Exhibit FF. Hornsby Industrial Wetlands Delineation Report

Baton Rouge Area Chamber®

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Hornsby Industrial Park Wetlands Delineation Report

WETLAND DELINEATION DATA REPORT

HORNSBY 127.25-ACRE PROPERTY
LIVINGSTON PARISH, LOUISIANA

Prepared for

BATON ROUGE AREA CHAMBER
564 Laurel Street
Baton Rouge, Louisiana 70801

September 2017

Prepared by:

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1.0 INTRODUCTION

Mineral Preservation, LLC currently owns in title the subject property, which is located east of the city of Walker in Livingston Parish Louisiana (Figure 1). Following a preliminary investigation of the property (including review of soils data and aerial photography), a wetland delineation was conducted to determine, based upon Pangaea Conservation & Compliance, LLC (Pangaea) personnel's expert opinion, the presence or absence of potential wetlands and/or Waters of the U.S. located within the property boundaries. In addition, Pangaea personnel were tasked with identifying the extent of and approximate boundaries of any such features located on the property. The following Wetland Delineation Data Report has been prepared for submittal to the New Orleans District U.S. Army Corps of Engineers in order to obtain a Jurisdictional Determination.

This report is a presentation of data on the three (3) diagnostic characteristics of wetlands under the jurisdiction of the U.S. Army Corps of Engineers (USACE) for an approximately 127.25-acre tract (the Property). This report was prepared by Pangaea, for Mineral Preservation, LLC and the Baton Rouge Area Chamber, in accordance with guidance found within the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers Waterways Experiment Station Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* (U.S. Army Corps of Engineers Research and Development Center Wetlands Regulatory Assistance Program, 2010).

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (40 CFR 230.3). The three (3) diagnostic environmental characteristics of wetlands are soils, vegetation, and hydrology. Wetlands must exhibit evidence of a minimum of one (1) primary or two (2) secondary indicators of hydrology, wetland indicator for hydric soil, and a prevalence of hydrophytic vegetation in order to be classified as such. The presence of or lack of each of these characteristics is described for the AOI within the remainder of this report.

2.0 SITE LOCATION AND DESCRIPTION

The approximately 127.25 acre site is located at latitude 30.506820 N and -90.825087 W located within Sections 20 and 21 Township 6S, Range 4E near the Industrial Park in Livingston Parish, Louisiana (Figure 1). The Property is bordered by forested land and the Livingston Parish Industrial Park.

The Property currently consists of 127.25 acres of pine plantation and access roads.

3.0 FIELD SURVEY

3.1 General

Field investigation of the Property was performed by Pangaea personnel (trained wetland delineators) in September of 2017. A total of ten (10) sample locations were chosen for field and vegetative observations and collection of soil samples in order to characterize the Property. At each sample location, dominant vegetation was identified, investigation for indicators of hydrology was performed, and soil samples were collected and examined for identification and determination of soil properties. Photographs were taken of the Property, of vegetation within and surrounding the Property, and of soil pits and profiles at each sample location. Photographs are presented in Appendix B. Common survey tools, such as sharpshooter shovels, Munsell Soil Color Charts (Gregtag/Macbeth, 2000), USACE field datasheets, digital cameras, and Trimble handheld global positioning system (GPS) units, were utilized during the field observation portion of the wetland delineation.

3.2 Data Collection

Prior to conducting fieldwork, Pangaea personnel reviewed and mapped all available information for the Property. Information sources reviewed included

the *Soil Survey of Livingston Parish, Louisiana* (U.S. Department of Agriculture Soil Conservation Service, 1982) and aerial photography.

3.3 Sample Locations

Pangaea personnel utilized the three-parameter approach set forth within the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers Waterways Experiment Station, 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* (U.S. Army Corps of Engineers Research and Development Center Wetlands Regulatory Assistance Program, 2010). The three-parameter approach requires assessment of vegetation, soils, and hydrology for determination of wetland conditions.

Sample locations were selected based upon changes in elevation and obvious transition zones.

4.0 SITE DATA

Data was gathered and observations were made regarding the three (3) diagnostic characteristics of jurisdictional wetlands on the approximately 127 acre tract. Data and observations include:

4.1 Soils

Soil pits were advanced to approximately 18 inches below ground surface or until refusal using a sharpshooter shovel. The depths of the samples taken were sufficient to evaluate upper horizons and to observe field indicators of non-hydric/hydric soils. The samples were described and compared to descriptions and maps located within the *Soil Survey of West Livingston Parish, Louisiana* (U.S. Department of Agriculture Soil Conservation Service, 1982).

The Property is mapped as Satsuma silt loam and Encrow silt loam according to the USDA NRCS *Soil Survey of Livingston Parish, Louisiana.* Satsuma and Encrow silt loams, typical of Livingston Parish, Louisiana, consist of convex, somewhat poorly drained, rarely to occasionally flooded (with slopes of 1-3 percent) located along steam terraces (Figure 4).

All ten (10) sample locations were consistent with mapped soils. Five (5) sample locations presented hydric indicators (specifically, met the criteria for Depleted Matrix).

4.2 Vegetation

The majority of the Property is forested. Vegetation present within the forested portion of the Property is characteristic of pine plantation forests located throughout Livingston Parish, Louisiana. Vegetation located within the cleared ROW and forestry roads are maintained through routine mowing.

Field investigation of the Property was performed in September of 2017. Species located at each sample location were documented, within a minimum radius of 30 feet, and indicator status for each dominant species was recorded as listed within *The National Wetland Plant List: 2014 Update of Wetland Ratings* (Lichvar, 2014). The Dominance Test, or "50/20 Rule", was then applied to determine the dominant species within each stratum and to determine the presence or absence of hydrophytic vegetation at each sample location. The Prevalence Index was also completed for each sample location.

Vegetation in 10 of the 10 sample plots met the criteria for hydrophytic vegetation, 9 of the 10 plots being dominated by planted *Pinus taeda* or *Triadica sebifera*.

4.3 Hydrology

The Property is generally flat and drains through a few small natural drains.

These drains connect to a Parish maintained drainage canal which exists along the entire southern boundary. Five (5) of the ten (10) sample plots met the criteria for wetland hydrology.

5.0 CONCLUSIONS

5.1 Conclusions

It is Pangaea's opinion, due to the presence of hydric soils, presence of wetland hydrology, and predominance of hydrophytic plant species, that the approximate 21.15 acres of forest on the Property meet the technical criteria for jurisdictional wetlands (Figures 1 and 2).

5.2 Limitations

Pangaea has performed this wetland assessment in conformance with the scope and limitations of the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers Waterways Experiment Station, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* (U.S. Army Engineer Research and Development Center, 2010). The results presented in this report were based on review of available current and historical information, a desktop evaluation, and the field visit conducted in September of 2017. The findings and conclusions presented herein are professional opinions based solely on visual observations of the project area and interpretation of information provided or reasonably available to Pangaea. The jurisdictional determination of features discussed in this report can only be made by the USACE, New Orleans District.

6.0 REFERENCES

Federal Interagency Committee for Wetland Delineation (FICWD). *Federal Manual for Identifying and Delineating Jurisdictional Wetlands.* Washington D.C.: U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S. Department of Agriculture, Soil Conservation Service, 1989.

Gregtag/Macbeth. *Munsell Soil Color Charts*. New York: 2000.

Hurt, G.W., L.M. Vasilas, and C.V. Noble, eds. *Natural Resource Conservation Service (2010) Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 7.0*. Fort Worth: USDA, NRCS, 2010.

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U.S. Army Corps of Engineers. U.S. Army Corps of Engineers Waterways Experiment Station Environmental Laboratory. *Corps of Engineers Wetland Delineation Manual*. Wetland Research Program Technical Report Y-87-1. Vicksburg: USACE, 1987. On-line edition.

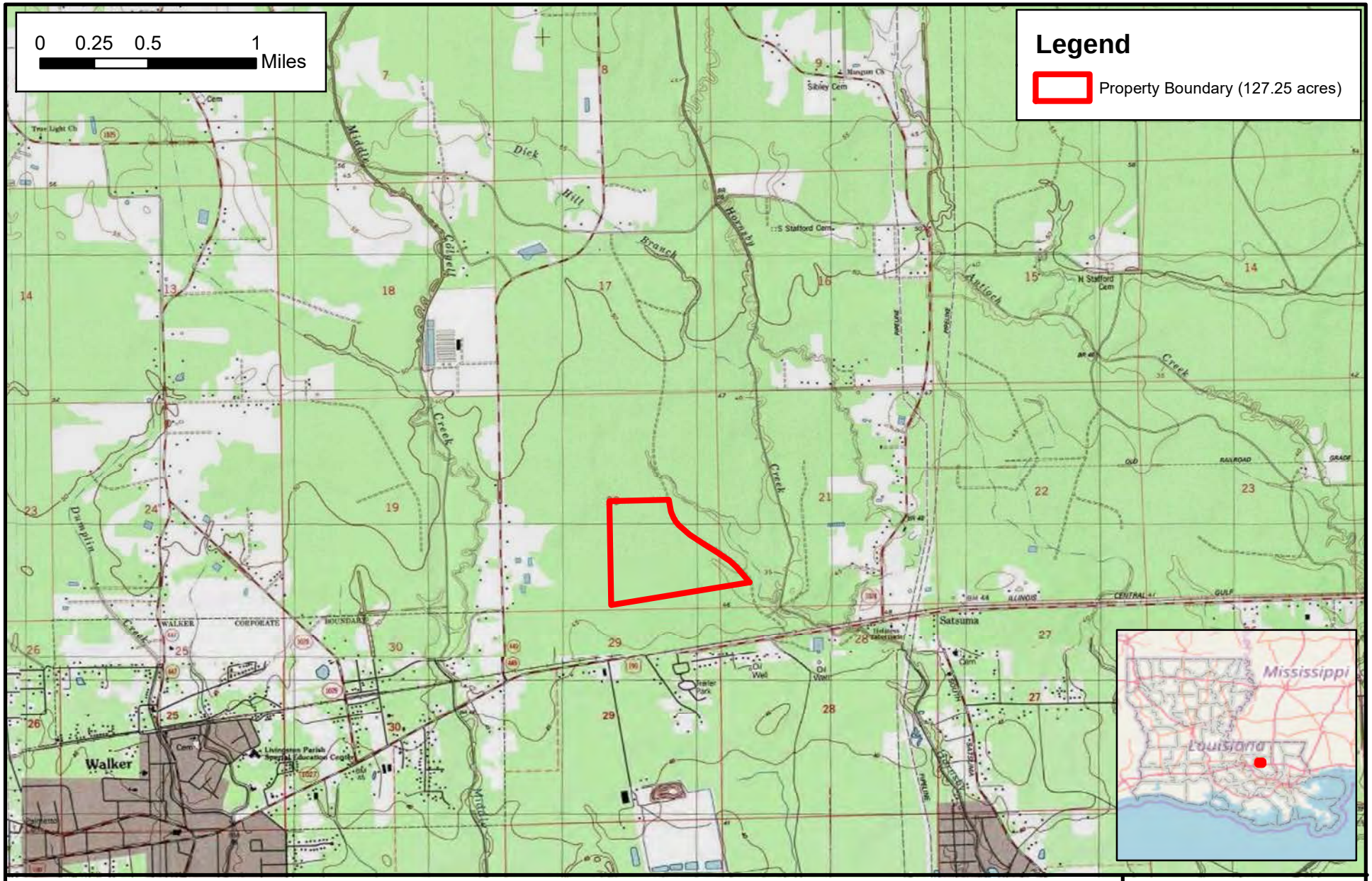
U.S. Army Corps of Engineers. U.S. Army Corps of Engineers Research and Development Center Wetlands Regulatory Assistance Program. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*. Vicksburg: USACE, 2010.

U.S. Department of Agriculture Natural Resources Conservation Service. Natural Resources Conservation Service, Louisiana Agricultural Experiment Station, and Louisiana Soil and Water Conservation Committee. *Soil Survey of Livingston Parish, Louisiana*. Washington D.C.: National Cooperative Soil Survey, 1982.

U.S. Department of Agriculture Natural Resources Conservation Service National Plants Database. <http://plants.usda.gov>

U.S. Fish and Wildlife Service National Wetlands Inventory. <http://www.fws.gov/wetlands/>

FIGURES



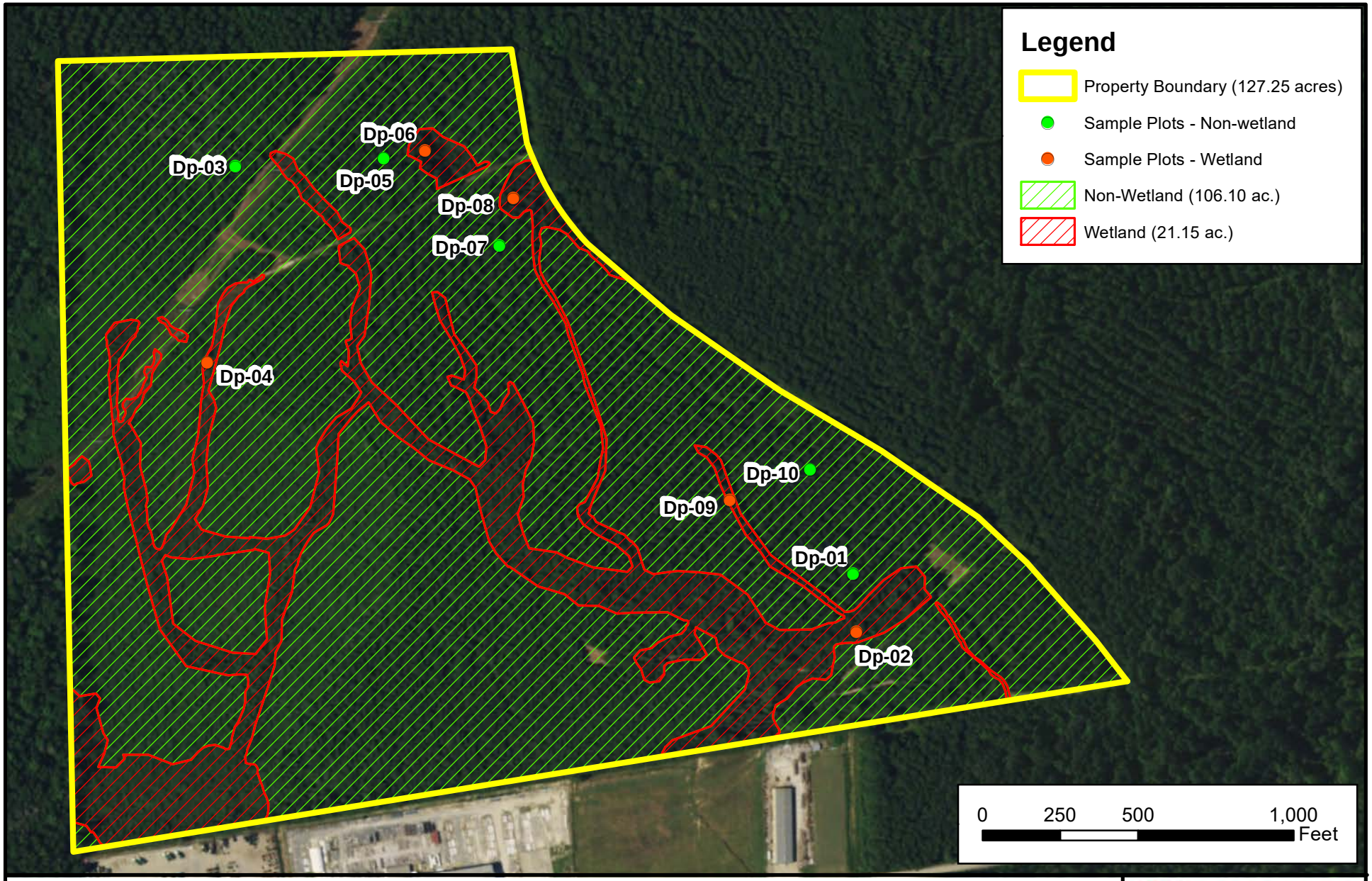
TOPOGRAPHIC LOCATION MAP

N

127-acre Hornsby Industrial Park
S20,21 / T6S / R4E (30.506820, -90.825087)
Livingston Parish, Louisiana

PANGAEA
Conservation and Compliance, LLC

Figure:	1
Date:	September 2017
Scale:	1:40,000



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WETLANDS MAP

127-acre Hornsby Industrial Park
S20,21 / T6S / R4E (30.506820, -90.825087)
Livingston Parish, Louisiana

PANGAEA
Conservation and Compliance, LLC

Figure:	2
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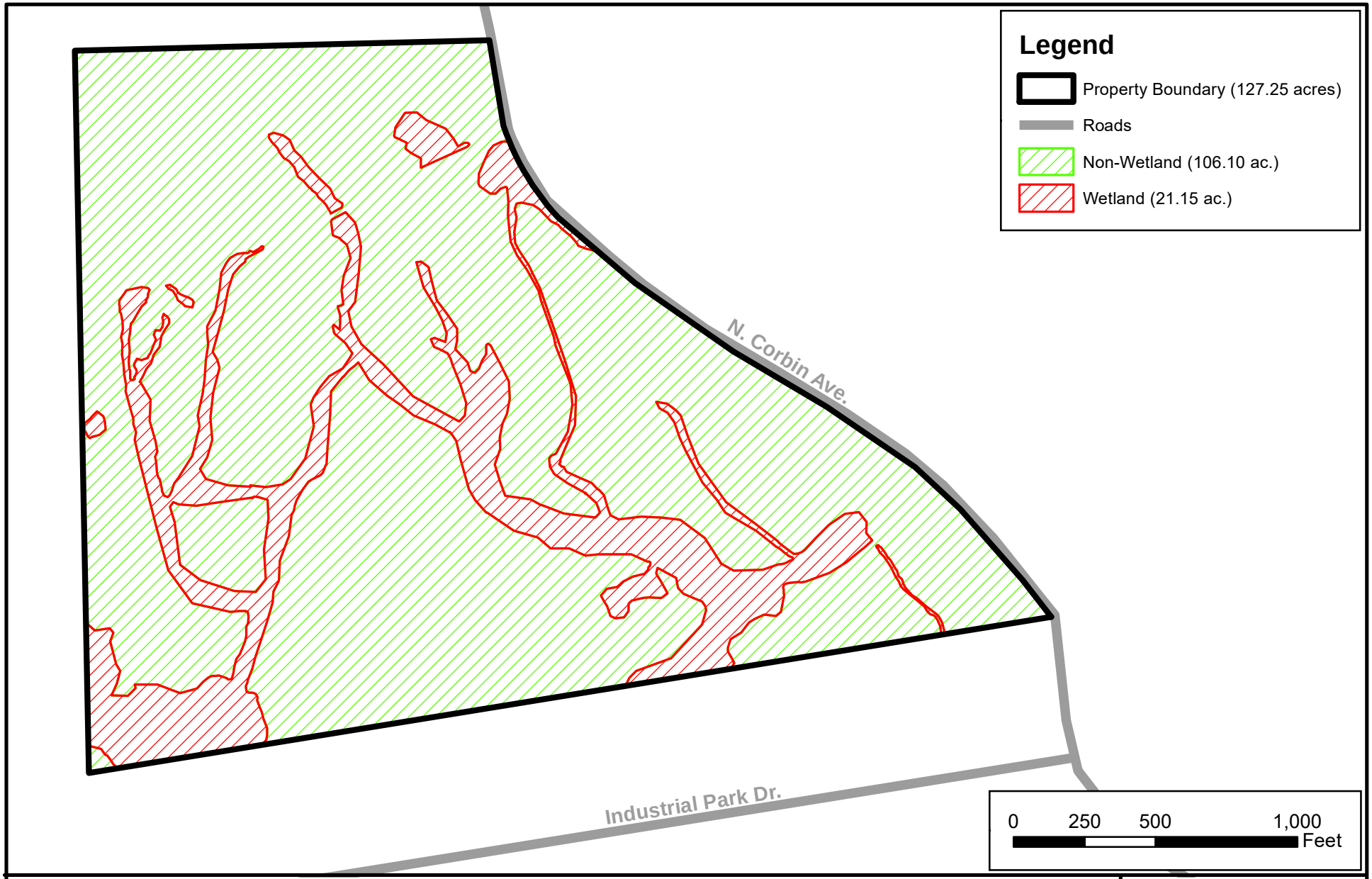

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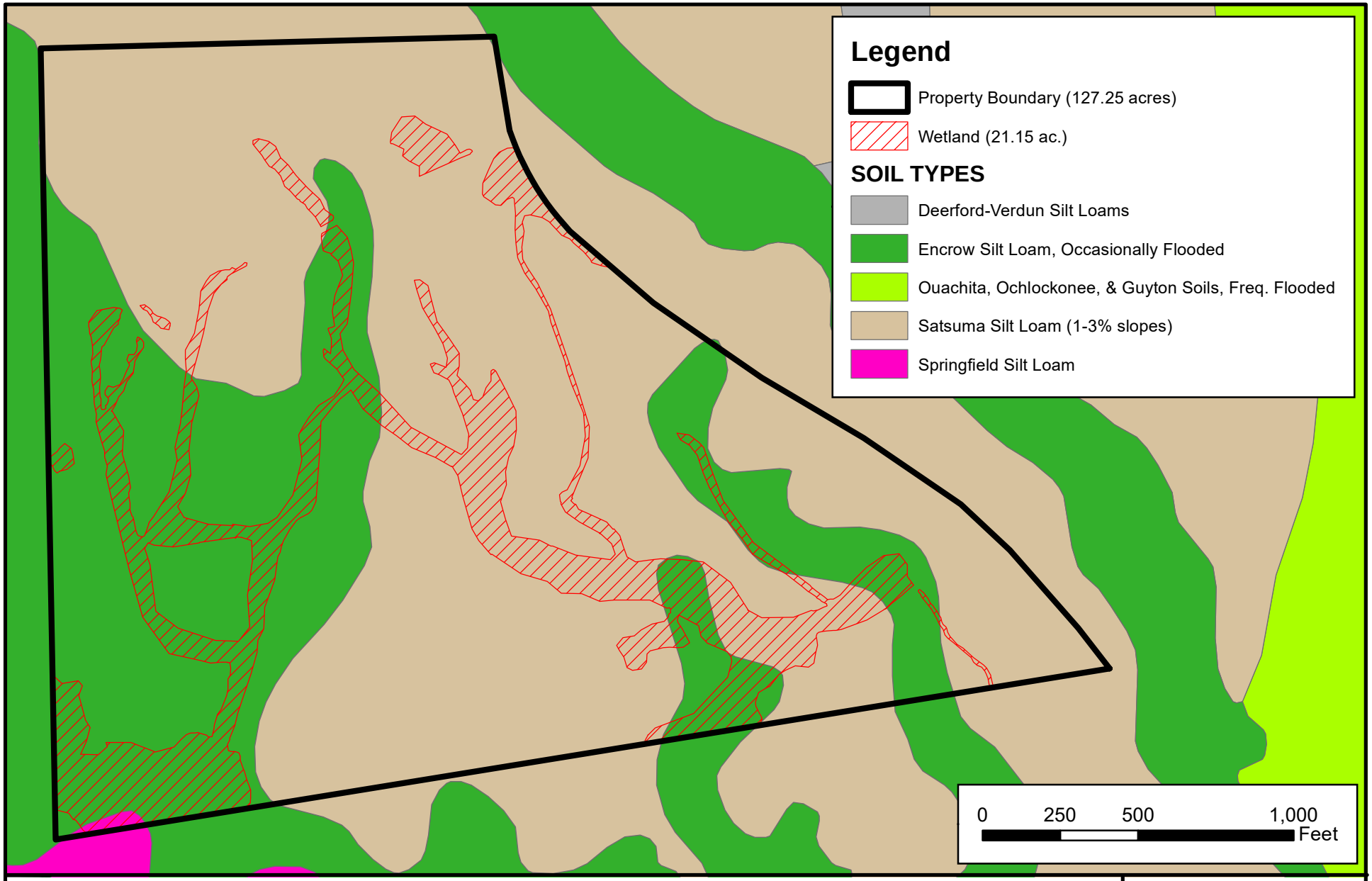
WETLANDS MAP

127-acre Hornsby Industrial Park
S20,21 / T6S / R4E (30.506820, -90.825087)
Livingston Parish, Louisiana

PANGAEA
Conservation and Compliance, LLC

Figure: 3
Date: September 2017
Scale: 1:5,750



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SOILS MAP

127-acre Hornsby Industrial Park
S20,21 / T6S / R4E (30.506820, -90.825087)
Livingston Parish, Louisiana

PANGAEA
Conservation and Compliance, LLC

Figure: 4
Date: September 2017
Scale: 1:5,250

APPENDIX A

Wetland Delineation Datasheets

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-01
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.505864053	Long:	-90.820960713
Soil Map Unit Name:	Encrow silt 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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes	**X**	No		**Is the Sample Area within a Wetland?**
Hydric Soils Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

	Yes
Is the Sample Area within a Wetland?	No **X**

Remarks: Based on the absence of hydric soil and wetland hydrology, this location fulfills the criteria of an upland.

HYDROLOGY

Wetland Hydrology Indicators:

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

	Surface Water (A1)		Water-Stained Leaves (B9)		Surface Soil Cracks (B6)
	High Water Table (A2)		Salt Crust (B11)		Sparsely Vegetated Concave Surface (B8)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drainage Patterns (B10)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
	Sediment Deposits (B2)		Dry-Season Water Table (C2)		Crayfish Burrows (C8)
	Drift Deposits (B3)		Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)				Geomorphic Position (D2)
	Iron Deposits (B5)		Presence of Reduced Iron (C4)		FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)		Frost-Heave Hummocks (D7) **(LRR F)**
			Other (Explain in Remarks)		

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches)	
Water Table Present?	Yes		No **X**	Depth (inches)	**Wetland Hydrology Present?**
Saturation Present? (include cappillary fringe)	Yes		No **X**	Depth (inches)	Yes ____ No **X**

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

Remarks: No hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Liquidambar styraciflua*	25	YES	FAC
2	*Pinus taeda*	40	YES	FAC
3	*Quercus nigra*	10	NO	FAC
4	*Ostrya virginia*	5	NO	FACU
5				
6				
7				
	Total Cover	80		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Liquidambar styraciflua*	20	YES	FAC
2	*Ilex vomitoria*	15	YES	FAC
3	*Quercus nigra*	5	NO	FAC
4				
5				
6				
7				
	Total Cover	40		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1				
2				
3				
4				
5				
6				
7				
	Total Cover	0		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Callicarpa americana*	10	YES	FACU
2	*Lygodium japonicum*	10	YES	FAC
3	*Lonicera japnica*	5	NO	FACU
4	*Smilax*	10	NO	FAC
5				
6				
7				
8				
9				
10				
11				
12				
	Total Cover	35		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1				
2				
3				
4				
5				
	Total Cover	0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**0**	x 2 =	**0**
FAC species	**135**	x 3 =	**405**
FACU species	**20**	x 4 =	**80**
UPL species	**0**	x 5 =	**0**
Column Totals:	**155** (A)	(B)	**485**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
X	Dominance Test is >50%
	Prevalence Index $\leq 3.0^1$
	Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/6	100			C	M	Silt loam	

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

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

Hydric Soil Indicators:

- ___ Histol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(LRR**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present?

Yes ___ **No** **X**

Remarks: No hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-02
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	1-3
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.505345839	Long:	-90.820938850
Soil Map Unit Name:	Satsuma silt loam, 1 to 3 percent slopes			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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes	**X**	No		
Hydric Soils Present?	Yes	**X**	No	**Is the Sample Area within a Wetland?**	Yes **X**
Wetland Hydrology Present?	Yes	**X**	No		No

Remarks: Based on the presence of hydric soil, hydrophytic vegetation, and wetland hydrology, this location fulfills the criteria of an wetland.

HYDROLOGY

Wetland Hydrology Indicators:

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

	Surface Water (A1)	**X**	Water-Stained Leaves (B9)		Surface Soil Cracks (B6)
	High Water Table (A2)		Salt Crust (B11)		Sparsely Vegetated Concave Surface (B8)
X	Saturation (A3)		Aquatic Invertebrates (B13)		Drainage Patterns (B10)
X	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
	Sediment Deposits (B2)		Dry-Season Water Table (C2)	**X**	Crayfish Burrows (C8)
X	Drift Deposits (B3)		Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)				Geomorphic Position (D2)
	Iron Deposits (B5)		Presence of Reduced Iron (C4)		FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)		Frost-Heave Hummocks (D7) **(LRR F)**
			Other (Explain in Remarks)		

Field Observations:

Surface Water Present?	Yes		No	**X**	Depth (inches)	
Water Table Present?	Yes		No	**X**	Depth (inches)	**Wetland Hydrology Present?**
Saturation Present?	Yes	**X**	No		Depth (inches)	**0** Yes **X**
(include cappillary fringe)						No

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

Remarks: Hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Liquidambar styraciflua*	10	YES	FAC
2	*Quercus nigra*	5	NO	FAC
3	*Triadica sebifera*	15	YES	FAC
4	*Quercus michauxii*	5	NO	FACW
5	*Celtis laevigata*	5	NO	FACW
6				
7				
	Total Cover	40		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Triadica sebifera*	5	NO	FAC
2	*Ilex vomitoria*	10	NO	FAC
3	*Ligustrum sinsense*	45	YES	FAC
4				
5				
6				
7				
	Total Cover	60		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Sabol minor*	10	YES	FACW
2				
3				
4				
5				
6				
7				
	Total Cover	10		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Saururus cernuus*	10	YES	OBL
2	*Chasmanthium laxum*	5	YES	FACW
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
	Total Cover	15		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Smilax bona-nox*	5	YES	FAC
2	Lygodium japonicum	5	YES	FAC
3				
4				
5				
	Total Cover	10		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

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

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x 1 =	**10**
FACW species	**25**	x 2 =	**50**
FAC species	**100**	x 3 =	**300**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**135**	(A) (B)	**360**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
X	Dominance Test is >50%
X	Prevalence Index $\leq 3.0^1$
	Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 6/1	85	10YR 6/8	15	D	RM	Silt loam	

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

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

Hydric Soil Indicators:

	Histol (A1)		Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) **(LRR**
	Stratified Layers (A5) **(LRR F)**		Loamy Gleyed Matrix (F2)
	1 cm Muck (A9) **(LRR P, T)**	X	Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	Sandy Mucky Mineral (S1) **(LRR O, S)**		Redox Depressions (F8)
	2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**		High Plains Depressions (F16)
	5 cm Mucky Peat or Peat (S3) **(LRR F)**		**(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

	1 cm Muck (A9) **(LRR I, J)**
	Coast Prairie Redox (A16) **(LRR F, G, H)**
	Dark Surface (S7) **(LRR G)**
	High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes X **No**

Remarks: Hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-03
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	1-3
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.509569155	Long:	-90.827182896
Soil Map Unit Name:	Satsuma silt loam, 1 to 3 percent slopes			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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes	**X**	No		**Is the Sample Area within a Wetland?**
Hydric Soils Present?	Yes		No	**X**	Yes ____
Wetland Hydrology Present?	Yes		No	**X**	No **X**

Remarks: Based on the absence of hydric soil and wetland hydrology, this location fulfills the criteria of an upland.

HYDROLOGY

Wetland Hydrology Indicators:

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

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)	
____ High Water Table (A2)	____ Salt Crust (B11)	____ Sparsely Vegetated Concave Surface (B8)	
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drainage Patterns (B10)	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**	
____ Sediment Deposits (B2)	____ Dry-Season Water Table (C2)	____ Crayfish Burrows (C8)	
____ Drift Deposits (B3)	____ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**	____ Saturation Visible on Aerial Imagery (C9)	
____ Algal Mat or Crust (B4)	____ Presence of Reduced Iron (C4)	____ Geomorphic Position (D2)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	____ FAC-Neutral Test (D5)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Frost-Heave Hummocks (D7) **(LRR F)**	

Field Observations:

Surface Water Present?	Yes ____	No	**X**	Depth (inches) ____	
Water Table Present?	Yes ____	No	**X**	Depth (inches) ____	**Wetland Hydrology Present?**
Saturation Present?	Yes ____	No	**X**	Depth (inches) ____	Yes ____
(include cappillary fringe)					No **X**

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

Remarks: No hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	50	YES	FAC
2	*Triadica sebifera*	5	NO	FAC
3	*Quercus nigra*	5	NO	FAC
4	*Quercus falcata*	5	NO	FACU
5				
6				
7				
	Total Cover	65		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	10	YES	FAC
2	*Triadica sebifera*	5	YES	FAC
3	Quercus nigra	5	YES	FAC
4				
5				
6				
7				
	Total Cover	20		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Viburnum dentatum*	5	YES	#N/A
2				
3				
4				
5				
6				
7				
	Total Cover	5		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Chasmanthium latifolium*	35	YES	FAC
2	*Callicarpa americana*	5	YES	FACU
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
	Total Cover	40		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Lygodium japonicum*	5	YES	FAC
2	Nekemias arborea	5	YES	FAC
3				
4				
5				
	Total Cover	10		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 78% (A/B)

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**0**	x 2 =	**0**
FAC species	**125**	x 3 =	**375**
FACU species	**10**	x 4 =	**40**
UPL species	**0**	x 5 =	**0**
Column Totals:	**135**	(A) (B)	**415**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- **X** Dominance Test is >50%
- ____ Prevalence Index $\leq 3.0^1$
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 5/4	100			C	M	Silt loam	

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

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

Hydric Soil Indicators:

- ___ Histol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(LRR**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present?

Yes ___ **No** **X**

Remarks: No hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-04
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.507844137	Long:	-90.827508647
Soil Map Unit Name:	Encrow silt 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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes **X**	No ____	**Is the Sample Area within a Wetland?**	Yes **X**
Hydric Soils Present?	Yes **X**	No ____		No ____
Wetland Hydrology Present?	Yes **X**	No ____		

Remarks: Based on the presence of hydric soil, hydrophytic vegetation, and wetland hydrology, this location fulfills the criteria of an wetland.

HYDROLOGY

Wetland Hydrology Indicators:

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

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)	
____ High Water Table (A2)	____ Salt Crust (B11)	____ Sparsely Vegetated Concave Surface (B8)	
X Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drainage Patterns (B10)	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**	
____ Sediment Deposits (B2)	____ Dry-Season Water Table (C2)	____ Crayfish Burrows (C8)	
____ Drift Deposits (B3)	____ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**	____ Saturation Visible on Aerial Imagery (C9)	
____ Algal Mat or Crust (B4)		____ Geomorphic Position (D2)	
____ Iron Deposits (B5)	**X** Presence of Reduced Iron (C4)	____ FAC-Neutral Test (D5)	
____ Inundation Visible on Aerial Imagery (B7)	____ Thin Muck Surface (C7)	____ Frost-Heave Hummocks (D7) **(LRR F)**	
	____ Other (Explain in Remarks)		

Field Observations:

Surface Water Present?	Yes ____	No **X**	Depth (inches) ____		
Water Table Present?	Yes ____	No **X**	Depth (inches) ____	**Wetland Hydrology Present?**	
Saturation Present? (include cappillary fringe)	Yes **X**	No ____	Depth (inches) **8**	Yes	**X**
				No	____

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

Remarks: Hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	45	YES	FAC
2	*Triadica sebifera*	20	YES	FAC
3				
4				
5				
6				
7				
	Total Cover	65		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Triadica sebifera*	35	YES	FAC
2	*Pinus taeda*	20	YES	FAC
3	Baccharis halimifolia	15	YES	FAC
4				
5				
6				
7				
	Total Cover	70		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1				
2				
3				
4				
5				
6				
7				
	Total Cover	0		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Callicarpa americana*	10	NO	FACU
2	*Eupatorium perfoliatum*	5	NO	FACW
3	*Typha latifolia*	5	NO	OBL
4	*Eleocharis obtusa*	10	NO	OBL
5	*Rubus argutus*	40	YES	FAC
6				
7				
8				
9				
10				
11				
12				
	Total Cover	70		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1				
2				
3				
4				
5				
	Total Cover	0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**15**	x 1 =	**15**
FACW species	**5**	x 2 =	**10**
FAC species	**175**	x 3 =	**525**
FACU species	**10**	x 4 =	**40**
UPL species	**0**	x 5 =	**0**
Column Totals:	**205** (A)	(B)	**590**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
X	Dominance Test is >50%
X	Prevalence Index $\leq 3.0^1$
	Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 6/2	90	10YR 6/8	10	C	M	silty clay loam	
6-16	10YR 7/1	55	10YR 6/8	45	D	RM	silty clay loam	

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

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

Hydric Soil Indicators:

	Histol (A1)		Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) **(LRR**
	Stratified Layers (A5) **(LRR F)**		Loamy Gleyed Matrix (F2)
	1 cm Muck (A9) **(LRR P, T)**	X	Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)	X	Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	Sandy Mucky Mineral (S1) **(LRR O, S)**		Redox Depressions (F8)
	2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**		High Plains Depressions (F16)
	5 cm Mucky Peat or Peat (S3) **(LRR F)**		**(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

	1 cm Muck (A9) **(LRR I, J)**
	Coast Prairie Redox (A16) **(LRR F, G, H)**
	Dark Surface (S7) **(LRR G)**
	High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes X **No**

Remarks: Hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-05
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	1-3
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.509617736	Long:	-90.825668529
Soil Map Unit Name:	Satsuma silt loam, 1 to 3 percent slopes			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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes	**X**	No		**Is the Sample Area within a Wetland?**
Hydric Soils Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

	Yes
Is the Sample Area within a Wetland?	No **X**

Remarks: Based on the absence of hydric soil and wetland hydrology, this location fulfills the criteria of an upland.

HYDROLOGY

Wetland Hydrology Indicators:

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

	Surface Water (A1)		Water-Stained Leaves (B9)		Surface Soil Cracks (B6)
	High Water Table (A2)		Salt Crust (B11)		Sparsely Vegetated Concave Surface (B8)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drainage Patterns (B10)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
	Sediment Deposits (B2)		Dry-Season Water Table (C2)		Crayfish Burrows (C8)
	Drift Deposits (B3)		Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)				Geomorphic Position (D2)
	Iron Deposits (B5)		Presence of Reduced Iron (C4)		FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)		Frost-Heave Hummocks (D7) **(LRR F)**
			Other (Explain in Remarks)		

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches)	
Water Table Present?	Yes		No **X**	Depth (inches)	**Wetland Hydrology Present?**
Saturation Present? (include cappillary fringe)	Yes		No **X**	Depth (inches)	Yes ____ No **X**

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

Remarks: No hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	45	YES	FAC
2	*Quercus nigra*	10	NO	FAC
3	*Triadica sebifera*	15	NO	FAC
4				
5				
6				
7				
	Total Cover	70		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	5	YES	FAC
2	*Triadica sebifera*	10	YES	FAC
3	*Quercus nigra*	5	YES	FAC
4				
5				
6				
7				
	Total Cover	20		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Viburnum dentatum*	10	YES	FAC
2	*Ilex vomitoria*	10	YES	FAC
3				
4				
5				
6				
7				
	Total Cover	20		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Chasmanthium latifolia*	10	YES	FAC
2	*Callicarpa americana*	5	NO	FACU
3	*Rubus traivialis*	10	YES	FACU
4	*Lygodium japonicum*	10	YES	FAC
5				
6				
7				
8				
9				
10				
11				
12				
	Total Cover	35		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1				
2				
3				
4				
5				
	Total Cover	0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 89% (A/B)

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**0**	x 2 =	**0**
FAC species	**130**	x 3 =	**390**
FACU species	**15**	x 4 =	**60**
UPL species	**0**	x 5 =	**0**
Column Totals:	**145**	(A) (B)	**450**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- **X** Dominance Test is >50%
- ____ Prevalence Index $\leq 3.0^1$
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/4	100			C	M	Silt loam	
10-16	10YR 4/3	90	10YR 5/6	10	C	M	Silt loam	

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

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

Hydric Soil Indicators:

- Histol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR F)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(LRR**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes | **No** X

Remarks: No hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-06
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	1-3
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.509679134	Long:	-90.825247352
Soil Map Unit Name:	Satsuma silt loam, 1 to 3 percent slopes			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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes **X**	No	**Is the Sample Area within a Wetland?**	Yes **X**
Hydric Soils Present?	Yes **X**	No		No
Wetland Hydrology Present?	Yes **X**	No		

Remarks: Based on the presence of hydric soil, hydrophytic vegetation, and wetland hydrology, this location fulfills the criteria of an wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)			Secondary Indicators (minimum of two required)	
	Surface Water (A1)	**X** Water-Stained Leaves (B9)		Surface Soil Cracks (B6)
	High Water Table (A2)	Salt Crust (B11)		Sparsely Vegetated Concave Surface (B8)
X	Saturation (A3)	**X** Aquatic Invertebrates (B13)		Drainage Patterns (B10)
X	Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)	Dry-Season Water Table (C2)		**(where tilled)**
	Drift Deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)	**X**	Crayfish Burrows (C8)
	Algal Mat or Crust (B4)	**(where not tilled)**		Saturation Visible on Aerial Imagery (C9)
	Iron Deposits (B5)	**X** Presence of Reduced Iron (C4)		Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)		FAC-Neutral Test (D5)
		Other (Explain in Remarks)		Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes		No	**X**	Depth (inches)	
Water Table Present?	Yes		No	**X**	Depth (inches)	**Wetland Hydrology Present?**
Saturation Present?	Yes	**X**	No		Depth (inches)	**0** Yes **X**
(include cappillary fringe)						No

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

Remarks: Hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Triadica sebifera*	60	YES	FAC
2	*Pinus taeda*	10	NO	FAC
3	*Acer rubrum*	5	NO	FAC
4	*Diospyros virginiana*	5	NO	FAC
5				
6				
7				
	Total Cover	80		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Triadica sebifera*	20	YES	FAC
2				
3				
4				
5				
6				
7				
	Total Cover	20		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Baccharis halimifolia*	5	YES	FAC
2				
3				
4				
5				
6				
7				
	Total Cover	5		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Alternanthera philoxeroides*	25	YES	OBL
2	*Saururus cernuus*	10	NO	OBL
3	*Chasmanthium laxum*	30	YES	FACW
4	*Hydrocotyle bonariensis*	5	NO	FACW
5	*Rubus argutus*	15	NO	FAC
6				
7				
8				
9				
10				
11				
12				
	Total Cover	85		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Lygodium japonicum*	5	YES	FAC
2				
3				
4				
5				
	Total Cover	5		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**35**	x 1 =	**35**
FACW species	**35**	x 2 =	**70**
FAC species	**125**	x 3 =	**375**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**195**	(A) (B)	**480**
Prevalence Index = B/A =			2

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
X	Dominance Test is >50%
X	Prevalence Index $\leq 3.0^1$
	Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 6/2	65	10YR 6/8	35	D	RM	Silt loam	

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

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

Hydric Soil Indicators:

	Histol (A1)		Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) **(LRR**
	Stratified Layers (A5) **(LRR F)**		Loamy Gleyed Matrix (F2)
	1 cm Muck (A9) **(LRR P, T)**	X	Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	Sandy Mucky Mineral (S1) **(LRR O, S)**		Redox Depressions (F8)
	2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**		High Plains Depressions (F16)
	5 cm Mucky Peat or Peat (S3) **(LRR F)**		**(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

	1 cm Muck (A9) **(LRR I, J)**
	Coast Prairie Redox (A16) **(LRR F, G, H)**
	Dark Surface (S7) **(LRR G)**
	High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes X **No**

Remarks: Hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-07
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	1-3
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.508824213	Long:	-90.824505176
Soil Map Unit Name:	Satsuma silt loam, 1 to 3 percent slopes			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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes	**X**	No		**Is the Sample Area within a Wetland?**
Hydric Soils Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

	Yes	No
Is the Sample Area within a Wetland?		**X**

Remarks: Based on the absence of hydric soil and wetland hydrology, this location fulfills the criteria of an upland.

HYDROLOGY

Wetland Hydrology Indicators:

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

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)
____ High Water Table (A2)	____ Salt Crust (B11)	____ Sparsely Vegetated Concave Surface (B8)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drainage Patterns (B10)
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
____ Sediment Deposits (B2)	____ Dry-Season Water Table (C2)	____ Crayfish Burrows (C8)
____ Drift Deposits (B3)	____ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**	____ Saturation Visible on Aerial Imagery (C9)
____ Algal Mat or Crust (B4)	____ Presence of Reduced Iron (C4)	____ Geomorphic Position (D2)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	____ FAC-Neutral Test (D5)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Frost-Heave Hummocks (D7) **(LRR F)**

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes	____	No	**X**	Depth (inches) ____
Water Table Present?	Yes	____	No	**X**	Depth (inches) ____
Saturation Present? (include cappillary fringe)	Yes	____	No	**X**	Depth (inches) ____

	Yes	No
Wetland Hydrology Present?		**X**

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

Remarks: No hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	70	YES	FAC
2	*Liquidambar styraciflua*	5	NO	FAC
3	*Triadica sebifera*	5	NO	FAC
4				
5				
6				
7				
	Total Cover	80		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	5	YES	FAC
2	*Triadica sebifera*	10	YES	FAC
3				
4				
5				
6				
7				
	Total Cover	15		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Ilex vomitoria*	15	YES	FAC
2				
3				
4				
5				
6				
7				
	Total Cover	15		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Callicarpa americana*	10	YES	FACU
2	*Rubus trivialis*	20	YES	FACU
3	*Sambucus canadensis*	10	YES	FAC
4				
5				
6				
7				
8				
9				
10				
11				
12				
	Total Cover	40		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Lygodium japonicum*	25	YES	FAC
2	*Vitis rotundifolia*	10	YES	FAC
3	*Smilax bona-nox*	10	YES	FAC
4				
5				
	Total Cover	45		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**0**	x 2 =	**0**
FAC species	**165**	x 3 =	**495**
FACU species	**30**	x 4 =	**120**
UPL species	**0**	x 5 =	**0**
Column Totals:	**195**	(A) (B)	**615**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
X	Dominance Test is >50%
	Prevalence Index $\leq 3.0^1$
	Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/4	100			C	M	silty clay loam	

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

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

Hydric Soil Indicators:

- ___ Histol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(LRR**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present?

Yes ___ **No** **X**

Remarks: No hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-08
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	1-3
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.509242852	Long:	-90.824354266
Soil Map Unit Name:	Satsuma silt loam, 1 to 3 percent slopes			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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes	**X**	No		
Hydric Soils Present?	Yes	**X**	No	**Is the Sample Area within a Wetland?**	Yes **X**
Wetland Hydrology Present?	Yes	**X**	No		No

Remarks: Based on the presence of hydric soil, hydrophytic vegetation, and wetland hydrology, this location fulfills the criteria of an wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)			Secondary Indicators (minimum of two required)	
X	Surface Water (A1)	**X**	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
X	High Water Table (A2)		Salt Crust (B11)	Sparsely Vegetated Concave Surface (B8)
X	Saturation (A3)		Aquatic Invertebrates (B13)	Drainage Patterns (B10)
X	Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
	Sediment Deposits (B2)		Dry-Season Water Table (C2)	Crayfish Burrows (C8)
	Drift Deposits (B3)		Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**	Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)			Geomorphic Position (D2)
	Iron Deposits (B5)	**X**	Presence of Reduced Iron (C4)	FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)	Frost-Heave Hummocks (D7) **(LRR F)**
			Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes	**X**	No		Depth (inches)	**1**	
Water Table Present?	Yes	**X**	No		Depth (inches)	**12**	**Wetland Hydrology Present?**
Saturation Present?	Yes	**X**	No		Depth (inches)	**0**	Yes **X**
(include cappillary fringe)							No

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

Remarks: Hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	35	YES	FAC
2	*Quercus pagoda*	5	NO	FACW
3				
4				
5				
6				
7				
	Total Cover	40		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Triadica sebifera*	10	YES	FAC
2	*Acer rubrum*	10	YES	FAC
3	*Pinus taeda*	10	YES	FAC
4				
5				
6				
7				
	Total Cover	30		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Ligustrum sinense*	10	YES	FAC
2	*Ilex vomitoria*	5	YES	FAC
3	*Sabal minor*	10	YES	FACW
4				
5				
6				
7				
	Total Cover	25		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Saururus cernuus*	20	YES	OBL
2	*Rubus argutus*	30	YES	FAC
3	*Chasmanthium laxum*	10	NO	FACW
4	*Hydrocotyle bonariensis*	5	NO	FACW
5	*Cyperus compressus*	10	NO	FACW
6				
7				
8				
9				
10				
11				
12				
	Total Cover	75		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Smilax bona-nox*	5	YES	FAC
2	Brunnichia ovata	5	YES	FACW
3				
4				
5				
	Total Cover	10		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 11 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

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

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x 1 =	**20**
FACW species	**45**	x 2 =	**90**
FAC species	**115**	x 3 =	**345**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**180**	(A) (B)	**455**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
X	Dominance Test is >50%
X	Prevalence Index $\leq 3.0^1$
	Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 6/1	100			C	M	Silty clay loam	
8-16	10YR 4/1	55	10YR 5/8	45	D	RM	Silty clay	

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

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

Hydric Soil Indicators:

	Histol (A1)		Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) **(LRR**
	Stratified Layers (A5) **(LRR F)**		Loamy Gleyed Matrix (F2)
	1 cm Muck (A9) **(LRR P, T)**	X	Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	Sandy Mucky Mineral (S1) **(LRR O, S)**		Redox Depressions (F8)
	2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**		High Plains Depressions (F16)
	5 cm Mucky Peat or Peat (S3) **(LRR F)**		**(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

	1 cm Muck (A9) **(LRR I, J)**
	Coast Prairie Redox (A16) **(LRR F, G, H)**
	Dark Surface (S7) **(LRR G)**
	High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes X **No**

Remarks: Hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-09
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.506534769	Long:	-90.822203659
Soil Map Unit Name:	Encrow silt 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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes **X**	No	**Is the Sample Area within a Wetland?**	Yes **X**
Hydric Soils Present?	Yes **X**	No		No
Wetland Hydrology Present?	Yes **X**	No		

Remarks: Based on the presence of hydric soil, hydrophytic vegetation, and wetland hydrology, this location fulfills the criteria of an wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)			Secondary Indicators (minimum of two required)	
	Surface Water (A1)	**X** Water-Stained Leaves (B9)		Surface Soil Cracks (B6)
	High Water Table (A2)	Salt Crust (B11)		Sparsely Vegetated Concave Surface (B8)
X	Saturation (A3)	**X** Aquatic Invertebrates (B13)		Drainage Patterns (B10)
X	Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)	Dry-Season Water Table (C2)		**(where tilled)**
	Drift Deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)	**X**	Crayfish Burrows (C8)
	Algal Mat or Crust (B4)	**(where not tilled)**		Saturation Visible on Aerial Imagery (C9)
	Iron Deposits (B5)	**X** Presence of Reduced Iron (C4)		Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)		FAC-Neutral Test (D5)
		Other (Explain in Remarks)		Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes		No	**X**	Depth (inches)	
Water Table Present?	Yes		No	**X**	Depth (inches)	
Saturation Present? (include cappillary fringe)	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: Hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	40	YES	FAC
2	*Triadica sebifera*	20	YES	FAC
3				
4				
5				
6				
7				
	Total Cover	60		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Triadica sebifera*	20	YES	FAC
2	*Acer rubrum*	5	NO	FAC
3	*Cornus drummondii*	5	NO	FAC
4				
5				
6				
7				
	Total Cover	30		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Ligustrum sinense*	15	YES	FAC
2	*Sabal minor*	10	YES	FACW
3				
4				
5				
6				
7				
	Total Cover	25		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Saururus cernuus*	25	YES	OBL
2	*Chasmanthium laxum*	15	YES	FACW
3	*Rubus argutus*	25	YES	FAC
4	*Hydrocotyle bonariensis*	5	NO	FACW
5				
6				
7				
8				
9				
10				
11				
12				
	Total Cover	70		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Smilax bona-nox*	10	YES	FAC
2	Nekemias arborea	5	NO	FAC
3	*Toxicodendron radicans*	5	YES	FAC
4				
5				
	Total Cover	20		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

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

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**25**	x 1 =	**25**
FACW species	**30**	x 2 =	**60**
FAC species	**150**	x 3 =	**450**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**205** (A)	(B)	**535**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
X	Dominance Test is >50%
X	Prevalence Index $\leq 3.0^1$
	Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 6/1	60	10YR 6/8	40	D	RM	silty clay loam	

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

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

Hydric Soil Indicators:

	Histol (A1)		Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) **(LRR**
	Stratified Layers (A5) **(LRR F)**		Loamy Gleyed Matrix (F2)
	1 cm Muck (A9) **(LRR P, T)**	X	Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	Sandy Mucky Mineral (S1) **(LRR O, S)**		Redox Depressions (F8)
	2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**		High Plains Depressions (F16)
	5 cm Mucky Peat or Peat (S3) **(LRR F)**		**(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

	1 cm Muck (A9) **(LRR I, J)**
	Coast Prairie Redox (A16) **(LRR F, G, H)**
	Dark Surface (S7) **(LRR G)**
	High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes X **No**

Remarks: Hydric soil indicators were observed at this location.

GEOSYNTEC CONSULTANTS INC.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project Site:	Hornsby Industrial Park	City/County:	Livingston	Sampling Date:	9/8/2017
Applicant/Owner:	David McKellar	State:	Louisiana	Sampling Point:	DP-10
Investigator(s):	C. Nguyen	Section/Range:	S20 T06S R04E	Slope (%):	1-3
Landform (hillslope, terrace, etc.):	flat	Local relief (concave, convex, none):	flat	Datum:	WGS1984
Subregion (LRR or MLRA):	LRR P	Lat:	30.506795761	Long:	-90.821376509
Soil Map Unit Name:	Satsuma silt loam, 1 to 3 percent slopes			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 Vegetation ____ Soil ____ Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks)

Are "Normal Circumstances" present? Yes X No ____

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

Hydrophytic Vegetation Present?	Yes	**X**	No		**Is the Sample Area within a Wetland?**
Hydric Soils Present?	Yes		No	**X**	Yes ____
Wetland Hydrology Present?	Yes		No	**X**	No **X**

Remarks: Based on the absence of hydric soil and wetland hydrology, this location fulfills the criteria of an upland.

HYDROLOGY

Wetland Hydrology Indicators:

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

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)	
____ High Water Table (A2)	____ Salt Crust (B11)	____ Sparsely Vegetated Concave Surface (B8)	
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drainage Patterns (B10)	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**	
____ Sediment Deposits (B2)	____ Dry-Season Water Table (C2)	____ Crayfish Burrows (C8)	
____ Drift Deposits (B3)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Saturation Visible on Aerial Imagery (C9)	
____ Algal Mat or Crust (B4)	**(where not tilled)**	____ Geomorphic Position (D2)	
____ Iron Deposits (B5)	____ Presence of Reduced Iron (C4)	____ FAC-Neutral Test (D5)	
____ Inundation Visible on Aerial Imagery (B7)	____ Thin Muck Surface (C7)	____ Frost-Heave Hummocks (D7) **(LRR F)**	
	Other (Explain in Remarks)		

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes	____	No **X**	Depth (inches)	____
Water Table Present?	Yes	____	No **X**	Depth (inches)	____
Saturation Present? (include cappillary fringe)	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 hydrologic indicators were observed at this location.

Vegetation- Use scientific names of plants

Louisiana

Tree Stratum (Plot Sizes: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Pinus taeda*	55	YES	FAC
2	*Triadica sebifera*	5	NO	FAC
3	*Quercus falcata*	5	NO	FACU
4				
5				
6				
7				
	Total Cover	65		

Sapling Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Liquidambar styraciflua*	5	YES	FAC
2	*Triadica sebifera*	10	YES	FAC
3				
4				
5				
6				
7				
	Total Cover	15		

Shrub Stratum (15')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Ligustrum sinense*	10	YES	FAC
2	*Ilex vomitoria*	5	YES	FAC
3				
4				
5				
6				
7				
	Total Cover	15		

Herb Stratum (5')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Chasmanthium latifolium*	15	YES	FAC
2	*Eupatorium capillifolium*	5	NO	FACU
3	*Eupatorium perfoliatum*	5	NO	FACW
4	*Hypericum hypericoides*	5	NO	FAC
5	*Rubus trivialis*	10	NO	FACU
6				
7				
8				
9				
10				
11				
12				
	Total Cover	40		

Woody Vine Stratum (30')		Absolute % Cover	Dominant Species?	Indicator Status
1	*Vitis rotundifolia*	5	YES	FAC
2	*Nekemias arborea*	10	YES	FAC
3				
4				
5				
	Total Cover	15		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

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

Prevalance Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**5**	x 2 =	**10**
FAC species	**125**	x 3 =	**375**
FACU species	**20**	x 4 =	**80**
UPL species	**0**	x 5 =	**0**
Column Totals:	**150** (A)	(B)	**465**
Prevalence Index = B/A =			3

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
X	Dominance Test is >50%
	Prevalence Index $\leq 3.0^1$
	Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions for Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 inches or more in diameter at breast height (DBH), regardless of height

Sapling/Shrub - Woody plants, excluding vines less than 3 inch DBH and greater than 1 meter tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and wood plants less than 1 meter tall.

Woody vine - All woody vines greater than 1 meter in height.

Hydrophytic Vegetation Present?

X	
YES	**NO**

Remarks: Hydrophytic vegetation was observed at this location.

SOIL

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

	Matrix		Redox Fetures					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 5/4	90	10YR 5/6	10	C	M	Silty loam	

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

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

Hydric Soil Indicators:

- ___ Histol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(LRR**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicator for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrolophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present?

Yes ___ **No** **X**

Remarks: No hydric soil indicators were observed at this location.

APPENDIX B

Photographic Record

GEOSYNTEC CONSULTANTS
Photographic Record

Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 1	
Date: 9/8/2017	
Direction: NA	
Comments: Photograph of soil type at DP-01.	

Photograph 2	
Date: 9/8/2017	
Direction: NE	
Comments: Photograph of vegetative community at DP-01.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 3 **Date: 9/8/2017** **Direction: NA** **Comments: Photograph of soil type at DP-02.**	
Photograph 4 **Date: 9/8/2017** **Direction: S** **Comments: Photograph of vegetative community at DP-02.**	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 5 **Date: 9/8/2017** **Direction: NA** **Comments: Photograph of soil type at DP-03.**	
Photograph 6 **Date: 9/8/2017** **Direction: N** **Comments: Photograph of vegetative community at DP-03.**	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 7 **Date: 9/8/2017** **Direction: NA** **Comments: Photograph of soil type at DP-04.**	

Photograph 8 **Date: 9/8/2017** **Direction: SE** **Comments: Photograph of vegetative community at DP-04.**	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 9	
Date: 9/8/2017	
Direction: NA	
Comments: Photograph of soil type at DP-05.	

Photograph 10	
Date: 9/8/2017	
Direction: W	
Comments: Photograph of vegetative community at DP-05.	

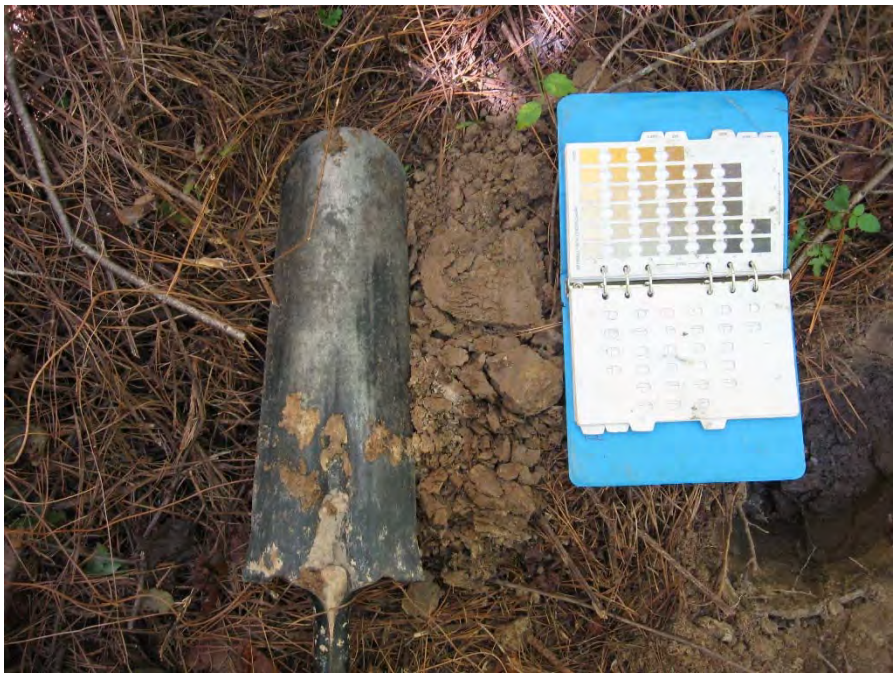
GEOSYNTEC CONSULTANTS Photographic Record	
Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 11 **Date: 9/8/2017** **Direction: NA** **Comments: Photograph of soil type at DP-06.**	

Photograph 12 **Date: 9/8/2017** **Direction: NE** **Comments: Photograph of vegetative community at DP-06.**	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 13 **Date: 9/8/2017** **Direction: NA** **Comments: Photograph of soil type at DP-07.**	
Photograph 14 **Date: 9/8/2017** **Direction: N** **Comments: Photograph of vegetative community at DP-07.**	

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec consultants

Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 15 **Date: 9/8/2017** **Direction: NA** **Comments: Photograph of soil type at DP-08.**	
Photograph 16 **Date: 9/8/2017** **Direction: N** **Comments: Photograph of vegetative community at DP-08.**	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 17	
Date: 9/8/2017	
Direction: NA	
Comments: Photograph of soil type at DP-09.	

Photograph 18	
Date: 9/8/2017	
Direction: E	
Comments: Photograph of vegetative community at DP-09.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: David McKellar	**Project Number: GXE6330**
Site Name: Hornsby Industrial Park	**Site Location: Livingston Parish, Louisiana**

Photograph 19	
Date: 9/8/2017	
Direction: NA	
Comments: Photograph of soil type at DP-10.	

Photograph 20	
Date: 9/8/2017	
Direction: SE	
Comments: Photograph of vegetative community at DP-10.	