



ADDENDUM #2

To: Known Qualified Firms
From: Porter Co. Dept. of Development & Storm Water Management
Date: June 1, 2021
Subject: Windy Oaks Subdivision – Storm Water Management System Improvements, Phase 2
Construction Services

The attention of all known qualified firms are called to the following Addendum.

This Addendum, designated as Addendum #2, is hereby included in and made a part of the bidding documents, whether or not attached thereto. Except as modified by this Addendum, all requirements of the bidding documents shall remain in full force and effect.

Firms shall acknowledge the receipt of this Addendum #2 on his or her bid form.

Clarifications & Modifications

The following clarifications and/or modifications to the bidding documents are being provided or are being made by the Department in response to questions posed and/or as determined necessary by the Department and are hereby included in and made a part of the bidding documents.

PRE-BID MEETING MINUTES & SIGN-IN SHEET

1. The pre-bid meeting minutes and sign-in sheet are attached to this Addendum. Please note that the meeting minutes may contain additional information related to the various items of work that should be should considered when preparing bids for this project.

SOIL BORINGS

2. Soil borings were conducted in the detention basin by Soil Solutions, Inc. in Oct. & Nov. 2019 to determine soil types. The soil description reports resulting from such subsurface investigations are attached to this Addendum and should be considered when preparing bids for this project.

CONSTRUCTION PLANS/TECHNICAL SPECIFICATIONS

3. Road Cut and Repair

To clarify, the repairs completed for WORK ITEM #22, "ROAD CUT & REPAIR, DRIVEWAYS" should match the existing pavement depths (i.e., base and pavement). However, the existing pavement depths are unknown to the Department at this time. For bidding purposes, bidders shall that assume that such repairs will be completed using 5" concrete or 3" HMA on 6" of compacted base (No. 53 or 73 coarse aggregate), per the Porter County Design & Construction Standards for residential driveways, depending on whether or not such driveways are concrete or asphalt driveways.

The repairs completed for WORK ITEM #23, "ROAD CUT & REPAIR, CR 250 S", shall be completed as shown in the detail for "Full Depth HMA Repair" on Sheet 6 of the Construction Plans, including 12" of compacted base (No. 53 or 73 coarse aggregate), 3" HMA Binder, and 1.5" HMA Surface.

4. Storm Sewers & Culverts

To clarify, metal flared end sections should be used on PVC storm sewers (i.e., WORK ITEMS #10F and #11F), and RCP flared sections should be used on RCP storm sewers (i.e., WORK ITEM #13E).

Porter County is an equal opportunity employer and does not discriminate on the basis of race, color, religion, sex, age, national origin, disability, military status, genetic testing, pregnancy, sexual orientation or any other unlawful bias.



5. Storm Sewer Structures

To clarify, cast in place watertight connectors are required where non-concrete pipe (i.e., PVC storm sewer) will be connected to concrete storm sewer structures. Where concrete pipe will be connected to concrete storm sewer structures, the Department will allow the use of “brick and mortar”-type connections.

OFF-SITE DISPOSAL OF EXCESS EXCAVATED MATERIALS

6. The Department is aware of a planned, upcoming project located near the intersection of CR 100 S & CR 500 W that may be in need of fill. Excess excavated material generated during the performance of the work may be disposed of at this site, or another location designated by the Contractor, provided that written approval from the owner of such property and all other necessary permits and authorizations have been obtained. If interested, please contact the Department to obtain contact information for the owner of the planned upcoming project located near CR 100 S & CR 500 W.

PUBLIC OPENING OF BIDS

7. Public Opening of Bids

As stated in the bidding documents, bids will be opened at 10:00 a.m., or as soon thereafter as possible, on Thursday, June 3, 2021, at a public opening of bids to be held at 10:00 a.m. local time at the Porter Co. Administration Center, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383. In accordance with the Department’s COVID-19 Safety & Action Plan, the public opening of bids will also be conducted live via videoconference. All respondents, as well as members of the public, are welcome to attend and participate in the opening of bids, either in person or via videoconference.

The following information may be used to access and participate in the videoconference.

Join Zoom Meeting:

<https://us02web.zoom.us/j/82439446591?pwd=RndjZStZY0V3TXZpUlpUSUhQSFBiQT09>

Meeting ID: 824 3944 6591

Passcode: K7Me7T

At the meeting, bids will be opened and, unless obviously non-responsive, read aloud publicly. Respondents are invited to be present at the opening of bids. An abstract of the total bids will be made available to respondents after the opening of bids.

ATTACHMENTS

- PRE-BID MEETING MINUTES & SIGN-IN SHEET
- SOIL DESCRIPTION REPORTS

MEETING MINUTES

May 27, 2021, 10:00 am

155 Indiana Ave., Ste. 311 and Video Conference

Pre-Bid Meeting

Windy Oaks Subdivision – Storm Water Management System Improvements, Phase 2

1. Sign-in and Introductions

A sign-in sheet was passed around to all attendees (attached) and introductions were made.

2. Project Overview and History

The project is located between CR 600 W and CR 675 W on the north side of CR 250 S in the Windy Oaks Subdivision. The Windy Oaks detention basin outlet (i.e., swale) also serves as the low flow and flood conveyance route for an off-site drainage area located to the northeast. The swale is undersized and improperly constructed to effectively serve both the detention basin and the off-site drainage area. The detention basin is also undersized, is improperly graded, and does not adequately drain. There are also drain tiles, which serve individual septic system perimeter/curtain drains within the subdivision, located below the surface of the detention basin and below the detention basin outlet. This has caused drainage and flooding issues throughout the subdivision, and has created nuisance conditions (e.g., ponding, difficult to maintain) within the detention basin and swale. This project includes the installation of a storm sewer that will serve as the detention basin outlet, improvements to the existing swale, which will continue to serve as the low flow and flood conveyance route for the off-site drainage area, and enhancements to the detention basin to provide additional storage and improved conditions within the basin. The project will also include other appurtenant improvements, including the replacement of road and driveway culverts along the route of the project.

3. Overview of Bidding Documents & Bidding Requirements

- A. Bid Form
- B. Basis of Bid Form – submit revised Basis of Bid Form that was issued in Addendum 1
 - i. Base Bid
- C. Responsible Bidding Submittal Requirements Form
- D. Bidders Work History Form
- E. Bidders Organizational Experience and Workload Form
- F. Bidders Subcontractor and Supplier Form
 - i. List entities comprising 10% or more of the bidder's total cost.
- G. Bid Security
 - i. 10% of total bid.
 - ii. Certified check, bank money order, or Bid Bond issued by acceptable surety.

4. Project Description

- A. 60 LF of 48" RCP, Class III (CR 250 S culvert)
- B. 1,165 LF of 36" RCP, Class III (Detention basin outlet & off-site low flow route)
- C. 67 LF of 12" PVC, SDR 35 (Detention basin outlet)



- D. 170 LF of 18" PVC, SDR 35 (Storm sewer/detention basin inlet)
- E. 1 Storm Sewer Structure, 4 ft. diameter (Type 1)
- F. 5 Storm Sewer Structures, 5 ft. diameter (Special)
- G. 1 Storm Sewer Structures, 6 ft. diameter (Special)
- H. 177 LF of 48" CMP, 12 GA., Type 2 (Aluminized) (Driveway culverts)
- I. 97 LF 5 FT x 3 FT RCP (Driveway culvert)
 - i. Re-use existing culvert
- J. Grading Ditches & Swales
 - i. 600 LF of Downstream Swale (Off-site flood route)
 - ii. 270 LF of Upstream Swale (Off-site flood route)
 - iii. 50 LF of Emergency Spillway (Detention basin emergency spillway)
- K. Road cut and repair and/or reconstruction
 - i. Driveways
 - ii. CR 250 S
- L. Excavation and/or fill for detention basin

5. Other Items

- A. Overview of important General Conditions.
- B. Questions during Bidding.
- C. Copies of bidding documents are fully downloadable on the Department's website at <http://www.porterco.org/stormwater>.
- D. Bids will remain open for 60 calendar days.
- E. Lowest, responsive, and responsible bidder will be awarded contract.
- F. Acknowledgement of Addenda.
- G. Successful Bidder to provide the following within 10 days of receipt of NOA.
 - i. Executed Contract, Performance Bond – 100%, Payment Bond – 100%, and Certificates of Insurance.
 - ii. E-Verify Affidavit and Certification Regarding Investment in Iran.
- H. Maintenance Bond will be required upon final acceptance of work as guarantee for warranty period.
 - i. 10% of contract price for 1 year.
- I. Bidders shall inform themselves of existing site conditions.
- J. Minority and Women's Business Enterprises
 - i. Goals for this project are 7% MBE and 5% WBE participation.
 - ii. MBEs and WBEs must be certified.
- K. Owner is exempt from State Sales Tax on materials to be incorporated into the work. Sales and use tax shall not be included in the bid.
- L. Utility Coordination
 - i. Contractor shall confirm location and depth of utilities prior to start of work.

6. Notable Dates

- A. Pre-Bid Meeting: Thu., May 27, 2021, 10:00 am.
- B. Last Day for Questions: Tue., Jun. 1, 2021 12:00 pm local time. Final addendum to be issued by 4:30 pm local time, Tue., Jun. 1, 2021.
- C. Bid Due Date: Thu., Jun. 3, 2021 10:00 am local time, Porter Co. Dept. Development & Storm Water Management. 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383.
- D. Bid Opening: Thu., Jun. 3, 2021 10:00 am local time, at a public opening of bids, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383.
- E. Substantial & Final Completion:
 - i. Substantial Completion – Oct. 31, 2021
 - ii. Final Completion – Nov. 30, 2021

7. Questions

- Q1: For Work Item #17A, "STORM SEWER STRUCTURES, 5 FT. DIA., 4-8 FT. DEEP", the Basis of Bid Form shows QTY. 1; however, the construction plans show QTY. 2. Please clarify.
- A1: The correct quantity of "Storm Sewer Structures, 5 Ft. Dia., 4-8 Ft. Deep" is QTY. 2. The Basis of Bid Form was revised to reflect the correct quantity. Such revised Basis of Bid Form was issued with Addendum 1. Please replace the original Basis of Bid for with such revised Basis of Bid Form.
- Q2: For Work Item #11A, "STORM SEWER, 15" PVC, SDR 35", the Basis of Bid Form shows 15" PVC, but the construction plans show 18" PVC. Please clarify.
- A2: This work item, and the associated work items, including excavation, dewatering, bedding & initial backfill, final backfill, and flared end section (i.e. work items 11B-11F), were incorrectly identified as Storm Sewer, 15" PVC, SDR 35 on the original Basis of Bid Form. There is no 15" PVC storm sewer included in the work. The Basis of Bid Form was revised to correctly identify this work item and associated work items as Storm Sewer, 18" PVC, SDR 35. Such revised Basis of Bid Form was issued with Addendum 1. Please replace the original Basis of Bid for with such revised Basis of Bid Form.
- Q3: For Work Item #26, "GRADING DITCHES & SWALES, UPSTREAM SWALE", the quantity shown on the Basis of Bid Form is QTY. 225 LF, but the construction plans show QTY. 270 LF. Please clarify.
- A3: The correct quantity of "GRADING DITCHES & SWALES, UPSTREAM SWALE" is QTY. 270 LF. The Basis of Bid Form was revised to reflect the correct quantity. Such revised Basis of Bid Form was issued with Addendum 1. Please replace the original Basis of Bid for with such revised Basis of Bid Form.
- Q4: Is it the intent of the Department to leave the existing trees in place along Windy Oak Drive on the west side of the detention basin?
- A4: Yes, it is the intent of the Department to preserve the trees located within the "overbank" area on the west side of the detention basin, along Windy Oak Dr. During Phase 1, all but one of these trees was able to be preserved during the installation of the 18" storm sewer. Please note that the actual location of the trees is closer to Windy Oak Dr. than they appear on the construction plans due to the shadows that show up on the aerial photography.



Q5: Is the detail for Full Depth HMA Repair on Sheet 6 for Work Item 23, "ROAD CUT & REPAIR, CR 250 S"?

A5: Correct, the detail for Full Depth HMA Repair is for Work Item 23, "ROAD CUT & REPAIR, CR 250 S". As shown, the repair includes 12" of compacted base (No. 53 or 73 coarse aggregate), 3" HMA Binder, and 1.5" HMA Surface.

Q6: What detail should be used for Work Item 22, "ROAD CUT & REPAIR, DRIVEWAYS"?

A6: The repairs completed for Work Item 22, "ROAD CUT & REPAIR, DRIVEWAYS" should match the existing pavement depths (i.e., base and pavement). However, the existing pavement depths are unknown to the Department at this time. For bidding purposes, bidders shall assume that such repairs will be completed using 5" concrete or 3" HMA on 6" of compacted base (No. 53 or 73 coarse aggregate), depending on whether or not such driveways are concrete or asphalt driveways.

Q7: Are cast in place watertight connectors required on the storm sewer structures, or can the storm sewer be bricked and mortared in place?

A7: Cast in place watertight connectors are required where non-concrete pipe (i.e., PVC storm sewer) will be connected to concrete storm sewer structures. Where concrete pipe will be connected to concrete storm sewer structures, the Department will allow the use of "brick and mortar"-type connections.

Q8: Please clarify the type of flared end sections that should be used for the various types of pipe to be used on the project.

A8: Metal flared end sections should be used on PVC storm sewers (i.e., Work Items #10F and #11F), and RCP flared sections should be used on RCP storm sewers (i.e., Work Item #13E).

Q9: For Work Item #11A, "STORM SEWER, 18" PVC, SDR 35" the Basis of Bid Form shows QTY. 170 LF; however, the construction plans show QTY. 159 LF. Please clarify.

A9: The amount of 18" PVC pipe shown on the construction plans is 159 LF, which extends from the outfall to the approximate location of the existing stub. However, as-built data was not collected on the location of the existing stub following completion of Phase 1. Therefore, Work Item #11A includes an allowance in case additional pipe is needed to connect to the existing storm sewer. For bidding purposes, bidders shall use QTY. 170 LF for Work Item #11A, "STORM SEWER, 18" PVC, SDR 35", as shown on the Basis of Bid Form. The quantities for the associated work items, including excavation (Work Item #11B), bedding & initial backfill (Work Item #11D), and final backfill (Work Item #11E) were calculated based on a storm sewer length of 170 LF.

Q10: For the "ROAD CUT & REPAIR" work items, if a larger area needs to be cut than what is depicted on the plans and Basis of Bid Form, will that additional area be paid by the unit price submitted on the Basis of Bid Form, or is the additional area considered incidental to the work item?

A10: Any additional/larger road cut and repair areas should first be reviewed and approved by the Department as additional work. Payment of such approved additional work will be at the unit prices associated with such work items, in accordance with Section 104.03 of the General Specifications.

WINDY OAKS SUBDIVISION - STORM WATER MANAGEMENT SYSTEM IMPROVEMENTS, PHASE 2

PRE-BID MEETING

MAY 27, 2021 (10:00 AM CST)

NAME	COMPANY	ADDRESS	OFFICE/CELL/FAX	EMAIL
Michael Novotney	Porter Co. Dept. of Development and Storm Water Management	155 Indiana Ave., Ste. 311 Valparaiso, IN 46383	Office: (219) 465-3507 Cell: (219) 307-3311 Fax: (219) 465-3543	mnovotney@porterco.org
Chelsey Gordon	Porter Co. Dept. of Development and Storm Water Management	155 Indiana Ave., Ste. 311 Valparaiso, IN 46383	Office: (219) 465-3652 Cell: (219) 252-7499 Fax:	chelsey.gordon@porterco.org
Josh Crandall	Gariup		Office: 219-887-5835 Cell: 219-628-0727 Fax:	josh.crandall@gariup.com megan.sibler@gariup.com
Ray Donnell	G.E. Marshall	1351 Tollet Rd	Office: 219-462-3415 Cell: 219-465-0378 Fax:	Ray.Donnell@GEmarshall.com
Scott Clark	T.G.B. Limited Unlimited Inc.	250 20 STRd 2 South Bend IN, 46619	Office: Cell: 574-532-6936 Fax:	scott.clark@thebarcroft.companies.com
Ethan K Wepp	HRP Construction	5777 Cleveland Rd South Bend, IN 46624	Office: 574-271-7500 Cell: Fax:	Ethan@hrpconstruction.com

WINDY OAKS SUBDIVISION - STORM WATER MANAGEMENT SYSTEM IMPROVEMENTS, PHASE 2

PRE-BID MEETING

MAY 27, 2021 (10:00 AM CST)

<p>MATT VECTOR</p>	<p>GALVIN, DOR.</p>		<p>Office: Cell: Fax:</p>	<p>VDA VADCO CONSTRUCTION</p>
<p>DOZHE GARCIA</p>	<p>GARCIA INTERNATIONAL SUPPORT</p>		<p>Office: Cell: Fax:</p>	<p>VDA VADCO CONSTRUCTION</p>
<p>SEAN DAVIDSON</p>	<p>GREENWATER</p>		<p>Office: Cell: Fax:</p>	<p>VDA VADCO CONSTRUCTION</p>
			<p>Office: Cell: Fax:</p>	

PROJECT #4-43B(19)
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORM WATER
MICHAEL NOVOTNEY, PE
WINDY OAKS SUBDIVISION - DETENTION BASIN
HEBRON, INDIANA 46341

10-23-19 / 11-22-19



SOIL SOLUTIONS

A SOIL AND ENVIRONMENTAL CONSULTING COMPANY

JOHN J. McQUESTION
CERTIFIED PROFESSIONAL SOIL SCIENTIST
CERTIFICATION NUMBER: 04287



Tim Monaghan
CERTIFIED PROFESSIONAL SOIL SCIENTIST
CERTIFICATION NUMBER: 15238



*Soil Solutions, Inc. P. O. Box 229 Valparaiso, IN 46384
P.O. Box 1091 Granger, IN 46530
(219)465-5885 or 800-947-2444*

Soil Solutions

Soil Description Report

John J. McQuestion Certified Professional Soil Scientist
Tim Monaghan Certified Professional Soil Scientist
Evan Troutman Associate Professional Soil Scientist

ARCPACS Certification # - 04287
ARCPACS Certification # - 15238
ARCPACS Certification # - 497641

jmcquestion@soilsolutions-inc.com
tmonaghan@soilsolutions-inc.com
etroutman@soilsolutions-inc.com

PROJECT NUMBER: 4-43B(19)

DATE: 10-23-19 / 11-22-19

CLIENT/PROJECT

NAMES: PORTER CO. DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT - MICHAEL NOVOTNEY, PE

MAILING ADDRESS: 155 INDIANA AVENUE, SUITE 311

CITY: VALPARAISO **STATE:** IN **ZIP CODE:** 46383

PHONE NUMBER: (219) 465-3507 **EMAIL ADDRESS:** mnovotney@porterco.org

PROPERTY OWNERS/DEVELOPER

NAMES: PORTER CO. DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT - MICHAEL NOVOTNEY, PE

MAILING ADDRESS: 155 INDIANA AVENUE, SUITE 311

CITY: VALPARAISO **STATE:** IN **ZIP CODE:** 46383

PHONE NUMBER: (219) 465-3507 **EMAIL ADDRESS:** mnovotney@porterco.org

PROJECT LOCATION

COUNTY: PORTER **TOWNSHIP:** PORTER
SITE ADDRESS: WINDY OAKS SUBDIVISION - DETENTION BASIN
CITY: HEBRON **STATE:** IN **ZIP CODE:** 46341
LEGAL DESCRIPTION: PART OF NW 1/4 OF NE 1/4 OF SEC 14 T34N R7W

PROJECT SPECIFICATION:

PROVIDE THREE SOIL BORINGS IN THE EXISTING DETENTION BASIN AT WINDY OAKS SUBDIVISION, TO DETERMINE SOIL TYPE.

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PROJECT NUMBER: 4-43B(19)

DATE: 10-23-19/11-22-19

SITE CHARACTERISTICS:

Purpose for Assistance:

Residential

Commercial

New Construction

New Construction

Repair

Repair

Water Source: Proposed Well Existing Well City Water

Were Property Lines Clearly Marked / Surveyed At Time Of Testing? Yes No

Persons at Site John Mcquestion, Luke Emery, Evan Troutman

Slope and Aspect 1% SOUTH

Landscape Position MORAINE, DEPRESSION

Soil Map Sheet Number WEB SOIL SURVEY

Soil Map Sheet Units Wt - WASHTENAW

Wetlands Present at Site NONE

Present Land Use EXISTING DETENTION POND

Vegetative Cover MIXED GRASSES

Parent Materials GLACIAL TILL

Seasonal Water Table YES

Perched or Fluctuating Water PERCHED

Table

Depth to Free Water In Unlined Bore Hole #1- 24" #2- 16" #3- 28" - AFTER ONE HOUR

Dense Basal Till NONE OBSERVED

Does Site Flood or Pond Water YES - EXISTING DETENTION BASIN

Medium or Coarse Sands NONE

OTHER LIMITING CONDITIONS:

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SOIL BORING #1

PROJECT NUMBER: 4-43B(19)

DATE: 10-23-19

Soil Profile Description

Classification:	FINE LOAMY MIXED MESIC AERIC FLUVAQUENTS
Parent Material:	GLACIAL TILL
Depth To Seasonal Water Table:	AT OR ABOVE SOIL SURFACE
Depth To Dense Basal Till:	NONE OBSERVED
Lot / Parcel Number:	WINDY OAK SUBDIVISION

Depth Inches	Horizon	Munsell Color (Moist)				Structure				Additional Features			
		Texture	Matrix	Mottles	Q,S,C	Grade	Size	Shape	Consistence (moist)	Kind	Color	Co. Frag% 2mm-3"	Sand %
0-5	A(FILL)	SICL	10yr3/2	6/8-6/6	FMD	2	MED	SBK	FIRM				
5-28	Btg1	SIC	2.5yr5/2	5/1-4/6	MCD	2	MED	ABK	V. FIRM				
28-40	Btg2	SICL	10yr5/1	6/1-6/8	MCD	1	M/CO	SBK	FIRM			2-5%	
40-54	Btg3	CL	10yr4/1	6/2-5/8	MCD	1	CO	SBK	FIRM			2-5%	
54-63	Btg4	SCL/L	10yr4/2	6/6	CMD	1	CO	SBK	F/F			5-15%	
63-75	Btg5	CL	10yr5/2	5/1-4/6	FMD	1	CO	SBK	FIRM			2-5%	

SOIL PROFILE DESCRIPTION CODES

<i>Mottles</i>	<i>Structure</i>	<i>Additional Features</i>
Q-Quantity	C-Contrast	Kind
F-Few 2% or Less	F-Fine 5mm or less	1- Weak
C- Common – 2-20%	M-Medium 5-15mm	2- Moderate
M-Many-20% or More	C-Common (15mm or More)	3- Strong
	P-Prominent	FeMn – Iron & Manganese
		CaCO3- Calcium Carbonate Coating
		C.F. – Clay Films / Clay Skins

*All colors have a Hue of 10YR unless otherwise indicated.

SOILS WERE SATURATED AT 12 INCHES - FREE WATER AT 24 INCHES AFTER 60 MINUTES. COULD NOT ADVANCE SOIL BORING BEYOND 75 INCHES ON 10-23-19 DUE TO SATURATION.

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Soil Solutions

Soil Description Report

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 etroutman@soilsolutions-inc.com

SOIL BORING #2

PROJECT NUMBER: 4-43B(19)

DATE: 11-22-19

Soil Profile Description

Classification:	FINE LOAMY MIXED MESIC AERIC FLUVAQUENTS
Parent Material:	GLACIAL TILL
Depth To Seasonal Water Table:	AT OR ABOVE SOIL SURFACE
Depth To Dense Basal Till:	NONE OBSERVED
Lot / Parcel Number:	DETENTION BASIN AT WINDY OAKS SUBDIVISION

Depth Inches	Horizon	Munsell Color (Moist)				Structure				Additional Features			
		Texture	Matrix	Mottles	Q,S,C	Grade	Size	Shape	Consistence (moist)	Kind	Color	Co. Frag% 2mm-3"	Sand %
0-8	Ap	L	10yr3/1	5/6	FFD	2	FINE	GR	FRI				
8-21	Bt	CL	10yr4/1	5/2-5/6	CFD	2	MED	SBK	FIRM			2-5%	
21-35	Btg1	SICL	10yr5/2	5/1-6/6	CMD	1	CO	SBK	V. FIRM				
35-50	Btg2	CL	10yr6/1	2.5yr6/6	MCD	1	CO	SBK	FIRM			2-5%	
50-65	Btg3	CL	10yr6/2	6/1-6/8	FFD	1	CO	SBK	V. FIRM			2-5%	
65-86	Bg	SCL	10yr5/2			1	CO	SBK	F/F			15-20%	

SOIL PROFILE DESCRIPTION CODES

<i>Mottles</i>		<i>Structure</i>		<i>Additional Features</i>	
Q-Quantity	S-Size	C-Contrast	Grade	Kind	
F-Few 2% or Less	F-Fine 5mm or less	F-Faint	1- Weak	FeMn – Iron & Manganese	
C- Common – 2-20%	M-Medium 5-15mm	D-Distinct	2- Moderate	CaCO3- Calcium Carbonate Coating	
M-Many-20% or More	C-Common (15mm or More)	P-Prominent	3- Strong	C.F. – Clay Films / Clay Skins	

*All colors have a Hue of 10YR unless otherwise indicated.

SOILS WERE SATURATED AT 35 INCHES - FREE WATER AT 28 INCHES AFTER 60 MINUTES. COULD NOT ADVANCE SOIL BORING BEYOND 86 INCHES ON 11-22-19 DUE TO SATURATION.

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Soil Solutions

Soil Description Report

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 tmonaghan@soilsolutions-inc.com
 etroutman@soilsolutions-inc.com

SOIL BORING #3

PROJECT NUMBER: 4-43B(19)

DATE: 11-22-19

Soil Profile Description

Classification:	FINE LOAMY MIXED MESIC AERIC FLUVAQUENTS
Parent Material:	GLACIAL TILL
Depth To Seasonal Water Table:	AT OR NEAR SOIL SURFACE
Depth To Dense Basal Till:	NONE OBSERVED
Lot / Parcel Number:	DETENTION BASIN AT WINDY OAKS SUBDIVISION

Depth Inches	Horizon	Munsell Color (Moist)				Structure			Additional Features				
		Texture	Matrix	Mottles	Q,S,C	Grade	Size	Shape	Consistence (moist)	Kind	Color	Co. Frag% 2mm-3"	Sand %
0-6	Ap	CL	10yr4/2	6/2-6/6	CMD	2	MED	SBK	FIRM				
6-12	Bt	CL	10yr4/4	6/2-6/6	MCD	2	MED	SBK	FIRM				
12-32	Btg1	CL	10yr6/2	5/8-5/6	MMD	2	M/CO	SBK	FIRM			2-5%	
32-54	Btg2	CL	10yr6/1	5/6	CMD	1	CO	SBK	FIRM			2-5%	
54-74	Bg	SCL	10yr6/1	6/6	CMD	1	CO	SBK	F/F			10-15	

SOIL PROFILE DESCRIPTION CODES

<i>Mottles</i>	<i>Structure</i>	<i>Additional Features</i>
Q-Quantity	C-Contrast	Grade
F-Few 2% or Less	F-Faint	1- Weak
C- Common – 2-20%	D-Distinct	2- Moderate
M-Many-20% or More	P-Prominent	3- Strong
Kind		
FeMn – Iron & Manganese		
CaCO3- Calcium Carbonate Coating		
C.F. – Clay Films / Clay Skins		

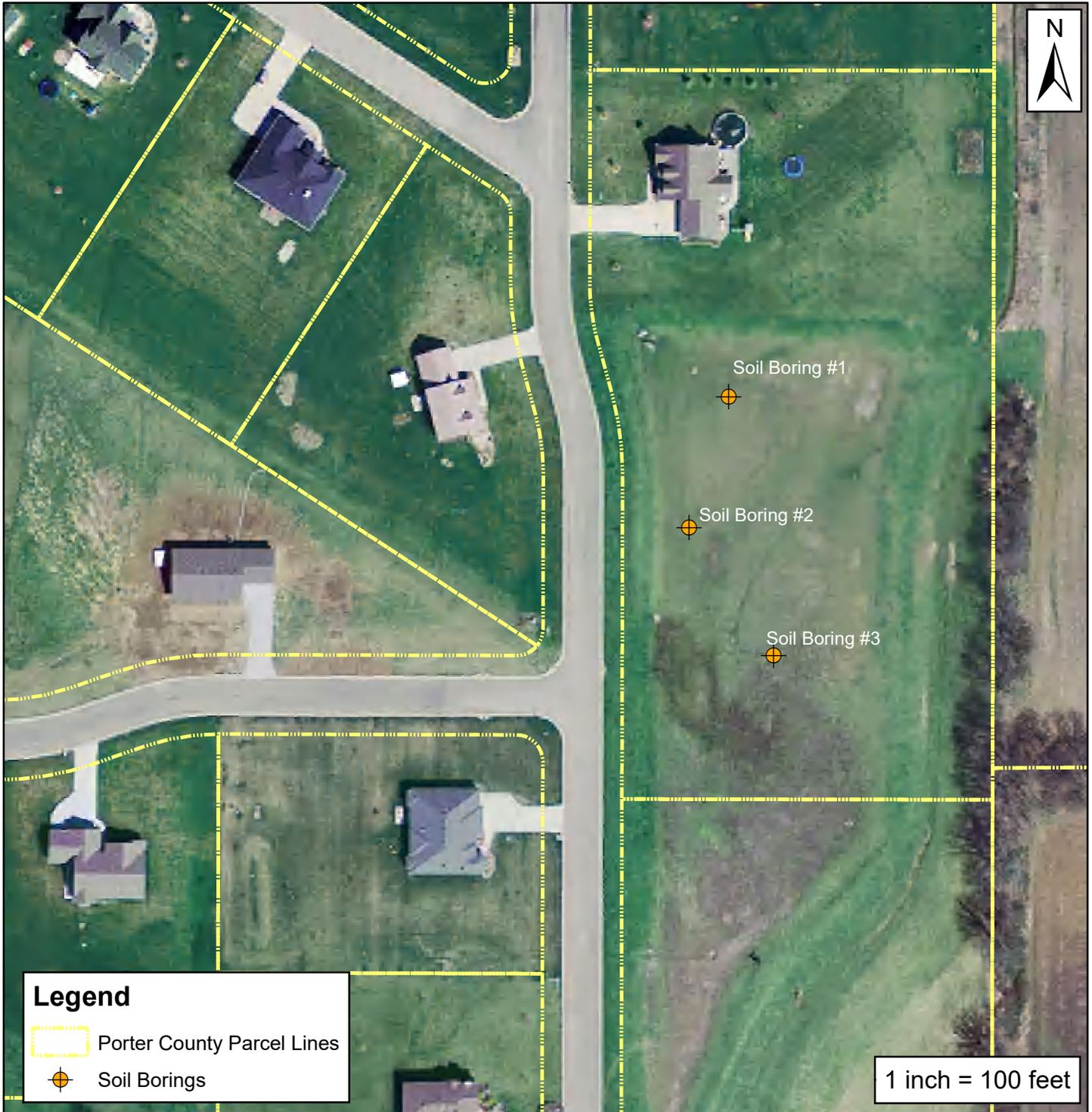
*All colors have a Hue of 10YR unless otherwise indicated.

SATURATED AT 29 INCHES FREE WATER AT 28 INCHES AFTER 60 MINUTES COULD NOT ADVANCE SOIL BORING BEYOND 74 INCHES ON 11-22-19 DUE TO SATURATION.

Soil Solutions – A Soil and Environmental Consulting Company

P. O. Box 229 Valparaiso, IN 46384 (219) 465-5885 or 800-947-2444
 P.O. Box 1091 Granger, IN 46530 (219) 465-5885 or 800-947-2444

Soil Boring Locations



Legend

-  Porter County Parcel Lines
-  Soil Borings

1 inch = 100 feet



Soil Solutions, Inc.
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Phone: 219-465-5885
www.soilsolutions-inc.com

Client: Michael Novotney, PE

Site Address:

Windy Oaks Subdivision
Detention Basin

SSI Project Number: 4-43B(19)

Map Date: November 22, 2019

