowl Mannagrass	.58%	.0696		4'
<i>Juncus effuses</i>	Soft Rush	.58%	.0696		4'
<i>Leersia oryzoides</i>	Rice Cutgrass	1.67%	.2004		3'
<i>Lobelia cardinalis</i>	Cardinal Flower	.17%	.0204	Red	3-4'
<i>Ludwigia alternifolia</i>	Seedbox	.08%	.0096	Yellow	3'
<i>Mimulus ringens</i>	Monkey Flower	.42%	.0504	Purple	2'
<i>Scirpus atrovirens</i>	Green Bulrush	6.25%	.75		5'
<i>Scirpus Validus</i>	Soft Stem Bulrush	8.33%	.9996		5-6'
<i>Solidago riddellii</i>	Riddell's Goldenrod	.25%	.03	Yellow	3'



UNITED SEEDS INC

United

FACW Wetland Mixture

United FACW Wetland Mixture is formulated to more accurately represent species found in Zone 3 (Iowa) and Zone 5 (Nebraska) as designated by the USDA Wetland Indicator Status. FACW wetland species are found in wet soils that will occasionally dry out during summer months. United FACW Wetland Mixture is a complete mixture of native warm season grasses, native cool season grasses, wildflowers and sedges. Special emphasis of species selection was placed on seed count per pound to minimize domination of smaller sized seeds. Dormant seeding is recommended for natural seed stratification.

SEEDING RATES:

15 LBS/Acre (drill seeded)
18 LBS/ Acre (broadcast or dormant seeded)

SEEDING DATES:

March– July
Mid November-February (dormant seeding)

GERMINATION TIMES:

10-30 Days as a mixture

CONTRACTOR: NE HYDRO SEEDING
PROJECT: GRETNA BOTTOM WETLANDS
SEEDING RATE: 18 BULK LBS / AC
(8)-49.05 LB BAGS = 2.725 ACRES

Botanical Name	Common Name	% of Mix	PLS Rate (12LBS/AC)	Flower Color	Mature Height
<i>Agrostis gigantea</i>	Red Top	1.67%	.25		2-3'
<i>Andropogon gerardii</i>	Big Bluestem	6.67%	1		5-7'
<i>Aster Novae-angliae</i>	New England Aster	1.67%	.25	Purple	2-6'
<i>Aster umbellatus</i>	White Aster	.13%	.02	White	2-6'
<i>Bindens frondosa</i>	Beggar Ticks	1.67%	.25	Yellow	4'
<i>Carex crinita</i>	Fringed Sedge	.47%	.07		3'
<i>Carex lupulina</i>	Hop Sedge	1.67%	.25		3'
<i>Carex scoparia</i>	Blunt Broom Sedge	1.33%	.2		2'
<i>Elymus canadensis</i>	Canada Wildrye	16.67%	2.5		3-4'
<i>Elymus virginicus</i>	Virginia Wildrye	18.33%	2.75		3-4'
<i>Eupatorium perfolitum</i>	Boneset	.33%	.05	White	5'
<i>Euthamia graminifolia</i>	Grass Leaved Goldenrod	.33%	.05	Yellow	2-3'
<i>Festuca rubra</i>	Chewings Fescue	11.67%	1.75		2-3'
<i>Glyceria grandis</i>	American Mannagrass	.33%	.05		5-6'
<i>Helenium autumnale</i>	Common Sneezeweed	.33%	.05	Yellow	4-5'
<i>Heleopsis helianthoides</i>	Oxeye Sunflower	2.67%	.4	Yellow	4'
<i>Helianthus grosseserratus</i>	Sawtooth Sunflower	.20%	.03	Yellow	5-7'
<i>Juncus tenuis</i>	Path Rush	.13%	.02		1'
<i>Lobelia siphilitica</i>	Great Blue Lobelia	.13%	.02	Blue	1'
<i>Panicum virgatum</i>	Switchgrass	6.67%	1		5-6'
<i>Phleum pratense</i>	Timothy	5.00%	.75		1-3'
<i>Physostegia virginiana</i>	Obedient Plant	.13%	.02	Purple	1-4'
<i>Poa palustris</i>	Fowl Bluegrass	11.67%	1.75		2-3'
<i>Polygonum pensylvanicum</i>	Pennsylvania Smartweed	1.00%	.15	Pink/Purple	4-5'
<i>Rudbeckia laciniata</i>	Cutleaf Coneflower	.13%	.02	Yellow	5'
<i>Siliphium perfoliatum</i>	Cup Plant	1.33%	.2	Yellow	7-8'
<i>Spartina pectinata</i>	Prairie Cordgrass	3.33%	.5		6'
<i>Verbena hastata</i>	Blue Vervain	1.33%	.2	Violet	2-4'
<i>Vernonia gigantea</i>	Giant Ironweed	1.33%	.2	Purple	3-6'
<i>Zizia aurea</i>	Golden Alexanders	1.67%	.25	Yellow	3'



United Seeds Inc. Upland Meadow / Buffer Mix

KIND*	VARIETY	PLS # / AC	AC (X)	(=) TOTAL PLS #	PLS FACTOR	TOTAL BULK LBS
COMMON YARROW		0.046875	1.0	0.047	1.045	0.05
ANISE HYSSOP		0.03125	1.0	0.031	1.012	0.03
LEAD PLANT		0.125	1.0	0.125	1.111	0.14
COMMON MILKWEED		0.125	1.0	0.125	1.021	0.13
PARTRIDGE PEA		0.5	1.0	0.500	1.152	0.58
PRAIRIE COREOPSIS		0.125	1.0	0.125	3.027	0.38
WHITE PRAIRIE CLOVER		0.15625	1.0	0.156	1.027	0.16
PURPLE PRAIRIE CLOVER		0.125	1.0	0.125	1.022	0.13
PURPLE CONEFLOWER		0.5	1.0	0.500	1.034	0.52
FALSE OX-EYE SUNFLOWER		0.25	1.0	0.250	1.012	0.25
PRAIRIE BLAZINGSTAR		0.09375	1.0	0.094	1.271	0.12
WILD BERGAMONT		0.03125	1.0	0.031	1.207	0.04
DOTTED MINT		0.0625	1.0	0.063	1.494	0.09
GREYHEADED CONEFLOWER		0.375	1.0	0.375	1.021	0.38
PRAIRIE WILD ROSE		0.125	1.0	0.125	1.236	0.15
BLACK EYED SUSAN		0.125	1.0	0.125	1.030	0.13
SHOWY GOLDENROD		0.03125	1.0	0.031	1.471	0.05
OHIO SPIDERWORT		0.25	1.0	0.250	1.042	0.26
HOARY VERVAIN		0.09375	1.0	0.094	1.083	0.10
GOLDEN ALEXANDERS		0.0625	1.0	0.063	1.031	0.06
SIDEOATS GRAMA		2.5	1.0	2.500	1.271	3.18
BLUE GRAMA		0.25	1.0	0.250	1.160	0.29
CANADA WILD RYE		1	1.0	1.000	1.120	1.12
PATH RUSH		0.015625	1.0	0.016	1.242	0.02
PRAIRIE JUNEGRASS		0.25	1.0	0.250	1.410	0.35
LITTLE BLUESTEM		1	1.0	1.000	1.267	1.27
INDIANGRASS		0.25	1.0	0.250	1.024	0.26
PRAIRIE DROPSEED		0.5	1.0	0.500	1.053	0.53
Approved by:		ACRES / BAG:	1.000		TOTAL BULK LBS	10.76
Dan Strey		LBS / BAG:	10.76	1.00	# of Bags	1
		NEED:	1	1.00	AC. TAGS	1