



Sky Run II • Suite A1 • 4050 Skyron Drive • Doylestown, PA 18902
Phone 215-345-5545 Fax 215-345-8138

Via Email (mardowns@tollbrothersinc.com)

January 14, 2016

Toll Brothers, Inc.
250 Gibraltar Road
Horsham, PA 19044

Attn: Michael A. Downs

**Re: Plum Run Stream Sampling and Flow Measurements
Tigue Road
East Bradford Twp., Chester Co., PA
DelVal Job # 15-014A**

Dear Mr. Downs:

Introduction

DelVal Soil & Environmental Consultants, Inc. (DelVal) has prepared this report to summarize the stream sampling and flow measurements collected at the above referenced site on January 7, 2016. The sampling areas were located using a GPS and are shown on Figure 1. Two streams were sampled on the property: 1) Plum Run, which runs along the northern property boundary, and 2) an unnamed tributary to Plum Run that runs along the southern property boundary.

Geology and Soils

The site is located in the Piedmont Upland Section of the Piedmont Physiographic Province, which consists of schists and gneisses to the south, and felsic igneous and metamorphic rocks in northern Chester County (Potter, 1999). Based on the Atlas of Preliminary Geologic Quadrangle Maps of Pennsylvania (Berg and Dodge, 1981), the sampling locations are located in an outcrop area of the Precambrian-aged Felsic Gneiss. Felsic Gneiss (fgp) is light buff to light pink, fine to medium grained, and primarily composed of quartz, microcline, hornblende, and occasionally biotite (Geyer and Wilshusen, 1982). The bedrock is highly resistant to weathering. The loose material consists of large rectangular blocks. The topography of this formation tends to form medium to high relief hills. Natural slopes are steep and stable, and cut-slope stability is good. Surface drainage is good with low permeability and porosity.

The soils located around the stream are mostly silt loams and gravelly loams (Figure 2). The Hatboro (Ha) series consists of very deep poorly drained soils formed in alluvium derived from metamorphic and crystalline rock. The Parker (PA) series consists of very deep, somewhat excessively drained soils that formed in residuum derived from granitic gneiss bedrock.

Stream Hydrology

Plum Run flows westerly, entering parcel 51-007-0115, ranging six (6) to ten (10) feet wide with one (1) to two (2) foot banks. The channel collects sheet flow and storm-water runoff from the fallow and cultivated fields upslope. A roadside drainage channel converges with Plum Run before flowing off-site via a culvert beneath Lenape Road. From the culvert, Plum Run travels southerly along maintained lawns and fallow fields before entering parcel 51-007-0135 along its

northern border via a culvert beneath Lenape Road. Finally, Plum Run continues flowing southerly after its convergence with an unnamed tributary. The unnamed tributary to Plum Run originates along the southeastern extent of parcel 51-007-0136 within a low relief topographic valley. This feature flows westerly, along the southern boundary of the subject parcel, ranging from four (4) to eight (8) feet wide with one (1) to four (4) foot banks. This tributary collects additional water from sheet flow and storm-water runoff and two (2) drainage channels that disperse into its southern bank. It flows off-site along the southwestern boundary of the subject parcel and continues behind residential dwellings before entering parcel 51-007-0135 along its eastern boundary. The tributary flows westerly, ranging twelve (12) to sixteen (16) feet wide with three (3) to five (5) foot banks, before dispersing into Plum Run.

Precipitation

Daily precipitation data for the period of December 1, 2015 through January 12, 2016, measured at the Pottstown-Limerick Airport Station, (approximately 21 miles northeast of the site), is presented in Appendix I. Long-term average precipitation values for the station were obtained from the Middle Atlantic River Forecast Center. There was no precipitation recorded seven (7) days prior to sampling and measuring stream flow. A large precipitation event was recorded between December 22, 2015 and December 30, 2015 totaling 2.41 inches. Please note that variations in precipitation can vary from place to place depending on storm intensity. Based on this information, DelVal considered the streams to be under baseflow conditions at the time the flow measurements were taken on January 7, 2016.

Background Investigation

DelVal collected the surface water parameters including temperature, pH, phenol, chlorine, copper, detergents, turbidity, nitrate, nitrite, total Kjeldahl nitrogen (TKN), ammonia, fecal coliform, and phosphorous. Suburban Testing Labs, of Reading, PA, a PADEP certified laboratory, coordinated all laboratory analyses. In addition, field parameters were taken including pH, total dissolved solids, temperature, and conductivity. The results of the analyses are presented in Table 1. The complete laboratory reports are provided in Appendix II. In addition, DelVal filled out a modified field data collection form provided by the Township (Appendix III).

Stream flow was measured using a Global Flow Probe digital water velocity meter. The average flow, measured in ft/sec, was recorded for various sections of the stream. The stream velocity at each location was multiplied by the cross-sectional area and summed to calculate stream flow at each location. At the time of measurement, stream flow was typically below the minimum velocity range (0.3 ft/s) required for the meter to work effectively. Therefore, the stream flows reported are approximate. The sampling locations were photographed and the pictures are arranged by site location (Appendix IV).

Limitations

The data used in this report are based upon tests made at a specific time under hydrologic conditions unique to that date. Variations in rainfall, evapotranspiration, and surface activities can significantly alter the behavior of the streams. The conclusions drawn in this study are based on measurements made at a specific time, on a limited number of sample locations, and with a limited number of measurements.

References

- Berg, T.M., and C.M. Dodge, 1981, "Atlas of Preliminary Geologic Quadrangle Maps of Pennsylvania," Bureau of Topographic and Geologic Survey, Map 61, Harrisburg, PA.
- Geyer, A.R. and J.P. Wilshusen, 1982, "Engineering Characteristics of the Rocks of Pennsylvania," Pennsylvania Geological Survey Fourth Series, Environmental Geology Report 1.
- Potter, Jr., Noel, 1999, "Physiography Southeast of Blue Mountain," in The Geology of Pennsylvania, C.H. Shultz, ed., Pennsylvania Geological Survey Special Publication 1, Chapter 28.

Should any questions or concerns arise, please do not hesitate to contact our office.

Sincerely,
**DeVal Soil & Environmental
Consultants, Inc.**

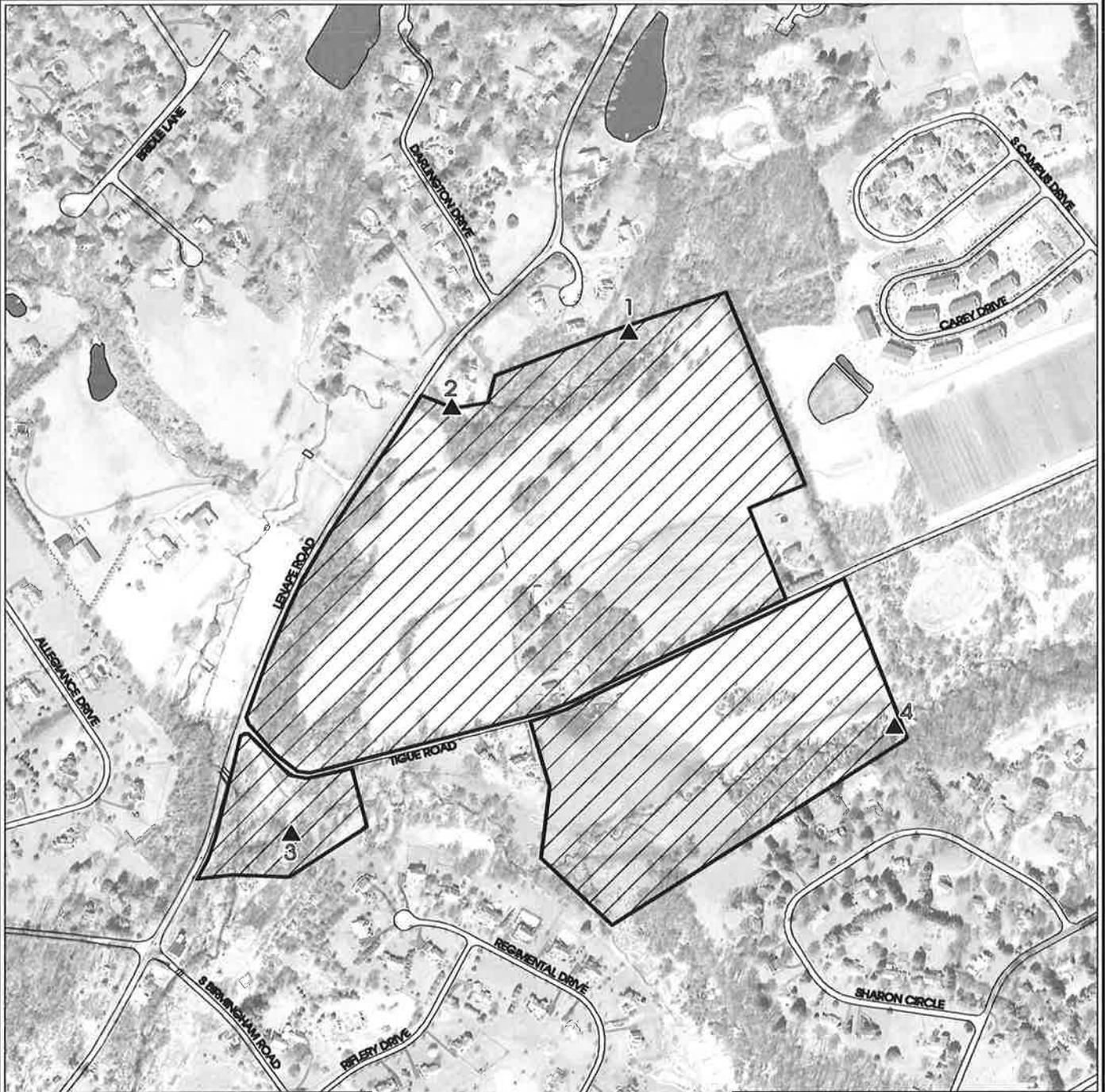


William R. Buehler, P.G.
Geologist

Attachments

cc: Justin Barnett, RLA - ESE

Figures and Table



BASE IMAGERY: DVRPC 2010 DIGITAL
 ORTHOIMAGERY: DELAWARE VALLEY
 REGIONAL PLANNING COMMISSION

TILE: PA_X17_Y073, PA_X17_Y074

DATE: 3/27/2010

SOURCE: PASDA

FIGURE 1 SAMPLE LOCATION MAP

MADE FOR

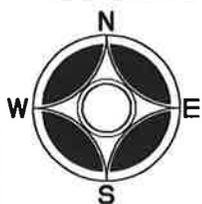
TIGUE PROPERTY

SITUATE IN

**EAST BRADFORD TOWNSHIP
 CHESTER COUNTY, PA**

DELVAL#: 15-014A

U:\17000 Job Files\2015 Jobs\15-014A\Oss\Drawings\Figures\Figure1 (WRI).prt

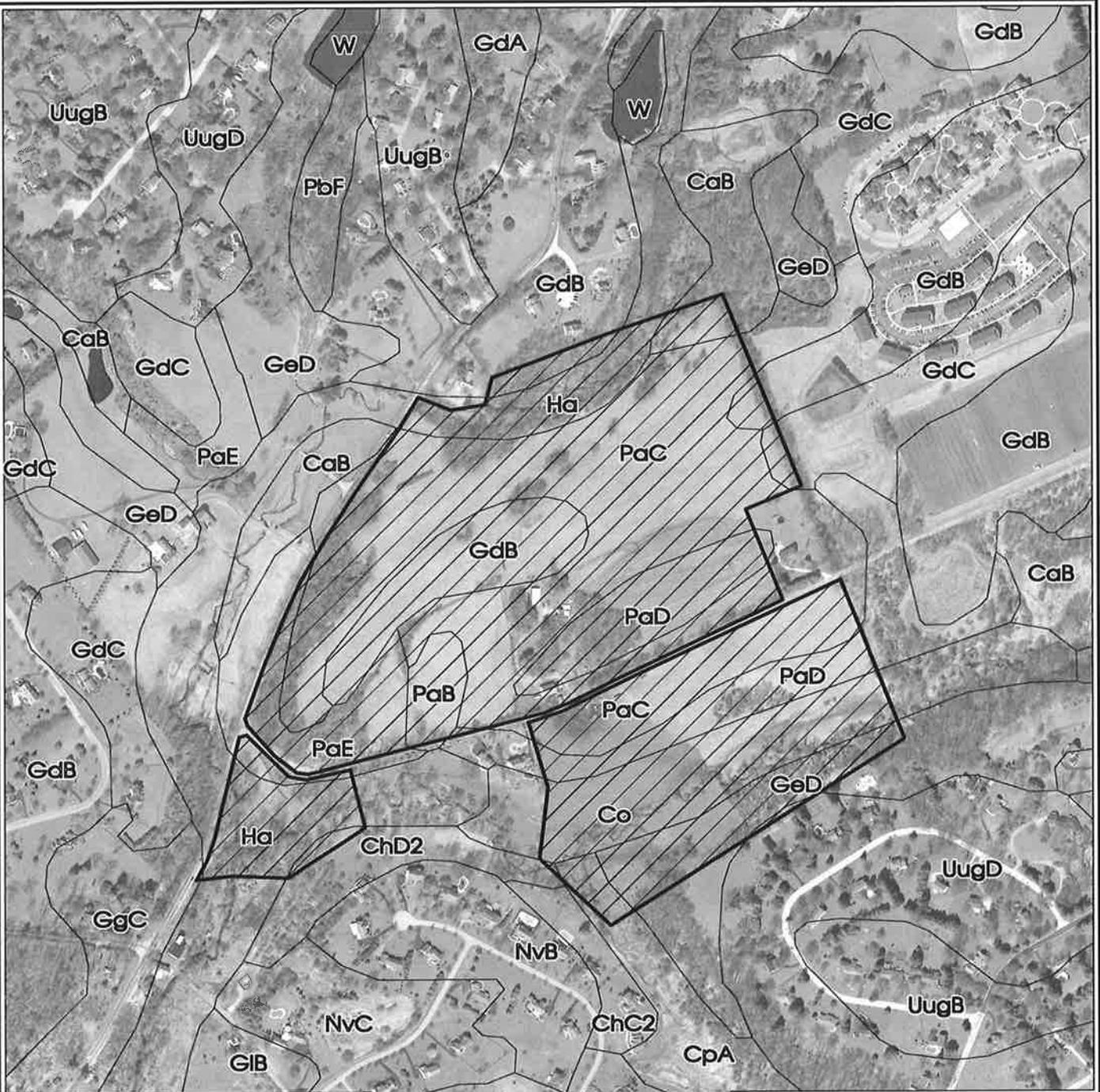


SCALED TO
 1" = 600'

GRAPHIC SCALE



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**BASE MAP
CHESTER COUNTY
PENNSYLVANIA**

SOURCE: NATURAL RESOURCES
CONSERVATION SERVICE WEB
SOIL SURVEY

**FIGURE 2:
SOIL SURVEY MAP**

MADE FOR

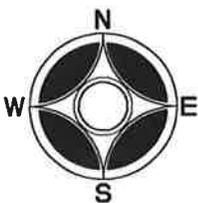
TIGIE PROPERTY

SITUATE IN

**EAST BRADFORD TOWNSHIP
CHESTER COUNTY, PA**

DELVAL#: 15-014A

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SCALED TO
1" = 600'

GRAPHIC SCALE



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Phone (215) 345-5545 Fax (215) 345-8138

Table 1
Toll Brothers, Inc
Tigue Property Stream Quality

1/7/2016	Site 1	Site 2	Site 3	Site 4
Stream Flow (ft ³ /sec)	0.880	0.850	0.880	0.990
Temperature (°C)	5.1	4.9	6.1	4.5
pH (Field) (Standard Units)	6.25	6.11	6.21	5.51
Conductivity (Field) (µS/cm)	753.3	715.1	550.6	816.3
Total Dissolved Solids (Field) (ppm)	516.3	489.9	376.8	567.5
Ammonia as N (mg/L)	ND	ND	ND	ND
Chlorine, Total (mg/L)	0.02	0.04	0.02	0.02
Copper (mg/L)	0.002	ND	ND	ND
Fecal Coliform (cfu/100ml)	23	3	408	47
MBAS (mg/L)	ND	ND	ND	ND
Nitrate as N (mg/L)	2.41	2.3	2.99	3.25
Nitrite as N (mg/L)	ND	ND	ND	ND
Nitrogen (Nitrate-Nitrite) (mg/L)	2.41	2.3	2.99	3.25
pH (Lab) (Standard Units)	7.49	7.72	7.47	7.65
Phenolics, Total (mg/L)	ND	ND	ND	ND
Total Kjeldahl Nitrogen (TKN) (mg/L)	ND	ND	ND	ND
Total Phosphorous as P (mg/L)	0.03	ND	ND	ND
Turbidity (NTU)	8.75	0.74	0.51	0.71

ND: Not Detected

Appendix I
Precipitation Data

Pottstown - Limerick Airport 2015-2016 Precipitation Record
Pennsylvania State Climatologist - data from hourly summaries

DATE	DEC 2015	JAN 2016	TOTAL
1	0.59	0	
2	0.2	0	
3	T	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0.02	0	
11	0	0	
12	0	0.01	
13	0		
14	0.12		
15	0.11		
16	0		
17	0.76		
18	0		
19	0		
20	0		
21	0		
22	0.06		
23	0.95		
24	0.02		
25	0.13		
26	0.06		
27	0.14		
28	0.07		
29	0.82		
30	0.16		
31	0		
TOTAL (IN.)	3.22	2.53	4.22
AVERAGE	3.44	3.62	7.06
VARIANCE	-0.22	-1.09	-2.84

Note: Average precipitation data for Graterford from MARFC

Appendix II
Laboratory Results



Results Report

Order ID: 6010918

Del Val Soil & Environmental Consultants, Inc. Sky Run II, Suite A1;4050 Skyron Drive Doylestown, PA 18902	Project: Tigue Property - Stream Sampling
Attn: William Buehler	Regulatory ID: 1

Sample Number: 6010918-01	Site: 1	Sample ID:
Collector: WRB	Collect Date: 01/07/2016 10:45 am	Sample Type:

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
<u>Inorganics</u>									
Ammonia as N	< 0.10	mg/L	ASTM D6919-03	0.10	1	01/09/16	APR	01/09/16 16:54	APR
Chlorine, Total	0.02	mg/L	SM 4500-Cl-G	0.02	1	01/07/16	KAL	01/08/16 10:04	KAL
MBAS	< 0.05 Y	mg/L	SM 5540C	0.05	1	01/07/16	RCE	01/07/16 10:45	RCE
<u>Nitrate / Nitrite, Combined</u>									
Nitrate as N	2.41	mg/L	EPA 300.0	1.00	1	01/07/16	MRW	01/07/16 20:29	MRW
Nitrite as N	< 0.10	mg/L	EPA 300.0	0.10	1	01/07/16	MRW	01/07/16 20:29	MRW
Nitrogen, Nitrate-Nitrite	2.41	mg/L	EPA 300.0	1.00	1	01/07/16	MRW	01/07/16 20:29	MRW
pH, Lab	7.49 #	pH Units	SM 4500-H-B		1	01/07/16	RKW	01/07/16 21:15	DW
Phenolics	< 0.05	mg/L	EPA 420.1	0.05	1	01/11/16	RCE	01/12/16 13:35	RCE
Total Kjeldahl Nitrogen (TKN)	< 0.50	mg/L	EPA 351.2	0.50	1	01/08/16	RCE	01/11/16 12:12	CWM
Total Phosphorus as P	0.03	mg/L	SM 4500-P-B/F	0.02	1	01/08/16	RCE	01/12/16 9:49	CWM
Turbidity	8.75	NTU	EPA 180.1	0.50	1	01/08/16	RPV	01/08/16 18:10	RPV
<u>Metals</u>									
Copper	0.002	mg/L	EPA 200.8	0.002	1	01/08/16	RPV	01/11/16 15:10	RPV
<u>Microbiology</u>									
Fecal Coliform	23	cfu/100ml	SM 9222-D	1	1	01/07/16	RPV	01/07/16 16:36	RPV

Sample Number: 6010918-02	Site: 2	Sample ID:
Collector: WRB	Collect Date: 01/07/2016 10:20 am	Sample Type:

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
<u>Inorganics</u>									
Ammonia as N	< 0.10	mg/L	ASTM D6919-03	0.10	1	01/09/16	APR	01/09/16 17:07	APR
Chlorine, Total	0.04	mg/L	SM 4500-Cl-G	0.02	1	01/07/16	KAL	01/08/16 10:12	KAL
MBAS	< 0.05 Y	mg/L	SM 5540C	0.05	1	01/07/16	RCE	01/07/16 10:45	RCE
<u>Nitrate / Nitrite, Combined</u>									
Nitrate as N	2.30	mg/L	EPA 300.0	1.00	1	01/07/16	MRW	01/07/16 20:44	MRW
Nitrite as N	< 0.10	mg/L	EPA 300.0	0.10	1	01/07/16	MRW	01/07/16 20:44	MRW
Nitrogen, Nitrate-Nitrite	2.30	mg/L	EPA 300.0	1.00	1	01/07/16	MRW	01/07/16 20:44	MRW
pH, Lab	7.72 #	pH Units	SM 4500-H-B		1	01/07/16	RKW	01/07/16 21:15	DW
Phenolics	< 0.05	mg/L	EPA 420.1	0.05	1	01/11/16	RCE	01/12/16 13:35	RCE

Report Generated On: 01/12/2016 2:57 pm 6010918
 STL_Results Revision #1.6 Effective: 07/09/2014





SUBURBAN TESTING LABS

Sample Number: 6010918-02
Collector: WRB

Site: 2
Collect Date: 01/07/2016 10:20 am

Sample ID:
Sample Type:

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
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Inorganics (Continued)

Total Kjeldahl Nitrogen (TKN)	< 0.50	mg/L	EPA 351.2	0.50	1	01/08/16	RCE	01/11/16 12:13	CWM
Total Phosphorus as P	< 0.02	mg/L	SM 4500-P-B/F	0.02	1	01/08/16	RCE	01/12/16 9:50	CWM
Turbidity	0.74	NTU	EPA 180.1	0.50	1	01/08/16	RPV	01/08/16 18:10	RPV

Metals

Copper	< 0.002	mg/L	EPA 200.8	0.002	1	01/08/16	RPV	01/11/16 15:16	RPV
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Microbiology

Fecal Coliform	3	cfu/100ml	SM 9222-D	1	1	01/07/16	RPV	01/07/16 16:36	RPV
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Sample Number: 6010918-03
Collector: WRB

Site: 3
Collect Date: 01/07/2016 11:51 am

Sample ID:
Sample Type:

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
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Inorganics

Ammonia as N	< 0.10	mg/L	ASTM D6919-03	0.10	1	01/09/16	APR	01/09/16 17:20	APR
Chlorine, Total	0.02	mg/L	SM 4500-Cl-G	0.02	1	01/07/16	KAL	01/08/16 10:18	KAL
MBAS	< 0.05 Y	mg/L	SM 5540C	0.05	1	01/07/16	RCE	01/07/16 18:00	RCE

Nitrate / Nitrite, Combined

Nitrate as N	2.99	mg/L	EPA 300.0	1.00	1	01/07/16	MRW	01/07/16 21:00	MRW
Nitrite as N	< 0.10	mg/L	EPA 300.0	0.10	1	01/07/16	MRW	01/07/16 21:00	MRW
Nitrogen, Nitrate-Nitrite	2.99	mg/L	EPA 300.0	1.00	1	01/07/16	MRW	01/07/16 21:00	MRW

pH, Lab	7.47 #	pH Units	SM 4500-H-B		1	01/07/16	RKW	01/07/16 21:15	DW
Phenolics	< 0.05	mg/L	EPA 420.1	0.05	1	01/11/16	RCE	01/12/16 13:35	RCE
Total Kjeldahl Nitrogen (TKN)	< 0.50	mg/L	EPA 351.2	0.50	1	01/08/16	RCE	01/11/16 12:14	CWM
Total Phosphorus as P	< 0.02	mg/L	SM 4500-P-B/F	0.02	1	01/08/16	RCE	01/12/16 9:51	CWM
Turbidity	0.51	NTU	EPA 180.1	0.50	1	01/08/16	RPV	01/08/16 18:10	RPV

Metals

Copper	< 0.002	mg/L	EPA 200.8	0.002	1	01/08/16	RPV	01/11/16 15:22	RPV
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Microbiology

Fecal Coliform	408	cfu/100ml	SM 9222-D	1	1	01/07/16	RPV	01/07/16 16:36	RPV
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Sample Number: 6010918-04
Collector: WRB

Site: 4
Collect Date: 01/07/2016 9:45 am

Sample ID:
Sample Type:

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
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Inorganics

Ammonia as N	< 0.10	mg/L	ASTM D6919-03	0.10	1	01/09/16	APR	01/09/16 17:32	APR
Chlorine, Total	0.02	mg/L	SM 4500-Cl-G	0.02	1	01/07/16	KAL	01/08/16 10:25	KAL
MBAS	< 0.05 Y	mg/L	SM 5540C	0.05	1	01/07/16	RCE	01/07/16 10:45	RCE

Report Generated On: 01/12/2016 2:57 pm
STL_Results Revision #1.6

6010918
Effective: 07/09/2014





SUBURBAN TESTING LABS

Sample Number: 6010918-04	Site: 4	Sample ID:
Collector: WRB	Collect Date: 01/07/2016 9:45 am	Sample Type:

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Inorganics (Continued)									
<i>Nitrate / Nitrite, Combined</i>									
Nitrate as N	3.25	mg/L	EPA 300.0	1.00	1	01/07/16	MRW	01/07/16 21:16	MRW
Nitrite as N	< 0.10	mg/L	EPA 300.0	0.10	1	01/07/16	MRW	01/07/16 21:16	MRW
Nitrogen, Nitrate-Nitrite	3.25	mg/L	EPA 300.0	1.00	1	01/07/16	MRW	01/07/16 21:16	MRW
pH, Lab	7.65 #	pH Units	SM 4500-H-B		1	01/07/16	RKW	01/07/16 21:15	DW
Phenolics	< 0.05	mg/L	EPA 420.1	0.05	1	01/11/16	RCE	01/12/16 13:35	RCE
Total Kjeldahl Nitrogen (TKN)	< 0.50	mg/L	EPA 351.2	0.50	1	01/08/16	RCE	01/11/16 12:15	CWM
Total Phosphorus as P	< 0.02	mg/L	SM 4500-P-B/F	0.02	1	01/08/16	RCE	01/12/16 9:52	CWM
Turbidity	0.71	NTU	EPA 180.1	0.50	1	01/08/16	RPV	01/08/16 18:10	RPV
Metals									
Copper	< 0.002	mg/L	EPA 200.8	0.002	1	01/08/16	RPV	01/11/16 15:27	RPV
Microbiology									
Fecal Coliform	47	cfu/100ml	SM 9222-D	1	1	01/07/16	NEP	01/07/16 15:14	NEP

Data Qualifiers:

The test (pH, Lab) is performed in the Laboratory as soon as possible and is valid for information purposes. It is not appropriate for regulatory compliance with NPDES and SDWA programs that require analysis within 15 minutes of sample collection.

Y MBAS, calculated as LAS, mol wt 342g/mol.

All results meet the requirements of STL's TNI (NELAC) Accredited Quality System unless otherwise noted. If your results contain any data qualifiers or comments, you should evaluate useability relative to your needs.

If collectors initials include "STL", samples have been collected in accordance with STL SOP SL0015.

All results reported on an As Received (Wet Weight) basis unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of STL.

Results are considered Preliminary unless report is signed by authorized representative of STL.

Reviewed and Released By:
 Deborah Hannum
 Project Manager



Report Generated On: 01/12/2016 2:57 pm 6010918
 STL_Results Revision #1.6 Effective: 07/09/2014





SUBURBAN TESTING LABS

Chain of Custody Record
1037F MacArthur Road, Reading, PA 19605
Phone: 610-375-8378 - Fax: 610-375-4090 - suburbantestinglabs.com

TAT (Circle One): Standard - 24hr - 48hr - 72hr - Other
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply.)

ORDER ID: 6010918



Client Name / Address:
Del Val Soil & Environmental Consultants, Inc.
Sky Run, Suite A1, 4050 Skyron Drive
Doylstown, PA 18902

Phone: (215) 345-5545
Fax:

Client Project Manager: William Buehler

Project Name / Address:
Tigue Property - Stream Sampling
Payment / P.O. Info:

Project Description: Added via Sampling Kits by DMH 01/04/2016 14:08

Sample Number	Sample Description - Site ID	Collect Date/Time	Sampler's Initials	Matrix	Sample Type	Composite Start Date / Time	Field Results
6010918-01	1	1/7/16 10:45	WBK	Non-potable			
Container Type / Preservation							
500 mL Plastic - Cool to 6 C & H2SO4 to pH<2							
Field Services							
500 mL Plastic - HNO3 to pH<2							CL = 0.02 1/24 1/18/16 10:04 PH 6.25
120 mL Sterile - Cool to 10 C & Na2S2O3							
1 L Plastic - Cool to 6 C							
500 mL Plastic - Cool to 6 C							
1 L Glass Amber - Cool to 6 C & H2SO4 to pH<2							CL - 1.0
6010918-02	2	1/7/16 10:30	WBK	Non-potable			
Container Type / Preservation							
500 mL Plastic - Cool to 6 C & H2SO4 to pH<2							
Field Services							
500 mL Plastic - HNO3 to pH<2							0.0 = 0.04 1/24 1/18/16 10:12 PH 6.11
120 mL Sterile - Cool to 10 C & Na2S2O3							
1 L Plastic - Cool to 6 C							
500 mL Plastic - Cool to 6 C							
1 L Glass Amber - Cool to 6 C & H2SO4 to pH<2							CL - 1.0

Analysis - Method	Field Results
Inorganics Ammonia as N - ASTM D6919-03 Chlorine, Total - SM 4500-Cl-G MBAS - SM 5540C Nitrate / Nitrite, Combined - EPA 300.0 pH, Lab - SM 4500-H-B Phenolics, Total - EPA 420.1 TKN - EPA 351.2 Total Phosphorous as P - SM 4500-P-B/F Turbidity - EPA 180.1	
Metals Copper, 200.8 - EPA 200.8	
Microbiology Fecal Coliform - SM 9222-D	

Analysis - Method	Field Results
Inorganics Ammonia as N - ASTM D6919-03 Chlorine, Total - SM 4500-Cl-G MBAS - SM 5540C Nitrate / Nitrite, Combined - EPA 300.0 pH, Lab - SM 4500-H-B Phenolics, Total - EPA 420.1 TKN - EPA 351.2 Total Phosphorous as P - SM 4500-P-B/F Turbidity - EPA 180.1	
Metals Copper, 200.8 - EPA 200.8	
Microbiology Fecal Coliform - SM 9222-D	

Sample Number	Sample Description - Site ID	Collect Date/Time	Sampler's Initials	Matrix	Sample Type	Composite Start Date / Time	Field Results
6010918-03	3	1/16/16 11:51 AM	AKS	Non-potable			
Container Type / Preservation					Analysis - Method		
500 mL Plastic - Cool to 6 C & H2SO4 to pH<2					Inorganics		
Field Services					Ammonia as N - ASTM D6919-03		
500 mL Plastic - HNO3 to pH<2					Chlorine, Total - SM 4500-Cl-G		
120 mL Sterile - Cool to 10 C & Na2S2O3					MBAS - SM 5540C		
1 L Plastic - Cool to 6 C					Nitrate / Nitrite, Combined - EPA 300.0		
500 mL Plastic - Cool to 6 C					pH, Lab - SM 4500-H-B		
1 L Glass Amber - Cool to 6 C & H2SO4 to pH<2					Phenolics, Total - EPA 420.1		
					TKN - EPA 351.2		
					Total Phosphorous as P - SM 4500-P-B/F		
					Turbidity - EPA 180.1		
					Metals		
					Copper, 200.8 - EPA 200.8		
					Microbiology		
					Fecal Coliform - SM 9222-D		
6010918-04 4					Analysis - Method		
500 mL Plastic - Cool to 6 C & H2SO4 to pH<2					Inorganics		
Field Services					Ammonia as N - ASTM D6919-03		
500 mL Plastic - HNO3 to pH<2					Chlorine, Total - SM 4500-Cl-G		
120 mL Sterile - Cool to 10 C & Na2S2O3					MBAS - SM 5540C		
1 L Plastic - Cool to 6 C					Nitrate / Nitrite, Combined - EPA 300.0		
500 mL Plastic - Cool to 6 C					pH, Lab - SM 4500-H-B		
1 L Glass Amber - Cool to 6 C & H2SO4 to pH<2					Phenolics, Total - EPA 420.1		
					TKN - EPA 351.2		
					Total Phosphorous as P - SM 4500-P-B/F		
					Turbidity - EPA 180.1		
					Metals		
					Copper, 200.8 - EPA 200.8		
					Microbiology		
					Fecal Coliform - SM 9222-D		

Cl₂ = 0.02
 PH 6.21
 1/15/16 10:18

Cl-16

Cl₂ = 0.02
 PH 5.51
 1/18/16 10:25

PH 4.2

Relinquished By	Date	Temp (°C)	Acceptable?	Y/N	Sample Conditions	Sample Type Key	Reporting Options
Received By: <i>AKS</i>	Date: 1/7/16	Temp (°C): 7.1	Acceptable: ?	Y/N	Submitted with COC? <input checked="" type="checkbox"/> Y	G = Grab	<input type="checkbox"/> SDWA Reporting
Relinquished By: <i>AKS</i>	Date: 1-7-16	Temp (°C): 4.5	Acceptable: ?	Y/N	Number of Containers Match Number of COC? <input checked="" type="checkbox"/> Y	8HC = 8 Hr. Composite	<input type="checkbox"/> PWSID: 1
Received in Lab By: <i>AKS</i>	Date: 1-7-16	Temp (°C): 4.5	Acceptable: ?	Y/N	All Containers Intact? <input checked="" type="checkbox"/> Y	24HC = 24 Hr. Composite	<input type="checkbox"/> Fax
	Date: 1-7-16	Temp (°C): 4.5	Acceptable: ?	Y/N	Tests within Holding Times? <input checked="" type="checkbox"/> Y	D = Distribution	<input type="checkbox"/> Email
	Date: 1-7-16	Temp (°C): 4.5	Acceptable: ?	Y/N	VOC Vials Free of Headspace? <input checked="" type="checkbox"/> Y	R = Raw	<input type="checkbox"/> Return a copy of this form with Report
	Date: 1-7-16	Temp (°C): 4.5	Acceptable: ?	Y/N		C = Check	<input type="checkbox"/> Other
	Date: 1-7-16	Temp (°C): 4.5	Acceptable: ?	Y/N		S = Special	
	Date: 1-7-16	Temp (°C): 4.5	Acceptable: ?	Y/N		M = Maximum Residence	

Signing this form indicates your agreement with STL's Standard Terms and Conditions (www.stl.com/standard-terms-and-conditions.html) unless otherwise specified in writing.

Shaded areas are for SWTL use only

Page 2 of 2

Appendix III
Field Data Collection Forms

Data Collection Form

Location #: 1 Date: 1/7/16 Time: 10:45

TIME SINCE LAST RAIN: ≥72 hours <72 hours
QUANTITY OF LAST RAIN: ≥0.1 inches <0.1 inches
INSPECTION TEAM: William Buehler
Caitlin Hatch

SITE DESCRIPTION:

LOCATION (Narrative Description): Plum Run upgradient location

STRUCTURE TYPE: OPEN CHANNEL MANHOLE OUTFALL OTHER: _____

DOMINANT WATERSHED LAND USES: INDUSTRIAL COMMERCIAL RESIDENTIAL UNKNOWN
OTHER: AGRICULTURE

FLOW ESTIMATION:

WAS FLOW OBSERVED? NO YES IF YES, PLEASE ANSWER a. - d. BELOW.

a.	WIDTH OF WATER SURFACE (feet):	<u>10</u>
b.	APPROXIMATE DEPTH OF WATER (feet):	<u>0.6275</u>
c.	APPROXIMATE FLOW VELOCITY (feet per second):	<u>0.14</u>
d.	FLOW RATE (cubic feet per second) = a x b x c =	<u>0.88</u>

VISUAL OBSERVATIONS:

WAS A PHOTO TAKEN? NO YES

ODOR: NONE MUSTY SEWAGE ROTTEN EGGS SOUR MILK OTHER: _____

COLOR: CLEAR RED YELLOW BROWN GREEN GREY OTHER: _____

CLARITY: CLEAR CLOUDY OPAQUE

FLOATABLES: NONE OILY SHEEN GARBAGE/SEWAGE OTHER: _____

VEGETATION CONDITION: NONE NORMAL EXCESSIVE GROWTH INHIBITED GROWTH

WAS A LABORATORY SAMPLE COLLECTED? NO YES

(if yes attach copy of chain-of-custody record)

COMMENTS: Low flow

DATA SHEET FILLED OUT BY: (signature): _____ DATE: 1/13/16

(print name): William R. Buehler

Data Collection Form

Location #: 2 Date: 1/7/16 Time: 10:20

TIME SINCE LAST RAIN: ≥72 hours <72 hours
QUANTITY OF LAST RAIN: ≥0.1 inches <0.1 inches
INSPECTION TEAM: William Buehler
Caitlin Hatch

SITE DESCRIPTION:

LOCATION (Narrative Description): Plum Run down gradient location prior to Lenape Road

STRUCTURE TYPE: OPEN CHANNEL MANHOLE OUTFALL OTHER: _____

DOMINANT WATERSHED LAND USES: INDUSTRIAL COMMERCIAL RESIDENTIAL UNKNOWN
OTHER: AGRICULTURE

FLOW ESTIMATION:

WAS FLOW OBSERVED? NO YES IF YES, PLEASE ANSWER a. - d. BELOW.
a. WIDTH OF WATER SURFACE (feet): 7.5
b. APPROXIMATE DEPTH OF WATER (feet): 0.39
c. APPROXIMATE FLOW VELOCITY (feet per second): 0.29
d. FLOW RATE (cubic feet per second) = a x b x c = 0.85

VISUAL OBSERVATIONS:

WAS A PHOTO TAKEN? NO YES
ODOR: NONE MUSTY SEWAGE ROTTEN EGGS SOUR MILK OTHER: _____
COLOR: CLEAR RED YELLOW BROWN GREEN GREY OTHER: _____
CLARITY: CLEAR CLOUDY OPAQUE
FLOATABLES: NONE OILY SHEEN GARBAGE/SEWAGE OTHER: _____
VEGETATION CONDITION: NONE NORMAL EXCESSIVE GROWTH INHIBITED GROWTH

WAS A LABORATORY SAMPLE COLLECTED? NO YES
(if yes attach copy of chain-of-custody record)

COMMENTS: Low flow

DATA SHEET FILLED OUT BY: (signature): William R. Buehler DATE: 1/13/16
(print name): William R. Buehler

Data Collection Form

Location #: 3 Date: 1/7/16 Time: 11:51

TIME SINCE LAST RAIN: ≥72 hours <72 hours
QUANTITY OF LAST RAIN: ≥0.1 inches <0.1 inches
INSPECTION TEAM: William Buehler
Caitlin Hatch

SITE DESCRIPTION:

LOCATION (Narrative Description): Unnamed tributary of Plum Run up gradient location

STRUCTURE TYPE: OPEN CHANNEL MANHOLE OUTFALL OTHER: _____

DOMINANT WATERSHED LAND USES: INDUSTRIAL COMMERCIAL RESIDENTIAL UNKNOWN
OTHER: AGRICULTURE

FLOW ESTIMATION:

WAS FLOW OBSERVED? NO YES IF YES, PLEASE ANSWER a. - d. BELOW.
a. WIDTH OF WATER SURFACE (feet): 6.5
b. APPROXIMATE DEPTH OF WATER (feet): 0.54
c. APPROXIMATE FLOW VELOCITY (feet per second): 0.25
d. FLOW RATE (cubic feet per second) = a x b x c = 0.88

VISUAL OBSERVATIONS:

WAS A PHOTO TAKEN? NO YES

ODOR: NONE MUSTY SEWAGE ROTTEN EGGS SOUR MILK OTHER: _____

COLOR: CLEAR RED YELLOW BROWN GREEN GREY OTHER: _____

CLARITY: CLEAR CLOUDY OPAQUE

FLOATABLES: NONE OILY SHEEN GARBAGE/SEWAGE OTHER: _____

VEGETATION CONDITION: NONE NORMAL EXCESSIVE GROWTH INHIBITED GROWTH

WAS A LABORATORY SAMPLE COLLECTED? NO YES
(if yes attach copy of chain-of-custody record)

COMMENTS: Low flow

DATA SHEET FILLED OUT BY: (signature): Wilt R Buehler DATE: 1/13/16

(print name): William R. Buehler

Data Collection Form

Location #: 4 Date: 1/7/16 Time: 9:45

TIME SINCE LAST RAIN: ≥72 hours <72 hours
QUANTITY OF LAST RAIN: ≥0.1 inches <0.1 inches
INSPECTION TEAM: William Buehler
Caitlin Hatch

SITE DESCRIPTION:

LOCATION (Narrative Description): Unnamed tributary of Plum Run down gradient location

STRUCTURE TYPE: OPEN CHANNEL MANHOLE OUTFALL OTHER: _____

DOMINANT WATERSHED LAND USES: INDUSTRIAL COMMERCIAL RESIDENTIAL UNKNOWN
OTHER: AGRICULTURE

FLOW ESTIMATION:

WAS FLOW OBSERVED? NO YES IF YES, PLEASE ANSWER a. - d. BELOW.
a. WIDTH OF WATER SURFACE (feet): 11
b. APPROXIMATE DEPTH OF WATER (feet): 0.3
c. APPROXIMATE FLOW VELOCITY (feet per second): 0.3
d. FLOW RATE (cubic feet per second) = a x b x c = 0.99

VISUAL OBSERVATIONS:

WAS A PHOTO TAKEN? NO YES

ODOR: NONE MUSTY SEWAGE ROTTEN EGGS SOUR MILK OTHER: _____

COLOR: CLEAR RED YELLOW BROWN GREEN GREY OTHER: _____

CLARITY: CLEAR CLOUDY OPAQUE

FLOATABLES: NONE OILY SHEEN GARBAGE/SEWAGE OTHER: _____

VEGETATION CONDITION: NONE NORMAL EXCESSIVE GROWTH INHIBITED GROWTH

WAS A LABORATORY SAMPLE COLLECTED? NO YES

(if yes attach copy of chain-of-custody record)

COMMENTS: Low flow

DATA SHEET FILLED OUT BY: (signature): William R. Buehler DATE: 1/13/16

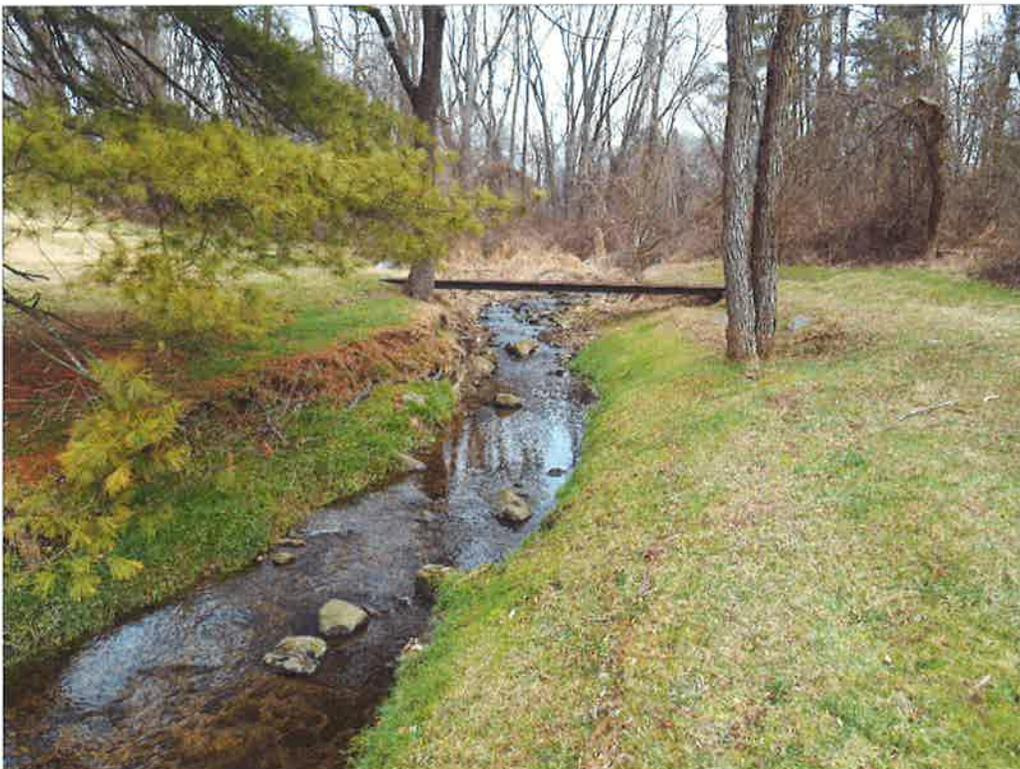
(print name): William R. Buehler

Appendix IV
Pictures

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA**



Site 1 ~ Picture taken from south side of stream facing upstream



Site 2 ~ Picture taken from south side of stream facing upstream

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA**



Site 3 ~ Picture taken from north side of stream facing upstream



Site 4 ~ Picture taken upstream

1. PROJECT INFORMATION

Project Name: **Tigue**

Date of review: **5/7/2015 8:31:55 AM**

Project Category: **Development, Residential, Subdivision containing more than 2 lots and/or 2 single-family units**

Project Area: **88.2** acres

County: **Chester** Township/Municipality: **Birmingham, Westtown, East Bradford**

Quadrangle Name: **WEST CHESTER** ~ ZIP Code: **19382, 19383**

Decimal Degrees: **39.931730 N, -75.611312 W**

Degrees Minutes Seconds: **39° 55' 54 N, W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special

concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.



5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
 Bureau of Forestry, Ecological Services Section
 400 Market Street, PO Box 8552, Harrisburg, PA.
 17105-8552
 Fax:(717) 772-0271

U.S. Fish and Wildlife Service
 Pennsylvania Field Office
 110 Radnor Rd; Suite 101, State College, PA 16801
 NO Faxes Please.

PA Fish and Boat Commission
 Division of Environmental Services
 450 Robinson Lane, Bellefonte, PA. 16823-7437
 NO Faxes Please

PA Game Commission
 Bureau of Wildlife Habitat Management
 Division of Environmental Planning and Habitat Protection
 2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
 Fax:(717) 787-6957

7. PROJECT CONTACT INFORMATION

Name: _____
 Company/Business Name: _____
 Address: _____
 City, State, Zip: _____
 Phone:(_____) _____ Fax:(_____) _____
 Email: _____

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

_____ date
 applicant/project proponent signature

PHOTO
LOCATION 1



PHOTO
LOCATION 2



PHOTO LOCATION 3



PHOTO LOCATION 4



PHOTO
LOCATION 5



PHOTO
LOCATION 6



PHOTO
LOCATION 7



PHOTO LOCATION 8



PHOTO LOCATION 9



PHOTO LOCATION 10



PHOTO LOCATION 11



PHOTO LOCATION 12



PHOTO LOCATION 13



PHOTO
LOCATION 14

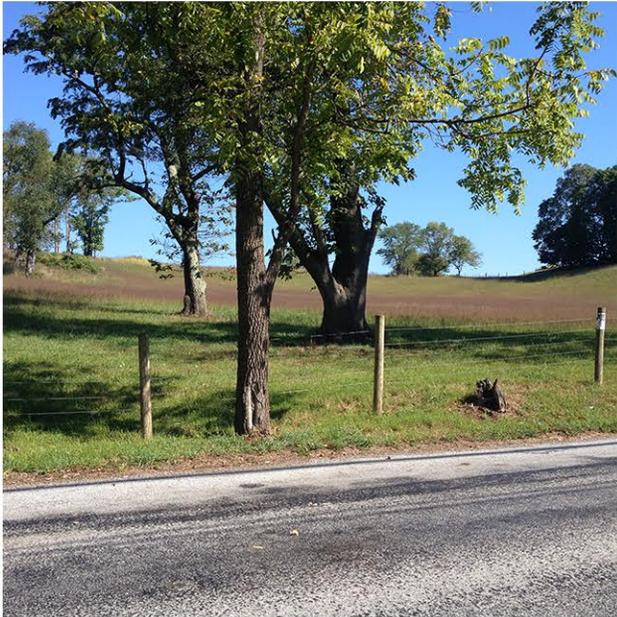


PHOTO LOCATION 15



PHOTO
LOCATION 16



PHOTO
LOCATION 17



PHOTO
LOCATION 18



PHOTO LOCATION 19



PHOTO LOCATION 20



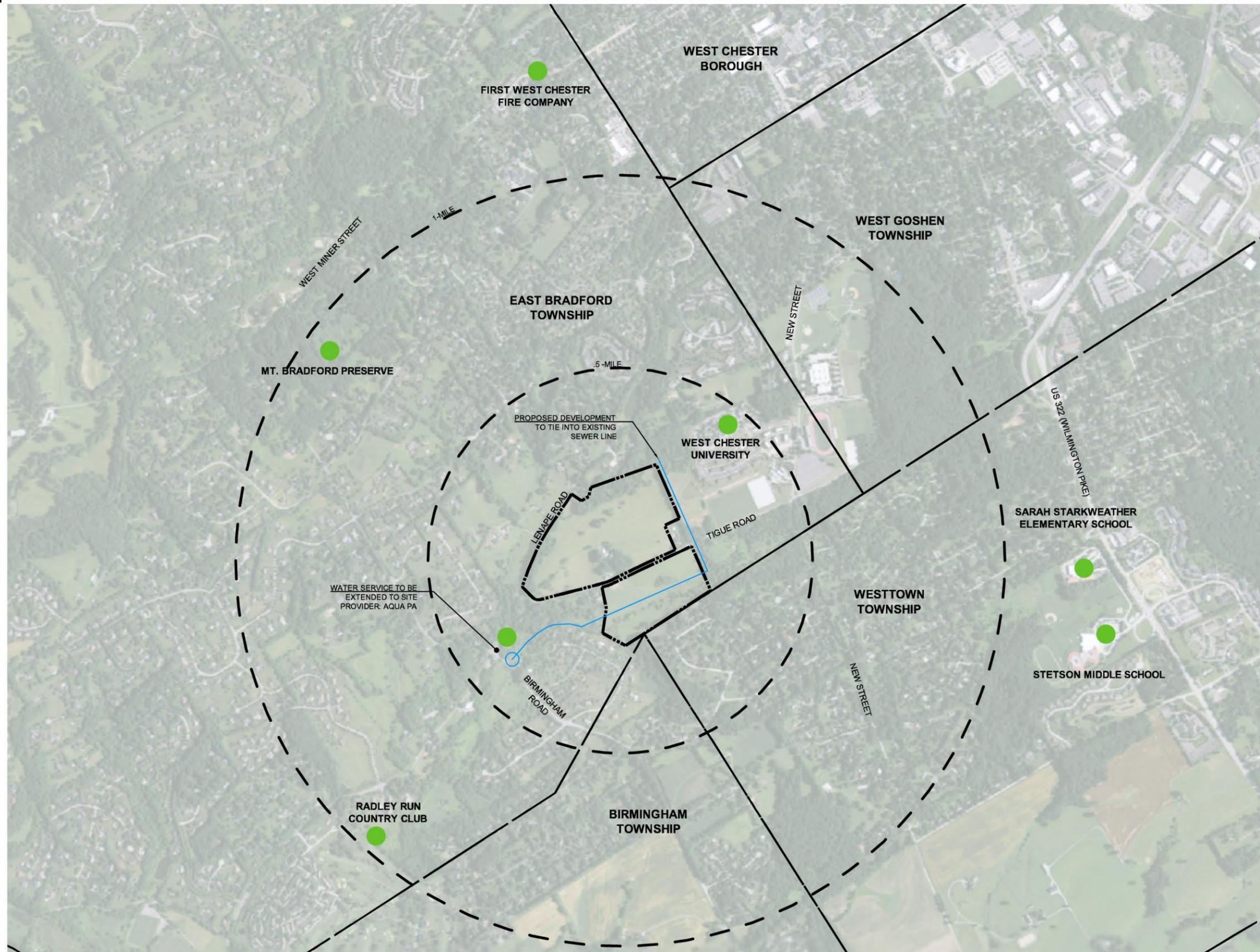
TIGUE VIEW-SHED EXHIBIT



PROPOSED VIEW LOOKING INTO SITE FROM LENAPE ROAD ACCESS



PROPOSED VIEW LOOKING INTO SITE FROM TIGUE ROAD



EXISTING SERVICES & FACILITIES NEAR SITE

EMERGENCY SERVICES

POLICE SERVICE: WEST CHESTER POLICE (NOT SHOWN ON MAP)

FIRE SERVICE: FIRST WEST CHESTER FIRE CO. (SHOWN ON MAP)

AMBULANCE SERVICE: GOOD FELLOW AMBULANCE (NOT SHOWN ON MAP)

EDUCATIONAL SERVICES

SARAH STARKWEATHER ELEMENTARY SCHOOL (SHOWN ON MAP)

STETSON MIDDLE SCHOOL (SHOWN ON MAP)

BAYARD RUSTIN HIGH SCHOOL (WEST CHESTER) (NOT SHOWN ON MAP)

WEST CHESTER UNIVERSITY (SHOWN ON MAP)

WEST CHESTER PUBLIC LIBRARY (NOT SHOWN ON MAP)

PARKS AND RECREATIONAL SERVICES

MT. BRADFORD PRESERVE (SHOWN ON MAP)

RADLEY RUN COUNTRY CLUB (SHOWN ON MAP)

UTILITY SERVICES

WATER TO BE PROVIDED BY AQUA PA VIA LATERAL EXTENSION FROM BIRMINGHAM ROAD

SEWER SERVICE TO TIE INTO EXISTING SERVICE ADJACENT TO EASTERN PROPERTY LINE

ELECTRIC SERVICE TO BE DETERMINED



**EXISTING SERVICES MAP
TIGIE PROPERTY**

EAST BRADFORD TOWNSHIP, CHESTER COUNTY, PA
SCALE: 1"=1400' DATE: 10-05-2015 DRAWN BY: JTB



Sky Run II • Suite A1 • 4050 Skyron Drive • Doylestown, PA 18902
Phone 215-345-5545 Fax 215-345-8138

Via U.S. Mail

November 12, 2015

U.S. Army Corps of Engineers
Wanamaker Building, 6th Floor
100 Penn Square East
Philadelphia, PA 19107-3390

Attn: Pete Romano

**Re: Request for Preliminary Jurisdictional Determination
Toll Brothers, Inc.
Tigue Property
East Bradford Township, Chester County, PA
TMP #'s 51-007-0115, 51-007-0135, & 51-007-0136
DelVal Job No. 15-014A**

Mr. Romano:

Enclosed you will find a copy of the wetland report that our firm prepared for the above referenced property. We are requesting that your agency review this report for a Preliminary Jurisdictional Determination (JD).

If you should have any questions regarding this project, please do not hesitate to contact this office.

Sincerely,

**DelVal Soil and Environmental
Consultants, Inc.**

Jason J. Mease
Wetland Scientist

Enclosures: 2015 Wetland Report
Prelim JD Application
JD Application

CC: Mike Downs (Toll Brothers, Inc.)

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Toll Brothers, Inc, Attention Mike Downs, 250 Gibraltar Road, Horsham, PA 19044

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State:PA County/parish/borough: Montgomery City: East Brandywine

Center coordinates of site (lat/long in degree decimal format):

Latitude: 39.933120° Longitude: -75.610301°

Universal Transverse Mercator:

Name of nearest waterbody: Plum Run and UNT to Plum Run – WWF, MF

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 1.959 acres, 8,045 Linear Feet

Cowardin Class: Riverine

Stream Flow: Perennial

Wetlands: 4.12 acres,

Cowardin Class: Emergent, Scrub-Shrub, and Forested

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

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

Office (Desk) Determination. Date:

Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply

- checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: DeIVal Soil & Environmental Consultants, Inc.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: West Chester, PA Quadrangle, Scale: 1"=1000'.
- USDA Natural Resources Conservation Service Soil Survey: Citation: USDA Web Soil Survey, Chester Co., PA, Scale: 1"=600'.
- National wetlands inventory map(s). Cite name: West Chester, PA Quadrangle, Scale: 1"=1000'.
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): . or Other (Name & Date): DeIVal Soils & Environmental Consultants, Inc. September 17, 2015
- Previous determination(s). File no. and date of response letter:
- Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of
Regulatory Project Manager
(REQUIRED)

 11/12/15

Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)

TABLE 1

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
Waters #1	39.935048	-75.611321	R2UB	26,625 square feet 0.68 acres 1,772 linear feet	Section 404 waters
Waters #2	39.93487	-75.613575	R4UB	178 square feet 0.004 acres 60 linear feet	Section 404 waters
Waters #3	39.931047	-75.616231	R4UB	1,586 square feet 0.04 acres 302 linear feet	Section 404 waters
Waters #4	39.930616	-75.610068	R2UB	49,982 square feet 1.15 acres 5,335 linear feet	Section 404 waters
Waters #5	39.929645	-75.611302	R4UB	3,471 square feet 0.08 acres 499 linear feet	Section 404 waters
Waters #6	39.931169	-75.607047	R4UB	222 square feet 0.005 acres 77 linear feet	Section 404 waters
Wetlands #1	39.934693	-75.612767	PFO	16,933 square feet 0.39 acres	Section 404 wetland
Wetlands #2	39.935174	-75.611445	PFO	31,425 square feet 0.72 acres	Section 404 wetland
Wetlands #3	39.929853	-75.615585	PEM	1,925 square feet 0.04 acres	Section 404 wetland
Wetlands #4	39.930231	-75.611238	PEM	3,225 square feet 0.07 acres	Section 404 wetland
Wetlands #5	39.930003	-75.610613	PEM	16,747 square feet 0.38 acres	Section 404 wetland
Wetlands #6	39.931311	-75.607877	PEM	102,647 square feet 2.36 acres	Section 404 wetland
Wetlands #7	39.930801	-75.609620	PEM/PSS	1,733 square feet 0.04 acres	Section 404 wetland
Wetlands #8	39.931006	-75.608731	PEM/PSS	3,524 square feet 0.08 acres	Section 404 wetland
Wetlands #9	39.931287	-75.606858	PEM/PSS	1,963 square feet 0.04 acres	Section 404 wetland

**REQUEST FOR DEPARTMENT OF THE ARMY
JURISDICTIONAL DETERMINATION**

The Department of the Army permit program is authorized by Section 10 of the rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into water of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Information provided on this form will be used in determining Department of the Army jurisdictional boundaries. Information in this application is made a matter of public record. Disclosure of the information requested is voluntary; however, the data requested are necessary in order to establish Federal regulatory jurisdiction. If the necessary information is not provided, the jurisdictional determination cannot be completed.

<p>1. Jurisdictional Determination Request Number</p>	<p>3. Authorized Agent: Name: <u>DelVal Soil & Environmental Consultants, Inc.</u></p>
<p>2. Applicant/Owner: Name: <u>Toll Brothers, Inc.</u> Address: <u>250 Gibraltar Road</u> <u>Attn. Mike Downs</u> City, State, Zip: <u>Horsham, PA 19044</u> Phone number during business hours: Residence:</p>	<p>Address: <u>4050 Skyron Drive</u> <u>Sulte A1</u> City, State, Zip: <u>Doylestown, PA 18902</u> Phone number during business hours: Residence: Office: <u>215-345-5545</u></p>
<p>Office: <u>215-938-8000</u></p>	<p>I hereby designate and authorize <u>DelVal Soil & Environmental Consultants, Inc.</u> To act on my behalf as my agent in the processing of this jurisdictional determination application and to furnish, upon request, supplemental information in support of this application. SIGNATURE OF APPLICANT <u>[Signature]</u> DATE <u>11/12/15</u></p>

4. For Commercial Properties: Project Name:

5. Does the property contain agricultural land? YES NO
If yes, is the applicant, owner, or lessee a USDA Program Participant? YES NO

6. Names and addresses of adjoining property owners, lessees, etc.

7. Name of water body in closest proximity to property:

Plum Run and UNT to Plum Run: WWF, MF

8. Location of property:

Address: 945 Tigue Road, West Chester, PA 19382-2152

Street, Road, Route, or other descriptive location

East Bradford Township	Chester County	PA	19382-2152
Municipality	County	State	Zip Code

Latitude: 39.933120

Longitude: -75.610301

Local Governing Body with Jurisdiction: East Bradford Township

9. List all approvals or certifications required and/or received from other Federal, Interstate, State, or local agencies for development of the project site:

Issuing Agency

Type of Approval

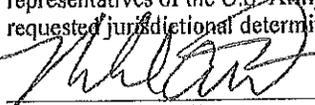
Identification Number

Date of Application

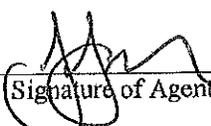
Date of Approval

Date of Denial

10. Application is hereby made for a Department of the Army Jurisdictional Determination for the property described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to request this jurisdictional determination and I am acting as the duly authorized agent of the applicant. I hereby grant permission for representatives of the U.S. Army Corps of Engineers to inspect the project site as necessary in order to perform the requested jurisdictional determination.


Signature of Applicant

11/12/15
Date


Signature of Agent

11/12/15
Date

The application must be signed by the person who desires to have the jurisdictional determination performed (applicant), or it may be signed by a duly authorized agent if the statement in Block 3 has been filled out and signed. 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

DelVal Job #15-014A
Toll Brothers, Inc.
Tigue Property
East Bradford Township, Chester County, PA

Adjoining Property Owners:

Jeffrey Kachel
986 Regimental Drive
West Chester, PA 19382-2176
Site Address:
986 Regimental Drive
West Chester, PA 19382-2176
Parcel # 6502 00010600

Beatrice Duffy Tigue
903 Tigue Road
West Chester, PA 19382-2152
Site Address:
903 Tigue Road
West Chester, PA 19382-2152
Parcel # 5107 01150100

Helen Ryan
910 Lenape Road
West Chester, PA 19382-2145
Site Address:
910 Lenape Road
West Chester, PA 19382-2145
Parcel # 5107 01160000

Bryan Cress
903 Osage Lane
West Chester, PA 19382-2195
Site Address:
903 Osage Lane
West Chester, PA 19382-2195
Parcel # 5107 01170200

DeVal Job #15-014A
Toll Brothers, Inc.
Tigue Property
East Bradford Township, Chester County, PA

David Dinehart
901 Osage Lane
West Chester, PA 19382-2195
Site Address:
901 Osage Lane
West Chester, PA 19382-2195
Parcel # 5107 01170300

East Bradford Township
666 Copeland School Road
West Chester, PA 19380-1822
Site Address:
998 Lenape Road
West Chester, PA 19382
Parcel # 5107 0137020E

David Campbell
960 Tigue Road
West Chester, PA 19382-2153
Site Address:
960 Tigue Road
West Chester, PA 19382-2153
Parcel # 5107 013704A0

Joseph Tankle
962 Tigue Road
West Chester, PA 19382-2153
Site Address:
962 Tigue Road
West Chester, PA 19382-2153
Parcel # 5107 01370400

DeiVal Job #15-014A
Toll Brothers, Inc.
Tigue Property
East Bradford Township, Chester County, PA

Edgar Persons
984 Regimental Drive
West Chester, PA 19382-2176
Site Address:
984 Regimental Drive
West Chester, PA 19382-2176
Parcel # 5107 01550000

David Adams
982 Regimental Drive
West Chester, PA 19382-2176
Site Address:
982 Regimental Drive
West Chester, PA 19382-2176
Parcel # 5107 01560000

Jason Petkevis
980 Regimental Drive
West Chester, PA 19382-2176
Site Address:
980 Regimental Drive
West Chester, PA 19382-2176
Parcel # 5107 01570000

Donald Weldon
978 Regimental Drive
West Chester, PA 19382-2176
Site Address:
978 Regimental Drive
West Chester, PA 19382-2176
Parcel # 5107 01580000

DelVal Job #15-014A
Toll Brothers, Inc.
Tigue Property
East Bradford Township, Chester County, PA

Charles McDermott
976 Regimental Drive
West Chester, PA 19382-2176
Site Address:
976 Regimental Drive
West Chester, PA 19382-2176
Parcel # 5107 01590000

David Korenberg
974 Regimental Drive
West Chester, PA 19382-2176
Site Address:
974 Regimental Drive
West Chester, PA 19382-2176
Parcel # 5107 01600000

Christian Keller
972 Regimental Drive
West Chester, PA 19382-2176
Site Address:
972 Regimental Drive
West Chester, PA 19382-2176
Parcel # 5107 01610000

General State Auth
Eighteenth & Herr Streets
Harrisburg, PA 17101
Site Address:
852 S Campus Drive
West Chester, PA 19382-2011
Parcel # 5108 0003000E

DelVal Job #15-014A
Toll Brothers, Inc.
Tigue Property
East Bradford Township, Chester County, PA

Commonwealth of PA
Main Capital Building
Harrisburg, PA 17101
Site Address:
181 Carey Drive
West Chester, PA 19382-2013
Parcel #5108 0004000E

General State Auth
Eighteenth & Herr Streets
Harrisburg, PA 17101
Site Address:
S New Street
West Chester, PA 19382
Parcel # 5108 0005000E

Richard Rodgers Jr.
811 Sharon Circle
West Chester, PA 19382-7180
Site Address:
Sharon Circle
West Chester, PA 19382
Parcel # 6704J00030000

Paul Scholtyssek
807 Sharon Circle
West Chester, PA 19382-7180
Site Address:
Sharon Circle
West Chester, PA 19382
Parcel # 6704J00030100

DeIVal Job #15-014A
Toll Brothers, Inc.
Tigue Property
East Bradford Township, Chester County, PA

Richard Rodgers Jr.
811 Sharon Circle
West Chester, PA 19382-7180
Site Address:
811 Sharon Circle
West Chester, PA 19382-7180
Parcel # 6704J00040000

David Mordia
813 Sharon Circle
West Chester, PA 19382-7180
Site Address:
813 Sharon Circle
West Chester, PA 19382-7180
Parcel # 6704J00050000

Michael Byrne
815 Sharon Circle
West Chester, PA 19382-7180
Site Address:
815 Sharon Circle
West Chester, PA 19382-7180
Parcel # 6704J00060000

Robert Moore
817 Sharon Circle
West Chester, PA 19382-7180
Site Address:
817 Sharon Circle
West Chester, PA 19382-7180
Parcel # 6704J00070000

DeVal Job #15-014A
Toll Brothers, Inc.
Tigue Property
East Bradford Township, Chester County, PA

David Armbruster
819 Sharon Circle
West Chester, PA 19382-7180
Site Address:
819 Sharon Circle
West Chester, PA 19382-7180
Parcel # 6704J00080000



Sky Run II • Suite A1 • 4050 Skyron Drive • Doylestown, PA 18902
Phone 215-345-5545 Fax 215-345-8138

Toll Brothers, Inc.

Tigue Property

Wetland Report

East Bradford Township / Chester County, PA

TMP # 51-007-0115, 51-007-0135, & 51-007-0136

DelVal Job Number 15-014A

Prepared by:

Jason J. Mease

and

John J. Willis Jr.

November 2015

Summary

This report involves three (3) tax map parcels 51-007-0115, 51-007-0135, and 51-007-0136, encompassing 54.0+/- acres, 5.0+/- acres, and 25.0+/- acres respectively. These parcels are situated on opposite sides of Tigie Road in East Bradford Township, Chester County. This report was completed in accordance with US Army Corps of Engineers' January 1987 *Wetland Delineation Manual* and their Eastern Mountains and Piedmont Regional Supplement (Version 2.0). The site is represented on the attached plans entitled, *Wetlands Plan for Tigie Property*, dated November 9, 2015, sheets 1 through 5 of 5, prepared by ESE Consultants, Inc.

The northernmost property, parcel 51-007-0115, consists of an existing farmstead with associated outlet structures (Photos G1 and H1). A gravel access drive, located immediately north of Tigie Road, provides access to the site. A majority of the property consists of fallow and cultivated fields (S, T, E1, and F1). Vegetation within these fields is comprised of upland herbaceous weeds and grasses separated by hedgerows inhabited with facultative-upland tree, shrubs, and herbaceous species (Photos U and V). Plum Run (WWF, MF) flows westerly between residential dwellings and local roads before entering the site. This creek ranges six (6) to ten (10) feet wide with one (1) to two (2) foot banks along its northeastern extent (Photos C1 and D1). The wooded corridor along Plum Run is comprised of facultative-upland tree, shrub, and herbaceous species (Photos A1 and B1). Two (2) emergent/forested wetlands (PEM/PFO), Wetlands 1 (0.39 acre) and Wetlands 2 (0.72 acre) abut the creek's lower gradient banks and are comprised of a dominant stand of hydrophytic tree, shrub, and herbaceous species (Photos Y and Z). Soil samples evaluated throughout these wetlands displayed a matrix with chroma colors of two (2) or less with prominent redox concentrations. In addition, soils were saturated to a depth less than or equal to six (6) inches during the time of our evaluation. The creek channel collect additional water from a roadside drainage channel, sequesters sheet flow and storm-water runoff from on-site and neighboring sources, and provides hydrology for the associated wet-banks before flowing off property, near the northwestern extent, via a culvert beneath Lenape Road (W and X).

The southern property, parcel 51-007-0136, is predominately comprised of an overgrown pasture field along its northern extent, inhabited by a mix of upland herbaceous weeds and grasses (Photos A, B, and N). Soil samples evaluated in this area exhibit matrix chroma colors of three (3) or greater and are void of any prominent redoximorphic features. An unnamed tributary to Plum Run flows westerly along the property's lower gradient, southeastern extent. This tributary ranges from four (4) to eight (8) feet wide with one (1) to four (4) foot banks and flows westerly along the southern boundary collecting additional water from two (2)

drainage features situated along its southern bank (Photos G, H, K, L, O, and P). Two (2) emergent wetlands (PEM) Wetlands 5 (0.38 acre) and Wetlands 6 (2.36 acres) and numerous wet-banks Wetlands 4, 7, 8, and 9 (0.23 acre collectively), inhabited by hydrophytic herbaceous weeds and grasses, are situated within the lower gradient topographic valley and sequester sheet flow and storm-water runoff before dispersing into the aforementioned channel (Photos C, D, E, F, I, J, M, Q, and R). Soil samples evaluated throughout these features displayed a matrix with chroma colors of two (2) or less with prominent redox concentrations. In addition, soils were saturated to a depth less than or equal to six (6) inches during the time of our evaluation.

The southwestern, and smallest parcel (51-007-0135) is mainly comprised of Plum Run and its associated tributary and drainage channels. Plum Run flows southerly on-site via a culvert beneath Lenape Road (Photos M1 and N1) and merges with a roadside drainage channel, ranging one (1) to two (2) feet wide with one (1) foot banks (Photos P1 and Q1). An unnamed tributary flows westerly on-site, near the eastern boundary, ranging twelve (12) to sixteen (16) feet wide with three (3) to five (5) foot banks, before dispersing into Plum Run (Photos I1 and J1). Plum Run continues southerly, a short distance, before flowing off-site near the southern boundary. The remaining extent of the property is comprised of an unkempt field inhabited by a mix of upland herbaceous weeds and grasses with facultative upland trees, shrubs, and herbaceous weeds and grasses abutting the steep gradient banks of Plum Run (Photos K1 and L1). Soil samples evaluated in these areas exhibited matrix chroma colors of three (3) or greater and were void of any hydric characteristics. A small portion of a large emergent wetland, Wetland 3 (0.04 acre on-site) begins along the property's southern boundary. This feature continues off property inhabited by facultative-wet herbaceous weeds and grasses (Photo O1).

Toll Brothers, Inc. - Wetland Report

The major watercourse associated with this site is Plum Run; classified as WWF (Warm Water Fishes), MF (Migratory Fishes) in Pennsylvania's Chapter 93 Water Quality Standards. Stream progression: unnamed tributary to Plum Run, Plum Run, Brandywine Creek, Christina River, Delaware River.

1. IDENTIFICATION OF PROJECT SITE

Latitude: 39.937150° N Longitude: -75.610418° W

This report pertains to three (3) tax map parcels 51-007-0115, 51-007-0135, and 51-007-0136, encompassing 84.0+/- acres cumulatively. The parcels are situated on opposite sides of Tigie Road in East Bradford Township, Chester County. Access to the site is obtained north of Tigie Road via a gravel access road for the existing farmstead. A location map is included to aid in site identification.

2. TOPOGRAPHY AND DRAINAGE

The enclosed site plan illustrates on-site topography with ten (10) foot contour lines. Also attached is a copy of a West Chester, PA Quadrangle United States Geological Survey Map. The highest elevation is within the central portion of parcel 51-007-0115. From this climax, slopes fall north/northwesterly towards Plum Run and south/southwesterly towards parcels 51-007-0136 and 51-007-0135 and the unnamed tributary to Plum Run. Drainage occurs primarily via sheet flow and storm water runoff from on-site and neighboring sources into Plum Run and its tributary.

3. SOIL

A copy of the soil survey map for the study area, generated from the USDA's Natural Resources Conservation Service Web Soil Survey, is attached. There are six (6) predominant soil types on this property. They are:

Chrome silt loam,(ChD2)	15-25 % slopes
Codorus silt loam, (Co)	0-3 % slopes
Cokesbury silt loam, (CpA)	0-3 % slopes
Gladstone gravelly loam, (GdB)	3-8 % slopes
Gladstone-Parker gravelly loam, (GeD)	15-25 % slopes
Hatboro silt loam, (Ha)	0-3 % slopes
Parker gravelly loam,(PaB)	3-8 % slopes
Parker gravelly loam, (PaC)	8-15 % slopes
Parker gravelly loam, (PaD)	15-25 % slopes
Parker gravelly loam, (PaE)	25-35 % slopes

Soil samples were collected at various numbered points throughout the property. The black numbers shown on the enclosed plan represent where these samples were collected and evaluated. Samples were taken with an auger at a depth of fifteen (15) to twenty (20) inches, unless refusal was attained shallower due to rock and/or coarse fragments. Soil color was determined with a Munsell Soil Color Book. The results of these various samples have been included on the attached numbered Wetland Determination Data Forms. The following soil series descriptions were taken from the USDA's Natural Resources Conservation Service Web Soil Survey:

Chrome (Ch) series consists of moderately deep, well drained soils formed in residuum weathered mostly from serpentine.

Cokesbury (Cp) series consists of deep or very deep, poorly drained soils formed either in old till or on driftless landscapes of the Northern Piedmont.

Codorus (Co) series consists of very deep, moderately well drained and somewhat poorly drained soils formed in recently deposited alluvial materials derived from upland soils materials weathered from mostly metamorphic and crystalline rocks.

Gladstone (Gd) series consists of very deep, well drained soils formed in residuum and colluvium from granitic gneiss.

Hatboro (Ha) series consists of very deep poorly drained soils formed in alluvium derived from metamorphic and crystalline rock.

Parker (PA) series consists of very deep, somewhat excessively drained soils that formed in residuum derived from granitic gneiss bedrock.

The southern extent of the study area consists of moderately well drained Neshaminy soils comprising the upland woods and delineated features. A majority of the southern parcel (51-007-0136) consists of moderately well drained Codorus soils, encompassing the unnamed tributary to Plum Run, associated wet-banks, and lower gradeint pasture field. Well to excessively drained Gladstone and Parker soils are located within the elevated pasture fields to the north and fallow fields to the south. A small portion of poorly drained Cokesbury soils are located along the southwestern boundary. The northern property, parcel 51-007-0115, consists of well to excessively drained Gladstone and Parker soils within the fallow and cultivated fields with poorly drained Hatboro soils along northern extent. Finally, parcel 51-007-0135 predominantly consists of poorly drained Hatboro soils with well drained Chrome soils near the southeastern boundary and excessively drained Parker soils near the northern boundary. Soils evaluated within the upland portions of the property displayed matrix chroma colors of three (3) or greater and were void of any prominent redoximorphic features. Samples evaluated within the delineated wetlands and wet-banks displayed depleted or gleyed matrix with chroma colors of two (2) or less and prominent redox concentrations.

4. VEGETATION

Various documentation points throughout the property were selected. At each point the dominant plant species were recorded on the attached numbered Wetland Determination Data Forms. The black numbers on the attached site plan represent the points where this information was collected. Parcel 51-007-0136 is predominantly comprised of an inactive pasture overgrown with common upland herbaceous weeds and grasses. Emergent wetlands (PEM) and wet-banks transpire within the lower gradient portions of the pasture and along the unnamed tributary to Plum Run. Vegetation within these features is comprised of hydrophytic herbaceous weeds and grasses with facultative-wet tree and shrub species along the channel's bank. Faculative-upland trees, shrubs, and herbaceous weeds and grasses comprise the remaining elevated banks of the unnamed tributary to Plum Run. A majority of parcel 51-007-0115 is comprised of fallow and cultivated fields inhabited by similar upland herbaceous vegetation as the pasture fields on the southern property. Along the northern extent, a wooded corridor comprised of facultative-upland trees, shrubs, and herbaceous species envelops Plum Run. Two (2) emergent/forested wetlands (PEM/PFO) abut the lower gradient banks and are comprised of a mix of wet-type trees, shrubs, and herbaceous species. The southwestern parcel (51-007-0135) is comprised of an unkempt field inhabited by a mix of upland herbaceous weeds and grasses with facultative upland trees, shrubs, and herbaceous weeds and grass abutting the steep gradient banks of Plum Run and unnamed tributary. Along the southern boundary and immediately south of the property is a large emergent wetland inhabited by obligate and facultative-wet herbaceous weeds and grasses.

5. HYDROLOGY

The unnamed tributary to Plum Run originates along the southeastern extent of parcel 51-007-0136 within a low relief topographic valley (Waters 4). This feature flows westerly, along the southern boundary, ranging from four (4) to eight (8) feet wide with one (1) to four (4) foot banks, collecting additional water from sheet flow and storm-water runoff and two (2) drainage channels (Waters 5 and 6) that disperse into its southern bank. This unnamed tributary flows off-site along the southwestern boundary and continues behind residential dwellings before entering parcel 51-007-0135 along its eastern boundary. The tributary flows westerly, ranging twelve (12) to sixteen (16) feet wide with three (3) to five (5) foot banks, before dispersing into Plum Run (Waters 1). Plum Run flows westerly, entering parcel 51-007-0115, ranging six (6) to ten (10) feet wide with one (1) to two (2) foot banks. The channel provides hydrology to the wetlands that abut its banks and collects sheet flow and storm-water runoff from the fallow and cultivated fields' upslope. A roadside drainage channel (Waters 2) converges with Plum Run before flowing westerly, off-site, via a culvert

beneath Lenape Road, where it travels southerly along maintained lawns and fallow fields, before entering parcel 51-007-0135 along its northern border via a culvert beneath Lenape Road. A roadside drainage channel (Waters 3) transpires and flows southerly a short distance along Lenape Road, ranging one (1) to two (2) feet wide with one (1) foot banks, before dispersing into Plum Run. Finally, Plum Run continues flowing southerly, off-site, after its convergence with the aforementioned unnamed tributary.

6. PHOTOGRAPHS

The entire site has been photographed and the attached pictures are arranged alphabetically. The location and orientation of each photograph is included on the attached site plan.

7. MAPS

Enclosed, as part of this report, is a PASDA Site Location Map, USGS Topographic Map, USDI National Wetlands Inventory Map, and NRCS Web Soil Survey Map. Each figure has the subject property clearly identified.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 1
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 8-15
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Parker gravelly loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____ _____	
Remarks: _____ _____ _____	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 30Ft)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
				= Total Cover
50% of total cover: _____				20% of total cover: _____
Sapling/Shrub Stratum (Plot size: 15Ft)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
				= Total Cover
50% of total cover: _____				20% of total cover: _____
Herb Stratum (Plot size: 5Ft)				
1. <u>Poa annua</u>	40	Y	FACU	
2. <u>Dactylis glomerata</u>	10	N	FACU	
3. <u>Solanum carolinense</u>	5	N	FACU	
4. <u>Taraxacum officinale</u>	1	N	FACU	
5. <u>Trifolium repens</u>	1	N	FACU	
6.				
7.				
8.				
9.				
10.				
11.				
				57 = Total Cover
50% of total cover: <u>28.50</u>				20% of total cover: <u>11.40</u>
Woody Vine Stratum (Plot size: 30Ft)				
1.				
2.				
3.				
4.				
5.				
				= Total Cover
50% of total cover: _____				20% of total cover: _____
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species 57 x 4 = 228

UPL species _____ x 5 = _____

Column Totals: 57 (A) 228 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/4	100					silt loam/l	
4-16+	10YR 4/4	100					loam	

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (Inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 2
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Codorus silt loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <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"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	--

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 2

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Herb Stratum (Plot size: <u>5Ft</u>)				
1.	<u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>
2.	<u>Persicaria sagittata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>
3.	<u>Cyperus esculentus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
4.	<u>Juncus effusus</u>	<u>2</u>	<u>N</u>	<u>FACW</u>
5.				
6.				
7.				
8.				
9.				
10.				
11.				
	<u>47</u> = Total Cover			
	50% of total cover: <u>23.50</u>	20% of total cover: <u>9.40</u>		
Woody Vine Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>10</u>	x 1 = <u>10</u>
FACW species <u>7</u>	x 2 = <u>14</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>47</u> (A)	<u>114</u> (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/2	90	7.5YR 4/4	10	C	M	silt loam	
3-14+	10YR 4/2	80	7.5YR 4/4	20	C	M	silt loam	

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

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 3
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Codorus silt loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 3

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>45</u>	x 2 = <u>90</u>
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>50</u> (A)	<u>95</u> (B)

Prevalence Index = B/A = 1.90

Sapling/Shrub Stratum (Plot size: 15Ft)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is $\leq 3.0^1$

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

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

Herb Stratum (Plot size: 5Ft)

1. <u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
2. <u>Leersia virginica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>
3. <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
4. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
5. <u>Persicaria sagittata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

50 = Total Cover
 50% of total cover: 25.00 20% of total cover: 10.00

Hydrophytic Vegetation Present? Yes X No _____

Woody Vine Stratum (Plot size: 30Ft)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/3	80	7.5YR 4/4	20	C	M	silt loam	
3-16+	10YR 5/1	80	5YR 4/4	20	C	M	loam	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 4
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Codorus silt loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Channel 6-8' wide with 1-2' banks	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 4

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
Herb Stratum (Plot size: <u>5Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
Woody Vine Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC: _____				(A)
Total Number of Dominant Species Across All Strata: _____				(B)
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u>				(A/B)
Prevalence Index worksheet:				
Total % Cover of: _____		Multiply by:		
OBL species _____	x 1 = _____			
FACW species _____	x 2 = _____			
FAC species _____	x 3 = _____			
FACU species _____	x 4 = _____			
UPL species _____	x 5 = _____			
Column Totals: _____	(A)	_____	(B)	
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation				
<input type="checkbox"/> 2 - Dominance Test is >50%				
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹				
<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata:				
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vine – All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 5
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 15-25
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Gladstone-Parker gravelly loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: 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"/> Aquatic Fauna (B13) </td> <td style="width: 50%; border: none;"> <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)		
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 5

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer negundo</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2. <u>Carya ovata</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. <u>Acer platanoides</u>	<u>2</u>	<u>N</u>	<u>UPL</u>
4. <u>Fraxinus americana</u>	<u>1</u>	<u>N</u>	<u>FACU</u>
5. _____			
6. _____			
7. _____			

18 = Total Cover
 50% of total cover: 9.00 20% of total cover: 3.60

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa multiflora</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			

20 = Total Cover
 50% of total cover: 10.00 20% of total cover: 4.00

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>
2. <u>Cirsium vulgare</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			

35 = Total Cover
 50% of total cover: 17.50 20% of total cover: 7.00

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Vitis aestivalis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2. _____			
3. _____			
4. _____			
5. _____			

5 = Total Cover
 50% of total cover: 2.50 20% of total cover: 1.00

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.00% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species 40 x 3 = 120

FACU species 36 x 4 = 144

UPL species 2 x 5 = 10

Column Totals: 78 (A) 274 (B)

Prevalence Index = B/A = 3.51

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	100					silt loam/l	
4-10	10YR 4/3	100					loam	channery
10+								refusal, rock

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 6

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ailanthus altissima</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>20</u> = Total Cover			
50% of total cover: <u>10.00</u> 20% of total cover: <u>4.00</u>			

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Elaeagnus angustifolia</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>
2. <u>Rosa multiflora</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
3. <u>Rubus idaeus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
<u>30</u> = Total Cover			
50% of total cover: <u>15.00</u> 20% of total cover: <u>6.00</u>			

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Poa annua</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>
2. <u>Dactylis glomerata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
3. <u>Taraxacum officinale</u>	<u>2</u>	<u>N</u>	<u>FACU</u>
4. <u>Setaria faberi</u>	<u>2</u>	<u>N</u>	<u>UPL</u>
5. <u>Trifolium repens</u>	<u>1</u>	<u>N</u>	<u>FACU</u>
6. <u>Solanum carolinense</u>	<u>1</u>	<u>N</u>	<u>FACU</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
<u>56</u> = Total Cover			
50% of total cover: <u>28.00</u> 20% of total cover: <u>11.20</u>			

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>99</u>	x 4 = <u>396</u>
UPL species <u>2</u>	x 5 = <u>10</u>
Column Totals: <u>106</u> (A)	<u>421</u> (B)

Prevalence Index = B/A = 3.97

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/4	100					silt loam/l	
4-11	10YR 4/3	100					loam	very channery
11+								refusal, rock

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

Hydric Soil Indicators:

- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15

Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 7

Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Codorus silt loam NWI classification: _____

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

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

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

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

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

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<p>Field Observations:</p> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 5</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Channel 4-6' wide with 3-4' banks	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 7

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
Herb Stratum (Plot size: <u>5Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
Woody Vine Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC: _____				(A)
Total Number of Dominant Species Across All Strata: _____				(B)
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u>				(A/B)
Prevalence Index worksheet:				
Total % Cover of: _____		Multiply by:		
OBL species _____	x 1 = _____			
FACW species _____	x 2 = _____			
FAC species _____	x 3 = _____			
FACU species _____	x 4 = _____			
UPL species _____	x 5 = _____			
Column Totals: _____	(A)	_____	(B)	
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation				
<input type="checkbox"/> 2 - Dominance Test is >50%				
<input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$				
<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata:				
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vine – All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 8
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Codorus silt loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" 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"/> Aquatic Fauna (B13) </td> <td style="width: 50%; border: none;"> <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" 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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <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"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" 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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)		
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 8

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer negundo</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

50% of total cover: 2.50 5 = Total Cover
20% of total cover: 1.00

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

50% of total cover: _____ = Total Cover
20% of total cover: _____

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Leersia virginica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>
2. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
3. <u>Cyperus esculentus</u>	<u>8</u>	<u>N</u>	<u>FACW</u>
4. <u>Persicaria sagittata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

50% of total cover: 26.50 53 = Total Cover
20% of total cover: 10.60

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

50% of total cover: _____ = Total Cover
20% of total cover: _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>48</u>	x 2 = <u>96</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>58</u> (A)	<u>116</u> (B)

Prevalence Index = B/A = 2.00

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	80	5YR 4/4	20	C	M	silt loam	
4-18+	10YR 5/1	80	5YR 4/3	20	C	M	silt loam	

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

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 9
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Codorus silt loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width: 50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<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"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																						
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																						
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)																						
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																						
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																						
<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"/> Aquatic Fauna (B13)																							
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>																						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																							
Remarks:																							

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 9

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer negundo</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2. <u>Juglans nigra</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 7.50 20% of total cover: 3.00

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2. <u>Elaeagnus angustifolia</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 3.50 20% of total cover: 1.4

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dactylis glomerata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2. <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
3. <u>Poa annua</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4. <u>Asclepias syriaca</u>	<u>2</u>	<u>N</u>	<u>FACU</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 18.50 20% of total cover: 7.40

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>39</u>	x 4 = <u>156</u>
UPL species _____	x 5 = _____
Column Totals: <u>59</u> (A)	<u>216</u> (B)

Prevalence Index = B/A = 3.66

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	7.5YR 3/3	100					silt loam	
5-16+	7.5YR 4/4	100					silt loam/l	

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

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 10
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Cokesbury silt loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" 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"/> Aquatic Fauna (B13) </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" 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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Soil Cracks (B6)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td><input type="checkbox"/> Moss Trim Lines (B16)</td> </tr> <tr> <td><input type="checkbox"/> Dry-Season Water Table (C2)</td> </tr> <tr> <td><input type="checkbox"/> Crayfish Burrows (C8)</td> </tr> <tr> <td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td> </tr> <tr> <td><input type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td> </tr> <tr> <td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td> </tr> </table>	<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"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" 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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)														
<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"/> Moss Trim Lines (B16)															
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<input type="checkbox"/> Geomorphic Position (D2)															
<input type="checkbox"/> Shallow Aquitard (D3)															
<input checked="" type="checkbox"/> Microtopographic Relief (D4)															
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)															
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____														
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:															
Remarks:															

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 10

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>
2. <u>Vernonia gigantea</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
3. <u>Persicaria sagittata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>
4. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
5. <u>Carex stricta</u>	<u>2</u>	<u>N</u>	<u>OBL</u>
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			

87 = Total Cover
 50% of total cover: 43.50 20% of total cover: 17.40

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>2</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.00%</u>	(A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>12</u>	x 1 = <u>12</u>
FACW species <u>55</u>	x 2 = <u>110</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>87</u> (A)	<u>182</u> (B)
Prevalence Index = B/A = <u>2.10</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	90	7.5YR 4/4	10	C	M	silt loam	
4-18+	10YR 4/2	70	7.5YR 4/4	30	C	M	silt loam	

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

Hydric Soil Indicators: <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" 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"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
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Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 11
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Cokesbury silt loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>	<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 11

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
				50% of total cover: _____ 20% of total cover: _____
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)				
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
				_____ = Total Cover
				50% of total cover: <u>2.50</u> 20% of total cover: <u>1.00</u>
Herb Stratum (Plot size: <u>5Ft</u>)				
1. <u>Dactylis glomerata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Ambrosia artemisiifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Daucus carota</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
4. <u>Cichorium intybus</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
5.				
6.				
7.				
8.				
9.				
10.				
11.				
				_____ = Total Cover
				50% of total cover: <u>29.00</u> 20% of total cover: <u>11.60</u>
Woody Vine Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
				_____ = Total Cover
				50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species 53 x 4 = 212

UPL species 5 x 5 = 25

Column Totals: 58 (A) 237 (B)

Prevalence Index = B/A = 4.10

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 12
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 3-8
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Parker gravelly loam NWI classification: _____

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

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

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

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one is required; check all that apply)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <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"/> Aquatic Fauna (B13) </div> <div style="width: 48%;"> <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 12

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
Herb Stratum (Plot size: <u>5Ft</u>)				
1.	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2.	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3.	<u>3</u>	<u>N</u>	<u>UPL</u>	
4.	<u>1</u>	<u>N</u>	<u>FACU</u>	
5.	<u>1</u>	<u>N</u>	<u>UPL</u>	
6.				
7.				
8.				
9.				
10.				
11.				
_____ = Total Cover				
50% of total cover: <u>17.50</u>				20% of total cover: <u>7.00</u>
Woody Vine Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
<p>Remarks: (Include photo numbers here or on a separate sheet.)</p>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species 31 x 4 = 124

UPL species 4 x 5 = 20

Column Totals: 35 (A) 144 (B)

Prevalence Index = B/A = 4.11

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 3/4	100					silt loam/l	
3-9	10YR 4/4	100					loam	
9-17+	10YR 5/4	100					loam	channery

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 13
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 8-15
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Parker gravelly loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 13

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juglans nigra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.00%</u> (A/B)
2. <u>Robinia pseudoacacia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Prunus serotina</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. <u>Acer negundo</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
5. <u>Catalpa speciosa</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
6. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>34</u> x 3 = <u>102</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species _____ x 5 = _____ Column Totals: <u>74</u> (A) <u>262</u> (B) Prevalence Index = B/A = <u>3.54</u>
7. _____				
<u>37</u> = Total Cover 50% of total cover: <u>18.50</u> 20% of total cover: <u>7.40</u>				
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)				
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rubus idaeus</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>7</u> = Total Cover 50% of total cover: <u>3.50</u> 20% of total cover: <u>1.40</u>				
Herb Stratum (Plot size: <u>5Ft</u>)				
1. <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>30</u> = Total Cover 50% of total cover: <u>15.00</u> 20% of total cover: <u>6.00</u>				
Woody Vine Stratum (Plot size: <u>30Ft</u>)				
1. _____				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/3	100					silt loam/l	
5-17+	10YR 4/3	100					loam	gravelly

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 14
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	<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"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 14

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer negundo</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 5.00 20% of total cover: 2.00

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Agrimonia parviflora</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
2. <u>Impatiens capensis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
3. <u>Trifolium repens</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. <u>Symplocarpus foetidus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 27.50 20% of total cover: 11.00

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Toxicodendron radicans</u>	<u>2</u>	<u>N</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>12</u>	x 3 = <u>36</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species _____	x 5 = _____
Column Totals: <u>67</u> (A)	<u>161</u> (B)

Prevalence Index = B/A = 2.40

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18+	7.5YR 4/2	70	5YR 4/3	30	C	M	silt loam	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<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) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u>X</u> No _____
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Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 15
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 3</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Channel 6-8' wide with 1-2' banks	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 15

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Herb Stratum (Plot size: <u>5Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Woody Vine Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC: _____				(A)
Total Number of Dominant Species Across All Strata: _____				(B)
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u>				(A/B)
Prevalence Index worksheet:				
Total % Cover of: _____		Multiply by: _____		
OBL species _____		x 1 = _____		
FACW species _____		x 2 = _____		
FAC species _____		x 3 = _____		
FACU species _____		x 4 = _____		
UPL species _____		x 5 = _____		
Column Totals: _____		(A) _____ (B) _____		
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation				
<input type="checkbox"/> 2 - Dominance Test is >50%				
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹				
<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata:				
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vine – All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 16
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: 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"/> Aquatic Fauna (B13) </td> <td style="width: 50%; border: none;"> <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: 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"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) </td> <td style="width: 50%; border: none;"> <input type="checkbox"/> FAC-Neutral Test (D5) </td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 16

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juglans nigra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2. <u>Acer platanoides</u>	<u>5</u>	<u>N</u>	<u>UPL</u>
3. <u>Acer negundo</u>	<u>1</u>	<u>N</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>26</u> = Total Cover			
50% of total cover: <u>13.00</u> 20% of total cover: <u>5.20</u>			

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2. <u>Elaeagnus angustifolia</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>
3. <u>Rubus idaeus</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
<u>9</u> = Total Cover			
50% of total cover: <u>4.50</u> 20% of total cover: <u>1.80</u>			

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>
2. <u>Dactylis glomerata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
3. <u>Cirsium arvense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
<u>40</u> = Total Cover			
50% of total cover: <u>20.00</u> 20% of total cover: <u>8.00</u>			

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species 28 x 3 = 84

FACU species 42 x 4 = 168

UPL species 5 x 5 = 25

Column Totals: 75 (A) 277 (B)

Prevalence Index = B/A = 3.69

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

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		
0-3	7.5YR 3/4	100					silt loam	
3-16+	7.5YR 4/4	100					silt loam/l	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 17
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<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"/> Aquatic Fauna (B13)		<p><u>Secondary Indicators (minimum of two required)</u></p> <table style="width:100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input checked="" type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<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"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 17

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>
2. <u>Acer negundo</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
3. <u>Juglans nigra</u>	<u>2</u>	<u>N</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 6.00 20% of total cover: 2.40

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Leersia virginica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
2. <u>Impatiens capensis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3. <u>Pilea pumila</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
4. <u>Agrimonia parviflora</u>	<u>2</u>	<u>N</u>	<u>FACW</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 18.50 20% of total cover: 7.40

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Persicaria perfoliata</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2. <u>Vitis aestivalis</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 3.50 20% of total cover: 1.40

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species <u>42</u>	x 2 = <u>84</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>4</u>	x 4 = <u>16</u>
UPL species _____	x 5 = _____
Column Totals: <u>56</u> (A)	<u>130</u> (B)

Prevalence Index = B/A = 2.32

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 18
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 3-8
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Gladstone gravelly silt loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: 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"/> Aquatic Fauna (B13) </td> <td style="width:50%; border: none;"> <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)		
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 18

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2. <u>Acer rubrum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>
3. <u>Liriodendron tulipifera</u>	<u>1</u>	<u>N</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>23</u> = Total Cover			
50% of total cover: <u>11.50</u> 20% of total cover: <u>4.60</u>			

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fagus grandifolia</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>
2. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
<u>20</u> = Total Cover			
50% of total cover: <u>10.00</u> 20% of total cover: <u>4.00</u>			

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
<u>5</u> = Total Cover			
50% of total cover: <u>2.50</u> 20% of total cover: <u>1.00</u>			

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species <u>7</u>	x 3 = <u>21</u>
FACU species <u>41</u>	x 4 = <u>164</u>
UPL species _____	x 5 = _____
Column Totals: <u>48</u> (A)	<u>185</u> (B)

Prevalence Index = B/A = 3.85

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 3/3	100					silt loam	
4-18+	7.5YR 4/4	100					silt loam/l	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 19
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 3</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Channel 8-10' wide with 1-1.5' banks	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 19

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = 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 = _____
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
50% of total cover: _____		20% of total cover: _____		
Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
								rocky/gravel, channel bed

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

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <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"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 20
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 8-15
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Parker gravelly loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <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"/> Aquatic Fauna (B13) </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> FAC-Neutral Test (D5) </td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)				
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 20

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

_____ = Total Cover
50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species 57 x 4 = 228

UPL species 5 x 5 = 25

Column Totals: 62 (A) 253 (B)

Prevalence Index = B/A = 4.08

_____ = Total Cover
50% of total cover: 2.50 20% of total cover: 1.00

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dactylis glomerata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
2. <u>Poa annua</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
3. <u>Plantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>UPL</u>
4. <u>Asclepias syriaca</u>	<u>1</u>	<u>N</u>	<u>FACU</u>
5. <u>Solanum carolinense</u>	<u>1</u>	<u>N</u>	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

_____ = Total Cover
50% of total cover: 28.50 20% of total cover: 11.40

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

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

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 3/3	100					silt loam/l	gravelly
4-16+	10YR 4/3	100					loam	gravelly

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

Hydric Soil Indicators: <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <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"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 21
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 3-8
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Gladstone gravelly loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width: 50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<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"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																						
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																						
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)																						
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																						
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																						
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																						
<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"/> Aquatic Fauna (B13)																							
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>																						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																							
Remarks:																							

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 21

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Sapling/Shrub Stratum (Plot size: 15Ft)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

50% of total cover: _____ 20% of total cover: _____

5 = Total Cover

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species <u>48</u>	x 4 = <u>192</u>
UPL species <u>2</u>	x 5 = <u>10</u>
Column Totals: <u>50</u> (A)	<u>202</u> (B)

Prevalence Index = B/A = 4.04

Herb Stratum (Plot size: 5Ft)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dactylis glomerata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
2. <u>Poa annua</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
3. <u>Daucus carota</u>	<u>2</u>	<u>N</u>	<u>UPL</u>
4. <u>Trifolium repens</u>	<u>2</u>	<u>N</u>	<u>FACU</u>
5. <u>Cirsium arvense</u>	<u>1</u>	<u>N</u>	<u>FACU</u>
6.			
7.			
8.			
9.			
10.			
11.			

50% of total cover: 2.50 20% of total cover: 1.00

5 = Total Cover

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: 30Ft)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			

50% of total cover: _____ 20% of total cover: _____

_____ = Total Cover

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	7.5YR 3/3	100					silt loam	
5-11	7.5YR 4/3	100					silt loam/l	
11-17+	10YR 5/4	100					loam	channery

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 22
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 2</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Channel 12-16' wide with 3-5' banks	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 22

Tree Stratum (Plot size: 30Ft)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			

_____ = Total Cover

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: 15Ft)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

_____ = Total Cover

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5Ft)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

_____ = Total Cover

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30Ft)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			

_____ = Total Cover

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

Sampling Point: 22

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		
								rocky/gravel, channel bed

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 23

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carya ovata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
2. <u>Juglans nigra</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
3. <u>Robinia pseudoacacia</u>	<u>2</u>	<u>N</u>	<u>FACU</u>
4. <u>Acer platanoides</u>	<u>1</u>	<u>N</u>	<u>UPL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

23 = Total Cover
 50% of total cover: 11.50 20% of total cover: 4.60

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Poa annua</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2. <u>Glechoma hederacea</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
3. <u>Dactylis glomerata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. <u>Setaria faberi</u>	<u>5</u>	<u>N</u>	<u>UPL</u>
5. <u>Asclepias syriaca</u>	<u>1</u>	<u>N</u>	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

56 = Total Cover
 50% of total cover: 28.00 20% of total cover: 11.20

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 4 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species 73 x 4 = 292
 UPL species 6 x 5 = 30
 Column Totals: 79 (A) 322 (B)

Prevalence Index = B/A = 4.08

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes _____ No X

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

SOIL

Sampling Point: 23

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		
0-4	7.5YR 3/4	100					silt loam/l	
4-17+	7.5YR 4/3	90	7.5YR 4/2	5	C	M	silt loam	
			7.5YR 4/6	5	D	M		

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

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <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"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
--	--	--	--	--	--

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

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 24
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 4</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Channel 12-16' wide with 4-6' banks	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 24

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30Ft</u>)																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
50% of total cover: _____	= Total Cover		20% of total cover: _____															
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
50% of total cover: _____	= Total Cover		20% of total cover: _____															
Herb Stratum (Plot size: <u>5Ft</u>)																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		
50% of total cover: _____	= Total Cover		20% of total cover: _____															
Woody Vine Stratum (Plot size: <u>30Ft</u>)																		
1.																		
2.																		
3.																		
4.																		
5.																		
50% of total cover: _____	= Total Cover		20% of total cover: _____															
<p>Remarks: (Include photo numbers here or on a separate sheet.)</p>				<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)</p> <p>Total Number of Dominant Species Across All Strata: _____ (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)</p> <hr/> <p>Prevalence Index worksheet:</p> <table style="width:100%;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> </table> <p style="text-align:center;">Prevalence Index = B/A = _____</p> <hr/> <p>Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> 2 - Dominance Test is >50%</p> <p><input type="checkbox"/> 3 - Prevalence Index is ≤3.0¹</p> <p><input type="checkbox"/> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <hr/> <p>Definitions of Four Vegetation Strata:</p> <p>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody vine – All woody vines greater than 3.28 ft in height.</p> <hr/> <p>Hydrophytic Vegetation Present? Yes _____ No <u>X</u></p>	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)
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)																	

SOIL

Sampling Point: 24

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		
								rocky/gravel, channel bed

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 25
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____

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

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

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

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<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"/> Aquatic Fauna (B13)		<p><u>Secondary Indicators (minimum of two required)</u></p> <table style="width:100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 25

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juglans nigra</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>
2. <u>Acer negundo</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

25 = Total Cover
 50% of total cover: 12.50 20% of total cover: 5.00

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa multiflora</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
2. <u>Rubus idaeus</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

15 = Total Cover
 50% of total cover: 7.50 20% of total cover: 3.00

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2. <u>Hackelia virginiana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

25 = Total Cover
 50% of total cover: 12.50 20% of total cover: 5.00

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Vitis aestivalis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

10 = Total Cover
 50% of total cover: 5.00 20% of total cover: 2.00

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 42.86% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species 35 x 3 = 105
 FACU species 40 x 4 = 160
 UPL species _____ x 5 = _____
 Column Totals: 75 (A) 265 (B)
 Prevalence Index = B/A = 3.53

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes _____ No X

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

SOIL

Sampling Point: 25

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		
0-4	10YR 3/3	100					silt loam/l	
4-16+	10YR 4/4	100					loam	gravelly

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 26
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<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"/> Aquatic Fauna (B13)		<p><u>Secondary Indicators (minimum of two required)</u></p> <table style="width:100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>≤ 6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 26

Tree Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Typha latifolia</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>
2. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
3. <u>Persicaria sagittata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
4. <u>Symplocarpus foetidus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

72 = Total Cover
 50% of total cover: 36.00 20% of total cover: 14.40

Woody Vine Stratum (Plot size: <u>30Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>67</u>	x 1 = <u>67</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>72</u> (A)	<u>77</u> (B)

Prevalence Index = B/A = 1.07

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0[†]
 - 4 - Morphological Adaptations[†] (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation[†] (Explain)
- [†]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: 26

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		
0-15+	10YR 5/1	80	7.5YR 4/6	20	C	M	silt loam	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Tigue Property City/County: Chester County Sampling Date: 9-17-15
 Applicant/Owner: Toll Brothers, Inc. State: PA Sampling Point: 27
 Investigator(s): Jason J. Mease, John J. Willis Jr Section, Township, Range: East Bradford Township
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Hatboro silt loam NWI classification: _____

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<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"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-Neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	--

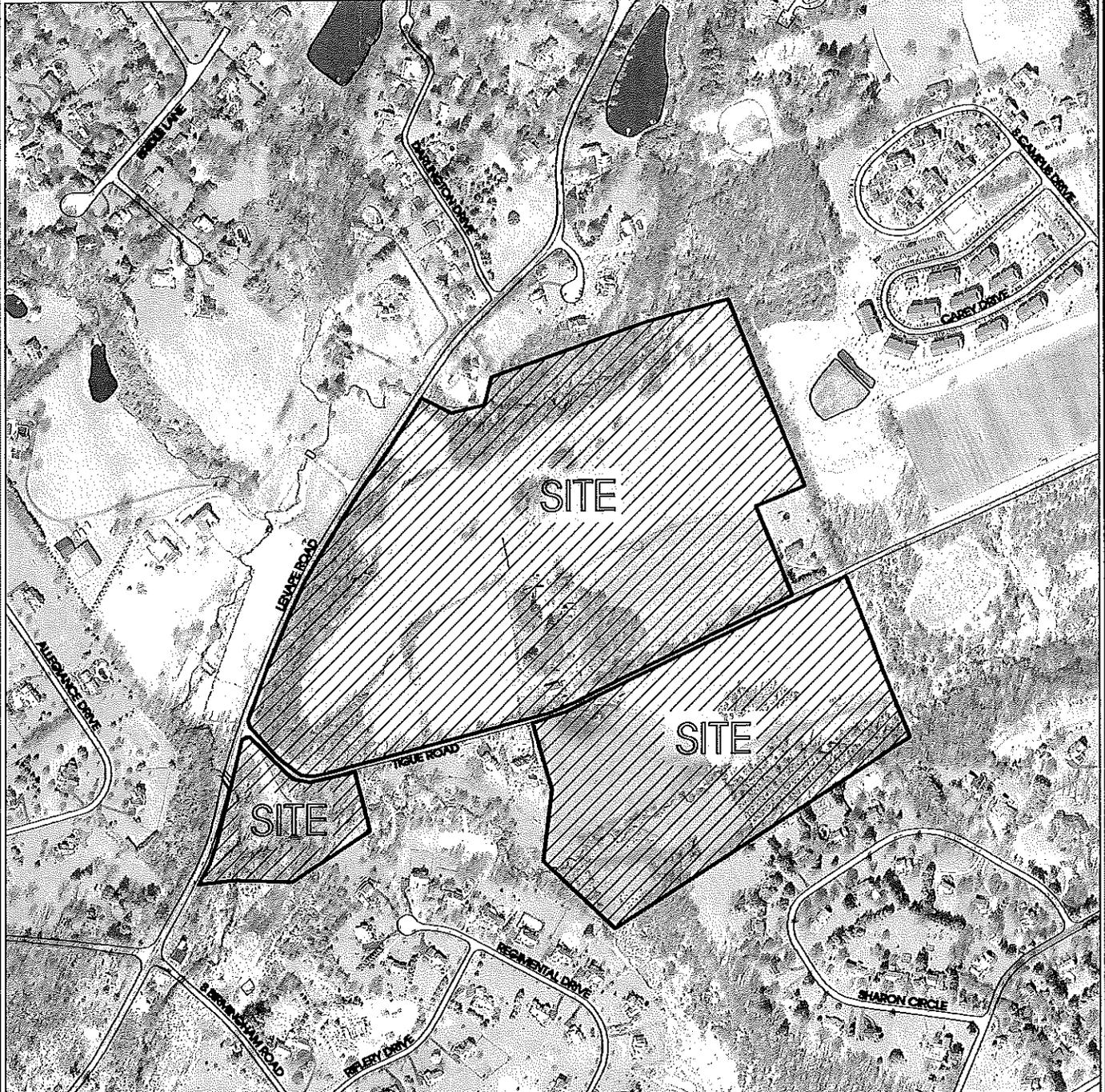
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Drainage Channel 1-2' wide with 1' banks

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 27

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Sapling/Shrub Stratum (Plot size: <u>15Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Herb Stratum (Plot size: <u>5Ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Woody Vine Stratum (Plot size: <u>30Ft</u>)				
1.				
2.				
3.				
4.				
5.				
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC: _____				(A)
Total Number of Dominant Species Across All Strata: _____				(B)
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u>				(A/B)
Prevalence Index worksheet:				
Total % Cover of: _____		Multiply by:		
OBL species	_____	x 1 =	_____	
FACW species	_____	x 2 =	_____	
FACU species	_____	x 3 =	_____	
UPL species	_____	x 4 =	_____	
Column Totals:	_____	(A)	_____	(B)
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation				
<input type="checkbox"/> 2 - Dominance Test is >50%				
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹				
<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata:				
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vine – All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				



BASE IMAGERY: DVRPC 2010 DIGITAL
 ORTHOIMAGERY: DELAWARE VALLEY
 REGIONAL PLANNING COMMISSION
 TILE: PA_X17_Y073, PA_X17_Y074
 DATE: 3/27/2010
 SOURCE: PASDA

**FIGURE 1
 SITE LOCATION MAP**

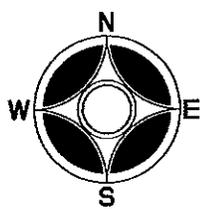
MADE FOR

TIGUE PROPERTY

SITUATE IN

**EAST BRADFORD TOWNSHIP
 CHESTER COUNTY, PA**

DELVAL#: 15-014A

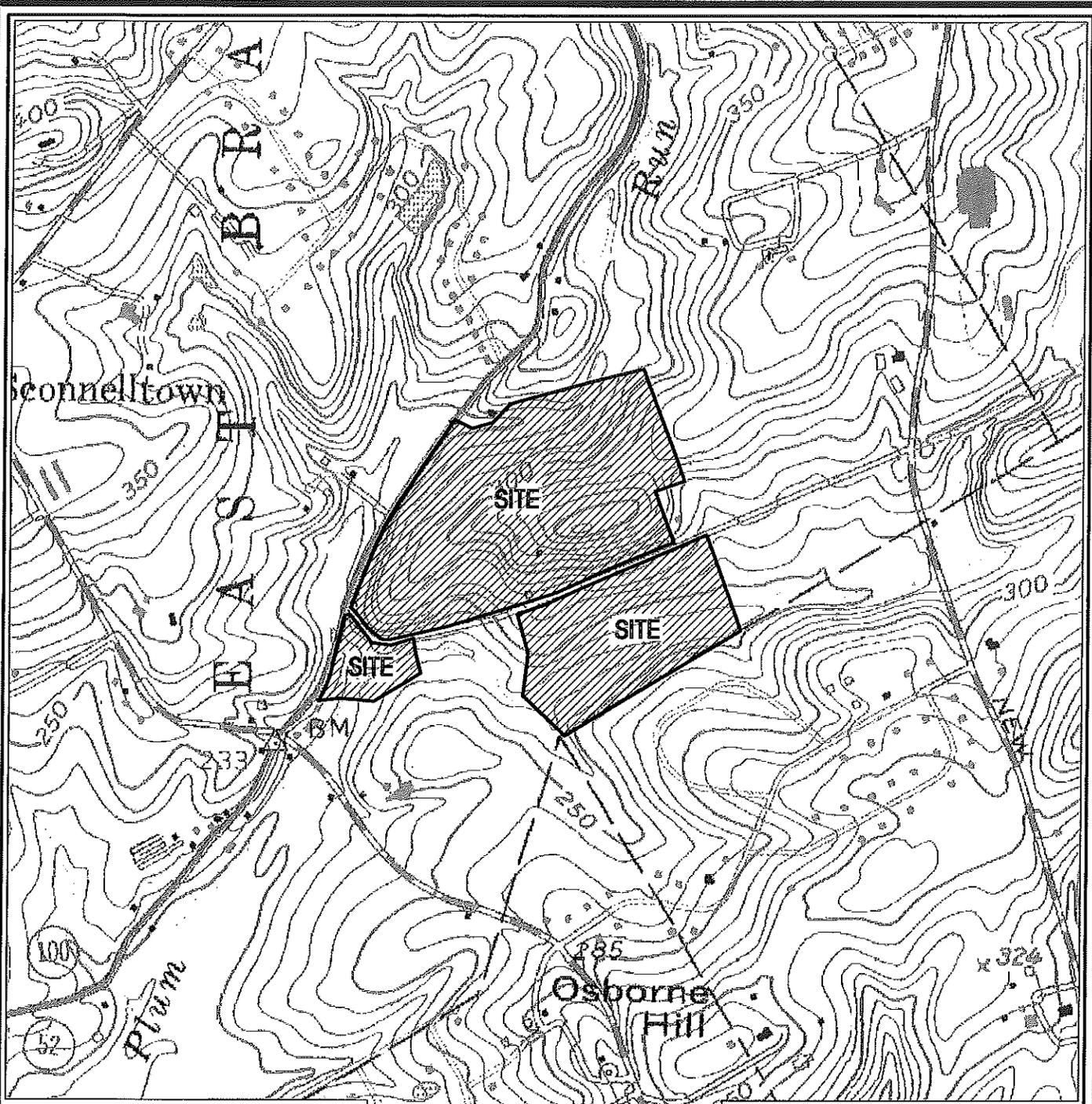


SCALED TO
 1" = 600'



Sky Run II • Suite A1 • 4050 Skyron Drive • Doylestown, PA 18901
 Phone (215) 345-5545 Fax (215) 345-8138

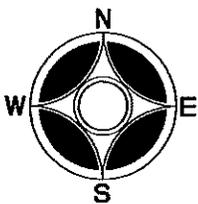
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BASE MAP - USGS 7.5 MIN.

WEST CHESTER, PA
QUADRANGLE

SOURCE: PASDA



SCALE
1"=1000'

GRAPHIC SCALE



Sky Run II • Suite A1 • 4050 Skyrun Drive • Doylstown, PA 18901
Phone (215) 345-3545 Fax (215) 345-8198

**FIGURE 2
TOPOGRAPHIC MAP**

MADE FOR

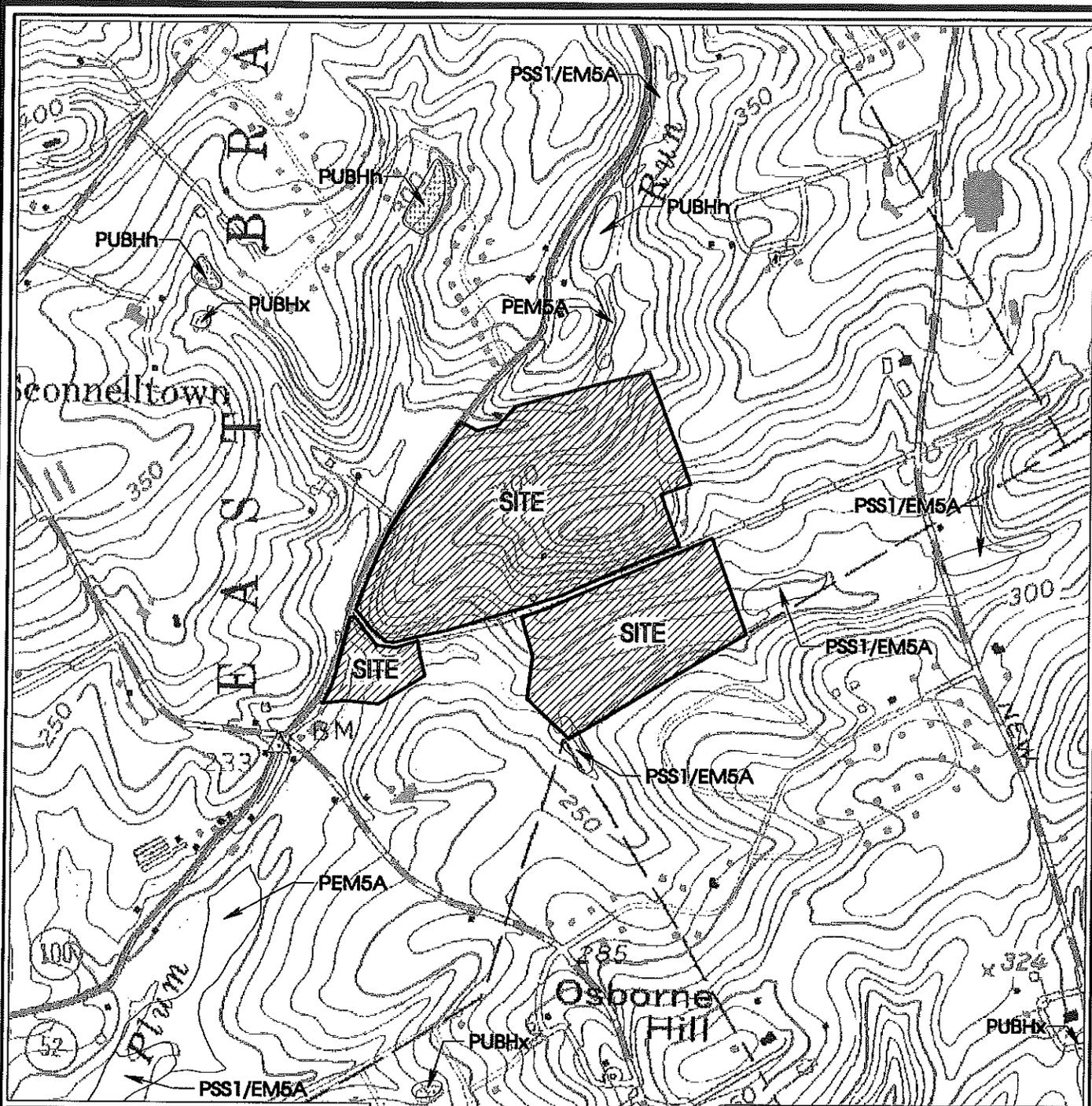
TIGUE PROPERTY

SITUATE IN

**EAST BRADFORD TOWNSHIP
CHESTER COUNTY, PA**

DELVAL#: 15-014A

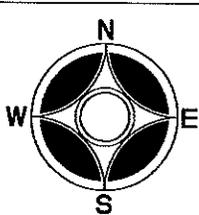
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BASE MAP - USGS 7.5 MIN.

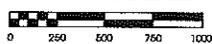
WEST CHESTER, PA
QUADRANGLE

USDI NATIONAL
WETLANDS INVENTORY



SCALE
1" = 1000'

GRAPHIC SCALE



DelVal
Soil & Val
Environmental
Consultants Inc.



Sky Run II • Suite A1 • 4050 Skyrun Drive • Doylestown, PA 18901
Phone (215) 345-3545 Fax (215) 345-8138

**FIGURE 3: NATIONAL
WETLANDS INVENTORY MAP**

MADE FOR

TIGUE PROPERTY

SITUATE IN

**EAST BRADFORD TOWNSHIP
CHESTER COUNTY, PA**

DELVAL#: 15-014A

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**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo A



Photo B

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo C



Photo D

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo E



Photo F

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo G



Photo H

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo I



Photo J

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo K



Photo L

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo M



Photo N

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo O



Photo P

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo Q



Photo R

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo S



Photo T

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo U



Photo V

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo W



Photo X

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo Y



Photo Z

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo A1



Photo B1

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo C1



Photo D1

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo E1



Photo F1

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo G1



Photo H1

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo I1



Photo J1

Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015



Photo K1



Photo L1

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo M1



Photo N1

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo O1



Photo P1

**Toll Brothers, Inc.
Tigue Road
East Bradford Township, Chester County, PA
September 2015**



Photo Q1

PENNSYLVANIA HISTORIC RESOURCE SURVEY FORM — PHOTO/SITE PLAN SHEET

Pennsylvania Historic and Museum Commission, Bureau of Historic Preservation
Commonwealth Keystone Building, 2nd Floor, 400 North Street, Harrisburg, PA 17108-1026

Survey Code:	137	Historic / Other Name:	Entriiken/ Tigie Farm
Tax Parcel:	51-7-115	Address:	945 Tigie Road
County:	Chester 029	Municipality:	East Bradford Township

Entriiken Farm

Tigie Farm

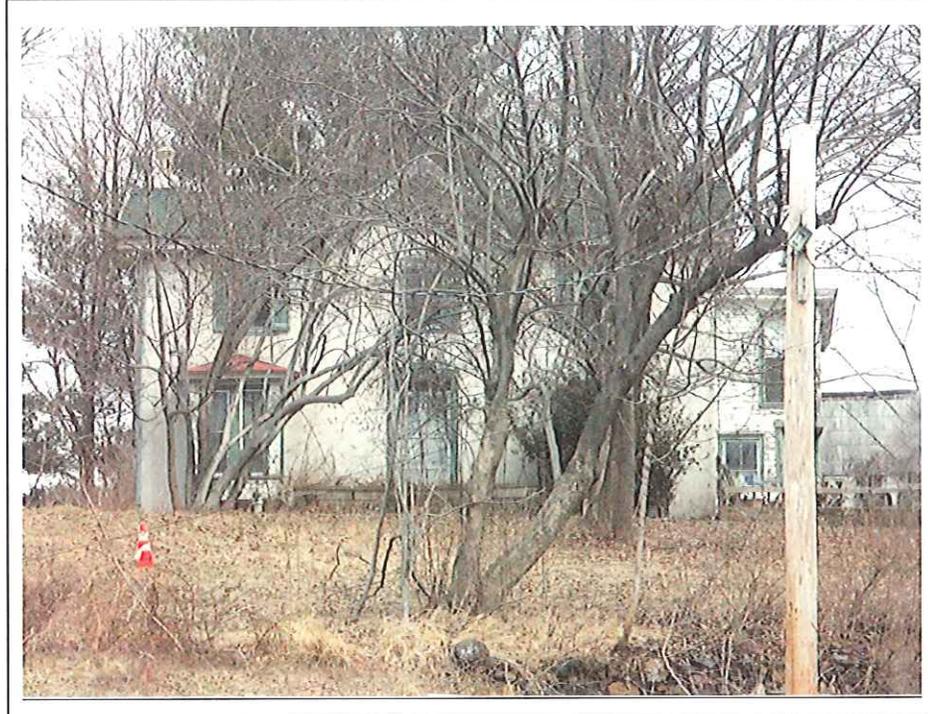
Photographs

Photo 1. Tigie Farm, facing N

Photographer:
Wise Preservation Planning

Date: 3/2005

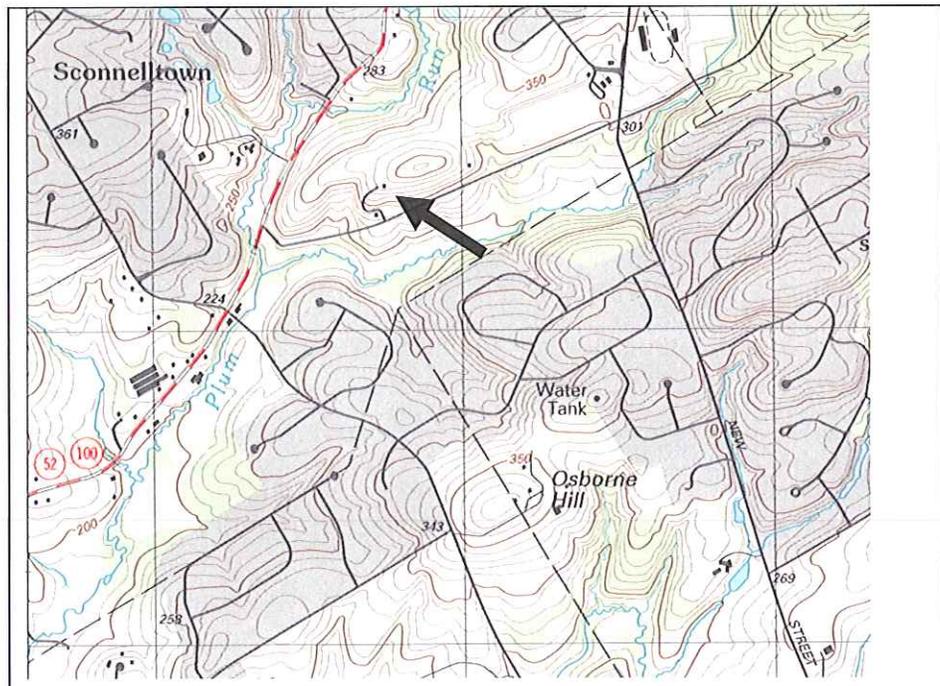
Negative Location:
Township Building



Location Map

West Chester USGS Quad

(See Site Plan in Additional Documentation)



PENNSYLVANIA HISTORIC RESOURCE SURVEY FORM – DATA SHEET

Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation

IDENTIFICATION AND LOCATION					
Survey Code	137	Tax Parcel No.	51-7-115		
County	1. Chester 029	2.			
Municipality	1. East Bradford Township	2.			
Address	945 Tigue Road				
Historic Name	Entriken Farm				
Other Name	Tigue Farm				
Owner Name / Address	Emma V., Leo A., and Mary R. Tigue, 945 Tigue Road, West Chester PA 19380				
Owner Category	<input checked="" type="checkbox"/> Private	Public – local	Public – state	Public – Federal	
Resource Category	<input checked="" type="checkbox"/> Building	District	Site	Structure	Object
Number/Approximate Number of Resources Covered by This Form	6				
USGS Quad	1. West Chester		2.		
UTM References	A.	B.	C.	D.	

HISTORIC AND CURRENT FUNCTIONS			
Historic Function Category		Subcategory	Code
A.	DOMESTIC	Single dwelling	01A
B.	AGRICULTURE	Animal facility	09D
C.	AGRICULTURE	Storage	09B
D.	DOMESTIC	Single dwelling	01A
Particular Type	A.	Farmhouse	
	B.	Barn	
	C.	Shed	
	D.	Tenant House / ruin	
Current Function Category		Subcategory	Code
A.	DOMESTIC	Single dwelling	01A
B.	AGRICULTURE	Animal facility	09D
C.	AGRICULTURE	Storage	09B
D.	VACANT / NOT IN USE		98

PHYSICAL DESCRIPTION					
Architectural Classification	A. Colonial 10		B. No Style 01		C. No Style 01
	D. No Style 01		Other		
Exterior Materials	Foundation	Stone 40		Roof	Asphalt shingles 63
	Walls	Stone 40		Walls	Stucco 61
	Other			Other	
Structural System	1. Masonry – stone 22			2.	
Width 3 bay C / 30 feet	Depth 20 feet / 1 room A			Stories / Height 2.5 B	

Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation
 HRSF 137 / Entriaken Farm/ 945 Tighe Road

HISTORICAL INFORMATION

Year Built: ca. 1750 Additions/Alterations Dates: ca. 1800, 1860

Basis for Dating: Documentary Physical

Explain: Architectural details, Township tax card information

Cultural / Ethnic Affiliation	1.	2.	Associated Individuals	1.	2.
Associated Events	1. Agriculture	2.	Architects / Engineers	1.	2.
Builders	1.	2.			

MAJOR BIBLIOGRAPHICAL REFERENCES

Futhey, J. Smith and Gilbert Cope, *History of Chester County, Pennsylvania* (Philadelphia: Louis H. Everts, 1881).

PREVIOUS SURVEY, DETERMINATIONS

Chester County Historic Site Survey 1982 (#137)

EVALUATION (Survey Director/Consultants Only)

Individual NR Potential: Yes No Context(s): C. Architecture, A. Agriculture
 Contributes to Potential District Yes No District Name/Status: Part of Strodes Mill HD (Boundary Increase) – Determined Eligible for the National Register – nomination work to begin 10/2005

Class: 2 : Recommend change to Class I due to Contributing Resource in a Historic District (DOE)
 The farm appears to meet National Register Criteria A for Agriculture and C for Architecture. However, additional research is needed to fully evaluate the property.

THREATS

Threats: 2,4 1. None 2. Public Development 3. Private Development 4. Neglect 5. Other

Explain:

SURVEYOR INFORMATION			
Surveyor Name / Title	Robert Wise	Date	9/2005
Project Name	East Bradford Township Historic Resource Survey 2004—2005		
Organization	Wise Preservation Planning	Telephone	(610) 722-5818
Street and No.	Station Square 1, Suite 104, 37 North Valley Road		
City, State	Paoli, Pa.	Zip Code	19301
Additional Survey Documentation	Chester County Historic Site Survey 1982 (#137)		
Associated Survey Codes			

PENNSYLVANIA HISTORICAL RESOURCE SURVEY FORM – NARRATIVE SHEET 89C
 Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation

Survey Code	137	Tax Parcel / Other No.	51-7-115
County	Chester 029	Municipality	East Bradford Twp
Address	945 Tigie Road	Historic / Other Name	Entriaken Farm / Tigie Farm

HISTORICAL NARRATIVE:

This was one of the earliest properties settled in the southern part of the Township. The stone ruin near the barn is thought to be the early house on the property, dating to c. 1720. Later in the eighteenth century, the core of the current farmhouse was constructed. The increasing wealth of the property is indicated by the double decker barn (early nineteenth century) and the large Gothic Revival addition onto the house (mid-nineteenth century).

[Chain of title provided by the Historical Commission]

- I23.125** Emma V. Tigie et vir William J. Tigie, Sr.
 11/29/1949 TO
 \$1.00 Emma V., Leo A., & Mary R. Tigie
 84A 136p "ATC **messuage** and tract of land in E. Bradford Township..."
- Y20.496.156** Rachel Coyle, widow
 8/26/1943 TO
 \$1.00 Emma V. Tigie
 84A 136p "ATC **messuage** and tract of land in E. Bradford Township..."
- F17.403.196** Richard L. & Jean K. C. Fox, Philadelphia
 2/28/1927 TO
 \$1.00 Joseph A. & Rachel Coyle, Philadelphia
 84A 136p "ATC **messuage** and tract of land in E. Bradford Township..." and Joseph A. Coyle died 5/10/1938 after first making his last Will & Testament in which he devised "All the remainder of my estate I devise to my beloved wife Rachel..."
- V14.343.255** George Francis & Pauline B. Fox, East Bradford
 8/10/1915 TO
 \$1.00 Richard L. Fox, Philadelphia
 84A 136p "ATC **messuage** and plantation in E. Bradford Township..."
- V14.343.255** Harry M. & Ella S. Yerkes, West Chester
 11/10/1914 TO
 \$1.00 George Francis Fox, Jr.
 84A 136p "ATC **messuage** and plantation or tract of land in E. Bradford Township..."
- Orphan's Court** Job Yerkes died intestate and Orphan's Court proceedings adjudged the property to B. Franklin Yerkes and Harry M. Yerkes. B. Franklin Yerkes died and in his last Will & Testament devised the property to his brother subject to a widow's dower.
- A7.148.6** Emmor W. & Phebe J. Entriaken
 3/25/1863 TO
 \$12,163.73 Job Yerkes
 84A 136p "ATC **messuage** and tract of land in E. Bradford Township..." made up of three parcels
- #1
F6.128.60 Thomas P. & Anna M. Hawley
 3/28/1857 TO
 \$950 Emmor W. Entriaken

HRSF 137 / Entriken Farm/ 945 Tigue Road

Historical Narrative, page 2

1 acre "ATC house, stables & lot of ground in E. Bradford Township..."

C6.125.29 Thomas G. & Maria Vallette
4/1/1856 TO
\$1850.00 Thomas P. Hawley, West Bradford
1 acre "ATC house, stables & lot of ground in E. Bradford Township..."

A6.123.83 Thomas F. Vallette, merchant & Maria Vallette
10/29/1855 TO
Thomas G. Vallette, clerk
1 acre "ATC house, stables & lot of ground in E. Bradford Township..."

11/12/1853 John McKinley & George Myers aka "McKinley & Myers", merchants
TO
Thomas F. Vallette, Wallace Township
1 acre "ATC house, stables & lot of ground in E. Bradford Township..."

R & E For Sale Cheap
9/14/1852 A neat two storied Stone Cottage with six rooms and back kitchen. Water convenient. A frame stable and carriage house, with other outbuildings, and about one acre of land, very productive, and well stocked with fruit. Trees of various kinds in the prime of bearing.
The above property is situated about two miles south of the borough of West Chester, Chester Co., on one of the most commanding locations in East Bradford Township, having a commanding view of the surrounding fertile country. For terms and further particulars enquire of
McKinley & Myers

N5.110.371 Lewis A. & Lydia Jane Talley
4/5/1851 TO
\$1000.00 John McKinley & George G. Myers
1 acre "ATC house, stables & lot of ground in E. Bradford Township..."

Henry Whale
TO
Lewis S. Talley
1 acre "ATC house, stables & lot of ground in E. Bradford Township..."

I5.457 Mary S. Entriken, West Chester
8/21/1849 TO
Henry Whale
1 acre

LWT Caleb Entriken died 5/7/1842 after making his last Will & Testament in which hedid "Give & devise to my two daughters Mary S. Entriken & Ruth Ann Entriken the house I now live in..."

S2.42.527 Philip & Rachel Price
10/14/1800 TO
£89 Caleb Entriken
2A "ATC lot or piece of land in E. Bradford Twp..."

#2
E6.127.74 Samuel S. Entriken
3/13/1857 TO
\$6590.28 Emmor W. Entriken
54A 18p "ATC messuage, plantation & tract of land in E. Bradford Twp..."

C5.100.355 Jacob & Job Entriken, executors for Caleb Entriken

HRSF 137 / Entriiken Farm/ 945 Tigue Road

Historical Narrative, page 3

3/30/1846	TO
\$4181.18	Samuel S. Entriiken
54A 18p	"ATC messuage , plantation & tract of land in E. Bradford Twp..."
LWT	Caleb Entriiken died 1/6/1845 after making his last Will & Testament dated 5/7/1842 in
Direct Tax 1798	Caleb Entriiken, 43 acres, 2 story log dwelling 26x18, stone well house 12x12, frame barn 40x20
1796 Tax	Samuel Entriiken, 100 acres, small stone house Caleb Entriiken, blacksmith, does but little at it, 50 acres, log house , old log barn
N2.37.391 8/20/1796 £225 46A 43p	Samuel & Mary Entriiken TO Caleb Entriiken, their son, blacksmith "ATC messuage , plantation & tract or parcel of land in E. Bradford Twp..."
G.7.95 2/4/1746 £300 128 acres	Henry & Mary Willis TO George Entriiken, Miller "ATC piece or parcel of land in E. Bradford Twp..."
G.7.93 11/13/1746 5 shillings 133 acres	John & Esther Willis TO Henry Willis "ATC piece or parcel of land in E. Bradford Twp..."
8/11/1701 386 acres	John Cook, son & Margaret Cook, widow TO John Willis
Patent 7/2/1684	William Penn TO Arthur Cooke
#3 V6.143.26 3/7/1863 \$2600.00 29A 138p	Henry & Harriett A. Paxson TO Emmor W. Entriiken "ATC messuage and tract of land in E. Bradford Twp..."
Q6.138.278	Caleb Brinton TO Henry Paxson
E6.127.102	Margaret Paxson et al. TO Henry Paxson
N4.85.558 26(12)1837 \$2000.00 27A 15p	Rachel Price, West Chester TO Jonathan Paxson "ATC tract or piece of land in E. Bradford Twp..."
F2.30.199	Benjamin Powell TO Philip Price

PHYSICAL DESCRIPTION:

This 54.2-acre property is located near the southeast corner of the Township; Tigie Road forms the southern border, and Lenape Road forms the northwest border. The land is lightly wooded with some open fields and drains to the south. The historic farmstead is located on the southern portion of the property. A long drive leads north from the road and skirts a collection of agricultural buildings on its way to the farmhouse. Altogether, the farmstead encompasses six buildings: the farmhouse, barn, two sheds, a tenant house ruin, and a noncontributing agricultural outbuilding.

Note: owner did not allow full survey.

FARMHOUSE – The house is a four-part building consisting of a core, a Gothic Revival main section, and an L-shaped addition.

1. Core: two-story, two-bay section attached to west end of north elevation of main section, facing west.
 - a. Side gable roof clad with asphalt shingles. Small belfry on north end of ridge. Gabled dormer with a 4x2 window near the intersection with the main section. Small brick chimney on west wall.
 - b. Stone walls. Two 6x6 windows located in a rank on west elevation near the southwest corner. Wide door on west elevation near the northwest corner; 6-paneled door.
 - c. Not visible from road.
2. Main Section: two-and-a-half-story, three-bay section facing south, overlooking Tigie Road.
 - a. End gable roof with central cross gable on the south elevation, clad in shingles. Two interior chimneys, one on east and one on west gables. Thick molded cornice.
 - b. Stuccoed walls. Windows are 2x2 units, mostly with the appropriate shutters. Square bay window with hipped roof and clad in wood shingles, west end, first floor, south elevation. Symmetrical fenestration. Center door.
 - i. West end wall is not stuccoed. The center of the wall contains the brick chimney flue, which extends from the foundation to the peak of the gable. Two small 2x2 attic windows, two 2x2 windows on first and second floors.
 - ii. North wall, partially visible west of the core. Stone wall. Window on first floor has been infilled with brick.
 - iii. East end wall is stuccoed. Two 2x2 windows on attic level (smaller attic windows), first and second floors.
3. Addition: two-story, L-shaped section facing north and east; attached to north and east elevations of Main Section.
 - a. Flat roof. Interior chimney, east elevation.
 - b. Clapboard sided walls. Asymmetrical fenestration. Large arched-headed 2x2 window on south elevation, second floor. First floor has a smaller 2x2 window and a door cut into the corner of the section. The east elevation has a similar large window on the second floor, near the corner. The remainder of the east elevation has two 2x2 windows on each floor.

BARN – The barn is located southwest of the farmhouse, just off Tigie Road. It is an example of a Chester County double-decker bank barn. A frame addition to the east elevation is in ruins.

1. End gable roof clad in standing seam tin roof.
2. Stone walls and foundation.

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Physical Description, page 2

3. Remnants stone barnyard wall.

SHED #1 – This shed is located east of the barn. It was attached to the east elevation of the frame addition to the barn, but because of the collapse of that addition, it now stands independently. One-story, shed-roofed three-bay frame structure. Roof clad in metal. Board and batten walls on stucco foundation. Symmetrical fenestration.

SHED #2 – This shed is located east of the barn and southeast of shed #1. Front gable roof clad in standing seam tin. Board and batten walls on a stucco foundation. Symmetrical fenestration.

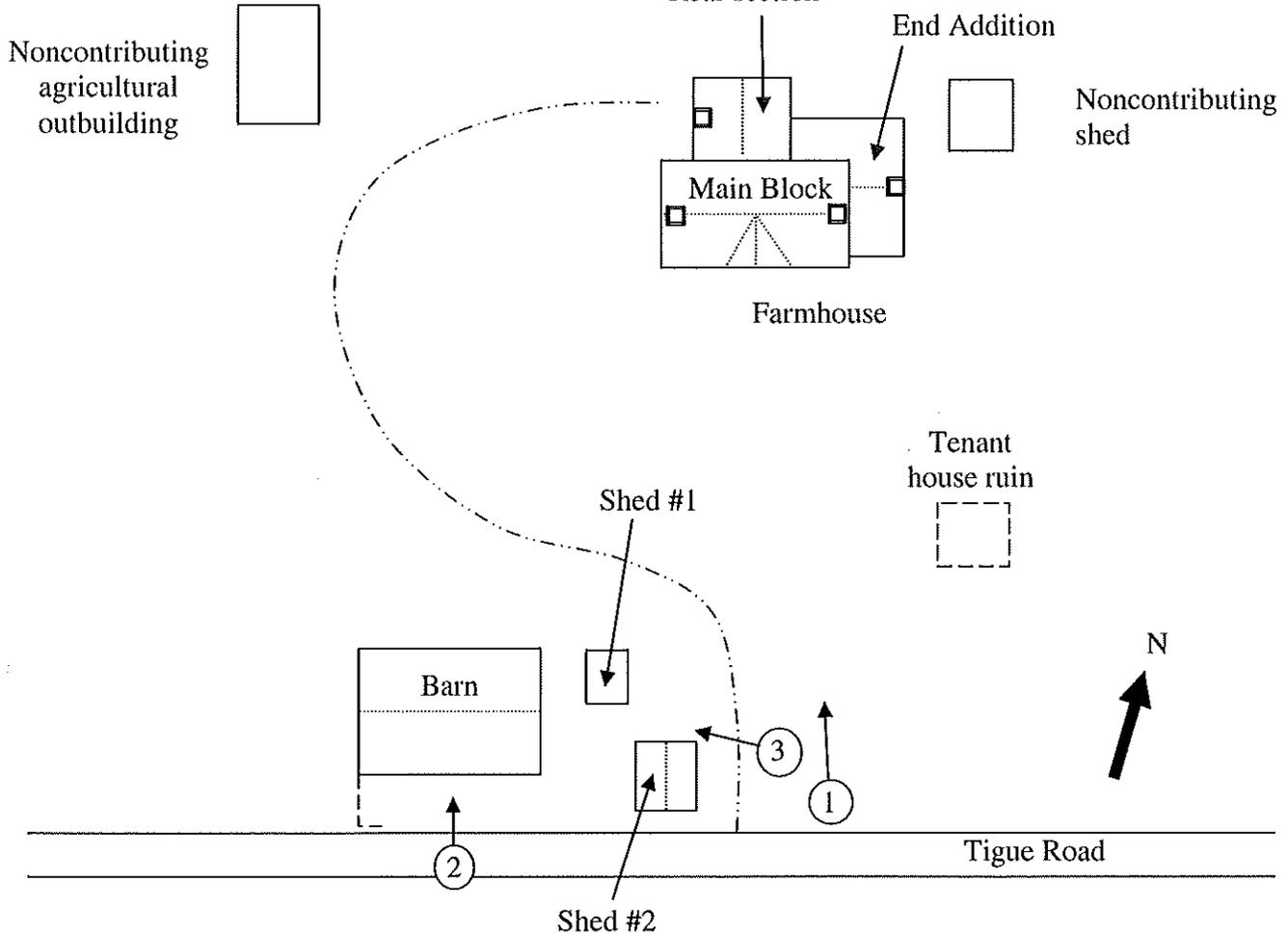
TENANT HOUSE RUIN – The tenant house is located southeast of the farmhouse and east of the barn with its sheds. It consists of a nearly square stone foundation constructed into the sloping hillside.

PENNSYLVANIA HISTORICAL RESOURCE SURVEY FORM – NARRATIVE SHEET 89C

Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation

Survey Code	137	Tax Parcel / Other No.	51-7-115
Address	945 Tigie Road	Historic / Other Name	Entriiken/Tigie Farm

SITE PLAN:



PENNSYLVANIA HISTORICAL RESOURCE SURVEY FORM – PHOTOGRAPH SHEET
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation

Survey Code	137	Historic / Other Name	Entriiken/Tigue Farm
Photographer	Wise Preservation Planning	Date	3/2005



Photo 2. Barn, facing north.



Photo 3. Barn complex, facing northwest. Shed #2 is on the left, shed #1 on the right.