



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 07-OCT-2020

ORM Number: SWF-2019-00255

Associated JDs: N/A

Review Area Location¹:

State/Territory: TX

City: Fort Worth

County/Parish/Borough:

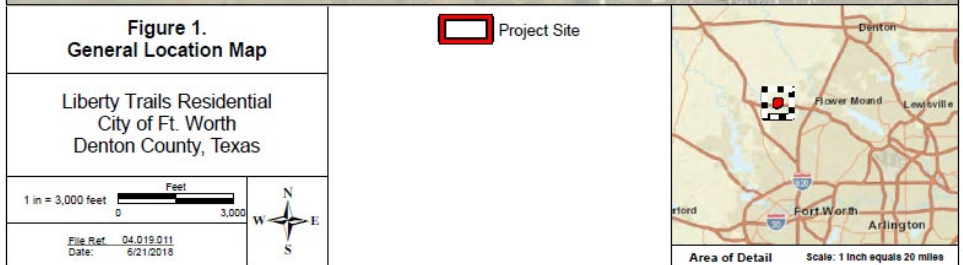
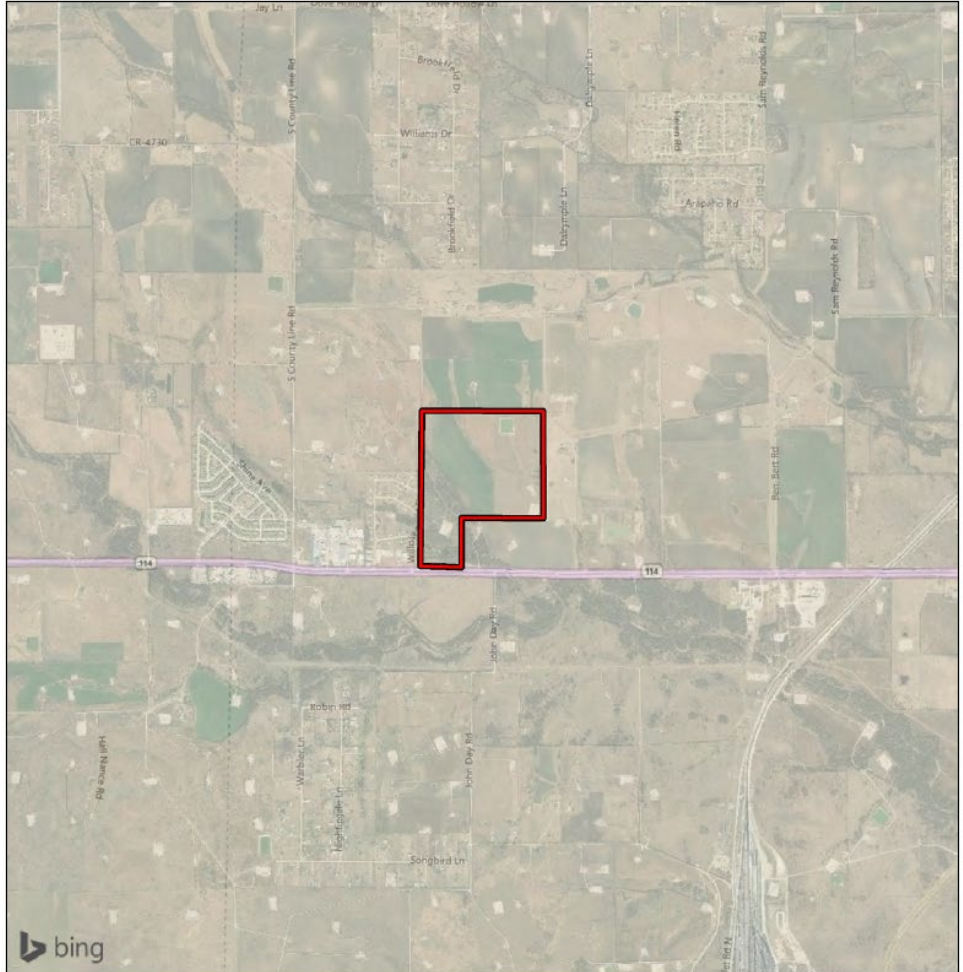
Denton County

Center Coordinates of

Review Area:

Latitude: 33.043008,

Longitude: -97.376003



¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide and included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list **MUST** be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A	N/A	N/A	N/A

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters)³

(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A	N/A	N/A	N/A

Tributaries ((a)(2) waters):

(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
SWF-2019-00255 Tributary 1	N/A	(a)(2) Intermittent tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year	Contributes surface water flow into Elizabeth Creek, which drains to Grapevine Lake, which eventually leads to the Trinity River, which is considered an (a)(1) water.
SWF-2019-00255 Tributary 2	N/A	(a)(2) Intermittent tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year	Contributes surface water flow into Elizabeth Creek, which drains to Grapevine Lake, which eventually leads to the Trinity River, which is considered an (a)(1) water.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):

(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
SWF-2019-00255 Pond 1	N/A	(a)(3) Lake/pond or impoundment of a jurisdictional water contributes surface water flow directly or indirectly to an (a)(1) water in a typical year	Impoundment of an (a)(2) water, and contributes surface water flow indirectly to the Trinity River, an (a)(1) water in a typical year.
SWF-2019-00255 Pond 2	N/A	(a)(3) Lake/pond or impoundment of a jurisdictional water contributes surface water flow directly or indirectly to an (a)(1) water in a typical year	Impoundment of an (a)(2) water, and contributes surface water flow indirectly to the Trinity River, an (a)(1) water in a typical year.
SWF-2019-00255 Pond 3	N/A	(a)(3) Lake/pond or impoundment of a jurisdictional water contributes surface water flow directly or indirectly to an (a)(1) water in a typical year	Impoundment of an (a)(2) water, and contributes surface water flow indirectly to the Trinity River, an (a)(1) water in a typical year.
SWF-2019-00255 Pond 4	N/A	(a)(3) Lake/pond or impoundment of a jurisdictional water contributes surface water flow directly or indirectly to an (a)(1) water in a typical year	Impoundment of an (a)(2) water, and contributes surface water flow indirectly to the Trinity River, an (a)(1) water in a typical year.

Adjacent wetlands ((a)(4) waters):

(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
SWF-2019-00255 Forested Wetland	N/A	(a)(4) Wetland abuts an (a)(1)-(a)(3) water	Wetland receives surface water flow from and similarly drains into an (a)(2) water, which contributes surface water flow indirectly to the Trinity River, an (a)(1) water in a typical year.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12))⁴:

Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination
SWF-2019-00255 Pond 5	N/A	(b)(8) Artificial lake/pond constructed or excavated in upland or a non-jurisdictional water, so long as the artificial lake or pond is not an impoundment of a jurisdictional water that meets (c)(6)	Stock pond constructed in uplands.
SWF-2019-00255 Pond 6	N/A	(b)(1) Lake/pond or impoundment that does not contribute surface water flow directly or indirectly to an (a)(1) water and is not inundated by flooding from an (a)(1)-(a)(3) water in a typical year	Stock pond constructed in uplands.
SWF-2019-00255 Pond 7	N/A	(b)(1) Surface water channel that does not contribute surface water flow directly or indirectly to an (a)(1) water in a typical year	Stock pond constructed in uplands.
SWF-2019-00255 Pond 8	N/A	(b)(1) Surface water channel that does not contribute surface water flow directly or indirectly to an (a)(1) water in a typical year	Stock pond constructed in uplands.
SWF-2019-00255 Tributary 3	N/A	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Inconsistent ephemeral feature that does not carry surface water flow directly or indirectly to an (a)(1) water.
SWF-2019-00255 Wetland 2	N/A	(b)(1) Non-adjacent wetland	No surface water flow connection to (a)(1) waters.
SWF-2019-00255 W3	N/A	(b)(1) Non-adjacent wetland	No surface water flow connection to (a)(1) waters.
SWF-2019-00255 W4	N/A	(b)(1) Non-adjacent wetland	No surface water flow connection to (a)(1) waters.
SWF-2019-00255 W5	N/A	(b)(1) Non-adjacent wetland	No surface water flow connection to (a)(1) waters.
SWF-2019-00255 W6	N/A	(b)(1) Non-adjacent wetland	No surface water flow connection to (a)(1) waters.
SWF-2019-00255 W7	N/A	(b)(1) Non-adjacent wetland	No surface water flow connection to (a)(1) waters.
SWF-2019-00255 W8	N/A	(b)(1) Non-adjacent wetland	No surface water flow connection to (a)(1) waters.
SWF-2019-00255 W9	N/A	(b)(1) Non-adjacent wetland	No surface water flow connection to (a)(1) waters.

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

Information submitted by, or on behalf of, the applicant/consultant: *Attachment B-3, Wetland Determination Data Forms, dated 06/26/2018, 07/03/2018, 08/21/2019.*

This information is sufficient for purposes of this AJD.

Rationale: *N/A.*

Data sheets prepared by the Corps: *N/A.*

Photographs: *Attachment B-2, Representative Photographs (On Site Photos)*

Corps Site visit(s) conducted on: *N/A.*

Previous Jurisdictional Determinations (AJDs or PJDs): *N/A*

Antecedent Precipitation Tool: *Two outputs attached - see discussion in Section III.B. below.*

USDA NRCS Soil Survey: *Figure 3, Soils Map, dated 06/21/2018.*

USFWS NWI maps: *Title(s) and/or date(s).*

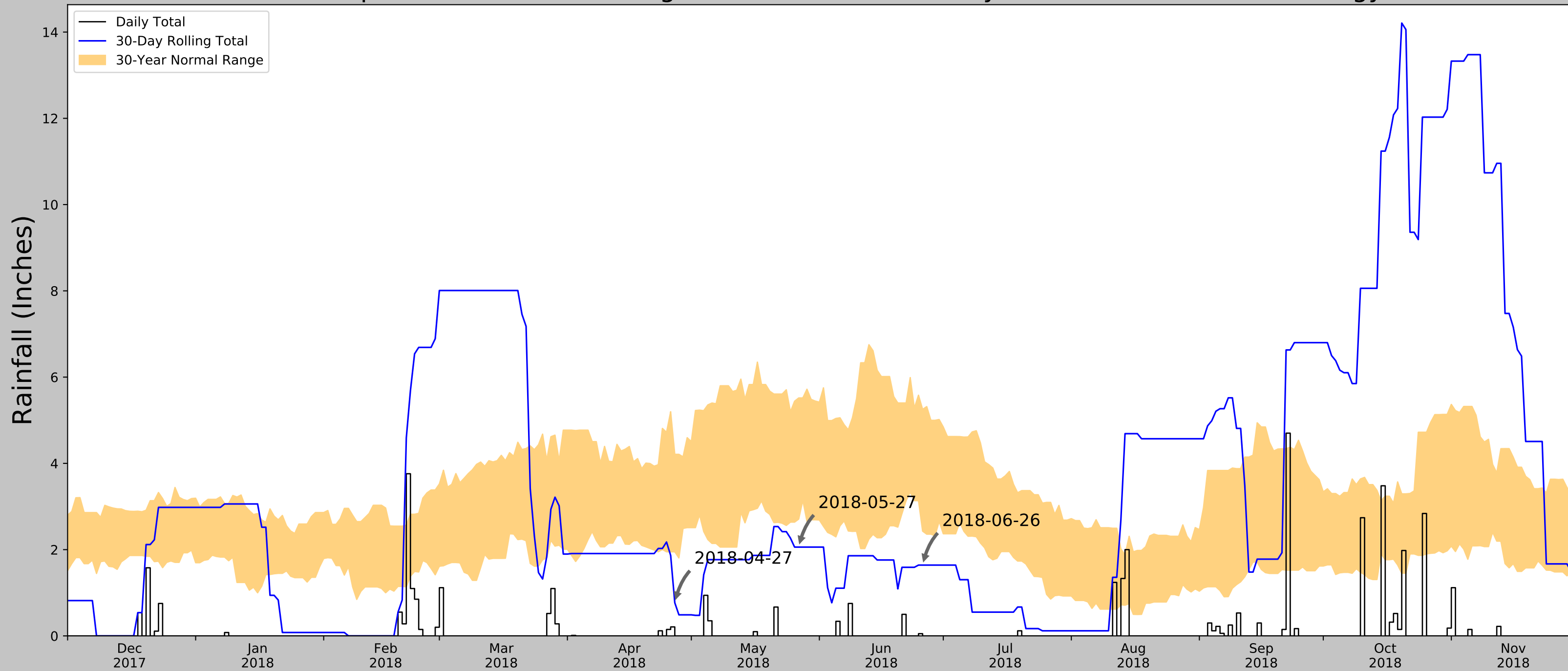
USGS topographic maps: *Figure 2, Topographic Setting, dated 06/21/2018.*

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.

- B. Typical year assessment(s):** Typical year assessment is considered drier than normal within the moderate and severe drought seasons. From April 2018 - July 2018, the 30-Day Rolling Total stays below the 30-Year Normal Range. However, August 2018 - November 2018 have several rain events that make the 30-Day Rolling Total much higher than the 30-Year Normal Range, so additional aerial photos after the site visit dates were reviewed to check the conditions against the information submitted.
- C. Additional comments to support AJD:** Additional aerial photos were reviewed through Google Earth and other electronic tools, which supported the findings found within this report.

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	33.043008, -97.376003
Observation Date	2018-06-26
Elevation (ft)	761.63
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2018-06-26	2.428347	5.252756	1.641732	Dry	1	3	3
2018-05-27	2.707874	5.517323	2.059055	Dry	1	2	2
2018-04-27	1.949213	4.21063	0.767717	Dry	1	1	1
Result							Drier than Normal - 6

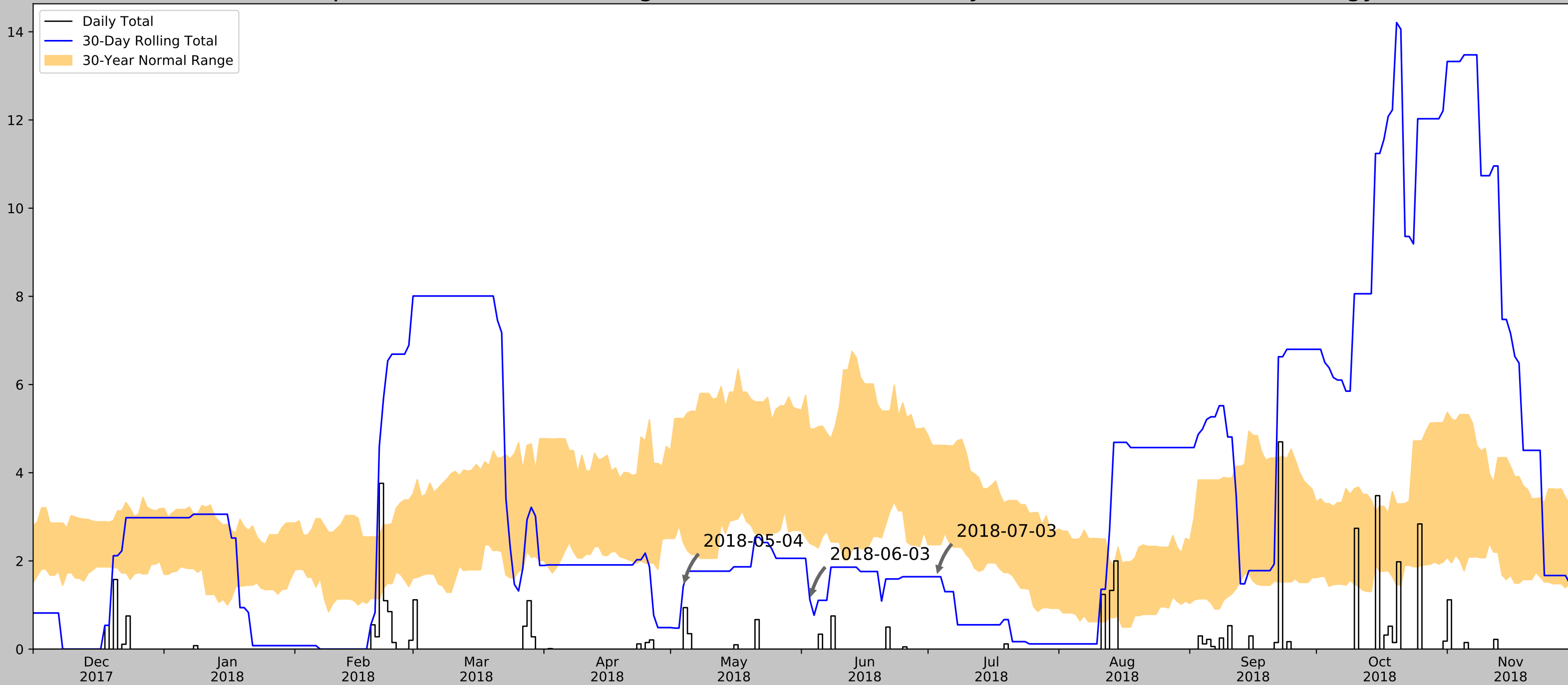
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
JUSTIN	33.0806, -97.2967	640.092	5.276	121.538	3.015	5732	90
HASLET	32.9867, -97.3722	752.953	3.897	8.677	1.787	1	0
HASLET 3.7 WNW	32.9881, -97.3932	813.976	3.922	52.346	1.97	13	0
ROANOKE 4.0 WNW	33.0187, -97.2982	617.126	4.81	144.504	2.859	1	0
FT WORTH ALLIANCE AP	32.9733, -97.3181	685.039	5.87	76.591	3.091	1371	0
ROANOKE	33.005, -97.2331	641.076	8.685	120.554	4.955	4118	0
BOYD	33.08, -97.5639	729.987	11.177	31.643	5.383	105	0
EAGLE MTN LAKE	32.8692, -97.4497	759.843	12.746	1.787	5.759	12	0

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



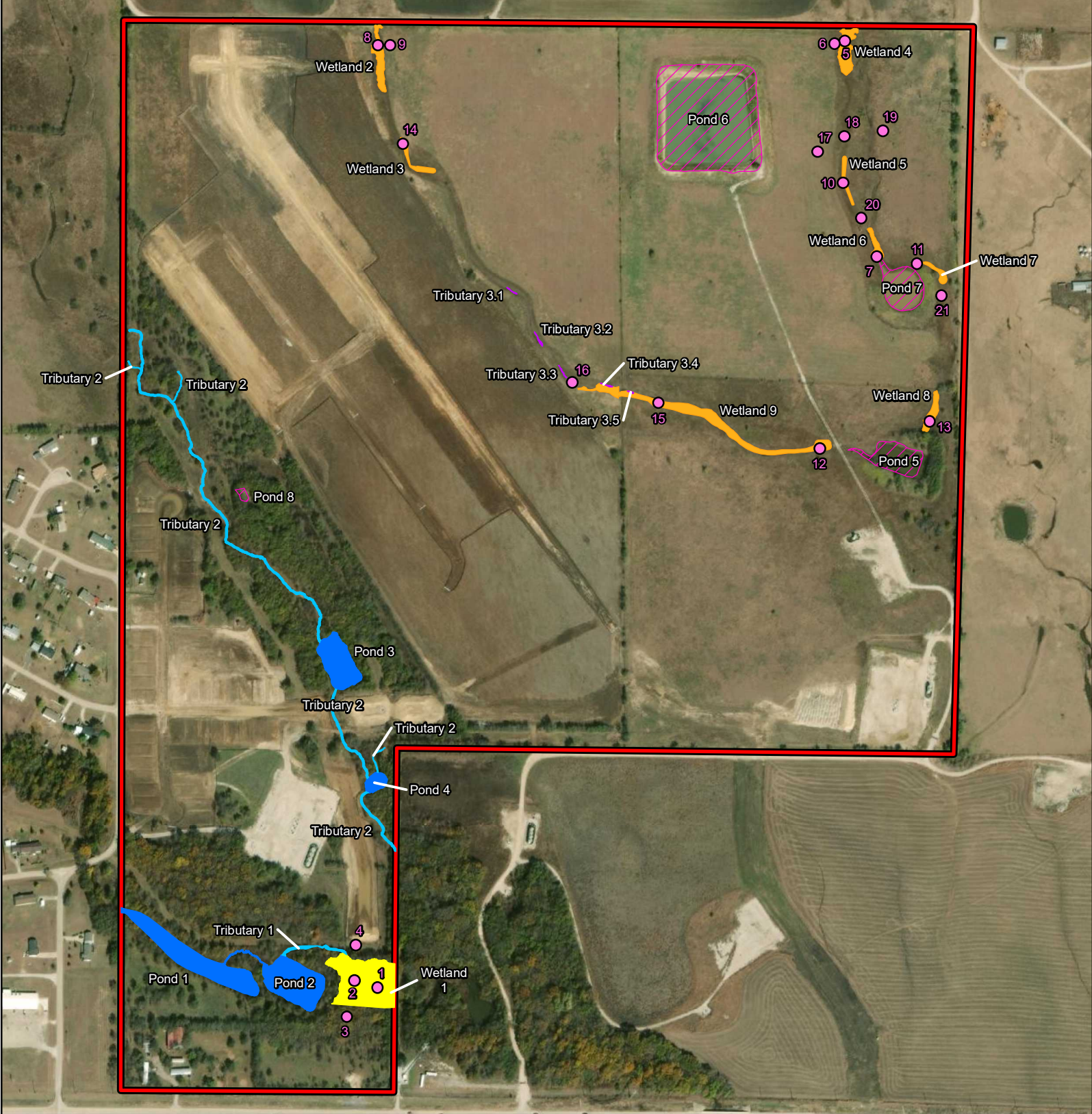
Coordinates	33.043008, -97.376003
Observation Date	2018-07-03
Elevation (ft)	761.63
Drought Index (PDSI)	Severe drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2018-07-03	2.367717	4.622441	1.641732	Dry	1	3	3
2018-06-03	2.398819	4.99252	1.11811	Dry	1	2	2
2018-05-04	2.420473	5.222047	1.417323	Dry	1	1	1
Result							Drier than Normal - 6

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
JUSTIN	33.0806, -97.2967	640.092	5.276	121.538	3.015	5732	90
HASLET	32.9867, -97.3722	752.953	3.897	8.677	1.787	1	0
HASLET 3.7 WNW	32.9881, -97.3932	813.976	3.922	52.346	1.97	13	0
ROANOKE 4.0 WNW	33.0187, -97.2982	617.126	4.81	144.504	2.859	1	0
FT WORTH ALLIANCE AP	32.9733, -97.3181	685.039	5.87	76.591	3.091	1371	0
ROANOKE	33.005, -97.2331	641.076	8.685	120.554	4.955	4118	0
BOYD	33.08, -97.5639	729.987	11.177	31.643	5.383	105	0
EAGLE MTN LAKE	32.8692, -97.4497	759.843	12.746	1.787	5.759	12	0


Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers



**Figure 5.
Water Features Identified
within the Project Site**


Liberty Trails Residential
City of Ft. Worth
Denton County, Texas

1 in = 500 feet 




File Ref. 04.019.011
Date: 8/24/2019


 Project Site

 Wetland Determination Dataform Location


Features that meet a Definition of a Water of the United States


 Tributary

 Forested Wetland

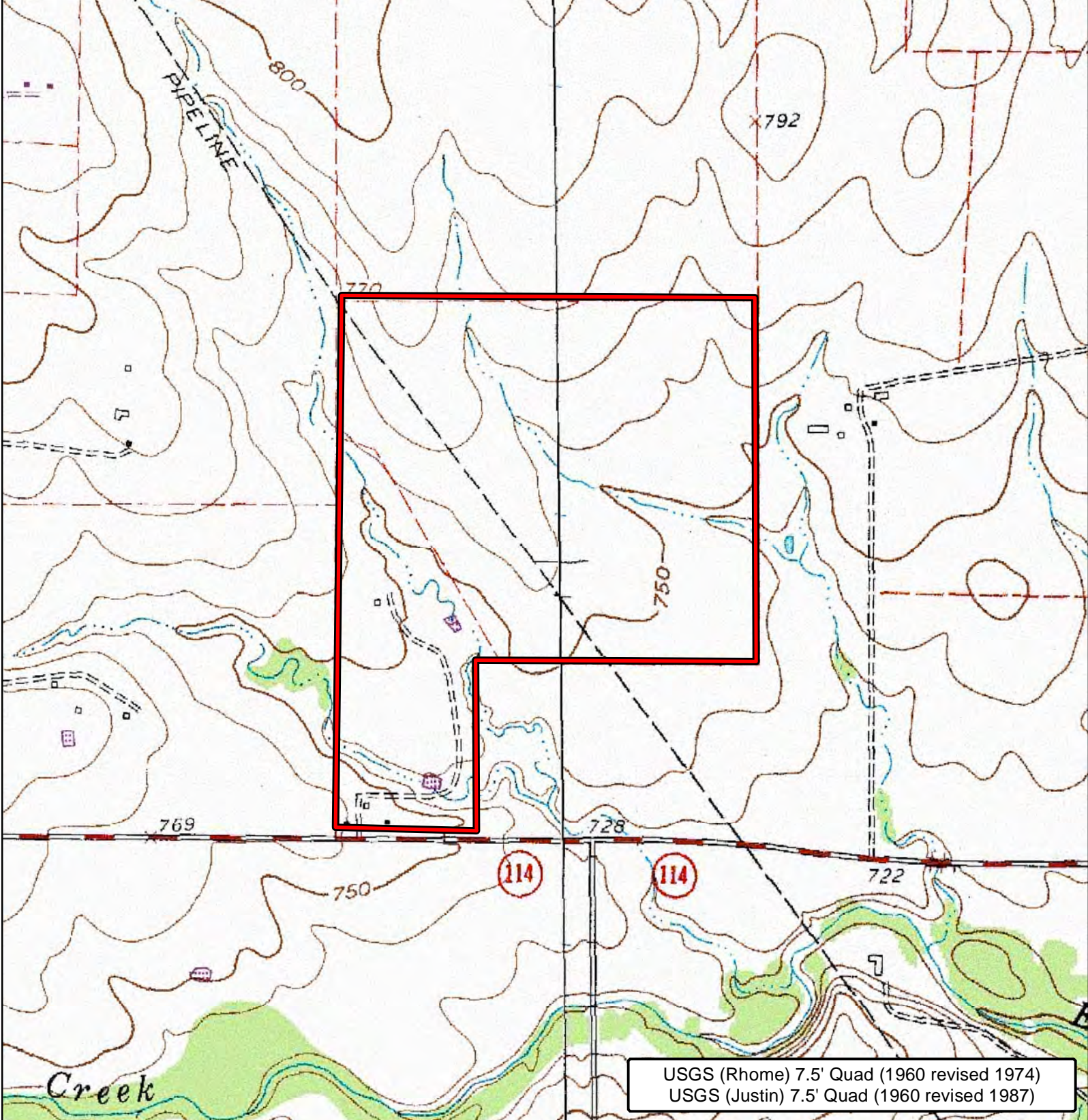
 Impoundment

Features that do not meet a Definition of a Water of the United States

 Artificial Pond

 Ephemeral Tributary

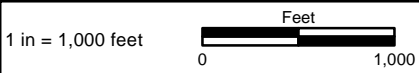
 Isolated Wetland



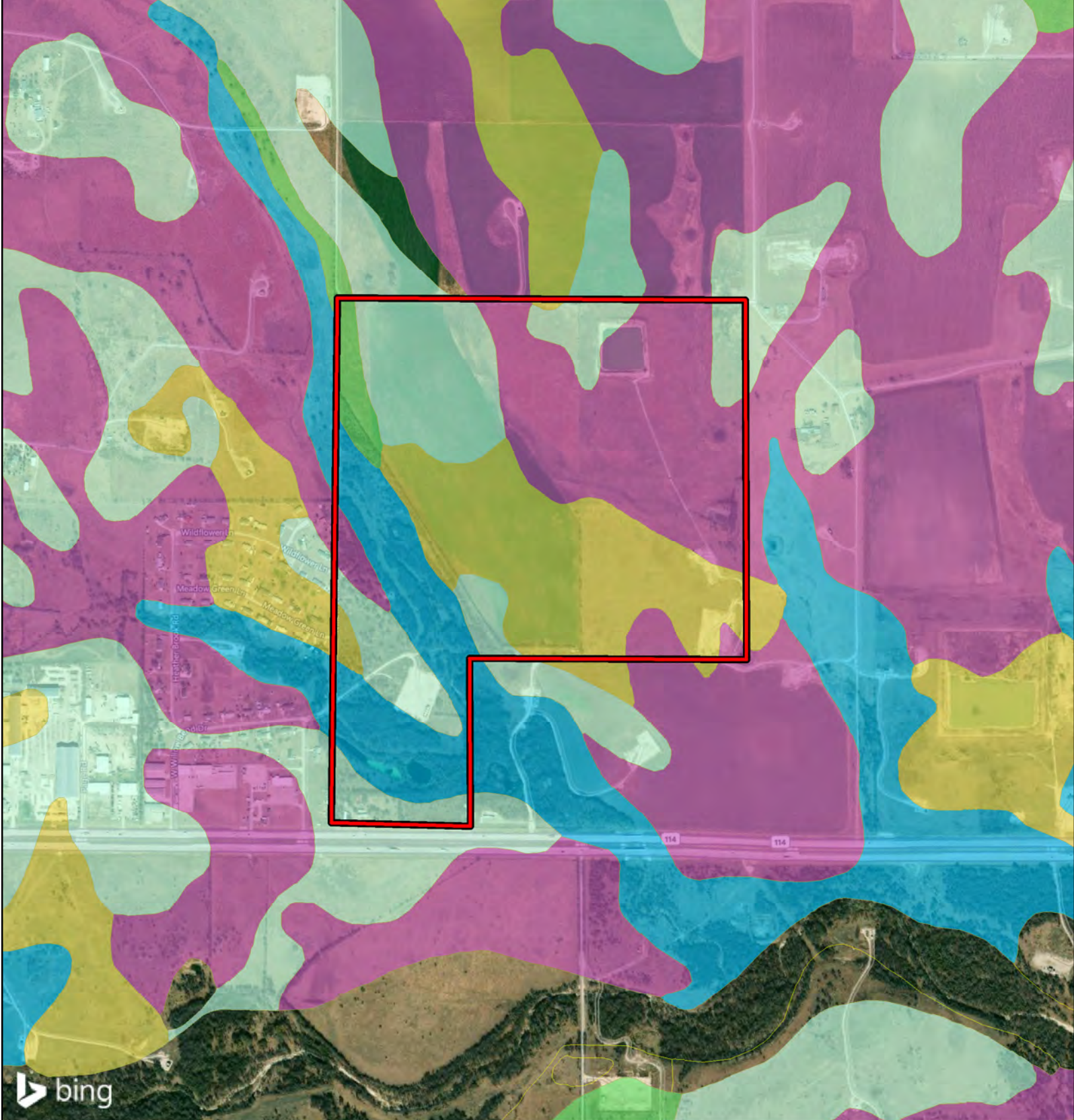
**Figure 2.
Topographic Setting**

 Project Site

Liberty Trails Residential
City of Ft. Worth
Denton County, Texas

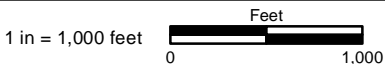


File Ref. 04.019.011
Date: 6/21/2018



**Figure 3.
Soils Map**

Liberty Trails Residential
City of Ft. Worth
Denton County, Texas



File Ref. 04.019.011
Date: 6/21/2018

Project Site

Soil Map Units

- Mingo clay loam, 1 to 3 percent slopes
- Sanger clay, 1 to 3 percent slopes
- Sanger clay, 3 to 5 percent slopes
- Slidell clay, 1 to 3 percent slopes
- Somervell gravelly loam, 1 to 5 percent slopes

PANELS
48121C0470G
48121C0490G
eff. 4/18/2011

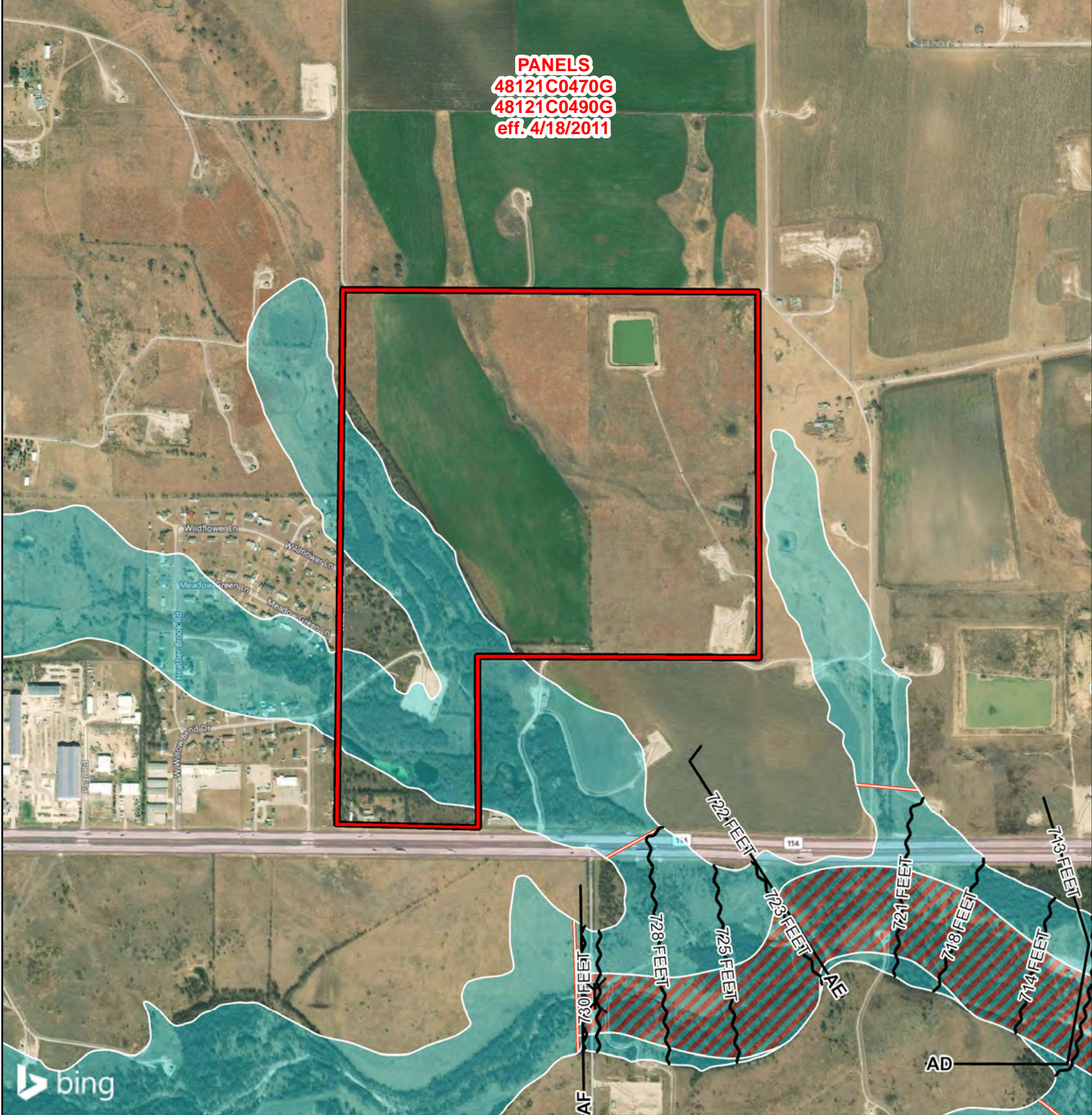
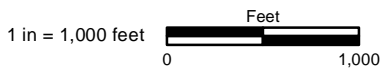


Figure 4.
Federal Emergency
Management Agency
Flood Insurance Rate Map

Liberty Trails Residential
 City of Ft. Worth
 Denton County, Texas



File Ref. 04.019.011
 Date: 6/21/2018

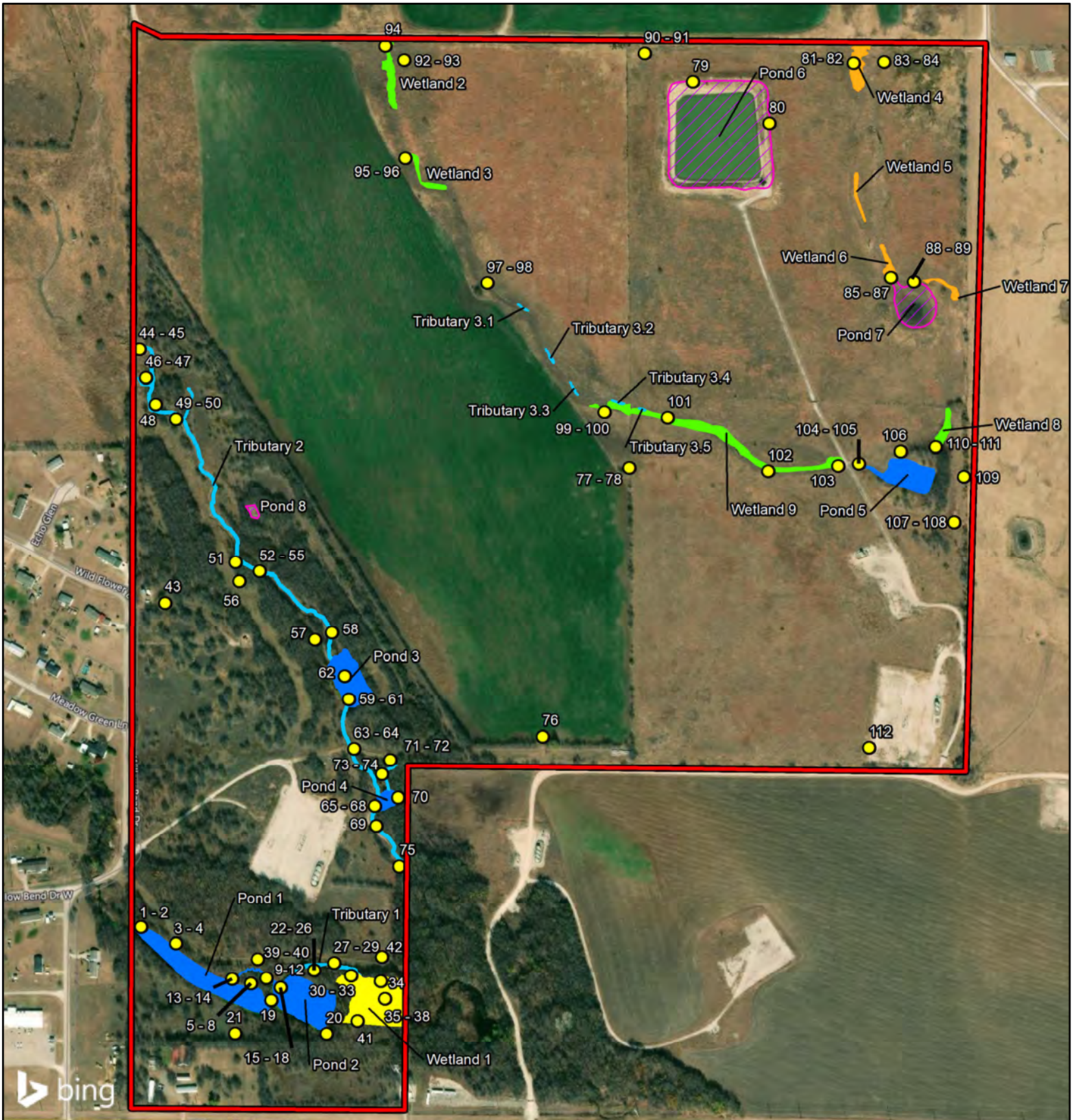
Project Site

FEMA FIRM Zone Descriptions

- Zone X - Areas determined to be outside the 0.2% annual chance floodplain
- Zone X - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood
- Zone A - Special Flood Hazard Areas subject to inundation by the 1% annual chance flood; No base flood elevations determined
- Zone AE - Special Flood Hazard Areas subject to inundation by the 1% annual chance flood; Base flood elevations determined
- Zone AE - Floodway areas in Zone AE

ATTACHMENT B-2

REPRESENTATIVE PHOTOGRAPHS





Photograph 1



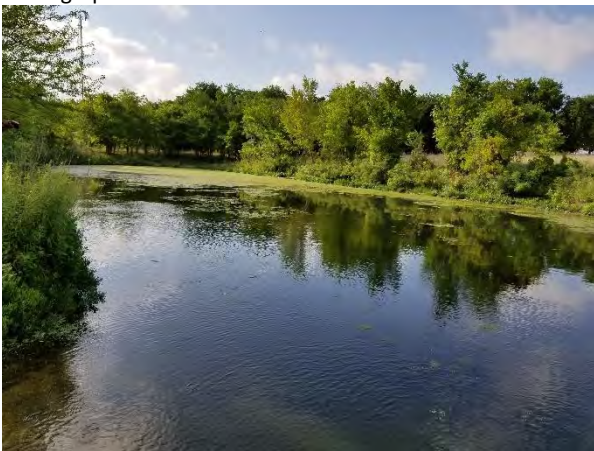
Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8



Photograph 9



Photograph 10



Photograph 11



Photograph 12



Photograph 13



Photograph 14



Photograph 15



Photograph 16



Photograph 17



Photograph 18



Photograph 19



Photograph 20



Photograph 21



Photograph 22



Photograph 23



Photograph 24



Photograph 25



Photograph 26



Photograph 27



Photograph 28



Photograph 29



Photograph 30



Photograph 31



Photograph 32



Photograph 33



Photograph 34



Photograph 35



Photograph 36



Photograph 37



Photograph 38



Photograph 39



Photograph 40



Photograph 41



Photograph 42



Photograph 43



Photograph 44



Photograph 45



Photograph 46



Photograph 47



Photograph 48



Photograph 49



Photograph 50



Photograph 51



Photograph 52



Photograph 53



Photograph 54



Photograph 55



Photograph 56



Photograph 57



Photograph 58



Photograph 59



Photograph 60



Photograph 61



Photograph 62



Photograph 63



Photograph 64



Photograph 65



Photograph 66



Photograph 67



Photograph 68



Photograph 69



Photograph 70



Photograph 71



Photograph 72



Photograph 73



Photograph 74



Photograph 75



Photograph 76



Photograph 77



Photograph 78



Photograph 79



Photograph 80



Photograph 81



Photograph 82



Photograph 83



Photograph 84



Photograph 85



Photograph 86



Photograph 87



Photograph 88



Photograph 89



Photograph 90



Photograph 91



Photograph 92



Photograph 93



Photograph 94



Photograph 95



Photograph 96



Photograph 97



Photograph 98



Photograph 99



Photograph 100



Photograph 101



Photograph 102



Photograph 103



Photograph 104



Photograph 105



Photograph 106



Photograph 107



Photograph 108



Photograph 109



Photograph 110



Photograph 111



Photograph 112

ATTACHMENT B-3

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 1
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Rise between scours Local relief (concave, convex, none): Convex Slope %: 1-2
 Subregion (LRR): J Lat: 33.0372 N Long: -97.3776 W Datum: NAD 1983
 Soil Map Unit Name: Slidell clay, 1 to 3 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status																																	
1. <u>Salix nigra</u>	<u>80</u>	<u>YES</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding 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</u> (A/B)																																
2. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>																																	
3. <u>Maclura pomifera</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>																																	
4. _____	<u>95</u>	<u>= Total Cover</u>	_____																																	
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)																																				
1. <u>none</u>	_____	_____	_____	Prevalence Index Worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply By:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>85</u></td> <td align="center">x 2 =</td> <td align="center"><u>170</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>50</u></td> <td align="center">x 3 =</td> <td align="center"><u>150</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>65</u></td> <td align="center">x 4 =</td> <td align="center"><u>260</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>200</u></td> <td align="center">(A)</td> <td align="center"><u>580</u> (B)</td> </tr> <tr> <td align="center" colspan="2">Prevalence Index = B/A =</td> <td align="center" colspan="2"><u>2.90</u></td> </tr> </table>	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>50</u>	x 3 =	<u>150</u>	FACU species	<u>65</u>	x 4 =	<u>260</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>200</u>	(A)	<u>580</u> (B)	Prevalence Index = B/A =		<u>2.90</u>	
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>50</u>	x 3 =	<u>150</u>																																	
FACU species	<u>65</u>	x 4 =	<u>260</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>200</u>	(A)	<u>580</u> (B)																																	
Prevalence Index = B/A =		<u>2.90</u>																																		
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	<u>0</u>	<u>= Total Cover</u>	_____																																	
Herb Stratum (Plot Size: <u>5' Radius</u>)																																				
1. <u>Ambrosia trifida</u>	<u>40</u>	<u>YES</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center">_____</td> <td>1 -</td> <td>Rapid Test for Hydrophytic Vegetation</td> </tr> <tr> <td align="center">_____</td> <td>2 -</td> <td>Dominance Test is > 50%</td> </tr> <tr> <td align="center"><u>X</u></td> <td>3 -</td> <td>Prevalence Index is ≤ 3.0¹</td> </tr> <tr> <td align="center">_____</td> <td>4 -</td> <td>Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</td> </tr> <tr> <td align="center">_____</td> <td colspan="2">Problematic Hydrophytic Vegetation¹ (Explain)</td> </tr> </table> <p>¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>	_____	1 -	Rapid Test for Hydrophytic Vegetation	_____	2 -	Dominance Test is > 50%	<u>X</u>	3 -	Prevalence Index is ≤ 3.0 ¹	_____	4 -	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	_____	Problematic Hydrophytic Vegetation ¹ (Explain)																		
_____	1 -	Rapid Test for Hydrophytic Vegetation																																		
_____	2 -	Dominance Test is > 50%																																		
<u>X</u>	3 -	Prevalence Index is ≤ 3.0 ¹																																		
_____	4 -	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)																																		
_____	Problematic Hydrophytic Vegetation ¹ (Explain)																																			
2. <u>Toxicodendron radicans</u>	<u>25</u>	<u>YES</u>	<u>FACU</u>																																	
3. <u>Polygonum pensylvanicum</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>																																	
4. <u>Elymus canadensis</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	<u>75</u>	<u>= Total Cover</u>	_____																																	
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)																																				
1. <u>Parthenocissus quinquefolia</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____	<u>30</u>	<u>= Total Cover</u>	_____																																	
% Bare Ground in Herb Stratum <u>15</u>																																				
Remarks:																																				

SOILS

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-10	7.5 YR 2.5/1	85	10 R 4/8	5	C	PL/M	Silty Clay	10% roots, shells, etc.
10-13	7.5 YR 2.5/1	75					Silty Clay	25% gravel

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>Bedrock</u></p> <p>Depth (inches): <u>13</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 	<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 2
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): rise between scours Local relief (concave, convex, none): convex Slope %: 2-3
 Subregion (LRR): J Lat: 33.0373 N Long: -97.3779 W Datum: NAD 1983
 Soil Map Unit Name: Slidell clay, 1 to 3 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Salix nigra</u>	70	YES	FACW	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)	
2. <u>Maclura pomifera</u>	15	NO	FACU	Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3. <u>Fraxinus pennsylvanica</u>	10	NO	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)	
4. _____	_____	_____	_____		
	95 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Prevalence Index Worksheet:	
1. <u>Ulmus americana</u>	15	YES	FAC	Total % Cover of: _____ Multiply By: _____	
2. <u>Crataegus viridis</u>	5	NO	FAC	OBL species _____ x 1 = _____	
3. <u>Sideroxylon lanuginosum</u>	5	NO	FACU	FACW species _____ x 2 = _____	
4. <u>Gleditsia triacanthos</u>	2	NO	FACU	FAC species _____ x 3 = _____	
5. _____	_____	_____	_____	FACU species _____ x 4 = _____	
	27 = Total Cover			UPL species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
				Prevalence Index = B/A = _____	
Herb Stratum (Plot Size: <u>5' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Toxicodendron radicans</u>	40	YES	FACU	_____ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Ambrosia trifida</u>	20	YES	FAC	<u>X</u> 2 - Dominance Test is > 50%	
3. <u>Elymus canadensis</u>	10	NO	FACU	_____ 3 - Prevalence Index is ≤ 3.0 ¹	
4. _____	_____	_____	_____	_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
	70 = Total Cover				
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. <u>Parthenocissus quinquefolia</u>	15	YES	FACU		
2. _____	_____	_____	_____		
	15 = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>					
Remarks:					

SOILS

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	7.5 YR 2.5/1	95	10 R 4/8	5	C	PL/M	Silty Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) 	<ul style="list-style-type: none"> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 	<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 3
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0-1
 Subregion (LRR): J Lat: 33.0369 N Long: -97.378 W Datum: NAD 1983
 Soil Map Unit Name: Slidell clay, 1 to 3 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input 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 checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Remarks: <u>Determination conducted adjacent to wetland.</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status		
1. <u>Ulmus americana</u> (Plot Size: <u>30' Radius</u>)	<u>50</u>	<u>YES</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)	
2. <u>Salix nigra</u>	<u>30</u>	<u>YES</u>	<u>FACW</u>		
3. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>NO</u>	<u>FAC</u>		
4. _____	<u>95</u>	<u>= Total Cover</u>			
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)					
1. <u>none</u>				Prevalence Index Worksheet: Total % Cover of: Multiply By: OBL species _____ x 1 = _____ FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species _____ x 5 = _____ Column Totals: <u>140</u> (A) <u>425</u> (B) Prevalence Index = B/A = <u>3.04</u>	
2. _____					
3. _____					
4. _____					
5. _____	<u>0</u>	<u>= Total Cover</u>			
Herb Stratum (Plot Size: <u>5' Radius</u>)					
1. <u>Toxicodendron radicans</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Index is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Ambrosia trifida</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>		
3. <u>Smilax bona-nox</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>		
4. <u>Elymus canadensis</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____	<u>40</u>	<u>= Total Cover</u>			
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)					
1. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
2. _____	<u>5</u>	<u>= Total Cover</u>			
% Bare Ground in Herb Stratum <u>60</u>					
Remarks:					

SOILS

Sampling Point: 3

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-13	7.5 YR 2.5/1	95	10 R 4/8	5	C	PL/M	Silty Clay	
13-16	7.5 YR 2.5/1	85					Silty Clay	15% gravel

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 4
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0
 Subregion (LRR): J Lat: 33.0377 N Long: -97.3779 W Datum: NAD 1983
 Soil Map Unit Name: Slidell clay, 1 to 3 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input 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: <u>Pipeline installation/construction mixed up the soil</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u><i>Celtis occidentalis</i></u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
4. _____	<u>10</u>	= Total Cover	_____		
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				Prevalence Index Worksheet:	
1. <u>none</u>	_____	_____	_____	Total % Cover of:	Multiply By:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
	<u>0</u>	= Total Cover		UPL species _____	x 5 = _____
				Column Totals: _____	(A) _____ (B)
				Prevalence Index = B/A = _____	
Herb Stratum (Plot Size: <u>5' Radius</u>)				Hydrophytic Vegetation Indicators:	
1. <u><i>Nassella leucotricha</i></u>	<u>60</u>	<u>YES</u>	<u>UPL</u>	_____ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u><i>Solanum elaeagnifolium</i></u>	<u>15</u>	<u>NO</u>	<u>UPL</u>	_____ 2 - Dominance Test is > 50%	
3. <u><i>Asclepias viridis</i></u>	<u>15</u>	<u>NO</u>	<u>UPL</u>	_____ 3 - Prevalence Index is ≤ 3.0 ¹	
4. <u><i>Sorghum halepense</i></u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	<u>100</u>	= Total Cover	_____		
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
1. <u>none</u>	_____	_____	_____		
2. _____	_____	_____	_____		
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOILS

Sampling Point: 4 _____

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	7.5 YR 2.5/1	60					Clay	
0-16	10 YR 6/4	40					Sandy Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks: Friable soil

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) 		<ul style="list-style-type: none"> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 	<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 5
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Shallow swale Local relief (concave, convex, none): Concave Slope %: 1-2
 Subregion (LRR): J Lat: 33.0471 N Long: -97.3717 W Datum: NAD 1983
 Soil Map Unit Name: Sanger clay, 1 to 3 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status	
1. <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</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>67</u> (A/B)
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				
1. <u>Prunus mexicana</u>	<u>5</u>	YES	UPL	Prevalence Index Worksheet: Total % Cover of: _____ Multiply By: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
	<u>5</u>	= Total Cover		
Herb Stratum (Plot Size: <u>5' Radius</u>)				
1. <u>Iva annua</u>	<u>60</u>	YES	FAC	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Index is ≤ 3.0' _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Xanthium strumarium</u>	<u>20</u>	YES	FAC	
3. <u>Rumex crispus</u>	<u>10</u>	NO	FAC	
4. <u>Phyla nodiflora</u>	<u>10</u>	NO	FAC	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)				
1. <u>none</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

SOILS

Sampling Point: 5

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-8	10 YR 3/1	90	10 R 4/6	2	C	PL	Clay	8% gravel
8-16	10 YR 3/1	90					Clay	10% gravel

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

Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 1 CM Muck (A9) (LRR I, J)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Depleted below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	
Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 6
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Side of hillslope Local relief (concave, convex, none): none Slope %: 3-4
 Subregion (LRR): J Lat: 33.047 N Long: -97.3718 W Datum: NAD 1983
 Soil Map Unit Name: Sanger clay, 1 to 3 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input 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 checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:
(Plot Size: <u>30' Radius</u>)				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)
1. <u>none</u>				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				Prevalence Index Worksheet:
1. <u>Prunus mexicana</u>	<u>2</u>	<u>NO</u>	<u>UPL</u>	Total % Cover of: _____ Multiply By: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
	<u>2</u>	= Total Cover		UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot Size: <u>5' Radius</u>)				Hydrophytic Vegetation Indicators:
1. <u>Nassella leucotricha</u>	<u>40</u>	<u>YES</u>	<u>UPL</u>	_____ 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Bromus arvensis</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>	_____ 2 - Dominance Test is > 50%
3. <u>Amphiachyris amoena</u>	<u>20</u>	<u>YES</u>	<u>UPL</u>	_____ 3 - Prevalence Index is ≤ 3.0 ¹
4. <u>Solidago canadensis</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____				_____ Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____				
8. _____				
9. _____				
10. _____				
	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>none</u>				
2. _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

SOILS

Sampling Point: 6

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-8	10 YR 3/1	90	10 R 4/6	2	C	PL	Clay	8% gravel
8-16	10 YR 3/1	90					Clay	10% gravel

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 7
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Shallow swale Local relief (concave, convex, none): Concave Slope %: 2
 Subregion (LRR): J Lat: 33.0448 N Long: -97.3713 W Datum: NAD 1983
 Soil Map Unit Name: Sanger clay, 1 to 3 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status			
(Plot Size: <u>30' Radius</u>)						
1. <u>none</u>						
2. _____						
3. _____						
4. _____						
	<u>0</u>	= Total Cover				
Dominance Test worksheet:						
				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	<u>2</u>	(A)
				Total Number of Dominant Species Across All Strata:	<u>2</u>	(B)
				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>	(A/B)
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)						
1. <u>none</u>						
2. _____						
3. _____						
4. _____						
5. _____						
	<u>0</u>	= Total Cover				
Prevalence Index Worksheet:						
		Total % Cover of:	Multiply By:			
OBL species	_____	x 1 =	_____			
FACW species	_____	x 2 =	_____			
FAC species	_____	x 3 =	_____			
FACU species	_____	x 4 =	_____			
UPL species	_____	x 5 =	_____			
Column Totals:	_____	(A)	_____	(B)		
				Prevalence Index = B/A =	_____	
Herb Stratum (Plot Size: <u>5' Radius</u>)						
1. <u>Eleocharis montevidensis</u>	<u>40</u>	<u>YES</u>	<u>FACW</u>			
2. <u>Xanthium strumarium</u>	<u>40</u>	<u>YES</u>	<u>FAC</u>			
3. <u>Iva annua</u>	<u>15</u>	<u>NO</u>	<u>FAC</u>			
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
9. _____						
10. _____						
	<u>95</u>	= Total Cover				
Hydrophytic Vegetation Indicators:						
_____	1 -	Rapid Test for Hydrophytic Vegetation				
<u>X</u>	2 -	Dominance Test is > 50%				
_____	3 -	Prevalence Index is ≤ 3.0 ¹				
_____	4 -	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
_____	Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.						
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)						
1. <u>none</u>						
2. _____						
	<u>0</u>	= Total Cover				
% Bare Ground in Herb Stratum <u>5</u>						
Remarks:						

Hydrophytic Vegetation Present? Yes No

SOILS

Sampling Point: 7

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	10 YR 3/1	95	10 R 4/6	5	C	PL/M	Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 8
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope %: 2
 Subregion (LRR): J Lat: 33.0471 N Long: -97.3775 W Datum: NAD 1983
 Soil Map Unit Name: Somervell gravelly loam, 1 to 5 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status		
1. <u>Salix nigra</u>	5	YES	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding 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</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
	5 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)					
1. <u>none</u>	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply By: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
	0 = Total Cover				
Herb Stratum (Plot Size: <u>5' Radius</u>)					
1. <u>Eleocharis montevidensis</u>	25	YES	FACW	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Index is ≤ 3.0' _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Xanthium strumarium</u>	20	YES	FAC		
3. <u>Rumex crispus</u>	15	YES	FAC		
4. <u>Ambrosia trifida</u>	5	NO	FAC		
5. <u>Lolium perenne</u>	5	NO	FACU		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
	70 = Total Cover				
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)					
1. <u>none</u>	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2. _____	_____	_____	_____		
	0 = Total Cover				
% Bare Ground in Herb Stratum <u>30</u> Remarks:					

SOILS

Sampling Point: 8

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-10	10 YR 3/2	50	5 YR 5/6	3	C	PL	Silty Clay	
0-10	10 YR 4/3	47					Silty Sand	
10-13	10 YR 3/2	90					Silty Clay	10% gravel

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

Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 1 CM Muck (A9) (LRR I, J)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Depleted below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 13

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	
Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 6/26/2018
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 9
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): none Slope %: 4
 Subregion (LRR): J Lat: 33.0471 N Long: -97.3773 W Datum: Nad 1983
 Soil Map Unit Name: Somervell gravelly loam, 1 to 5 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input 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:			

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1.	<u>none</u>				
2.					
3.					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	(Plot Size: <u>15' Radius</u>)				Prevalence Index Worksheet: Total % Cover of: Multiply By: OBL species x 1 = _____ FACW species x 2 = _____ FAC species x 3 = _____ FACU species x 4 = _____ UPL species x 5 = _____ Column Totals: (A) (B) Prevalence Index = B/A = _____
1.	<u>none</u>				
2.					
3.					
4.					
		<u>0</u>	= Total Cover		
Herb Stratum	(Plot Size: <u>5' Radius</u>)				
1.	<u>Nassella leucotricha</u>	<u>50</u>	<u>YES</u>	<u>UPL</u>	
2.	<u>Bromus arvensis</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>	
3.	<u>Monarda punctata</u>	<u>10</u>	<u>NO</u>	<u>UPL</u>	
4.	<u>Solidago canadensis</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
5.	<u>Ambrosia artemisiifolia</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
6.					
7.					
8.					
9.					
10.					
		<u>105</u>	= Total Cover		
Woody Vine Stratum	(Plot Size: <u>30' Radius</u>)				
1.	<u>none</u>				
2.					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>					

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
 _____ 2 - Dominance Test is > 50%
 _____ 3 - Prevalence Index is ≤ 3.0'
 _____ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOILS

Sampling Point: 9

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	10 YR 2/1	100					Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 7/3/2018
 Applicant/Owner: DR Horton State: TX Sampling Point: 10
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR): J Lat: 33.0456 N Long: -97.3717 W Datum: NAD 1983
 Soil Map Unit Name: Sanger Clay, 1-3% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	<u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____					
	<u>0</u>	= Total Cover			
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				Prevalence Index Worksheet:	
1. <u>none</u>				Total % Cover of:	Multiply By:
2. _____				OBL species _____ x 1 = _____	
3. _____				FACW species _____ x 2 = _____	
4. _____				FAC species _____ x 3 = _____	
5. _____				FACU species _____ x 4 = _____	
				UPL species _____ x 5 = _____	
	<u>0</u>	= Total Cover		Column Totals: _____ (A)	_____ (B)
				Prevalence Index = B/A = _____	
Herb Stratum (Plot Size: <u>5' Radius</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Eleocharis montevidensis</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	_____ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Iva annua</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	<u>X</u> 2 - Dominance Test is > 50%	
3. <u>Phyla nodiflora</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	_____ 3 - Prevalence Index is ≤ 3.0 ¹	
4. <u>Xanthium strumarium</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Lolium perenne</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
6. <u>Solidago canadensis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7. _____					
8. _____					
9. _____					
10. _____					
	<u>100</u>	= Total Cover			
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. <u>none</u>					
2. _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOILS

Sampling Point: 10

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	10YR 2/2	95	5YR 4/6	5	C	PL	Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 7/3/2018
 Applicant/Owner: DR Horton State: TX Sampling Point: 11
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR): J Lat: 33.1447 N Long: -97.3708 W Datum: NAD 1983
 Soil Map Unit Name: Sanger Clay, 1-3% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status			
(Plot Size: <u>30' Radius</u>)						
1. <u>none</u>						
2. _____						
3. _____						
4. _____						
	<u>0</u>	= Total Cover				
Dominance Test worksheet:						
				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	<u>3</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>75</u>	(A/B)
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)						
1. <u>Celtis laevigata</u>	<u>5</u>	Yes	FAC			
2. _____						
3. _____						
4. _____						
5. _____						
	<u>5</u>	= Total Cover				
Prevalence Index Worksheet:						
		Total % Cover of:	Multiply By:			
OBL species		x 1 =				
FACW species		x 2 =				
FAC species		x 3 =				
FACU species		x 4 =				
UPL species		x 5 =				
Column Totals:		(A)	(B)			
				Prevalence Index = B/A =	<u> </u>	
Herb Stratum (Plot Size: <u>5' Radius</u>)						
1. <u>Iva annua</u>	<u>50</u>	Yes	FAC			
2. <u>Cynodon dactylon</u>	<u>40</u>	Yes	UPL			
3. <u>Xanthium strumarium</u>	<u>30</u>	Yes	FAC			
4. <u>Lythrum californicum</u>	<u>15</u>	No	OBL			
5. <u>Hordeum pussilum</u>	<u>5</u>	No	FACU			
6. _____						
7. _____						
8. _____						
9. _____						
10. _____						
	<u>140</u>	= Total Cover				
Hydrophytic Vegetation Indicators:						
_____ 1 - Rapid Test for Hydrophytic Vegetation						
_____ X 2 - Dominance Test is > 50%						
_____ 3 - Prevalence Index is ≤ 3.0 ¹						
_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)						
_____ Problematic Hydrophytic Vegetation ¹ (Explain)						
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.						
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)						
1. _____						
2. _____						
	<u>0</u>	= Total Cover				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						
% Bare Ground in Herb Stratum <u>0</u>						
Remarks:						

SOILS

Sampling Point: 11

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	10YR 2/1	98	5YR 4/6	2	C	PL	Clay	
6-16	10YR 2/1	100					Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 7/3/2018
 Applicant/Owner: DR Horton State: TX Sampling Point: 12
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR): J Lat: 33.0428 N Long: -97.3721 W Datum: NAD 1983
 Soil Map Unit Name: Sanger Clay, 1-3% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	<u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____					
	<u>0</u>	= Total Cover			
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Prevalence Index Worksheet:	
1. <u>none</u>				Total % Cover of:	Multiply By:
2. _____				OBL species _____ x 1 = _____	
3. _____				FACW species _____ x 2 = _____	
4. _____				FAC species _____ x 3 = _____	
5. _____				FACU species _____ x 4 = _____	
				UPL species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
	<u>0</u>	= Total Cover		Prevalence Index = B/A = _____	
Herb Stratum (Plot Size: <u>5' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Eleocharis montevidensis</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>	_____ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Iva annua</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	<u>X</u> 2 - Dominance Test is > 50%	
3. <u>Xanthium strumarium</u>	<u>25</u>	<u>No</u>	<u>FAC</u>	_____ 3 - Prevalence Index is ≤ 3.0 ¹	
4. <u>Ambrosia psilostachya</u>	<u>15</u>	<u>No</u>	<u>FACU</u>	_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Rumex crispus</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7. _____					
8. _____					
9. _____					
10. _____					
	<u>150</u>	= Total Cover			
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. <u>none</u>					
2. _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOILS

Sampling Point: 12

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	10YR 2/1	85	5YR 4/6	5	C	M	Clay	10% Sediment

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 7/3/2018
 Applicant/Owner: DR Horton State: TX Sampling Point: 13
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR): J Lat: 33.0431 N Long: -97.3707 W Datum: NAD 1983
 Soil Map Unit Name: Sanger Clay, 1-3% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:	
(Plot Size: <u>30' Radius</u>)				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)	
1. <u>none</u>				Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
3. _____					
4. _____					
	<u>0</u>	= Total Cover			
				Prevalence Index Worksheet:	
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				Total % Cover of: _____ Multiply By: _____	
1. <u>Celtis laevigata</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	OBL species	x 1 = _____
2. _____				FACW species	x 2 = _____
3. _____				FAC species	x 3 = _____
4. _____				FACU species	x 4 = _____
5. _____				UPL species	x 5 = _____
	<u>5</u>	= Total Cover		Column Totals:	<u>(A)</u> <u>(B)</u>
				Prevalence Index = B/A = _____	
				Hydrophytic Vegetation Indicators:	
Herb Stratum (Plot Size: <u>5' Radius</u>)				_____ 1 - Rapid Test for Hydrophytic Vegetation	
1. <u>Iva annua</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	<u>X</u>	2 - Dominance Test is > 50%
2. <u>Xanthium strumarium</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>		3 - Prevalence Index is ≤ 3.0 ¹
3. <u>Cardiospermum halicacabum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Rumex crispus</u>	<u>10</u>	<u>No</u>	<u>FAC</u>		
5. <u>Tridens albescens</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
6. <u>Phyla nodiflora</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
7. _____					
8. _____					
9. _____					
10. _____					
	<u>100</u>	= Total Cover			
				_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
				¹ 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"/>	
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)					
1. <u>none</u>					
2. _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOILS

Sampling Point: 13

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	10YR 2/1	85	5YR 4/6	5	C	M	Clay	10% Sediment

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Saturation Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u> (includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 7/3/2018
 Applicant/Owner: DR Horton State: TX Sampling Point: 14
 Investigator(s): JH, SG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR): J Lat: 33.046 N Long: -97.3772 W Datum: NAD 1983
 Soil Map Unit Name: Sumervell Gravelly Loam, 1-5% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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:			

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status	
(Plot Size: <u>30' Radius</u>)				
1. <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</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>66</u> (A/B)
2. _____				
3. _____				
4. _____				
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				
1. <u>none</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply By: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
0 = Total Cover				
Herb Stratum (Plot Size: <u>5' Radius</u>)				
1. <u>Xanthium strumarium</u>	40	Yes	FAC	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ X 2 - Dominance Test is > 50% _____ 3 - Prevalence Index is ≤ 3.0' _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Eleocharis montevidensis</u>	30	Yes	FACW	
3. <u>Ambrosia psilostachya</u>	30	Yes	FACU	
4. <u>Iva annua</u>	20	No	FAC	
5. <u>Rumex crispus</u>	5	No	FAC	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
125 = Total Cover				
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)				
1. <u>none</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

SOILS

Sampling Point: 14

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	10YR 2/1	85	5YR 4/6	5	C	PL	Clay	10% Sediment

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>N/A</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 		<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u></p> <p>Saturation Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u> (includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 8/21/2019
 Applicant/Owner: DR Horton State: TX Sampling Point: 15
 Investigator(s): RAR Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR): J Lat: 33.043312° N Long: -97.374079° W Datum: NAD 1983
 Soil Map Unit Name: Sanger Clay, 1-3% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	<u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____					
	<u>0</u>	= Total Cover			
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Prevalence Index Worksheet:	
1. <u>none</u>				Total % Cover of:	Multiply By:
2. _____				OBL species _____ x 1 = _____	
3. _____				FACW species _____ x 2 = _____	
4. _____				FAC species _____ x 3 = _____	
5. _____				FACU species _____ x 4 = _____	
				UPL species _____ x 5 = _____	
	<u>0</u>	= Total Cover		Column Totals: _____ (A)	_____ (B)
				Prevalence Index = B/A = _____	
Herb Stratum (Plot Size: <u>5' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Eleocharis montevidensis</u>	<u>50</u>	Yes	FACW	_____ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Xanthium strumarium</u>	<u>50</u>	Yes	FAC	<u>X</u> 2 - Dominance Test is > 50%	
3. <u>Ambrosia psilostachya</u>	<u>10</u>	No	FACU	_____ 3 - Prevalence Index is ≤ 3.0 ¹	
4. _____				_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____				_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7. _____					
8. _____					
9. _____					
10. _____					
	<u>110</u>	= Total Cover			
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. <u>none</u>					
2. _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOILS

Sampling Point: 15

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-12	10YR 2/1	90	5YR 4/6	10	C	Pl/M	Clay	

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

Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 1 CM Muck (A9) (LRR I, J)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Depleted below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.

Restrictive Layer (if present):

Type: NA

Depth (inches): NA

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>NA</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>NA</u>	
Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	Depth (inches): <u>NA</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 8/21/2019
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 16
 Investigator(s): RAR Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope %: 2
 Subregion (LRR): J Lat: 33.043536° N Long: -97.375148° W Datum: Nad 1983
 Soil Map Unit Name: Sanger Clay, 1-3% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input 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 checked="" type="checkbox"/>	No <input type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status	
(Plot Size: <u>30' Radius</u>)				
1. <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				
1. <u>none</u>				Prevalence Index Worksheet: Total % Cover of: _____ Multiply By: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
	<u>0</u>	= Total Cover		
Herb Stratum (Plot Size: <u>5' Radius</u>)				
1. <u>Xanthium strumarium</u>	<u>50</u>	<u>YES</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Index is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Bromus arvensis</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>	
3. <u>Ambrosia psilastaycha</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)				
1. <u>none</u>				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

SOILS

Sampling Point: 16

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10 YR 2/1	100					Clay	

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

Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <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) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <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"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- 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 H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: NA
 Depth (inches): NA

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) |
| <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"/> Thin Muck Surface |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Water Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

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

Wetland Hydrology Present? Yes No

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 8/21/2019
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 17
 Investigator(s): RAR Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope %: 2
 Subregion (LRR): J Lat: 33.045918° N Long: -97.372070° W Datum: NAD 1983
 Soil Map Unit Name: Sanger clay, 1 to 3 percent slopes NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:	
(Plot Size: <u>30' Radius</u>)				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A)	
1. <u>none</u>				Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)	
3. _____					
4. _____					
	<u>0</u>	= Total Cover			
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				Prevalence Index Worksheet:	
1. <u>Celtis laevigata</u>	<u>2</u>	<u>NO</u>	<u>FAC</u>	Total % Cover of: _____ Multiply By: _____	
2. _____				OBL species _____ x 1 = _____	
3. _____				FACW species _____ x 2 = _____	
4. _____				FAC species _____ x 3 = _____	
5. _____				FACU species _____ x 4 = _____	
	<u>2</u>	= Total Cover		UPL species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
Herb Stratum (Plot Size: <u>5' Radius</u>)				Prevalence Index = B/A = _____	
1. <u>Bromus arvensis</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Index is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Iva annua</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>		
3. <u>Xanthium strumarium</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>		
4. <u>Nassella leucotricha</u>	<u>10</u>	<u>NO</u>	<u>UPL</u>		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
	<u>100</u>	= Total Cover			
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. <u>none</u>					
2. _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					

Remarks:

SOILS

Sampling Point: 17

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-12	7.5YR 3/1	100					Clay	

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

Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 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)
- 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)

Indicators for Problematic Hydric Soils³:

- 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 H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: N/A
 Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- Water Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes? No? Depth (inches): N/A
 Water Table Present? Yes? No? Depth (inches): N/A
 Saturation Present? (includes capillary fringe) Yes? No? Depth (inches): N/A

Wetland Hydrology Present? Yes No

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

SOILS

Sampling Point: 18

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-12	7.5YR 3/2	100					Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>NA</u></p> <p>Depth (inches): <u>NA</u></p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) 		<ul style="list-style-type: none"> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 	<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>NA</u></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>NA</u></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>NA</u></p>	<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 8/21/2019
 Applicant/Owner: DR Horton, Inc. State: TX Sampling Point: 19
 Investigator(s): RAR Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope %: 2
 Subregion (LRR): J Lat: 33.046104° N Long: -97.371382° W Datum: NAD 1983
 Soil Map Unit Name: Sanger clay, 1 to 3 percent slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet:	
(Plot Size: <u>30' Radius</u>)				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)	
1. <u>none</u>				Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
3. _____					
4. _____					
	<u>0</u>	= Total Cover			
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)				Prevalence Index Worksheet:	
1. <u>Celtis laevigata</u>	<u>2</u>	<u>NO</u>	<u>FAC</u>	Total % Cover of: _____ Multiply By: _____	
2. _____				OBL species _____ x 1 = _____	
3. _____				FACW species _____ x 2 = _____	
4. _____				FAC species _____ x 3 = _____	
5. _____				FACU species _____ x 4 = _____	
	<u>2</u>	= Total Cover		UPL species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
Herb Stratum (Plot Size: <u>5' Radius</u>)				Prevalence Index = B/A = _____	
1. <u>Iva annua</u>	<u>60</u>	<u>YES</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Index is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Xanthium strumarium</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>		
3. <u>Panicum obtusum</u>	<u>20</u>	<u>YES</u>	<u>FAC</u>		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
	<u>110</u>	= Total Cover			
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. <u>none</u>					
2. _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					

Remarks:

SOILS

Sampling Point: 19

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-12	7.5YR 2/1	100					Clay	

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

Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 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)
- 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)

Indicators for Problematic Hydric Soils³:

- 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 H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: N/A
 Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- Water Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes? No? Depth (inches): N/A
 Water Table Present? Yes? No? Depth (inches): N/A
 Saturation Present? (includes capillary fringe) Yes? No? Depth (inches): N/A

Wetland Hydrology Present? Yes No

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 8/21/2019
 Applicant/Owner: DR Horton State: TX Sampling Point: 20
 Investigator(s): RAR Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope %: 2
 Subregion (LRR): J Lat: 33.046077° N Long: -97.371734° W Datum: NAD 1983
 Soil Map Unit Name: Sanger Clay, 1-3% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <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:					

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Coverage	Dominant Species?	Indicator Status		
(Plot Size: <u>30' Radius</u>)					
1. <u>none</u>					
2. _____					
3. _____					
4. _____					
	<u>0</u>	= Total Cover			
Dominance Test worksheet:					
				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)	
				Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
Sapling/Shrub Stratum (Plot Size: <u>15' Radius</u>)					
1. <u>none</u>					
2. _____					
3. _____					
4. _____					
5. _____					
	<u>0</u>	= Total Cover			
Prevalence Index Worksheet:					
		Total % Cover of:		Multiply By:	
OBL species		x 1 =			
FACW species		x 2 =			
FAC species		x 3 =			
FACU species		x 4 =			
UPL species		x 5 =			
Column Totals:		(A)		(B)	
				Prevalence Index = B/A = _____	
Herb Stratum (Plot Size: <u>5' Radius</u>)					
1. <u>Panicum obtusum</u>	<u>40</u>	<u>YES</u>	<u>FAC</u>		
2. <u>Xanthium strumarium</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>		
3. <u>Iva annua</u>	<u>20</u>	<u>YES</u>	<u>FAC</u>		
4. <u>Phyla nodiflora</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
	<u>100</u>	= Total Cover			
Hydrophytic Vegetation Indicators:					
_____ 1 - Rapid Test for Hydrophytic Vegetation					
_____ X _____ 2 - Dominance Test is > 50%					
_____ 3 - Prevalence Index is ≤ 3.0 ¹					
_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
_____ Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Woody Vine Stratum (Plot Size: <u>30' Radius</u>)					
1. <u>none</u>					
2. _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOILS

Sampling Point: 20

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-12	7.5YR 2/1	100					Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H)) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>NA</u></p> <p>Depth (inches): <u>NA</u></p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) 		<ul style="list-style-type: none"> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 	<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>NA</u></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>NA</u></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/> Depth (inches): <u>NA</u></p>	<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Liberty Trails City/County: Justin/Denton Sampling Date: 8/21/2019
 Applicant/Owner: DR Horton State: TX Sampling Point: 21
 Investigator(s): RAR Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): slope Slope %: 4
 Subregion (LRR): J Lat: 33.044401° N Long: -97.370537° W Datum: NAD 1983
 Soil Map Unit Name: Sanger Clay, 1-3% Slopes NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are vegetation, Soil, Or hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation, Soil, Or hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input 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:			

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot Size: <u>30' Radius</u>)	Absolute % Coverage	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
1.	<u>none</u>				
2.					
3.					
		<u>0</u> = Total Cover			
Sapling/Shrub Stratum	(Plot Size: <u>15' Radius</u>)				Prevalence Index Worksheet: Total % Cover of: Multiply By: OBL species x 1 = _____ FACW species x 2 = _____ FAC species x 3 = _____ FACU species x 4 = _____ UPL species x 5 = _____ Column Totals: (A) (B) Prevalence Index = B/A = _____
1.	<u>Celtis laevigata</u>	<u>2</u>	<u>No</u>	<u>FAC</u>	
2.					
3.					
		<u>5</u> = Total Cover			
Herb Stratum	(Plot Size: <u>5' Radius</u>)				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Index is ≤ 3.0' _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	<u>Xanthium strumarium</u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>	
2.	<u>Cynodon dactylon</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3.	<u>Ambrosia psilostachya</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
4.	<u>Rumex crispus</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
5.					
6.					
7.					
8.					
9.					
10.					
		<u>105</u> = Total Cover			
Woody Vine Stratum	(Plot Size: <u>30' Radius</u>)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1.	<u>none</u>				
2.					
		<u>0</u> = Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOILS

Sampling Point: 21

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-12	7.5YR 3/2	100					Clay	

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

<p>Hydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) 	<ul style="list-style-type: none"> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16 (MLRA 72 & 73 of LRR H) 	<p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 CM Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless distributed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>NA</u></p> <p>Depth (inches): <u>NA</u></p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water Stained Leaves (B9) 		<ul style="list-style-type: none"> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) 	<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
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<p>Field Observations:</p> <p>Surface Water Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Water Table Present? Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Saturation Present? (includes capillary fringe) Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/></p> <p>Depth (inches): <u>NA</u></p> <p>Depth (inches): <u>NA</u></p> <p>Depth (inches): <u>NA</u></p>	<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: