**GEOTECHNICAL INVESTIGATION** 

IL-56 Noise Abatement Walls (Walls 1 thru 5)

IDOT Project No. P-91-439-01, Contract No 60P75

**DuPage County, Illinois** 

**Prepared for:** 

Mr. Joel Ihde, P.E., S.E. Bollinger, Lach and Associates, Inc. 333 Pierce Road, Suite 200 Itasca, IL. 60143

Prepared by:

Geo Services, Inc. 805 Amherst Court Suite 204 Naperville, Illinois 60565 (630) 305-9186

GSI Job No. 12195 June, 2013 Revised September, 2021





June 28, 2013 Revised September 29, 2021

Bollinger, Lach and Associates, Inc. 333 Pierce Road, Suite 200 Itasca, IL 60143

Attn: Mr. Joel Ihde, P.E., S.E.

GSI Project 12195

Re: Geotechnical Report IL-56 Noise Abatement Walls 1 and 2 IDOT Project No. P-91-439-01, Contract No. 60P75 DuPage County, IL

Dear Mr. Ihde:

The following report presents the geotechnical analysis and recommendations for the construction of the proposed noise abatement walls included for the IL-56 Improvements Project, IDOT Project Number: P-91-439-01 (Contract No. 60P75). A total of twenty-four (24) borings (NW-01 thru NW-21 and NW-24) were completed at the site by Geo Services, Inc. (GSI). Copies of the location diagram, along with the boring logs, are included in this report.

If there are any questions regarding the information submitted herein, please do not hesitate to contact us.

Very truly yours,

GEO SERVICES, Inc.

Sean Kirman

Sean Kirwan, E.I.T. Assistant Project Engineer

Ret

Andrew J. Ptak, P.E. Principal Engineer



enc.

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## PROJECT DESCRIPTION

The following report presents the results of the geotechnical investigation performed for the proposed noise abatement walls along IL-56 from near East Branch DuPage River to Lloyd Avenue located in Downers Grove, DuPage County, Illinois. The noise abatement walls proposed for this report are based upon information regarding the proposed improvements and subsurface information obtained from the twenty-four (24) soil borings.

Table 1 contains a summary of each noise abatement wall, station limits, and the corresponding borings that were drilled for each of the walls along IL-56 project limits.

Noise Abatement Wall #	Approximate Station Limits	Wall Length (feet)	Borings used for the Wall
1	205+30 to 218+50 (IL-56 Alignment, Left)	1,320	NW-01, NW-04, NW-06 to NW-14
2	218+50 to 220+45 (IL-56 Alignment, Left)	195	NW-13 and NW-15

#### Table 1- Noise Abatement Wall Boring Summary

The soil boring locations were selected by Geo Services based on the criteria in the IDOT Geotechnical Manual and submitted to and approved by Bollinger, Lach and Associates, Inc. (BLA) and IDOT. Soil borings were laid out by Geo Services, Inc. field personnel. Surveyed elevations were estimated by GSI based on the provided topographic drawings and are shown on the boring logs. The as-drilled locations for the borings are shown on the Boring Location Diagram found in the Appendix section of this report. The project improvement limits is shown on the site map on the following page.

## **STATE OF ILLINOIS**

DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED

IL. 56 IMPROVEMENTS EAST BRANCH DUPAGE RIVER TO LLOYD AVENUE, DOWNERS GROVE DUPAGE COUNTY

BEGIN APPROX. STA. 189+00



T39N END APPROX. STA. 234+00

R10E

## SUBSURFACE INVESTIGATION PROCEDURES

Borings NW-04, NW-07, NW-11, NW-14, NW-17, NW-21 and NW-24 were performed during the month of September, 2012, and borings NW-1, NW-2, NW-5, NW-6, NW-8, NW-9, NW-10, NW-12, NW-13, NW-15, NW-16, NW-18, NW-19, and NW-20 were drilled during the month of May, 2013 with a truck mounted drill rig and the borings were advanced by means of hollow stem augers. In addition, selected borings (NW-19A and NW-20A) were hand-augered at off-shoulder/near top of the ditch areas where drilling rig cannot access. The hand-auger borings provide supplemental information to the full-depth offset borings. Disturbed soil samples were obtained from the bucket of the hand-auger. Representative samples from the drill rig were obtained employing split spoon sampling procedures in accordance with AASHTO T-206. Cohesive samples were tested for unconfined compressive strength using an IDOT modified RIMAC test device and/or calibrated penetrometer in the field.

## LAB TESTING PROGRAM

The test procedures were performed in accordance with test procedures discussed in the IDOT Geotechnical Manual. All split-spoon samples obtained from the drilling operation were visually classified in the field. Cohesive samples were tested for unconfined compressive strength using an IDOT modified RIMAC test device and/or calibrated penetrometer in the field.

The soil testing program included performing water content, density and either unconfined compression and/or calibrated penetrometer tests on the cohesive samples recovered. Water content tests were performed on the non-cohesive samples recovered. These tests were performed upon representative portions of the samples obtained in the field. The results of the above testing, along with a visual classification of the material based upon both the Illinois textural classification and the AASHTO Soil Classification System, are indicated on the logs.

## SUBSURFACE CONDITIONS

Specific soil conditions encountered in the borings are indicated on the soil boring logs. The stratification lines shown on the boring logs represent the approximate boundary between soil types, and the actual transition may be gradual.

#### Noise Abatement Wall 1 – Station 205+30 to 218+50

Soil conditions for Noise Abatement Wall 1 were represented by borings NW-01, NW-04 and NW-06 to NW-14. At borings drilled at off-pavement locations, surficial sections consist of 10 to 12 inches of topsoil underlain with stiff clay to clay loam soils. Surficial section of borings drilled at pavement areas consisted of 9 to 12 inches of asphalt overlying 8 to 12 inches aggregate subbase and stiff to very stiff clay to clay loam fill. Layers of buried topsoil were also encountered below the fill strata at borings NW-01, NW-06 and NW-10 at depths ranging from 5 to 8 feet below ground surface (elevation ranges of 682 to 685 feet). Beneath the surficial and fill materials, soil conditions consist of loose to dense loam to sand, silt and gravel soils at NW-01, NW-04, and NW-06 to NW-09, or stiff to very stiff clay loam soils at NW-09 to NW-14 to termination of borings at approximate depth of 25 feet below ground surface (approximate elevation of 657 feet). Moisture contents were generally in the high teens to mid-twenties for cohesive soils and low teens for granular soils.

#### Noise Abatement Wall 2 – Station 218+50 to 220+45

Soil conditions for Noise Abatement Wall 2 were represented by borings NW-13 and NW-15. Surficial materials consisted of 14 inches of asphalt overlying 8 to 12 inches aggregate subbase at boring NW-15, which was drilled at pavement areas, or 10 inches of topsoil at boring NW-13, which was drilled at off-pavement location. The surficial materials were underlain with 2 to 3.5 feet of stiff to very stiff clay loam fill to approximate elevation of 722 feet. Beneath the fill soils, soil conditions typically consist of stiff to hard clay loams to termination of borings at approximate depth of 25 feet below ground surface (approximate elevation of 703 feet). Moisture contents were generally in the high teens to mid-twenties for cohesive soils and low teens for granular soils.

### **GROUNDWATER CONDITIONS**

Groundwater was estimated from water levels encountered while drilling in conjunction with soil coloration change from brown and gray to gray between the strata.

When groundwater was encountered, water levels were within the elevation ranges of 668 to 730 feet. Due to the stratum change from brown and gray to gray, we estimate the long-term groundwater table at depths of 8 to 12 feet below existing grade. Fluctuations in the amount of water accumulated and in the hydrostatic water table can be anticipated depending upon variations in precipitation, evaporation, and surface runoff.

## ANALYSIS AND RECOMMENDATIONS

#### Site Seismic Considerations

For LFRD design, according to the AASHTO LRFD Bridge Design Specification 2020, the project site has a horizontal Response Spectral Acceleration of 0.034 at a period of 1.0 second and 5% critical dampening (S<sub>1</sub>). The site also has a horizontal Response Spectral Acceleration of 0.091 at a period of 0.2 seconds and 5% critical dampening (S<sub>s</sub>). The following table shows recommended seismic design data in accordance to the AASHTO LRFD Bridge Design Specification 2020.

#### Table 2 – Seismic Design (Approximately 1000-Year Return Period)

Seismic Performance Zone (SPZ)	1
Spectral Acceleration at 1 second (S <sub>D1</sub> )	0.058
Design Spectral Acceleration at 0.2 seconds (S <sub>Ds</sub> )	0.109
Soil Site Class	С

The project site is considered to be in a low seismic area and is considered a nonextreme event. Liquefiable layers are not expected to impact the design of the new bridge.

#### Settlement Analysis

Based on the fact that little to no new fill is proposed and a review of the soil conditions at each of the walls, no settlement concerns are noted on the noise abatement walls. Total settlement of foundations for the walls situated on approved natural soils is estimated to be on the order of 1/4 inch or less.

#### Noise Wall Foundation Recommendations

The proposed noise walls may be based on deep foundations consisting of straightshaft drilled caissons. A summary of recommended using a maximum net factored soil bearing pressure for caissons are tabulated in the following table.

Noise Abatement Wall #	Station Limits, (Estimated Wall Height Ranges)	Bearing Soil Stratum Description (Elevation <sup>2</sup> , feet)	Net Factored Bearing Capacity (psf) <sup>1</sup>
1	205+30 to 218+50 (10 to 12 feet)	Medium Dense Sandy Loam, Sand and Gravel to Very Stiff Clay Loam (698 to 710 feet)	4,000
2	218+50 to 220+45 (10 to 13 feet)	Stiff to Hard Clay Loam (715 to 720 feet)	4,500

#### Table 3 – Recommended Bearing Capacity for the Noise Abatement Walls

Notes: 1. Net factored bearing capacity is computed for a resistance factor of 0.45.

2. Denotes approximate bottom of the caisson tip elevation at 10 to 18 below grade.

Caisson concrete may be placed by the free fall method into the clean and dry shaft excavations as long as concrete does not hit the sides of the shaft or the rebar cage during placement. Construction of the noise wall foundations should be in accordance with current IDOT Standard Specifications for Road and Bridge Construction (SSRBC), Adopted April 1, 2016 as well as current IDOT Geotechnical Manual (December 4, 2020).

For construction of caissons extending deeper than 10 to 18 feet in depth at the majority of the noise abatement wall borings, it is expected that caissons will need to be drilled using temporary casing and possibly a polymer or slurry due to potential water infiltration from the water table and/or to prevent cave-ins caused by granular soils during construction. The use of temporary casing may be required to prevent sloughing prior to concrete placement.

During excavation for the proposed improvements, movement of adjacent soils into the excavation should be prevented. All excavations should be performed in accordance with the latest Occupational Safety and Health Administration (OSHA) requirements.

#### Lateral Earth Pressure Recommendations

The soil parameters on the following Tables 4 and 5 should be used for the lateral resistance design of the noise walls. Adhesion values are also shown in the Lateral Soil Pressure Recommendations on the following tables.

#### Table 4 – Lateral Soil Pressure Parameters for Noise Abatement Wall 1

Material Description (Approx. Elevation, feet)	Unit Weight (pcf)	Undrained Friction Angle (°)	Undrained Cohesion (pcf)	Drained Friction Angle (°)	Drained Cohesion (psf)	Adhesion (psf)	Lateral Modulus of Subgrade Reaction <sup>1</sup> (pci)	Strain (ε <sub>50</sub> ) <sup>1</sup>
Stiff to Stiff Clay/ Clay Loam Fill (688 to 681)	120	0	2,000	28	0	600	700	0.006
Buried Topsoil <sup>2</sup> (681 to 678)	90	0	0	10	0	0	0	
Medium Dense to Dense Silty/ Sandy Loam (681 to 675)	125	32	n/a	32	0	n/a	100	0.002
Stiff to Very Stiff to Clay/ Clay Loam <sup>3</sup> (675 to 653)	125	0	3,000	30	0	800	1,000	0.005
Loose to Dense Sand and Gravel <sup>4</sup> (675 to 653)	125	32	n/a	32	0	n/a	100	0.002

Notes: 1. Values recommended for use in design from COM624 software manual

Buried topsoil encountered at borings NW-01, NW-06 and NW-10 only.
 Stiff to Very Stiff Clay to Clay Loam soils encountered at the near termination of borings at NW-10 thru NW-13 only.

4. Loose to Dense Sand & Gravel soils encountered at the near termination of borings at NW-04 thru NW-09 only.

### Table 5 – Lateral Soil Pressure Parameters for Noise Abatement Wall 2

Material Description (Approx. Elevation, feet)	Unit Weight (pcf)	Undrained Friction Angle (°)	Undrained Cohesion (pcf)	Drained Friction Angle (°)	Drained Cohesion (psf)	Adhesion (psf)	Lateral Modulus of Subgrade Reaction <sup>1</sup> (pci)	Strain (ε <sub>50</sub> ) <sup>1</sup>
Medium Stiff to Stiff Clay/ Clay Loam Fill (724 to 722)	120	0	1,500	28	0	500	400	0.006
Very Stiff to Hard Clay/ Clay Loam (722 to 700)	125	0	4,000	30	0	1,000	1,000	0.005

Note: 1. Values recommended for use in design from COM624 software manual

## **GENERAL QUALIFICATIONS**

The analysis and recommendations presented in this report are based upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations that may occur between borings or across the site. In addition, the soil samples cannot be relied on to accurately reflect the strata variations that usually exist between sampling locations. The nature and extent of such variations may not become evident until construction. If variations appear evident, it will be necessary to reevaluate the recommendations of the report. In addition, it is recommended that Geo Services Inc. be retained to perform construction observation and thereby provide a complete professional geotechnical engineering service through the observational method.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranties, either expressed or implied, are intended or made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing by the geotechnical engineer. Also note that Geo Services Inc. is not responsible for any claims, damages, or liability associated with any other party's interpretation of this report's subsurface data or reuse of the report's subsurface data or engineering analyses without the express written authorization of Geo Services Inc.

Attachments:

General Notes Boring Location Diagram Boring Logs ATTACHMENTS

#### GENERAL NOTES

#### CLASSIFICATION

American Association of State Highway & Transportation Officials (AASHTO) System used for soil classification.

#### **Cohesionless Soils**

Relative

Densitv

Loose

Dense Very Dense

Very Loose

#### **TERMINOLOGY**

**Streaks** are considered to be paper thick. Lenses are considered to be less than 2 inches thick. Layers are considered to be less than 6 inches thick. Stratum are considered to be greater than 6 inches thick.

#### Cohesive Soils

Medium Dense

<u>Consistency</u>	Unconfined Compressive Strength - qu (tsf)
Very Soft	Less than 0.25
Soft	0.25 - 0.5
Medium Stiff	0.5 - 1.0
Stiff	1.0 - 2.0
Very Stiff	2.0 - 4.0
Hard	Over 4.0

No. of Blows

per foot N

0 to 4

4 to 10

10 to 30

30 to 50

Over 50

#### DRILLING AND SAMPLING SYMBOLS

SS:	Split Spoon 1-3/8" I.D., 2" O.D.
OT.	

- Shelby Tube 2" O.D., except where noted ST:
- Auger Sample AS:
- DB: Diamond Bit - NX: BX: AX
- Carboloy Bit NX: BX: AX CB:
- **Osterberg Sampler** OS:

HS:	Housel Sampler
WS:	Wash Sample
FT:	Fish Tail
RB:	Rock Bit
WO:	Wash Out

Standard "N" Penetration: Blows per foot of a 140 lb. hammer falling 30" on a 2" O.D. Split Spoon

#### WATER LEVEL MEASUREMENT SYMBOLS

WL:	Water	WD:	While Drilling
WCI:	Wet Cave In	BCR:	Before Casing Removal
DCI:	Dry Cave In	ACR:	After Casing Removal
WS:	While sampling	AB:	After Boring

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable ground water levels. In impervious soils, the accurate determination of ground water elevations is not possible in even several days observation, and additional evidence on ground water elevations must be sought.



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Station <u>XX</u>		B U L C	M 0			D E	B L	U C	М 0	
BORING NO. <u>NW-01</u>	P	o s w	   S	Groundwater Elevation:		P T	o w	S	   S	
Station <u>205+30</u> Offset <u>61.0' Left</u>		S Qu	T	First Encounter <u>668.6</u> Upon Completion <u>670.6</u>		н́	ŝ	Qu	Ť	
Ground Surface Elev682.1	(ft) (,	/6") (tsf)	(%)	After Hrs		(ft)	(/6")	(tsf)	(%)	
10.0" CLAYEY TOPSOIL-dark brown <sub>68</sub>									┢	
00	1.2	AS –	35				_			
		2					7 17			
CLAY LOAM-brown-stiff		<u>3 1.0P</u>	16	SAND & GRAVEL—gray— medium dense to dense (A-	-1)	_	20	NP	5	
67	/8.1	3					4			
	-5	4 5 1.5P	32		657	1 –25	11	NP	8	
TOPSOIL-black				End Of Boring @ -25.0'	007.	<u>, 23</u>				
67	<u>76.1</u>			Hollow Stem Augers CME Automatic Hammer						
SILTY CLAY-brown & gray-	+	2				-	$\neg$			
stiff (A-6)		<u>5 1.0P</u>	23				$\square$		<u> </u>	
67	4.1									
		4								
SILTY SAND-brown-	_10	9				_ 30				
medium dense (A-2)		<u>9 NP</u>	8				$\neg$			
₩ 567	0.6	8					-+			
SILTY LOAM-brown & gray-		12 NP	17				-+			
medium dense (A−4) ▼66	8.6									
<b>•</b> • •		5								
	15	12 12 NP	9			-35				
	-+									
SAND & GRAVEL-gray- medium dense to dense (A-1)		<u>8</u> 11		•			-+		$\vdash$	
		12 NP	8				-+		⊢	
		10							$\vdash$	
		27 20 NP				-40				
The Unconfined Compressive Strength (UCS) Failure				∎ ge, S-Shear, P-Penetrometer) ST-S	helby Tube Sample	10	-Vane	Shear	Test	

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STRUCT. NO. <u>XX</u> Station <u>XX</u>	D	В	U	м	Surface Water Elev. <u>n/a</u> Stream Bed Elev. <u>n/a</u>		D	В	U	м
BORING NO. NW-02	E P	L O	C S	0	Groundwater Elevation:		E P	L O	C S	0
Station <u>202+20</u>	T H	W S	Qu	S T	First Encounter <u>Dry to</u>	o 5.0' 🔻	T H	W S	Qu	S T
Offset <u>38.3 Left</u>		( ( ) )		(97)	Upon Completion <u>n/a</u>			( (0))		
Ground Surface Elev. <u>678.3</u>	(11)	(76°)	(tsf)	(%)	After Hrs	<b></b>	(11)	(76°)	(tsf)	(%)
9.0" ASPHALT 67'	7.6 —	1								
CRUSHED STONE-medium dense (Fill)		6						14		
670	6.3	4			SAND & GRAVEL-gray-			16		
TOPSOIL-black 673	5.3 —	6	2.54P	28	medium dense to dense (A	—1)	_	17	NP	8
	_									
SANDY CLAY LOAM-gray-		2						12		<u> </u>
stiff (A-6)	 5	3	1.5P	16		653.3	3 – 25	15 17	NP	8
67.	2.8				End Of Boring @ -25.0'					
					Hollow Stem Augers to 5.0' Rotary Drilling To Completio	'n				
		6 8			CME Automatic Hammer					
SAND & GRAVEL-brown-	_	8	NP	13						
medium dense (A-1)										
		10								
	_	15								
66		14	NP	11						├──
	_	12					_			_
		15	NP	13						
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		<u>19</u> 17								├──
SAND & GRAVEL-gray- medium dense to dense (A-1)	15	1	NP	11						
		9								
		12			1					$\square$
		13	NP	9			_			
		1								
		10								$\square$
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The Unconfined Compressive Strength (UCS) Failure	<u>—20</u> Mode is i		NP ed by (	<b>  12</b> B-Bul	Ⅰ ge, S—Shear, P—Penetrometer) ST—S	helby Tube Sampl	<u>– 40</u> e VS:	=Vane	Shear	L Test

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COUNTY <u>DuPage County</u> DR						ER TYPE <u>CM</u>	E Aut	toma	itic	
STRUCT. NO. XX					Surface Water Elev. <u>n/a</u>					<u> </u>
Station <u>XX</u>	D E	BL	U C	М О			D E	BL	U C	М 0
BORING NO. <u>NW-03</u>	P T	O W	S	l S	Groundwater Elevation:		P T	0 W	S	   S
Station <u>203+37</u> Offset <u>51.2' Left</u>	н		Qu	Т	First Encounter <u>Dry to</u> Upon Completion <u>n/a</u>	<u>5.0'</u>	Н	S	Qu	т
Ground Surface Elev. <u>678.2</u>	(ft)	(/6")	(tsf)	(%)	After Hrs		(ft)	(/6")	(tsf)	(%)
TOPSOIL-black										
677.	2	<u>AS</u> 2	-	26				12		
CLAY to CLAY LOAM-brown & gray		4			SAND & GRAVEL-gray-			15		
spotted black-very stiff (A-6) Fill	, —	4	3.0P	19	medium dense to dense (A-	-1)	_	16	NP	9
675.	~									
SILTY CLAY-brown & gray-		2		96				15		<u> </u>
medium stiff (A-6)	-5	2	0.8B	23		653.2	2 - 25	16 18	NP	10
672.	7		0.00	20	End Of Boring @ -25.0'					
		4			Hollow Stem Augers CME Automatic Hammer					
SANDY CLAY LOAM with Gravel- brown & gray-medium stiff		5								
(Possible Fill)		7	0.5P	18						<u> </u>
670.	2	1								
SANDY LOAM-gray-		6								
medium dense (A-2)	-10	6	NP	21			30			
667.										
		10 10								
		7	NP	10						_
SAND & GRAVEL-gray-		9								
medium dense to dense (A-1)	-15	9 10	NP	12			-35			
				12						
		14 14					_	┢──┤		<u> </u>
	_	11	NP	9						<u> </u>
		10								
		11					40			
The Unconfined Compressive Strength (UCS) Failure M	ode is i	<b>12</b> ndicat	NP ed by (	<b>11</b> B–Bul	<b>I</b> ge, S-Shear, P-Penetrometer) ST-Sh	elby Tube Sample	<b>-40</b> • VS:	=Vane	: Shear	L Test

The Uncontined Compressive Strength (UCS) Failure Mode is indicated by (B-Builde, S-Shear, P-Penetrometer) SI-Sheiby Tube Sample VS=vane Shear Test The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%) NR-No Recovery

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Geo Services Inc.	S	OII	LΕ	BOF	RING LOG DATE <u>9</u>	/24/201	2		
Geo Services, Inc. Geotechnical, Environmental & Givil Engineering 805 Annerst Court State 204					LOGGED	BY <u>DR</u>			
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ROUTE <u>F.A.P. RTE. 365</u> DES	SCRIPT	ΓΙΟΝ	Pede	estria					ls
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COUNTY <u>DuPage County</u> DRI	LLING	мет	THOD _	3.25	<u>;" Hollow Stem Auger</u> HAMMER TYPE	CME Au	tome	utic	
STRUCT. NO. <u>XX</u>					Surface Water Elev. <u>n/a</u>				
Station XX	D E	BL		М 0	Stream Bed Elev. <u>n/a</u>	— D	BL	U C	M   O
BORING NO. <b>NW-04</b> Station <u>208+33</u>	P T	0 W	S	   S	Groundwater Elevation:	Р Т	0 W	S	S S
Station <u>208+33</u> Offset <u>62.0' Left</u>	Н	S	Qu	T	First Encounter <u>Dry</u> Upon Completion <u>Dry</u>	▼   H マ	S	Qu	T
Ground Surface Elev693.1	(ft)	(/6")	(tsf)	(%)		<b>Z</b> (ft)	(/6")	)(tsf)	(%)
10.0" CLAYEY TOPSOIL-dark brown 692.,	2 —	AS		14		_	4		
		AS 7	_	14	SAND-brown-medium dense (A-3)		7		
		11			SAND Brown medium dense (A S)		9		
	_	8	4.5+P	10	6	70.1	8	NP	9
						_	]		
		3		108	SAND with Gravel—brown & gray— medium dense (A—1)		4	<u> </u>	┢
CLAY to CLAY LOAM-brown & gray	5	-	1.4B	21		68. <u>1</u> – 25		NP	17
spotted black-stiff to hard (A-6) Fill	_				End Of Boring @ -25.0' Hollow Stem Augers	_	-		
		3			CME Automatic Hammer		1		
		4					-		
	_	5	2.0P	22			<u> </u>		┢
						_	]		
		2		107			$\vdash$		┢
	10		2.5B	21		30	<u> </u>		
	_					_	-		
		2		105		_			
		6					-		
680.	1 —	8	<u>4.4B</u>	22		_			
						_	4		
SILTY CLAY—dark brown to black— very stiff (A—6)		1					+		-
	15	5	<u>3.75P</u>	23		-35	<u></u>		
677.1	6					_	-		
SANDY CLAY LOAN A Secure		3				_	1		
SANDY CLAY LOAM-brown- stiff (A-2/A-6)		3	1 750	10			-		
675.	1	4	1.75P	19					$\vdash$
						_	-		
SAND-brown-medium dense (A-3)		5					+		⊢
The Upgerfined Comparative Char II. (UCC) 5.11	-20	9	NP	9		-40			
The Unconfined Compressive Strength (UCS) Failure Mc	ode is ir	naicat	ea by (	R-Ral	ge, S-Snear, P-Penetrometer) – SI-Shelby lube So	imple VS	,=vane	e Shear	rest

						PAGE <u>1</u>		of _	1	
Geo Services, Inc.	S	Oll	LE	BOF	RING LOG	DATE <u>5/29</u>	/201	3		
Geotechnical, Environmental & Civil Engineering 805 Amherst Court, Suite 204 Naperville, Illingis 60565						LOGGED BY	DR			
Naperville, Illinois 60565 (630) 355+2838						GSI JOB No.	_12	195		
ROUTE <u>F.A.P. RTE. 365</u> DES	SCRIP <sup>-</sup>	TION	_Pede	estric	in Bridge over East Branch Di					ls
SECTION <u>634X-N-3</u> LOC		N <u>SE</u>	<u>EC 25</u>	<u>, T3</u>	9N, R10E, SW1/4, 3RD PM					
COUNTY <u>DuPage County</u> DRI	LLING	мет	HOD	3.25	5" Hollow Stem Auger_ HAMM	ER TYPE <u>CM</u>	E Aut	toma	ıtic	
STRUCT. NO. XX	D	в	υ	м	Surface Water Elev. <u>n/a</u>		D	В	υ	м
Station XX	Ē	L	С	0	Stream Bed Elev. <u>n/a</u>		Е	L	Ċ	0
BORING NO. <u>NW-05</u>	P T	0 W		I S	Groundwater Elevation:	_	P T	0 W	S	   S
Station <u>204+14</u> Offset <u>74.9' Left</u>	H	S	Qu	T	First Encounter <u>672.0</u> Upon Completion <u>672.0</u>		Н	S	Qu	T
Ground Surface Elev. <u>681.0</u>	(ft)	(/6")	(tsf)	(%)	After Hrs	$\square$	(ft)	(/6")	(tsf)	(%)
SANDY TOPSOIL with Gravel-black 680.0		AS	_	22						
		<u>AS</u> 3	_	101				11		
CLAY LOAM-dark brown, gray & black-		4			SAND & GRAVEL-gray-			17		
stiff (A-6) Fill 678.0	0 —	4	1.9B	21	medium dense to dense (A	-1)	_	21	NP	8
	_									
CLAY—dark brown & gray spotted black- stiff (CL)		2		93				9 21		─
	5	4	1.7B	25		656.0	) -25	1	NP	6
675.8	5				End Of Boring @ -25.0' Hollow Stem Augers		_			
		3			CME Automatic Hammer					
SANDY LOAM-brown-loose (A-2)		4								
673.0	, —	4	NP	14						-
CLAYEY SAND & GRAVEL-brown-		<u>3</u> 5								-
loose (A-2)	10	1	NP	15						
670.8	5									
		10								
		6								
		6	NP	8						-
							_			
SAND & GRAVEL-gray-		10 8								<u> </u>
medium dense to dense (A-1)		13	NP	15			-35			
	_						_			
		6								
		7								
	_	10	NP	15			_			┝
	_	1								
		5								┝
	-20		NP	15			-40			
The Unconfined Compressive Strength (UCS) Failure Mc	de is ir	ndicat	ed by (	B-Bul	ge, S-Shear, P-Penetrometer) ST-S	nelby Tube Sample	e VS	=Vane	Shear	Test

						PAGE <u>1</u>		of _	1	
Geo Services, Inc.	S	01	LΕ	BOF	RING LOG	DATE <u>5/29</u>	/201	3		
Geotechnical, Environmental & Çivil Engineering 805 Amberst Court, Suite 204						LOGGED BY	DR			
Nape(ville, ⊯inois 60565 (630) 355-2838						GSI JOB No.				
ROUTE <u>F.A.P. RTE. 365</u> D	ESCBID.	τιων	Pada	etric	in Bridge over East Branch Di					
					·	a uge niver d		unni	<u>y</u> wa	13
SECTION $634X - N - 3$										
COUNTY <u>DuPage County</u> D		MEI		<u>3.25</u> T		ER TYPE <u>CM</u>	E Aut	toma I		—
STRUCT. NO. <u>XX</u> Station <u>XX</u>	D	в	υ	м	Surface Water Elev. <u>n/a</u> Stream Bed Elev. <u>n/a</u>		D	в	υ	М
	E P	L	C S	0			E P	L	C S	°
BORING NO. <u><b>NW-06</b></u> Station <u>207+12</u>	T	w		S	Groundwater Elevation: First Encounter <u>674.4</u>		Ť	Ŵ	_	ļş
Offset <u>37.6' Left</u>	Н	s	Qu	T	Upon Completion $674.4$		Н	S	Qu	T
Ground Surface Elev. <u>690.4</u>	(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)	(%
9.0" ASPHALT 685	9.7 —									
CLAYEY SAND & GRAVEL-brown (Fill)	688.9	2		105				13		
		3						16		
		3	2.3B	19	SAND & GRAVEL—gray— medium dense (A—1)			16	NP	7
CLAY LOAM-brown-		2		100				16		
stiff to very stiff (A-6) Fill		3						25		
	5	3	1.2B	24		665.4	4 – 25	15	NP	9
					End Of Boring @ -25.0' Hollow Stem Augers					
	_	4		101	CME Automatic Hammer					<u> </u>
		6 6	2.4B	10						
		0	<u>2.40</u>							
681	1.9									
		<u>3</u> 5								┢
TOPSOIL-black	10	1	3.0P	36			-30			
							_			
678		3		100						
SANDY CLAY LOAM-brown-		4		100						
stiff (A-6)		5	1.7B	20			_			L
677	7.4									
		5								
		4								
SILTY SAND-brown-	15	4	NP	13						_
loose to medium dense (A-2)	-									
, v		4								
		5								
670		5	NP	18			_			┢
672		1								
SAND & GRAVEL-gray-		3								⊢
medium dense (A-1)		6								
The Unconfined Compressive Strength (UCS) Failure	<u>-20</u> Mode is i	<b>9</b> ndicat	NP ed by (	<b>10</b> B-Bul	<b>l</b> ge, S-Shear, P-Penetrometer) ST-Sh	nelby Tube Sample	<u>-40</u> • VS	<b> </b> =Vane	Shear	L Test

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Geo Services, Inc.	S	501	LE	BOF	RING LOG	DATE <u>9/21</u>	/2012	2		
Geo Services, Inc. Geotechnical, Environmental & Çivil Engineering 805 Amherst Court, Suite 204 Naperville, Illingis 60565						LOGGED BY	DR			
(630) 355+2838						GSI JOB No.	_12	195		
ROUTE <u>F.A.P. RTE. 365</u> D	ESCRIP	TION	Pede	estria	in Bridge over East Branch Du	uPage River &	k Ret	ainin	g Wal	ls
SECTION <u>634X-N-3</u> L	οςατιοι	N								
COUNTY <u>DuPage County</u> D	RILLING	MET	HOD _	3.25	<mark>ö" Hollow Stem Auger_</mark> HAMMI	ER TYPE <u>CM</u>	E Aut	toma	tic	
STRUCT. NO. XX	D	в	υ	м	Surface Water Elev. <u>n/a</u>		D	В		м
Station XX	I F	1 1	I C	0	Stream Bed Elev. <u>n/a</u>		Ε	L	C	0
BORING NO. NW-07	Ч Т	W W	Š	   S	Groundwater Elevation:		P T	0 W	S	   S
Station <u>211+38</u> Offset <u>62.0' Left</u>	Н	S	Qu	Т	First Encounter <u>Dry</u> Upon Completion <u>Dry</u>		Н	S	Qu	T
Ground Surface Elev. 706.8	(ft)	(/6")	(tsf)	(%)	After Hrs	$\nabla$	(ft)	(/6")	(tsf)	(%)
10.0" TOPSOIL-black 70	6.0 —									
		AS 3	-	19				7		
		3			SILTY CLAY LOAM-brown-			14		
CLAY-dark brown & black-		4	_	20	loose to dense $(A-4/A-6)$		_	17	_	9
very loose to loose (A-6) Fill		1								
		1						10		
	-5	2	_	24		681.8	<u>−</u> 25	13 17	_	9
70	1.3				End Of Boring @ -25.0'					
		3		102	Hollow Stem Augers CME Automatic Hammer					
		5		102						
	_	6	2.3B	24			_			<u> </u>
CLAY LOAM-brown- very stiff to hard (A-6)										
		4		112						
		7	0.70				70			
69		10	6.3B	18			0			
SILTY CLAY LOAM-brown-	_	4								
loose (A-4/A-6)		4	_	14						
69	3.8									
SILTY SAND & GRAVEL-brown-	_	9					_			
medium dense $(A-2)$		12					_			
69	<u>-15</u>	5 15	NP	9			35			┼──
		1								
		4					_			_
		4	_	13						
SILTY CLAY LOAM-brown- loose to dense (A-4/A-6)										
		6 12								
The Unconfined Compressive Strength (UCS) Failure	-20 Modelis i			10	ne S-Shear P-Penetrometer) ST-St	nelby Tube Sample	<u>-40</u>	Vane	Shear	Test

						PAGE <u>1</u>		of _	1	
Geo Services, Inc. Geotechnical, Environmental & Givil Engineering	S	10	LΕ	BOF	RING LOG	DATE <u>5/29</u>	/201	3		
805 Amherst Court, Suite 204						LOGGED BY	DR			
Naperville, Illinois 60565 (630) 355+2838						GSI JOB No.	12	195		
ROUTE <u>F.A.P. RTE. 365</u> DI	ESCRIP	TION	Pede	estria	n Bridae over East Branch Du					
					9N, R10E, SE1/4, 3RD PM					
COUNTY <u>DuPage County</u> DI						R TYPE CM	E Aut	tomc	itic	
STRUCT. NO. XX					Surface Water Elev. $n/a$					$\square$
Station XX	D E	BL	U C	M	Stream Bed Elev. $n/a$		D E	BL	U C	М 0
BORING NO. NW-08	P	Ō	s	I S	Groundwater Elevation:		P T	Ō	S	I S
Station <u>209+27</u> Offset <u>37</u> 7' Left	ΉΗ	s	Qu	T	· · · · · · · · · · · · · · · · · · ·	<b></b>	Н	s	Qu	Τ
Offset <u>37.7' Left</u> Ground Surface Elev. <u>700.7</u>	(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)	(%)
9.0" ASPHALT 700					SILTY CLAY-brown-very stiff	(A-6) <u>680.</u> 2	2			
SAND & GRAVEL-brown (Fill) 699	.2	4	6.6S@	<u>112</u>			_	5 23		-
		1	12.7%		SAND & GRAVEL-brown-			10	NP	13
		-			medium dense to dense (A-	-1)				
		4						7		
		6						10		
CLAY LOAM-brown & gray-	5	6	21.5P	19	End Of Boring @ -25.0'	675.7	<u>~ – 25</u>	11	NP	10
very stiff to hard (A-6) Fill		1			Hollow Stem Augers					
		5		<u>113</u>	CME Automatic Hammer		_			<u> </u>
		1 .	4.25B	14						
		2								
		6					_			
	10	6	3.75P	16			0			
	_	4		109			_		ļ	<u> </u>
		6	3.3B	15						
687	.7	Ĺ								
							_			
SANDY CLAY LOAM-brown- stiff (A-6)		4		<u>101</u>						
		6	1.25B	16			-35			<u> </u>
685	.2						_			
		4		84						
		1	3.4S@							
SILTY CLAY-brown-very stiff (A-6)		7	12.7%	32			_			┢
		]					_			
		2		<u>923</u>						┣──
	-20	4	3.2B	26			-40			
The Unconfined Compressive Strength (UCS) Failure I	Mode is i	ndicat	ed by (	B-Bul	ge, S-Shear, P-Penetrometer) ST-Sh	elby Tube Sample	e VS:	=Vane	Shear	Test

					PAG	ЭЕ <u>1</u>	_ of _	1	
Geo Services Inc.		501	LΕ	BOF	RING LOG DAT	E <u>5/24/2</u>	013		
Geo Services Inc. Geotechnical, Environmental & Civil Engineering 805 Amherst Court, Suite 204 Naperville, Ulinois 60565					LOG	GED BY D	२		
NaperVille, Illinois 60565 (630) 355-2838						JOB No.			
ROUTE F.A.P. RTE. 365	DESCRIF	TION	Pede	<u>estria</u>		_			lls
SECTION <u>634X-N-3</u>	LOCATIC	N <u>S</u>	EC 25	, T39	9N, R10E, SE1/4, 3RD PM			-	
COUNTY <u>DuPage County</u>	DRILLING	ME1	HOD	3.25	<u>"Hollow Stem Auger</u> HAMMER T	YPE <u>CME /</u>	utom	atic	
STRUCT. NO. <u>XX</u>					Surface Water Elev. <u>n/a</u>				
Station <u>XX</u>	D E	B	U C	М 0	Stream Bed Elev. <u>n/a</u>		B	U C	м 0
BORING NO. <u>NW-09</u>	P T	0 W	S	I S	Groundwater Elevation:	F	٠١ẅ́	S	   S
Station <u>210+54</u> Offset <u>49.4' Left</u>	Ĥ		Qu	T	First Encounter <u>Dry</u> Upon Completion <u>Dry</u>	▼   ⊦	I S	Qu	Ť
Ground Surface Elev705.5	(ft)	(/6")	(tsf)	(%)		(f	t) (/6'	) (tsf)	(%)
					SILTY SAND & GRAVEL-brown (A	-2) 685.0			$\vdash$
12.0" ASPHALT, 12.0" SAND & GRAVEL—dark brown							┥_		
	)3.5 <b>—</b>	6					5		┢
	_	9	4.5+P	12			10	NP	11
					SANDY SILT-brown- medium dense to dense (A-2/A	—4) —			
		4		111		·	7		
CLAY LOAM-brown-	_	6					14		
very stiff to hard (A-6) Fill		57	4.2B	17	End Of Boring @ -25.0'	680.0 -	<u>25 17</u>	NP	10
					Hollow Stem Augers CME Automatic Hammer				
	_	<u>3</u> 5		97	CME Automatic Hammer				┢
		6	2.0B	22					
65	97.5						_		
	_	4							
SANDY CLAY LOAM-dark brown- hard (A-6)	_	7							
69	<u>–10</u> 95.0	<u> </u>	4.5P	20		_	30		┢
0		1							
	_	5					_		
		6 8	4.0P	13			-		
SILTY CLAY LOAM with Gravel-brown-									
medium dense (A-4/A-6)	_	4					-		
		7							$\vdash$
		5 10	3.0P	14			35	<b> </b>	<u> </u>
65	90.0						-		
		14							
		30					4		
SILTY SAND & GRAVEL-brown-	_	27	NP	8			+		$\vdash$
medium dense to dense (A-2)	_								
		6					+		┢
	$-\frac{1}{2}$	9	NP	11			40		
The Unconfined Compressive Strength (UCS) Failure	e Mode is	indicat	ed by (	B-Bul	ge, S—Shear, P—Penetrometer) ST—Shelby T	ube Sample	VS=Van	e Shear	Test

						PAGE <u>1</u>		of _	1	
Geo Services, Inc.	S	Ol	LE	BOF	RING LOG	DATE <u>5/24</u>	/201	3		
Geotechnical, Environmental & Çivil Engineering 805 Amberst Court, Suite 204						LOGGED BY	_DR			
Naperville, Illinois 60565 (630) 355+2838						GSI JOB No.				
ROUTE F.A.P. RTE. 365 DES	SCRIP <sup>-</sup>	TION	<u>Ped</u> e	<u>estri</u> a	<u>ın Bridge over East Branc</u> h D					ls
SECTION <u>634X-N-3</u> LOG						·				
COUNTY <u>DuPage County</u> DRI	ILLING	MET	HOD	3.25	<u>o" Hollow Stem Auger</u> HAMM	IER TYPE <u>CMI</u>	<u>E Au</u>	toma	ıtic	
STRUCT. NO. XX					Surface Water Elev. <u>n/a</u>					
Station XX	D E	BL	U C	м 0	Stream Bed Elev. <u>n/a</u>		D E	BL	U C	M 0
BORING NO. <u>NW-10</u>	P T	0 W		I S	Groundwater Elevation:		P T	0 W	S	   S
Station         212+87           Offset         50.2' Left	H	S	Qu	T	First Encounter <u>Dry</u> Upon Completion <u>Dry</u>		Н	S	Qu	T
Ground Surface Elev. <u>715.0</u>	(ft)	(/6")	(tsf)	(%)	After Hrs		(ft)	(/6")	(tsf)	(%)
8.0" ASPHALT, 4.0" CLAYEY SAND, GRAVEL & STONE $\gamma$	14.0				CLAY LOAM-brown (A-6)	694.0	) —			
		4					_	10		<u> </u>
		4 3	3.75P	17				9 8	NP	12
CLAY LOAM-brown-					SILTY LOAM-brown- medium dense (A-4)			-		
very stiff (A-6) Fill		2					_	10		
	_	3						15		
	5	4	2.25P	18	End Of Boring @ -25.0'	690.0	) -25	12	NP	13
		1			Hollow Stem Augers CME Automatic Hammer			1		
708.	o —	2			CME Automatic Hammer		_			┣─
		3	1.5P	36			_	<u> </u>		<u> </u>
TOPSOIL-black								-		
		1								
705		3	1 50	20			_ 30			
SANDY CLAY LOAM-dark brown-		0	1.5P							
stiff (A-6)								-		
703.	<u> </u>	2		<u>111</u>						
	_	4	1.3B	18						<b> </b>
								-		
		2		115						L
	 15	5	2.3B	16			-35			
CLAY LOAM-brown-		Ĭ	2.00							
stiff to very stiff (A-6)				110						
		4		<u>119</u>						$\vdash$
	_	5	1.8B	16			_			⊢
								1		
		3		120				<u> </u>		<u> </u>
	-20	4	1.6B	15			-40			
The Unconfined Compressive Strength (UCS) Failure Mo					▪ qe, S-Shear, P-Penetrometer) ST-S	helby Tube Sample	e VS	=Vane	Shear	Test

						PAGE <u>1</u>		of _	1	
Geo Services, Inc. Geotechnical, Environmental & Çivil Engineering	S	OII	LE	BOF	RING LOG	DATE <u>9/21</u>	/201	2		
805 Amberst Court, Suite 204						LOGGED BY	DR			
Naperville, Illinois 60565 (630) 355+2838						GSI JOB No.	12	<u>195</u>		
ROUTE <u>F.A.P. RTE. 365</u>		ΓΙΟΝ	Pede	estria	n Bridge over East Branch Di	uPage River &	k Ret	ainin	ig Wal	ls
SECTION <u>634X-N-3</u>		N_SE	EC 25	, T39	9N, R10E, SW1/4, 3RD PM					
COUNTY <u>DuPage County</u>						ER TYPE <u>CM</u>	E Au	toma	ıtic	
STRUCT. NO. XX					Surface Water Elev. $n/a$					$\square$
Station XX	-   D	BL	U C	М 0	Stream Bed Elev. <u>n/a</u>		D E	BL	U C	M 0
BORING NO. NW-11	-   P T	O W	S	   S	Groundwater Elevation:		P T	0 W	S	   S
Station <u>215+45</u> Offset <u>62.0' Left</u>	–   Ĥ	S	Qu	T			Ĥ	S	Qu	Ť
Ground Surface Elev722	(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)	(%)
	I						I			
	721.6	<u>AS</u> 2	_	12				4.5		
		2						15 7		122
		3	1.25P	24	CLAY—gray— very stiff to hard (A—6)			9	2.4B	14
CLAY-dark brown & black-										
stiff (A-6) Fill		3		121				5		
		5	0.70	45		007	4 05	8		45
		6	2.7B	15	End Of Boring @ -25.0'	697.4	4 - 20	13	-	15
					Hollow Stem Augers					
	_	2		122			_			
			2.4B	14			_			
	714.4									
		3		121						
		4								
	10	5	3.3B	14						-
CLAY to CLAY LOAM-brown- very stiff (A-6)	_	3								_
		7 10	4.5P	11						
	_	3		112						
		5								
	<u>–15</u>	8	4.8B	19						<u> </u>
	706.9									
SILTY LOAM-brown-		3		119			_	$\vdash$	<u> </u>	<u> </u>
medium dense (A-4)		5 8	2.1B	15						
	704.4		2.10							$\square$
CLAY-gray-										
very stiff to hard (A-6)		4		119						
	-20	14	4.0B				-40			Ļ
The Unconfined Compressive Strength (UCS) Fail	ure Mode is ir	ndicat	ed by (	B−Bul	ge, S-Shear, P-Penetrometer) ST-Sl	helby Tube Sample	e VS	=Vane	e Shear	lest

					F	PAGE <u>1</u>		of _	1	
Geo Services. Inc.	S	Oll	LE	BOF	RING LOG	)ATE <u>5/24</u>	/201	3		
Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amberst Court, Spite 204					L	OGGED BY	DR			
Naperville, Illinbis 60565 (630) 355+2838					G	SI JOB No.	_12	195		
ROUTE <u>F.A.P. RTE. 365</u> DES	SCRIP <sup>-</sup>	ΓΙΟΝ	<u>Ped</u> e	<u>estria</u>						<u> s</u>
SECTION <u>634X-N-3</u> LOC										
COUNTY <u>DuPage County</u> DRI					·	TYPE CM	E Aut	toma	tic	
STRUCT. NO. XX			-		Surface Water Elev. <u>n/a</u>					
Station XX	D E	BL	U C	М 0	Stream Bed Elev. <u>n/a</u>		D E	B L	U C	м 0
BORING NO. <u>NW-12</u>	P T	0 W	S	   S	Groundwater Elevation:		P T	O W	S	I S
Station <u>214+18</u> Offset <u>48.4' Left</u>	н	S	Qu	Т	First Encounter <u>Dry</u> Upon Completion <u>Dry</u>		н	S	Qu	T
Ground Surface Elev. <u>719.7</u>	(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)	(%)
9.0" ASPHALT,					CLAY LOAM-brown-very stiff	(A-6)699.2	2			
3.0" CLAYEY SAND & GRAVEL 718.7	7	2						3		120
CLAY LOAM with Stone- dark brown & black-loose (Fill)		2			CLAY LOAM-gray-very stiff (A	4-6)		5		120
717.2	2	3	1.5P	20		000 0	, —	7	3.0B	14
						696.7				
CLAY LOAM-brown-stiff (A-6)		2		114	SILTY LOAM-gray-medium der	nse (A-4)		10		
	-5	7	1.9B			694.7	_	9 8	NP	15
714.2	2		1.30		End Of Boring @ -25.0'				1 11	
					Hollow Stem Augers CME Automatic Hammer					
SILTY LOAM-brown-loose (A-4)		4								
		5	NP	16			_			
711.7	/									
		2		114						
	_10	3	1 70	16			_ 30			
			<u>1.3B</u>				<u> </u>			
		_								
CLAY LOAM-brown- stiff to very stiff (A-6)		3 6		<u>116</u>						
	_	6	2.1B	17						
		2		113						
		3	1 00	1.0			-35			
704.2		6	1.9B							
SAND & GRAVEL-brown-dense (A-1)	_	21 25					_			
	_	23	NP	6						
701.7	7									
CLAY LOAM-brown-very stiff (A-6)		3		122						
		7	2 00				_ 10			
The Unconfined Compressive Strength (UCS) Failure Mo	<u>-20</u> de is ir		<b>2.9B</b> ed by (	<b>14</b> B-Bul	┃ ge, S-Shear, P-Penetrometer) ST-Shelb	y Tube Sample	40 e∨S⊧	=Vane	Shear	Test

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%) NR-No Recovery

						PAGE <u>1</u>		of _	1	
Geo Services Inc.	S	Oll	LΕ	BOF	RING LOG	DATE <u>9/21</u>	<u>/201:</u>	2		
Geo Services, Inc. Geotechnical, Environmental & Givil Engineering 805 Amherst Court, Suite 204						LOGGED BY	DR			
Naperville, Illinois 60565 (630) 355-2838						GSI JOB No.				
ROUTE <u>F.A.P. RTE. 365</u> DE	SCRIPT	ION	Pede	estrio	in Bridge over East Branch D					— IIs
SECTION <u>634X-N-3</u> LC						<u> </u>				<u> </u>
COUNTY <u>DuPage County</u> DF						IFR TYPF CM	F Auf	tomc	utic	
STRUCT. NOXX					Surface Water Elev. $n/a$					
Station XX	D E	B L	U C	M O	Stream Bed Elev. $n/a$		D E	BL	U C	м 0
BORING NO. NW-13	P T	0 W	Š	I S	Groundwater Elevation:		P T	0 W	Š	I S
Station <u>217+48</u>	H H	s	Qu	T	· · · · · · · · · · · · · · · · · · ·	<b>V</b>	Η̈́	S	Qu	T
Offset <u>62.0' Left</u> Ground Surface Elev. <u>725.0</u>	(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)	(%)
	<u> </u>		. ,	, ,		<b>V</b>	<u> </u>	—		<u>├</u>
	.2	AS	_	13						
CLAY LOAM-dark brown & black-	-+	3					_	4	├──	116
stiff (A-6) Fill		5 5	1.75P	18	CLAY to CLAY LOAM-gray-			<b>1</b> '	2.25B	17
722	.0				very stiff to hard (A-6)					
	-	3		102				5		122
		3		102				7		122
	5	3	1.2B	24		700.0	) –25	9	3.4B	14
	-				End Of Boring @ -25.0' Hollow Stem Augers					
		3			CME Automatic Hammer					
CLAY LOAM-brown-		5	1.75P	25						
very stiff to hard (A-6)		5	1.75P	25						┢
	_									
		2		99						┢
	10		3.0B	26						
	_									
		3		115						
		4								
712		5	3.0B	17				<b> </b>	├──	┢
		4		121					<u> </u>	_
	 15	4 6	2.1B	15			-35			
		<u> </u>	2.10							
CLAY to CLAY LOAM-gray-		10								
very stiff to hard (A-6)	_ +	<u>10</u> 10					_		<u> </u>	╞
		10	NP	15					<u> </u>	_
		4		117						
	_	6								
The Unconfined Compressive Strength (UCS) Failure N	-20 Node is in	9 Idicate	<b>4.2B</b> ed by (		<b> </b> ge, S-Shear, P-Penetrometer) ST-S	helby Tube Sample	<b>-40</b>	=Vane	e Shear	Test

						PAGE <u>1</u>		of _	1	
Geo Services, Inc.	S	OI	LΕ	BOF	RING LOG	DATE <u>5/24</u>	/201	3		
Geotechnical, Environmental & Civil Engineering 805 Amberst Court, Suite 204						LOGGED BY	DR			
Naperville, Illinbis 60565 (630) 355-2838						GSI JOB No.				
ROUTE <u>F.A.P. RTE. 365</u> DE	SCRIP.	τιον	Pede	estrio	in Bridge over East Branch D					ls.
SECTION <u>634X-N-3</u> LO								Girmi	<u>y nu</u>	<u></u>
COUNTY <u>DuPage County</u> DR							Г <b>А</b>			—
				<u> </u>				loma I		—
STRUCT. NO. <u>XX</u> Station <u>XX</u>	D	В	U	м	Surface Water Elev. <u>n/a</u> Stream Bed Elev. <u>n/a</u>		D	В	U	м
BORING NO. NW-14	E P	L	C S	0	Groundwater Elevation:		E P	L	C S	
Station _216+52	T H	W S	Qu	S T	First Encounter <u>Dry</u>		T H	W S	Qu	S T
Offset <u>49.7' Left</u>					Upon Completion <u>Dry</u>	$\nabla$		-		
Ground Surface Elev. <u>726.2</u>	(ft)	(/6")	(tsf)	(%)	After Hrs	$\overline{\mathbf{A}}$	(ft)	(/6")	(tsf)	(%)
8.0" ASPHALT 725.	5 —									
CRUSHED STONE & GRAVEL-loose (Fill)		5					_	5		121
		4	1 50	24	CLAY to CLAY LOAM-gray-			8	1.9B	
CLAY LOAM-dark brown & black-stiff ( 723.			1.55	24	stiff to very stiff $(A-6)$			9	1.90	
SILTY CLAY-dark brown-		2						5 12		
stiff (A-6) Wet	5	1 -	1.75P	27		701.2	2 - 25	· · -	3.0P	12
720.	7				End Of Boring @ -25.0'					
		4			Hollow Stem Augers CME Automatic Hammer			1		
		6					_			
		6	4.5P	14			_			<u> </u>
CLAY LOAM-brown-								1		
stiff to hard (A-6)		4		117				<u> </u>		<u> </u>
	10	4	1 00	15			30			
		5	<u>1.2B</u>	15						
		]						]		
		4		122						<u> </u>
		9	3.5B	12						
713.	2									
		4								
	15	7	3.0P	16						<u> </u>
								-		
CLAY to CLAY LOAM-gray-		3		117						
stiff to very stiff (A–6)		5					_			
		6	2.0B	16						┣─
		1						1		
		3		115						$\vdash$
	-20	5	2 25	<sub>17</sub>			_ 40			
The Unconfined Compressive Strength (UCS) Failure M			<mark>2.2B</mark> ed by (	<b>17</b> B-Bul	Ⅰ ge, S-Shear, P-Penetrometer) ST-S	helby Tube Sample	<mark>-40</mark> • VS	<b>l</b> =Vane	Shear	l Test

						PAGE <u>1</u>		of _	1	
Geo Services, Inc.	S	Oll	LE	3OF	RING LOG	DATE <u>5/24</u>	/201	3		
Geotechnical, Environmental & Civil Engineering 805 Amherst Court, Suite 204 Naperville, Illinois 60565						LOGGED BY	DR			
(630) 355-2838						GSI JOB No.	. <u>12</u>	195		
ROUTE <u>F.A.P. RTE. 365</u>	DESCRIP	ΓΙΟΝ	Pede	estria	in Bridge over East Branch Di	uPage River &	& Ret	ainin	g Wal	ls
SECTION <u>634X-N-3</u>	LOCATION	N <u>SE</u>	<u>EC 25</u>	, T39	9N, R10E, SE1/4, 3RD PM					
COUNTY <u>DuPage County</u>	DRILLING	MET	HOD _	3.25	<mark>o" Hollow Stem Auger_</mark> HAMM	ER TYPE <u>CM</u>	E Aut	toma	ıtic	
STRUCT. NO. XX	D	В	U	м	Surface Water Elev. <u>n/a</u>		D	в	U	м
Station XX	E P	L	C S	0	Stream Bed Elev. <u>n/a</u>		E	Ē	C S	0
BORING NO. <u>NW-15</u> Station <u>220+37</u>	T	Ŵ	-	 S	Groundwater Elevation: First Encounter <u>727.9</u>	V	Τ	0 W	_	
Offset <u>53.2' Left</u>	H	-	Qu	Т	Upon Completion <u>Dry</u>		Н	S	Qu	T
Ground Surface Elev. <u>731.4</u>	(ft)	(/6")	(tsf)	(%)	After Hrs	<b>—</b>	(ft)	(/6")	(tsf)	(%)
14.0" ASPHALT										
SAND, GRAVEL & STONE (Fill)		3 3					_	4		123
		4	2.5P	24	CLAY to CLAY LOAM-gray- stiff to very stiff (A-6)			6	2.25P	12
CLAY LOAM-dark brown & gray	<b>~</b>									
spotted black-very stiff (A-6) Fill	•	3		105				6		118
		4	2.1B	22		706 4	<u> </u>	9	3.0B	16
72	25.9	4	2.10		End Of Boring @ –25.0'	700	- 20		5.00	
		4		100	Hollow Stem Augers CME Automatic Hammer					
		5		100			_			
		6	2.4B	25						
		4								
CLAY LOAM-brown-	-10	9 10	2.75P	19			-30			
stiff to very stiff (A-6)							_			
		3		117						
		6								
		6	1.1B	16						├──
		2								
	_15		2.25P	17			-35			
71	15.9						_			
		2		108						
		6					_			
CLAY to CLAY LOAM—gray— stiff to very stiff (A—6)		9	2.9B	20			_			├──
							_			
		3 6		<u>119</u>						┢
	-20	7	1.5B				-40			
The Unconfined Compressive Strength (UCS) Failure	e Mode is i	ndicate	ed by (	B-Bul	ae.S-Shear.P-Penetrometer) ST-S	helby Tube Sample	e VS:	=Vane	Shear	Test

					PAGE _1		of _	1	
Geo Services, Inc. Geotechnical, Environmental & Givil Engineering	S	OII	LE	BOF	RING LOG DATE <u>5/2</u>	<u>B/201</u>	3		
Geotechnical, Environmental & Çivil Engineering 805 Amberst Court, Suite 204 Naperville, Illinois 60565					LOGGED BY	KD			
Naperville, Ulinois 60565 (630) 355-2838					GSI JOB No				
ROUTE <u>F.A.P. RTE. 365</u> D	ESCRIP	ΓΙΟΝ	Pede	estria	n Bridge over East Branch DuPage River				ls
SECTION <u>634X-N-3</u> LO	OCATION	۹ <u>s</u>	<u>EC 25</u>	<u>, T39</u>	9N, R10E, SE1/4, 3RD PM				
COUNTY <u>DuPage County</u> D	RILLING	MET	HOD _	3.25	<u>"Hollow Stem Auger</u> HAMMER TYPE <u>CN</u>	<u>IE Au</u>	toma	ıtic	
STRUCT. NO. XX		Р	11		Surface Water Elev. <u>n/a</u>	D			
Station XX	DE	BL	U C	M O	Stream Bed Elev. <u>n/a</u>	E	BL		м 0
BORING NO. <u>NW-16</u> Station 222+38	P T	0 W	S	   S	Groundwater Elevation:	P T	0 W	S	   S
Station <u>222+38</u> Offset <u>39.2' Left</u>	Н	S	Qu	T	First Encounter <u>717.5</u> Upon Completion <u>720.0</u>	н	S	Qu	T
Ground Surface Elev734.0	(ft)	(/6")	(tsf)	(%)	After Hrs	(ft)	(/6")	(tsf)	(%)
15.0" ASPHALT					CLAY LOAM-stiff to very stiff $(A-6)_{13}$	5			
732		4					3		113
SAND & GRAVEL-medium dense (Fi $\mu$ ) $_{3,2}$	2.0	6					5		
	_	7	4.5+P	17	CLAY-gray-stiff (A-6)	_	10	1.4B	18
							1		
		6		121			3		
	5	6 8	3.9B	15	709.	0 - 25	5 6	1.0P	20
CLAY LOAM—brown— very stiff to hard (A—6) Fill					End Of Boring @ -25.0'	_			
		6		114	Hollow Stem Augers CME Automatic Hammer		1		
		8							
	_	11	5.8B	18					-
						_	1		
		5							-
		10 7	2.5P	17			)		
723	3.5					_			
		5					1		
CLAY LOAM-gray-very stiff (A-6)		7					-		
721	1.0	9	2.75P	18		_			-
						_	1		
SILTY LOAM-gray-		2							-
medium dense (A-4)		· ·	NP	18		-35			
718						_			
	7 7	18					1		
		39				_			
CLAY LOAM-gray-	_	14	3.0P	13					-
stiff to very stiff (A-6)						_	1		
		4		124					
	-20	7 8	1.9B	13		-40	)		
The Unconfined Compressive Strength (UCS) Failure	Mode is in				ge, S-Shear, P-Penetrometer) ST-Shelby Tube Samp			Shear	Test

							PAGE <u>1</u>		of _	1	
Geo Services, Inc. Geotechnical, Environmental & Civil Engineering		S(	OII	_ E	BOF	RING LOG	DATE <u>9/21</u>	/201	2		
805 Amberst Court Prote 204	9						LOGGED BY	DR			
Naperville, Illinois 60565 (630) 355+2838							GSI JOB No.	12	195		
ROUTE <u>F.A.P. RTE. 365</u>	DESCF	RIPTI	ON .	Pede	estria	n Bridge over East Branch D					
SECTION <u>634X-N-3</u>	LOCA <sup>-</sup>	TION	SE	<u>IC 25</u>	<u>, T3</u> 9	9N, R10E, SW1/4, 3RD PM					
COUNTY <u>DuPage County</u>		ING I	мет	HOD _	3.25	<u></u>	ER TYPE <u>CM</u>	E Aut	toma	itic	
STRUCT. NO. <u>XX</u>	_ [					Surface Water Elev. <u>n/a</u>					Γ
Station <u>XX</u>	_		B L	U C	М 0	Stream Bed Elev. <u>n/a</u>		D E	BL	U C	м 0
BORING NO. NW-17	— I		0 W	S	   S	Groundwater Elevation:		P T	0 W	S	   S
Station <u>223+50</u> Offset <u>50.0' Left</u>			S	Qu	Ť			Ĥ	S	Qu	Ť
Ground Surface Elev732	<u>4.5</u> (	ft) (,	/6")	(tsf)	(%)	After Hrs		(ft)	(/6")	(tsf)	(%)
15.0" ASPHALT								·			
	733.3		5		116				3		1.0
			5 4						6		123
		+	3	3.8B	17	CLAY to CLAY LOAM—gray— very stiff to hard (A—6)			9	2.0B	14
	_										
			4		114				4		
CLAY-brown & gray-			5 7	5 1 D	10		709.5	- 25	7	_	1.2
very stiff to hard (A-6)			/	5.1B	18	End Of Boring @ -25.0'	703.0	<u> </u>	0	_	12
	_					Hollow Stem Augers					
		+	5 9		111			_			┢
	_	$\neg$	12	7.3B	19						
	_										
	_	_	8		116						
			13								
		-10	17	7.6B	17			0			-
	_										
		+	4 8		111						-
	_	$\square$	11	4.9B	19						
		-	3		114						
CLAY to CLAY LOAM-gray-			5								
very stiff to hard (A-6)		-15	9	4.4B	18			35			┢
		_						_			
		+	3					_			_
	_		5 7	2.0P	14						
	_	$\square$	-	,							
		-			100						
	_		4 8		128						
The Unconfined Compressive Strength (UCS) F			10 dicate	<b>3.6B</b>		ne S-Shear P-Penetrometer) ST-S	nelby Tube Sample	<u>-40</u>		Shear	Test
me oncommed compressive strength (003) r	unare Moue	10 1110	aloute	~~ vy (	u uu	yo, o onour, r renetronneter) of—of	ioney inne onimple	- v S	· vune	Sincul	1001

					P	AGE <u>1</u>		of _		
Geo Services Inc	S	OII	LE	3OF		ATE <u>5/28</u>				
Geo Services, Inc. Geotechnical, Environmental & Givil Engineering 805 Amberst Court, Suite 204 Naperville, Ultingis 60565		- • •				OGGED BY				
Naperville, Illinois 60565 (630) 355-2838						SI JOB No.				
			Dad							
ROUTE F.A.P. RTE. 365						uge Kiver å	x ret	unn	y wai	15
SECTION <u>634X-N-3</u>										
COUNTY <u>DuPage County</u>		MET	HOD _	3.25	<b></b>	TYPE <u>CM</u>	E Aut	oma	tic	_
STRUCT. NO. XX		в	υ	м	Surface Water Elev. <u>n/a</u>		D	в	U	м
Station XX	E P	L O	C S	0	Stream Bed Elev. <u>n/a</u>		E P	L O	C S	
BORING NO. <b>NW-18</b> Station <u>224+34</u>	T	w		S	Groundwater Elevation: First Encounter <u>711.8</u>	-	Τ	Ŵ	-	ļş
Offset <u>39.2' Left</u>		S	Qu	Т	Upon Completion <u>711.8</u>			S	Qu	T
Ground Surface Elev735.8	(ft)	(/6")	(tsf)	(%)	After Hrs.	$\mathbf{\nabla}$	(ft)	(/6")	(tsf)	(%)
12.0" ASPHALT 7										
SAND & GRAVEL-medium dense (Fill		12			CLAY LOAM—gray—very stiff (A	-6)	_	5		127
	<u>33.8</u>	9	4.5+P	18				11 18	3.8B	11
CLAY LOAM-brown & black-hard (Fil 7	1) — 32.8	ŕ	4.011			712.8	3	10	0.00	
							_			
SANDY LOAM-brown- medium dense (A-2) Apparent Fill		6			SILTY CLAY LOAM—gray— medium dense (A—4/A—6)	$\nabla \mathbf{V}$		5 6		
	5	8	NP	14		710.8	3 – 25	-	2.0P	17
7	30.3				End Of Boring @ -25.0'		_			
		3			Hollow Stem Augers CME Automatic Hammer					
		5								
		7	3.25P	19			_			
CLAY-gray-very stiff to hard (A-6)		2		116						
		8								
		12	5.3B	17						
	_	4		123			_			
		8	2.4B	14			-			
7.	22.8	Ť								
	_									
SILTY LOAM-gray-loose (A-4)		3 5								<u> </u>
		1	NP	11			-35			
7	20.3									
		3		127			-			
		5		141						
CLAY LOAM-gray-very stiff (A-6)		10	2.75B	12						
<u> </u>										
		5		126			_			
		8								
The Unconfined Compressive Strength (UCS) Failur	-20 e Mode is i		<u>3.3B</u>	<b>12</b>	 ge. S-Shear. P-Penetrometer) ST-Shelb	y Tube Sample	<u>-40</u>	=Vane	Shear	Test

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							PAGE <u>1</u>		of _	1	
Concerned used and a series of the solution o	Geo Services Inc.	S	OI	LΕ	BOF	RING LOG	DATE <u>5/29</u>	/201	3		
GSI JOB No. 12185         ROUTE F.A.P. RTE 385       DESORIPTION Pedestrian Bridge over East Branch DuPage River & Retaining Walls         SECTON 634X-N-3       LOCATION SEC 25, T39N, R10E, SW1/4, J30 PM         COUNTY DuPage County       DRILLING METHOD 3.25" Hollow Stem Auger, HAMMER TYPE CME Automatic         STRUCT. NO. XX       PRILLING METHOD 3.25" Hollow Stem Auger, HAMMER TYPE CME Automatic         STRUCT. NO. XX       PRILLING METHOD 3.25" Hollow Stem Auger, HAMMER TYPE CME Automatic         STRUCT. NO. XX         PRILLING METHOD 3.25" Hollow Stem Auger, HAMMER TYPE CME Automatic         TOPSOIL-DIA         OF STRUCT. NO. XX         PRILLING METHOD 3.25" Hollow Stem Auger, HAMMER TYPE CME Automatic         TOPSOIL-DIACK         TOPSOIL-DIACK         Zet 25       GO TOP TOP TOP TOP TOP TOP TOP TOP TOP TO	Geotechnical Environmental & Civil Engineering						LOGGED BY	KD			
ROUTE _F.A.P. RTE_ 365       DESCRIPTION _Pedestrion Bridge over East Branch DuPage River & Retaining Walls         SECTION _634X=N=-3       LOCATION _SEC 25, T39N, R10E, SW1/4, 3RD PM         COUNTY _DuPage County       DRILING METHOD _325" Hollow Stem Auger _HAMMER TYPE _OME Automatic         STRUCT, NO. XX       D       B       U       M Surface Water Elev. $r_x/a$ P       D       B       U       M Surface Water Elev. $r_x/a$ P       D       B       U       M Surface Water Elev. $r_x/a$ DESCRIPTION _PEdestrian Bridge over Kest Branch DuPage River & Retaining Walls         STRUCT, NO. XX         D       B       U Colspan="2">Colspan="2"         Colspan= 20       Colspan="2"	NaperVille, Illinois 60565 (630) 355-2838										
SECTION <u>634X-N-3</u> LOCATION <u>SEC 25</u> , <u>T39N</u> , <u>R10E</u> , <u>SW1/4</u> , <u>3RD PM</u> COUNTY <u>DuPage County</u> STRUCT NO. <u>XX</u> Station <u>XX</u> D B U N Station <u>229+25</u> Offset <u>33,3 Left</u> Corond <u>Surface Elev.</u> <u>742.1</u> (ft) //e <sup>2</sup> (tsf) (3) Corond <u>Surface Elev.</u> <u>742.1</u> (ft) //e <sup>2</sup> (tsf) (3) CLAY-LOAM-brown & groy- stiff to very stiff (A-6) wet <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7266.6</u> <u>7167.7</u> <u>7266.6</u> <u>7167.7</u> <u>7266.6</u> <u>7167.7</u> <u>7266.6</u> <u>7167.7</u> <u>7266.6</u> <u>7167.7</u> <u>7266.6</u> <u>7167.7</u> <u>7266.6</u> <u>7167.7</u> <u>7266.6</u> <u>7167.7</u> <u>7267.0</u> <u>7167.7</u> <u>7267.0</u> <u>7177.7</u> <u>727.7</u> <u>727.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7177.7</u> <u>727.0</u> <u>7</u>	ROUTE FAP RTE 365 DE	SCRIP	τιον	Pede	estria	n Bridge over East Branch D					
COUNTY       DuPage County       DRILING METHOD       3.25"       Hollow Stem Auger       HAMMER TYPE       CME       Automatic         STRUCT. NO.       XX       Image: Station 228+25       Image									<u></u>	9	<u></u>
STRUCT. NO. <u>XX</u> Station <u>XX</u> BORING NO. <u>NW-19</u> Station <u>229+25</u> Offset <u>39,3' Left</u> Groundwater Elev. <u>n/a</u> <u>1000</u> DF b U S Station <u>229+25</u> Offset <u>39,3' Left</u> (ft) (/6') (tsf) (%) After <u>Hrs.</u> <u>228.1</u> Upon Completion <u>228.1</u> Upon Completion <u>228.1</u> (ft) (/6') (tsf) (%) After <u>Hrs.</u> <u>228.1</u> (ft) (/6') (tsf) (%) After <u>Hrs.</u> $\frac{100}{22.6}$ (ft) (/6') (tsf) (%) SLTY LOAM-gray-medium dense <u>1000</u> SULTY CLAY-brown & gray spotted black-medium stiff (A-6) Wet <u>22</u> <u>118</u> <u>726.6</u> <u>726.6</u> <u>119</u> CLAY LOAM-brown & gray- stiff to very stiff (A-6) <u>726.6</u> <u>3 110</u> <u>6 1 100</u> <u>6 1 100</u> <u>726.6</u> <u>3 110</u> <u>6 1 100</u> <u>726.6</u> <u>3 110</u> <u>6 1 100</u> <u>726.6</u> <u>3 110</u> <u>726.6</u> <u>110</u> <u>726.6</u> <u>110</u> <u>726.6</u> <u>110</u> <u>726.6</u> <u>110</u> <u>110</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u>111</u> <u></u>									toma		
Station $XX$ $Yac Yac Yac Yac Yac Yac Yac Yac Yac Yac $				<u> </u>	<u> </u>						
BORING NO. <u>NW-19</u> Station <u>229+25</u> Offset <u>39.3' Left</u> Ground Surface Elev. <u>742.1</u> (tt) /6" (tst) (3) After <u>Hrs.</u> <u>28.1</u> Upon Completion <u>228.1</u> Upon Completion <u>228.1</u> Upon Completion <u>228.1</u> Upon Completion <u>228.1</u> (tt) /6" (tst) (3) After <u>Hrs.</u> <u>v</u> (tt) (7) (tt) /6" (tst) (3) After <u>Jran</u> <u>741.1</u> <u>5</u> <u>6</u> NP 12 <u>5</u> <u>178</u> A <u>4</u> <u>766.6</u> <u>734.6</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>734.7</u> <u>735.7</u> <u>735.7</u> <u>735.7</u> <u>735.7</u> <u></u>								D	-		
Station       229425       i       <		P	0	S	Ī			Р	0		I
Offset       33.3' Left       Upon       Completion       228.1       V       (ft)       (fe)       (s)       After       Hrs.       V       (ft)       (fe)       (s)         12.0" ASPHALT       741.1       4 <td>Station 229+25</td> <td></td> <td></td> <td></td> <td>-</td> <td>First Encounter <u>728.1</u></td> <td></td> <td></td> <td></td> <td>Qu</td> <td></td>	Station 229+25				-	First Encounter <u>728.1</u>				Qu	
12.0" ASPHALT       741.1       4       4         SAND & GRAVEL-medium dense (Fill)       4       4         7       NP 3       SILTY LOAM-gray-medium dense       5         TOPSOIL-black       2       4       11         -5       4       11       11         736.6       -5       3.0P       33       717.1-25       9       NP       11         736.6       -5       4       0       11       <	Offset <u>39.3' Left</u>								-		
12.0* ASPHALI       741.1       4       4         SAND & GRAVEL-medium dense (Fill)       740.1       12       5         7       NP       3       5       6         10       7       NP       3       5       12         10       7       NP       3       5       12         10       736.6       2       4       4       4         11       12       736.6       11       11       11         736.6       2       89       717.1-25       9       NP       11         736.6       2       89       717.1-25       9       NP       11         736.6       2       89       717.1-25       9       NP       11         11       2       113       11       11       11       11       11         12       113       113       111       11 <td< td=""><td>Ground Surface Elev. <u>742.1</u></td><td>(ft)</td><td>(76*)</td><td>(tsf)</td><td>(%)</td><td></td><td></td><td></td><td>(76")</td><td>(tsf)</td><td>(%)</td></td<>	Ground Surface Elev. <u>742.1</u>	(ft)	(76*)	(tsf)	(%)				(76")	(tsf)	(%)
SAND & GRAVEL-medium dense       740.1       12       5       5       6       NP       12         TOPSOIL-black       -5       4       -5       4       -11       11	12.0" ASPHALT 741	.1				CLAY—gray—stiff to very sti	ff (A-6 <i>)721.6</i>	5			
TOPSOIL-black     7     NP     3	SAND & GRAVEL-medium dense (Fill)							_	4		
TOPSOIL-black     2	<i>740</i>	.1	1		_						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $					3	SILTY LOAM-gray-medium	dense		6	NP	12
$\begin{array}{c c c c c c c c c c c c c c c c c c c $											
$\begin{array}{c c c c c c c c c c c c c c c c c c c $											<u> </u>
736.6     2     89       SILTY CLAY-brown & gray spotted black-medium stiff (A-6) Wet     2     3       -2     113       -4     -10       -10     6       -9     3.78       -10     5       -118       -10     5       -10     5       -118       -10     5       -118       -10     5       -118       -115       -118       -119       -119       -119       -119       -119       -119       -119       -110       -119       -110       -110       -110       -110       -110       -110       -110 <td< td=""><td></td><td></td><td>1</td><td>3.0P</td><td>33</td><td></td><td>717.</td><td>1 –25</td><td>1  </td><td>NP</td><td>  11</td></td<>			1	3.0P	33		717.	1 –25	1	NP	11
SILTY CLAY-brown & gray spotted black-medium stiff (A-6) Wet - 2 - 3 - 734.1 - 2 - 10 - 3 - 30 - 35 - 35	736.	.6				End Of Boring @ -25.0'		_			
SLLY CLAY-brown & gray spotted black-medium stiff (A-6) Wet 2 3 0.5B 33 734.1 2 113 -4 -10 6 3.3B 17 -10 6 3.3B 17 -10 6 3.3B 17 -30 -35											
CLAY LOAM-brown & gray- stiff to very stiff (A-6) 734.1 -2 -10 6 3.3B 17 -30 -35					89						┢──
CLAY LOAM-brown & gray- stiff to very stiff (A-6) $ \begin{array}{c} 2 \\ 4 \\ -10 \\ 6 \\ 3.3B \\ 17 \\ -30 \\ -3$	black medium still (A b) wet		1	0.5B	33						
CLAY LOAM-brown & gray- stiff to very stiff (A-6) -30 -35 -3	734	.1									
CLAY LOAM-brown & gray- stiff to very stiff (A-6) -30 -35 -3			2		113						
CLAY LOAM-brown & gray- stiff to very stiff $(A-6)$ 5 118 9 3.7B 15 4 122 -15 5 1.7B 14 726.6 3 110 6 6 1 8P 20											
stiff to very stiff $(A-6)$ $ \begin{array}{c}                                     $		10	6	3.3B	17			0			
stiff to very stiff $(A-6)$ $ \begin{array}{c}                                     $											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	CLAY LOAM-brown & gray-		5		118						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	stiff to very stiff (A-6)		1	7 70	45						
<u>-15 5 1.78 14</u> <u>-2 -35</u> <u>-35 -35</u> <u>-35 -35</u> <u>-363535</u> <u>-363535</u> <u>-3726.63535</u> <u>-363535</u>			9	<u>3.78</u>	15						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$											
<u>-15 5 1.78 14</u> <u>726.6</u> <u>3 110</u> <u>6</u> 8 1.88 20	$\bigtriangledown$	<b>7</b>			122						_
		-15	1	1.7B	14			-35			
	726.	-									
			_								
					110			_			<u> </u>
	CLAY-gray-		1	1.8B	20						$\vdash$
	stiff to very stiff (A-6)										
			2		111			_			
								_			
-20 18 2.1B 19 -40 -40 -40 -40 -40 -40 -40 -40 -40 -40	The Unconfined Compressive Strength (UCS) Failure M					ae, S-Shear, P-Penetrometer) ST-S	helby Tube Sample		=Vane	Shear	Test

						PAGE <u>1</u>		of _1		
Geo Services, Inc. Geotechnical, Environmental & Civil Engineering	S	Oll	LE	BOF	RING LOG	DATE <u>5/30</u>	/201	3		
805 Amberst Court, Suite 204						LOGGED BY	TZ			
Naperville, Illinbis 60565 (630) 355+2838						GSI JOB No.	_12	195		
ROUTE F.A.P. RTE. 365 DES	CRIP1	ΓΙΟΝ	Pede	estric	in Bridge over East Branch D					
SECTION <u>634X-N-3</u> LOC										
COUNTY <u>DuPage County</u> DRI						IER TYPE <u>CM</u>	E Aut	toma	tic	
STRUCT. NO. XX					Surface Water Elev. <u>n/a</u>					
Station <u>XX</u>	D E	BL	U C	М О	Stream Bed Elev. <u>n/a</u>		D E	B L	U C	м 0
BORING NO. NW-19A	P T	0 W	S	I S	Groundwater Elevation:		P T	O W	S	   S
Station <u>229+28</u> Offset <u>53.4' Left</u>	Н	S	Qu	Т	First Encounter <u>736.0</u> Upon Completion <u>n/a</u>		Н	S	Qu	Т
Ground Surface Elev. <u>741.0</u>	(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)	(%)
TOPSOIL-black (Fill) 740.0	)	AS	_	35						
CLAY LOAM-brown & gray-	_						_			
stiff (A-6) Fill 738.5	5	AS	1.25P	25						
TOPSOIL-black										
▼736.0	) -5	AS	0.75P	36			-25			
SILTY CLAY-dark brown & gray spotted black-stiff (A-6) Wet										
734.0	2	AS	1.0P	30						
	_									
CLAY-brown & gray-stiff (A-6)										
731.0	0 –10	AS	1.5P	22						
End Of Boring @ -10.0' Hand Auger	_						_			
	_						_			
	15									
							_			
	_						_			
The Unconfined Compressive Strength (UCS) Failure Mo	<u>-20</u> de is ir	l ndicat	ed by (	<b> </b> B–Bul	┃ ge, S-Shear, P-Penetrometer) ST-S	helby Tube Sample	-40 • VS:	=Vane	Shear	Test

The Uncontined Compressive Strength (UCS) Failure Mode is indicated by (B-Builde, S-Shear, P-Penetrometer) SI-Sheiby Tube Sample VS=vane Shear Test The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%) NR-No Recovery

						PAGE <u>1</u>		of _	1	
Geo Services, Inc.	S	OII	LE	BOF	RING LOG	DATE <u>5/29</u>	/201	3		
Geotechnical, Environmental & Civil Engineering 805 Amherst Court, Suite 204						LOGGED BY	<u>KD</u>			
Naperville, Illinois 60565 (630) 355+2838						GSI JOB No.				
ROUTE <u>F.A.P. RTE. 365</u> DE	SCRIPT	ΓΙΟΝ	<u>Ped</u> e	<u>estria</u>	i <u>n Bridge over East Branc</u> h Di					ls
SECTION <u>634X-N-3</u> LO	CATION	N <u>S</u>	EC 25	, тз	9N, R10E, SW1/4, 3RD PM					
COUNTY <u>DuPage County</u> DR	ILLING	МЕТ	HOD	3.25	<u>o" Hollow Stem Auger</u> HAMM	ER TYPE <u>CM</u>	E Aut	toma	tic	
STRUCT. NO. XX					Surface Water Elev. <u>n/a</u>					Γ.,
Station XX	D E	BL	U C	M O	Stream Bed Elev. <u>n/a</u>		D E	BL	U C	M O
BORING NO. <u>NW-20</u>	P T	0 W	S	   S	Groundwater Elevation:		P T	O W	S	   S
Station <u>230+52</u> Offset <u>39.2' Left</u>	Н	S	Qu	T	First Encounter <u>727.8</u> Upon Completion <u>725.8</u>		Н	S	Qu	T
Ground Surface Elev. 743.8	(ft)	(/6")	(tsf)	(%)	After Hrs	$\overline{}$		(/6")	(tsf)	(%)
13.0" ASPHALT					CLAY LOAM-gray-very stiff	(A-6) <i>723.3</i>	}			
		8						2		
CRUSHED STONE-medium dense (Fill) 741.	8	6						4		
CLAY LOAM-brown & gray spotted black-hard (A-6) Fill 740.	8 —	6	4.5+P	22	SILTY LOAM—gray— medium dense (A—4)			8	NP	13
		2						10		
	5	2 2	2.75P	27		718.8	3 – 25	10 6	NP	12
SILTY CLAY-dark brown, gray &					End Of Boring @ -25.0'					
black—stiff to very stiff (A—6) Wet		2		85	Hollow Stem Augers CME Automatic Hammer					
		3								
	_	4	1.2B	29						├──
735.	3									
		2		101						<u> </u>
		2 5	1.3B	25			-30			
		2		112						
CLAY—brown & gray— stiff to very stiff (A—6)		3								
		5	1.5B	19						├──
		3		107						
	15	6 7	2.5B	22			-35			
728.	3									
		5								
SAND & GRAVEL-gray- medium dense (A-1)		7								
725.	8 –	6	NP	7						┝
							_			
CLAY LOAM-gray-very stiff (A-6)		4		129						┝
	-20	6 8	2.9B	11			-40			
The Unconfined Compressive Strength (UCS) Failure M	ode is ir	ndicat	ed by (	B-Bul	ge, S-Shear, P-Penetrometer) ST-SI	helby Tube Sample	e VS	=Vane	Shear	Test

							PAGE <u>1</u>		of _	1	
Geo Services, Inc.		SOI	LE	BOE	RING LOG		DATE <u>5/30</u>	/201	3		
Geo Services, Inc. Geotechnical, Environmental & Givil Engir 805 Amherst Court, Suite 204 Naperville, Illinois 60565	neering						LOGGED BY	TZ			
Naperville, Illinois 60565 (630) 355-2838							GSI JOB No.	_12	195		
ROUTE F.A.P. RTE. 365	DESCR	IPTION	_ <u>Ped</u> e	<u>estri</u> c	<u>ın Bridge over Eas</u> t B	<u>ranch D</u> ı					ls
SECTION 634X-N-3											
COUNTY <u>DuPage County</u>							ER TYPE <u>CM</u>	E Aut	toma	tic	
STRUCT. NO. XX	[				Surface Water Elev.						
Station <u>XX</u>	L	EL	U C	М 0	Stream Bed Elev.	n/a		D E	BL	U C	M 0
BORING NO. <u>NW-20A</u>	F	>   O	S	   S	Groundwater Elevatio	n:		P T	0 W	S	   S
Station <u>230+53</u> Offset <u>53.2' Left</u>	H		Qu	Ť	First Encounter Upon Completion			Ĥ	Ŝ	Qu	Ť
Ground Surface Elev.		t) (/6'	) (tsf)	(%)				(ft)	(/6")	(tsf)	(%)
6.0" TOPSOIL-black (Fill)		AS	-	15				L			
CLAY LOAM-brown-		AS	2.5P	20							
stiff to very stiff (A-6) Fill											
	-	-5 AS	1.0P	21				-25			
	736.7										
TOPSOIL-black											
	735.2	AS	0.75P	24							
		_									├──
CLAY-brown-stiff (A-6)											
	732.2 -	10 AS	1.0P	23				-30			
End Of Boring @ -10.0'		_						_			
Hand Auger		-									
											├──
		_									
		15									
		$\dashv$						_			
		-									
	·										
		+						_			┢
		_		-							├
		20						-40			
The Unconfined Compressive Strength (U	CS) Failure Mode i	s indica	ted by (	B-Bul	ge, S-Shear, P-Penetromete	r) ST-Sł	elby Tube Sample	e VS	=Vane	Shear	Test

					PAGE <u>1</u>		of _	1	
Geo Services, Inc.	SC	DIL I	BOF	RING LOG	DATE <u>9/21</u>	/201:	2		
Geotechnical, Environmental & Civil Engineering 805 Amberst Court, Suite 204					LOGGED BY	DR			
Naperville, Ullinbis 60565 (630) 355+2838					GSI JOB No.				
ROUTE F.A.P. RTE. 365	DESCRIPTI	ON Peo	lestric	an Bridge over East Branch D					
SECTION <u>634X-N-3</u>							<u></u>	9	<u></u>
COUNTY <u>DuPage County</u>						F Aut	toma	,tic	
STRUCT. NO. XX			<u> </u>	Surface Water Elev. <u>n/a</u>					$\overline{\Box}$
Station XX		B U L C	М	Stream Bed Elev. $\frac{n/a}{n/a}$		D E	BL	U C	м 0
BORING NO. NW-21	P P	0   S	1 Î	Groundwater Elevation:		Р	0	ŝ	1
Station <u>227+27</u>		W S Qu	S T	First Encounter <u>Dry</u>	V	T H	W S	Qu	S T
Offset 50.1' Left	(ft) (	/6") (tsf	) (%)			(f+)	(/6")	(tsf)	(%)
Ground Surface Elev739.2			/ (///	After Hrs	<b></b>	(10)			
10.0" TOPSOIL-black 73	8.4	AS –	13						
CLAY LOAM with Stone-brown & gray		8				_	2	<u> </u>	122
medium dense (Fill)		9 10 –	13	CLAY to CLAY LOAM-gray-	_		3	1.3B	
73	6.2			stiff to very stiff (A-6)				1.50	
	_								
		<u>6</u> 11		-			3		┢
	5		12		714.2	2 - 25	• •	1.5P	14
	_			End Of Boring @ -25.0'		_			
		5	116	Hollow Stem Augers CME Automatic Hammer					
CLAY-brown & gray-		8				_			
hard (A—6)	-+	<u>13 7.4E</u>	8 17			_		├──	
		5	102	2					
	10	8				70			
		<u>10 4.4E</u>	<u>3 24</u>						$\vdash$
	-	<u>4</u> 6	117					<u> </u>	-
		0 10 4.9E	16						
72	6.2								
	_	4	123						
		7	120						$\vdash$
	15	7 2.2E	14	4		-35		<u> </u>	_
	_								
CLAY to CLAY LOAM-gray-		3	119						
stiff to very stiff (A-6)		6							
	-+	7 1.7E	15	4				<u> </u>	┢
	$\neg$	1	-	4			$\vdash$	<u> </u>	
	-20	1 2 1.0F	15			-40			
The Unconfined Compressive Strength (UCS) Failure				∎ Ige, S-Shear, P-Penetrometer) ST-S	Shelby Tube Sample		=Vane	shear	Test

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							PAGE <u>1</u>		of _	1	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Geo Services Inc.	S	Oll	_ E	3OF	RING LOG	DATE <u>9/24</u>	/201	2		
GSI JOB No. 12195GSI JOB No. 12195COURTY LAPLAGEDESCRIPTION Pedestrian Bridge over East Branch DuPage River & Retaining WallsSECTION 634X-N-3LOCATION SEC 25. T39N, RIDE, SW1/4, 3RD PMCOUNTY DuPage CountyDRILLING METHOD 3.25" Hollow Stem Auger HAMMER TYPE OME AutomaticSTRUCT. NO. XXDESCRIPTION Pedestrian Bridge over East Branch DuPage River & Retaining WallsSTRUCT. NO. XXDRILLING METHOD 3.25" Hollow Stem Auger HAMMER TYPE OME AutomaticSTRUCT. NO. XXDESCRIPTION Pedestrian Bridge over East Branch DuPage River & Retaining WallsSTRUCT. NO. XXDRILLING METHOD 3.25" Hollow Stem Auger HAMMER TYPE OME AutomaticSTRUCT. NO. XXDESCRIPTION Pedestrian Bridge over East Branch DuPage River & Retaining WallsSTRUCT. NO. XXDRILLING METHOD 3.25" Hollow Stem Auger HAMMER TYPE OME AutomaticSTRUCT. NO. XXTotal Station XXOPE ON Site of Colspan="2">Station XXOPE ON Site of Colspan="2">Total Matter Colspan="2">Total Projection DrugTotal Action 2015 (Station XXOffset a05' LeftColspan="2">Clay LoAM-gray-Total Action 2015 (Station XXSILTY CLAY-LOAM-gray-Clay LoAM-gray-SILTY CLAY LOAM-brown & gray-Cla	805 Amberst Court, Suite 204						LOGGED BY	DR			
ROUTE F.A.P. RTE. 365DESCRIPTION Pedestrian Bridge over East Branch DuPage River & Retaining WallsSECTION 634X-N-3LOCATION SEC 25, T39N, RIOE, SW1/4, 3RD PMCOUNTY DuPage CountyORIGIN SEC 25, T39N, RIOE, SW1/4, 3RD PMCOUNTY DuPage CountyDRILLING METHOD 3.25" Hollow Stem AugerHAMMER TYPE CME AutomaticSTRUCT. NO. $XX$ DBUN/aD BUNSattion $XX$ DBUNOffset $30,5^{\circ}$ LeftClay Colspan="2"Clay Colspan="2"CLAY LOAM-gray-GLAY LOAM Stack Leven & black-very stiff to hord (A-6) FillT39.8SILTY CLAY LOAM-gray-SILTY CLAY LOAM-gray-CLAY -dark brown & black-Very stiff (A-6)83.59739.8SILTY CLAY LOAM-gray-SILTY CLAY LOAM-gray-SILTY CLAY LOAM-gray-SILTY CLAY LOAM-gray-SILTY CLAY LOAM-gray-SILTY CLAY LOAM-gray-2739.8SILTY CLAY LOAM-gray-2739.8SILTY CLAY LOAM-brown & gray-	Naperville, Illinois 60565 (630) 355-2838						GSI JOB No.	. 12	195		
SECTION       634X-N-3       LOCATION       SEC 25, T39N, R10E, SW1/4, 3RD PM         COUNTY       DuPage County       DRILLING       METHOD       3.25"       Hollow Stem Auger       HAMMER TYPE       CME Automatic         STRUCT. NO.       XX       D       B       U       M       Surface Water Elev. $n/\alpha$ D       B       U       M         Station       XX       D       B       U       M       Surface Water Elev. $n/\alpha$ D       B       U       M         Station       231+35       Offset       60.5' Left       Gou       T       First Encounter       Dru       V       M       Surface Water Elev. $n/\alpha$ P       W       Qu       T         Clay       Gound Surface Elev.       745.3       (ft) /6" (tsf) (%)       Atter       Hrs.       O       D       E       U       M       Qu       T         CLAY       Gound Surface Elev.       745.3       I       Guad       CLAY LOAM-gray-       4       1100       168       18         CLAY       Joach       Joach       Joach       Joach       Joach       Joach       Joach       Joach       Jach       Jach       Jach       Jach	ROUTE F.A.P. RTE. 365 D	ESCRIPT	ION	Pede	estria	ın Bridae over East Branch D					— Is
COUNTY       DuPage County       DRILLING METHOD       3.25"       Hollow Stem Auger       HAMMER TYPE       CME Automatic         STRUCT. NO.       XX       Station       XX $XX$ <											
STRUCT. NO. <u>XX</u> Station <u>XX</u> Station <u>XX</u> 3ORING NO. NW-24 $Offset 80.5' Left 1 Ground Surface Elev. 745.3 Offset 80.5' Left 1 Ground Surface Elev. 747.3 (ft) (/6") (tsf) (%)After Hrs. V After Hrs. V (ft) (/6") (tsf) (%)After Hrs. V (ft) (/6") (tsf) (%)After Hrs. V (ft) (/6") (tsf) (%)After Hrs. V (ft) (/6") (tsf) (%)(ft) (/6") (tsf) (%)After Hrs. V (ft) (/6") (tsf) (%)After Hrs. V (ft) (/6") (tsf) (%)(ft) (/6") (tsf) ($									toma	utic	
Station XX D B B U O O S I Station 231+35 H S Qu T First Encounter $Dry$ V O S I Ground Surface Elev. 745.3 (ft) (/6") (tsf) (%) After Hrs V (ft) (/6") (tsf) (%) 3.0" ASPHALT, 7.0" CONCRETE 744.3 A ter Hrs V (ft) (/6") (tsf) (%) 3.0" ASPHALT, 7.0" CONCRETE 744.3 A ter Hrs V (ft) (/6") (tsf) (%) CLAY LOAM-gray 4 4 A ter Hrs V (ft) (/6") (tsf) (%) SILTY CLAY-brown & black 6 3.5P 25 Find Find Parameter A term of the analysis of					<u> </u>						=
BORING NO. <u>NW-24</u> Station <u>231+35</u> Offset <u>80.5' Left</u> Ground Surface Elev. <u>745.3</u> (ft) (/6") (tsf) (%) After <u>Bry</u> (ft) (/6") (tsf) (%) After <u>Hrs.</u> CLAY LOAM-gray- -4 -4 -5 -5 -5 -5 -5 -5 -5 -5 -10								D			
Station $231+35$ Offset $80.5'$ Left Upon Completion $2ry$ $r$ (H) $3^{\circ}$ (Left Upon Completion $2ry$ $r$ (H) $3^{\circ}$ (Left (H) $3^{\circ}$ (Left		P	0		Ī			Ρ	0	S	
Ground Surface Elev.       745.3       (ft) $\langle /6^n \rangle$ (tsf) (%)       After	Station <u>231+35</u>			Qu	-	First Encounter <u>Dry</u>	<b>V</b>			Qu	
3.0" ASPHALT, 7.0" CONCRETE       744.3       CLAY LOAM-gray-       4       112         3.0" ASPHALT, 7.0" CONCRETE       744.3       CLAY LOAM-gray-       4       112         4       74.5+P 21       stiff to very stiff (A-6)       8       9       1.68       8         CLAY-dark brown & black-       7       4.5+P 21       9       1.68       8       9       1.68       18         CLAY-dark brown & black-       7       6       7       722.3       5       720.3 - 25       6       2.25P       11         739.8       -5       6       2.88       25       720.3 - 25       6       2.25P       11         SILTY CLAY-brown & gray-       5       6       2.88       25       CME Automatic Hammer       -10       -10       -17       -30 <td< td=""><td>Offset <u>80.5' Left</u></td><td>(4)</td><td>( (0")</td><td>(+-6)</td><td>(97)</td><td></td><td></td><td>(41)</td><td>( (0")</td><td>(+-6)</td><td>( 77 )</td></td<>	Offset <u>80.5' Left</u>	(4)	( (0")	(+-6)	(97)			(41)	( (0")	(+-6)	( 77 )
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Ground Surface Elev. <u>745.3</u>		(/6)	(tsr)	(%)	After Hrs		(11)	(76)	(tst)	(%)
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	3.0" ASPHALT, 7.0" CONCRETE	L3 -						_			
CLAY-dark brown & black- very stiff to hard (A-6) Fill 3 3 3 3 3 3 3 3			3						4		113
CLAY-dark brown & black- very stiff to hard (A-6) Fill $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			·			stiff to very stiff (A-6)			-		
very stiff to hard $(A-6)$ Fill       3       SILTY CLAY LOAM-gray-very stiff $(A-4/A-6)$ 5         -5       8       3.5P       25       720.3 - 25       6       2.25P       11         739.8       -5       -6       -5       8       720.3 - 25       6       2.25P       11         739.8       -5       -5       -6       2.8B       25       CME       Automatic Hammer       -6       2.25P       11         SILTY CLAY-brown & gray-very stiff $(A-6)$ -5       -6       2.8B       25       CME       -6       -6       -6       -7 <td< td=""><td>CLAX_dark brown &amp; black_</td><td>-+</td><td>7</td><td>4.5+P</td><td>21</td><td></td><td>722 :</td><td>~ —</td><td>9</td><td>1.6B</td><td>18</td></td<>	CLAX_dark brown & black_	-+	7	4.5+P	21		722 :	~ —	9	1.6B	18
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	very stiff to hard (A-6) Fill						122.0	, 			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			-	3 5P	25	very stiff (A=4/A=6)	720 :	<u> </u>	4 · I	2 25P	11
SILTY CLAY-brown & gray- very stiff (A-6) $\begin{array}{c c} 3 & 100 \\ 5 \\ 6 & 2.8B & 25 \\ \hline \\ 6 & 2.8B & 25 \\ \hline \\ 6 & 2.8B & 25 \\ \hline \\ 2 \\ \hline \\ 2 \\ \hline \\ 2 \\ \hline \\ 2 \\ \hline \\ 734.8 \\ \hline \\ \\ 2 \\ \hline \\ \hline \\ 734.8 \\ \hline \\ \\ 2 \\ \hline \\ \hline \\ 734.8 \\ \hline \\ \\ \hline \\ \\ 734.8 \\ \hline \\ \hline \\ \hline \hline \\ \hline \hline \\ \hline \\ \hline \hline \\ \hline \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \hline \hline \hline \hline \\ \hline \hline$	739	9.8	0	0.01	20	End Of Boring @ -25.0'	120.0	<u>, 20</u>		2.201	
SILTY CLAY-brown & gray- very stiff (A-6) $5$ 6 2.88 25 737.3 $-2-10$ $4$ $ 17-30--10$ $4$ $ 17--30----------$						Hollow Stem Augers					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		-+			100						
SANDY CLAY LOAM-brown & gray- oose $(A-2/A-6)$ $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			-	2.8B	25						
SANDY CLAY LOAM-brown & gray- arrow = 2 -10 + -17 -30 -30 -30 -30 -30 -30 -30 -30 -30 -30	737	7.3									
SANDY CLAY LOAM-brown & gray- arrow = 2 -10 + -17 -30 -30 -30 -30 -30 -30 -30 -30 -30 -30		-	2								
	SANDY CLAY LOAM-brown & gray-										
			4	_	17						<u> </u>
5	734	4.8									
			2		123						
			-	0.75							
— — — — — — — — — — — — — — — — — — — —		-	6	2.78	14						
	CLAY LOAM-gray-				<u>123</u>						├
stiff to very stiff (A-6) $-15 \ 8 \ 3.4B \ 13$ $-35$	stiff to very stiff (A-6)	 15	•	3.4B	13			-35			
			_								
		-	-		126			_			-
8 3.9B 12				3.9B	12						
		-									
			4		121			_			
			5								
-20 5 1.7B 1540 - 40 - The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test	The Unconfined Compressive Strength (UCS) Failure		_			<b> </b> ge, S-Shear, P-Penetrometer) ST-S	helby Tube Sample		=Vane	Shear	 Test