

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Proposed Nestle Global Research Center City/County: Solon, Cuyahoga Sampling Date: 9/27/11
Applicant/Owner: Nestle R&D Center, Inc. State: Ohio Sampling Point: Wetlands C & D
Investigator(s): S.Peffer/Atwell, LLC Section, Township, Range:
Landform (hillslope, terrace, etc.): low area, former ag field Local relief (concave, convex, none): concave
Slope (%): Lat: 41.407716 Long: -81.471397 Datum:
Soil Map Unit Name: Wadsworth silt loam, 0-2% slopes NWI classification: Emergent

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 [X] No [ ] Is the Sampled Area within a Wetland? Yes [X] No [ ]
Hydric Soil Present? Yes [X] No [ ]
Wetland Hydrology Present? Yes [X] No [ ] If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland C and D are similar in wetland morphology. The two wetlands are separated by a slightly convex upland area, which essentially delineates a micro-watershed. Overland flow breaks south to Wetland C and north to Wetland D.

HYDROLOGY

Wetland Hydrology Indicators:

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

- [ ] Surface Water (A1) [ ] Water-Stained Leaves (B9)
[ ] High Water Table (A2) [ ] Aquatic Fauna (B13)
[X] Saturation (A3) [ ] Marl Deposits (B15)
[ ] Water Marks (B1) [ ] Hydrogen Sulfide Odor (C1)
[ ] Sediment Deposits (B2) [X] Oxidized Rhizospheres on Living Roots (C3)
[ ] Drift Deposits (B3) [ ] Presence of Reduced Iron (C4)
[ ] Algal Mat or Crust (B4) [ ] Recent Iron Reduction in Tilled Soils (C6)
[ ] Iron Deposits (B5) [ ] Thin Muck Surface (C7)
[ ] Inundation Visible on Aerial Imagery (B7) [ ] Other (Explain in Remarks)
[ ] Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes [X] No [ ]

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

Remarks:

**VEGETATION – Use scientific names of plants.**

Sampling Point: **Wetlands C & D**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	= Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	= Total Cover			
<b>Herb Stratum</b> (Plot size: 15')				
1.	<i>Typha latifolia</i>	10	No	OBL
2.	<i>Cyperus odoratus</i>	10	No	FACW
3.	<i>Phalaris arundinacea</i>	75	Yes	OBL
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	95= Total Cover			
<b>Woody Vine Stratum</b> (Plot size: )				
1.				
2.				
3.				
4.				
	= 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: (A/B)

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**Prevalence Index worksheet:**

<u>Total % Cover of:</u>	<u>Multiply by:</u>
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 =

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**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

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**Definitions of Vegetation Strata:**

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

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

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

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

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**Hydrophytic Vegetation Present?** Yes  No

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

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-18	2.5 YR 4/2	85	10 YR 4/6	15		M	clay loam	

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches )

Hydric Soil Present? Yes  No

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