
GEOTECHNICAL REPORT
I-80 Overhead Sign and Traffic Signals
IDOT Job No P-91-185-09
Will County, IL

Prepared for:

EXP US Services Inc.
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Chicago, Illinois 60601

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JOB NO. 20012

March 22, 2023
Revised: April 11, 2023
Revised: May 25, 2023
Revised: June 6, 2023



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Revised: April 11, 2023
Revised: May 25, 2023
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EXP US Services Inc.
205 North Michigan Avenue, Suite 3600
Chicago, Illinois 60601-5924

Attn: Mr. Thomas Hough, P.E.,
Email: Thomas.Hough@exp.com

Job No. 20012

Re: Structure Geotechnical Report I-80
Contract No.: 62R29
IDOT Job Number P-91-185-09 / PTB 194-09
Will County, Illinois

Dear Mr. Hough:

The following report presents the geotechnical analysis and recommendations for the proposed traffic signals at Briggs Street Ramp Intersections and overhead sign structures (OHSS) along I-80 corridor from Rowell Ave to Gougar Rd. A total of eight (8) traffic signals borings (TSB-01 thru TSB-8) and eleven (11) overhead signs borings (OSB-01 thru OSB-11). Copies of these boring logs, along with location plans are included in this report.

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

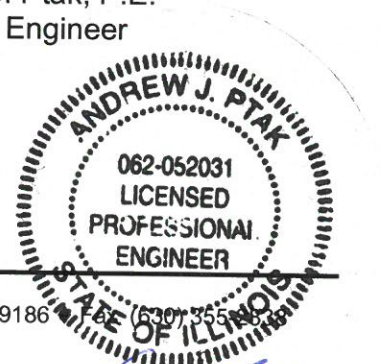
Very truly yours,

GEO SERVICES, Inc.

Nawras Alhadab
Project Manager

Andrew J. Ptak, P.E.
Principal Engineer

enc.



Andrew J. Ptak
06/30/23

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SECTION 01: INTRODUCTION

This report presents the results of the geotechnical investigation for the proposed overhead sign structure (OHSS) along Interstate 80 (I-80) from Rowell Ave to Gougar Road and traffic signals at the Briggs Street ramp intersections in, Will County IL. The results of associated soil borings completed by Geo Services, Inc., along with general notes in Appendix A, site location map in Appendix B, site plans, and boring location plans found in found in Appendix C, boring found in Appendix D.

Boring locations were selected by GEO and were reviewed and approved by EXP. Boring locations were laid out in the field by GEO personnel at the proposed locations. Elevations were taken using a survey grade GPS and can be seen on the boring logs.

This report includes descriptions of soil and groundwater conditions encountered and recommendations pertaining to the design and construction of the overhead signs and traffic signals as well as, a site location map, boring location diagram and boring logs.

This report includes a description of subsurface conditions, location diagram and boring logs, as well as recommendations pertaining to the design and construction of the new sign and signal structure foundations and general construction considerations for the site.

SECTION 02: SUBSURFACE INVESTIGATION PROCEDURES

The borings were performed during the months of January and February, 2023 with either an ATV-mounted drilling rig or truck-mounted drilling rig. Borings were advanced using hollow stem augers to completion, or using solid flight auger to 10-ft and using rotary methods to completion. Representative soil samples were obtained employing split spoon sampling procedures in accordance with AASHTO Method T-206. Samples obtained in the on I- field were returned to our laboratory for further examination and testing.

Split spoon sampling involves driving a 2.0-inch outside diameter split-barrel sampler into the soil with a 140-pound weight falling freely through a distance of 30-in. Blow counts are recorded at 6-in intervals and the blow counts are shown on the boring logs. The number of blows required to advance the sampler the last 12-in is termed the Standard Penetration Resistance (N). The N value is an indication of the relative density of the soil.

Bedrock coring was performed by the dual tube method using NX size, 5 feet length core barrel seated approximately 2 feet into bedrock for the four (4) overhead signs borings and seven (7) traffic signals borings chosen for rock core sampling. The full length of the boring was cased using 3-inch diameter casing which was seated approximately 6-in into bedrock to prevent cave-in of the boring while coring. Eleven

(11) bedrock cores were obtained in 5 feet runs out of the nineteen (19) borings at various locations along the I-80 corridor.

SECTION 03: 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 boring logs.

SECTION 04: SUBSURFACE AND WATER CONDITIONS

Specific soil conditions encountered in the borings are shown on the boring logs in Appendix D. The following are descriptions for general soil and water table conditions.

Overhead Signs

The borings associated with Overhead Signs include OSB-01 through OSB-011. Surficial soils consisted of approximately 12" of sand stone topsoil and Asphalt at elevation 649 followed by clay loam and silty clay to approximate elevation 614. Beneath this layer, a layer of crushed stone, sand and gravel was encountered to termination of boring at elevation 596. Bedrock causing termination of borings OSB-02, OSB-03, OSB-04 and OSB-07 at depths ranging from 18 to 21-ft and 37 ft for OSB-07 below existing grade. All rock cores consist of Niagaran series dolomite with large amounts of fracturing.

The surficial topsoil had a moisture content ranging from 1%-19% with an average of 6%. The clay loam and silty clay layer underlying the topsoil at elevation 649.0 to 614 had moisture contents ranging from 3%-33% with an average of 19%, blow counts ranging from 5-50 blows/ft with an average of 18 blows/ft and cohesion ranging from 0.4 tsf to 4.9 tsf with an average of 2.4 tsf.

The crushed stone, sand and gravel layer at elevation 614 to 596 had moisture contents ranging from 6%-27% with an average of 14% and blow counts ranging from 13-68 blows/ft with an average of 39 blows/ft.

Ground water was not encountered during or after drilling above 10 feet. Coloration changes in the samples from brown and gray to gray indicate the long-term ground water table at a depth of 6 to 10 feet from the existing ground surface.

Traffic Signals

The borings associated with Traffic Signals include TSB-01 through TSB-08. Surficial soils consisted of approximately 12" of topsoil and Asphalt for all the borings. At elevation 651 a silty clay, crushed stone, clay with sand and gravel found to approximate elevation 640. Beneath this layer, a mix layer of clay loam, silty clay, clay with sandy was encountered to approximate elevation 614. Underline this layer a layer of sand and gravel, fraction rock and sandy clay was encountered to termination of boring at elevation 598. Bedrock causing termination of all borings except TSB-05 at depths ranging from 23 to 28-ft and 35 ft for TSB-08 below existing grade. All bedrock cores consisted of Niagaran series dolomite with large amounts of fracturing.

The surficial topsoil had a moisture content ranging from 1%-29% with an average of 8%. The clay loam, silty clay, clay with sandy layer underlying the topsoil at elevation 640.0 to 614 had moisture contents ranging from 5%-39% with an average of 20%, blow counts ranging from 2-50 blows/ft with an average of 14 blows/ft and cohesion ranging from 0.25 tsf to 4.5 tsf with an average of 1.7 tsf.

The sand and gravel, fraction rock and sandy clay layer at elevation 614 to 598 had moisture contents ranging from 2%-23% with an average of 12% and blow counts ranging from 5-29 blows/ft with an average of 16 blows/ft.

Ground water was encountered during or after drilling above 10 feet on TSB-06 and TSB-08. Coloration changes in the samples from brown and gray to gray indicate the long-term ground water table at a depth of 6 to 10 feet from the existing ground surface.

Bedrock

Bedrock cores were recovered from eleven (11) borings. Bedrock appeared to be of similar consistency throughout the borings which is classified as light gray to gray Silurian System, Niagaran Series Dolomite in all eleven (11) core runs. Furthermore, rock core recovery ranged from 24% to 68%, with an average of 57%. Upon further analysis in our laboratory, RQD values varied greatly ranging from 0% to 67% (average RQD of 35%). This a poor rating of RQD, making this weathered rock with numerous weathered jointing.

SECTION 05: SEISMIC DATA

According to the AASHTO LRFD Bridge Design Specifications 2020, the project site has a horizontal Response Spectral Acceleration Coefficient of 0.040 (S_1 , AASHTO Figure: 3.10.2.1-3) at a period of 1.0 second and 5% critical dampening and 0.104 (S_s , AASHTO Figure: 3.10.2.1-2) at a period of 0.2 seconds and 5% critical dampening and a Site Class: C according to the soil conditions. The project site is considered to be in a low seismic area. Liquefiable layers and scour are not expected to impact the design of the new sign and traffic signal structures. The following table contains a summary of the seismic data to be used for design:

Table 1 – Seismic Data

Description	Type	Value
Long Term Horizontal Response Spectral Acceleration Coefficient (1.0 second period)	S_1	0.040 g
Short Term Horizontal Response Spectral Acceleration Coefficient (0.2 second period)	S_s	0.104 g
Design seismic value at 1 second	S_{D1}	0.068 g
Design seismic value at 0.2 second	S_{Ds}	0.125 g
Seismic Performance Zone	-	1
Site Class	-	C

SECTION 06: RECOMMENDATIONS

6.1 Foundation Recommendations

Overhead Signs

Based on the results of the borings and estimated foundation loading, the soils encountered during the subsurface investigation meet the soil condition requirements per IDOT Standard Sign Foundation details except borings OSB-003,004,006 and OSB-010. District One Soils Unit will complete an analysis and provide dimensions for the drilled shaft foundations based on the soils encountered see Table 2 below, Drilled-in, end-bearing straight-shaft caissons are feasible for support of majority of the new sign structures at appropriate locations. It is anticipated that lateral forces controls, deep foundations are typically used for the sign structures. The selection of foundation type should be determined by economic considerations if either foundation types are feasible for the design of the sign structures.

Table 2- Overhead Sign Summary

Structure Number	Station	Truss Type	Boring ID	IDOT Standard Sign Foundation Details Applicable
1C099I080R134.3	783+00	III-C-A	OSB-002	No ¹
1C099I080R134.5	798+00	III-C-A	OSB-003	No ¹
1C099I080L135.0	829+64	III-C-A	OSB-006	No ²
1C099I080L135.5	843+50	III-C-A	OSB-007	Yes
1S099I080R135.7	854+00	III-A (DMS)	OSB-008/ OSB-009	Yes
1S099I080L136.0	870+00	III-A (DMS)	OSB-010/ OSB-011	No ²

¹ Standard foundation depth encountered bedrock. Custom foundation design required.

² Low strength soil encountered with the proposed foundation depth. Custom foundation design required

Traffic Signals

Based on the results of the borings and estimated foundation loading, the soils encountered during the subsurface investigation meet the soil condition requirements per IDOT Standard Traffic Signal Design Details for the borings at the crossing of Briggs Street and the west-bound ramp. The borings at the crossing of Briggs Street and the east-bound ramps, district One Soils Unit will complete an analysis and provide dimensions for the drilled shaft foundations based on the soils encountered see Table 3 below. The drilled shaft construction should be completed in accordance with Section 516, Drilled Shafts, in the IDOT Standard Specifications for Road and Bridge Construction (adopted January 1, 2022).

Table 3- Traffic Signals Summary

Location	Station	Boring ID	IDOT Standard Signal Foundation Details Applicable
Briggs St. and WB Ramps	67+97	TSB-001	Yes
Briggs St. and WB Ramps	67+70	TSB-002	Yes
Briggs St. and WB Ramps	66+61	TSB-003	Yes
Briggs St. and WB Ramps	66+28	TSB-004	Yes
Briggs St. and EB Ramps	56+27	TSB-005	No ¹
Briggs St. and EB Ramps	55+52	TSB-006	No ²
Briggs St. and EB Ramps	54+77	TSB-007	No ¹
Briggs St. and EB Ramps	54+12	TSB-008	No ^{1,2}

¹ Standard foundation depth encountered granular Material. Custom foundation design required.

² Low strength soil encountered with the proposed foundation depth. Custom foundation design required

6.2 Drilled Straight-Shaft Caisson Recommendations

Drilled shafts can be designed for end-bearing resistance and/or side resistance per IDOT Bridge Manual. In addition, due to the materials encountered in the subsurface investigation, drilled shafts can be designed for end-bearing resistance in sand and clay loam fills.

6.3 Drilled Pier Construction Considerations

The drilled pier construction should be completed in accordance with Section 516, Drilled Shafts, in the IDOT Standard Specification for Road and Bridge Construction. It is anticipated that dry construction methods may be feasible for the sign and traffic

signal foundations. The temporary casing construction method should be applied where granular material is present within the proposed shaft depth.

SECTION 07: GENERAL CONSTRUCTION CONSIDERATIONS

All excavations that extend greater than 4-ft in depth should be designed in accordance with OSHA regulations with properly sloped or braced sides to prevent excavation instability. Side slopes of 1-1/2H:1V or flatter will be required if sand soils are encountered. Stockpiles of material or equipment should not be placed near the top of excavation slopes.

All soils which become softened or loosened at the base of foundation excavation areas or subgrade areas should be carefully recompacted or removed prior to placement of foundation concrete. No foundation concrete or structural fill should be placed in areas of ponded water or frozen soil.

SECTION 08: 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.

APPENDIX A
GENERAL NOTES

GENERAL NOTES

CLASSIFICATION

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

Cohesionless Soils

<u>Relative Density</u>	<u>No. of Blows per foot N</u>
Very Loose	0 to 4
Loose	4 to 10
Medium Dense	10 to 30
Dense	30 to 50
Very Dense	Over 50

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

<u>Consistency</u>	<u>Unconfined Compressive Strength - qu (tsf)</u>
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

DRILLING AND SAMPLING SYMBOLS

SS: Split Spoon 1-3/8" I.D., 2" O.D.	HS: Housel Sampler
ST: Shelby Tube 2" O.D., except where noted	WS: Wash Sample
AS: Auger Sample	FT: Fish Tail
DB: Diamond Bit - NX: BX: AX	RB: Rock Bit
CB: Carboloy Bit - NX: BX: AX	WO: Wash Out
OS: Osterberg Sampler	

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

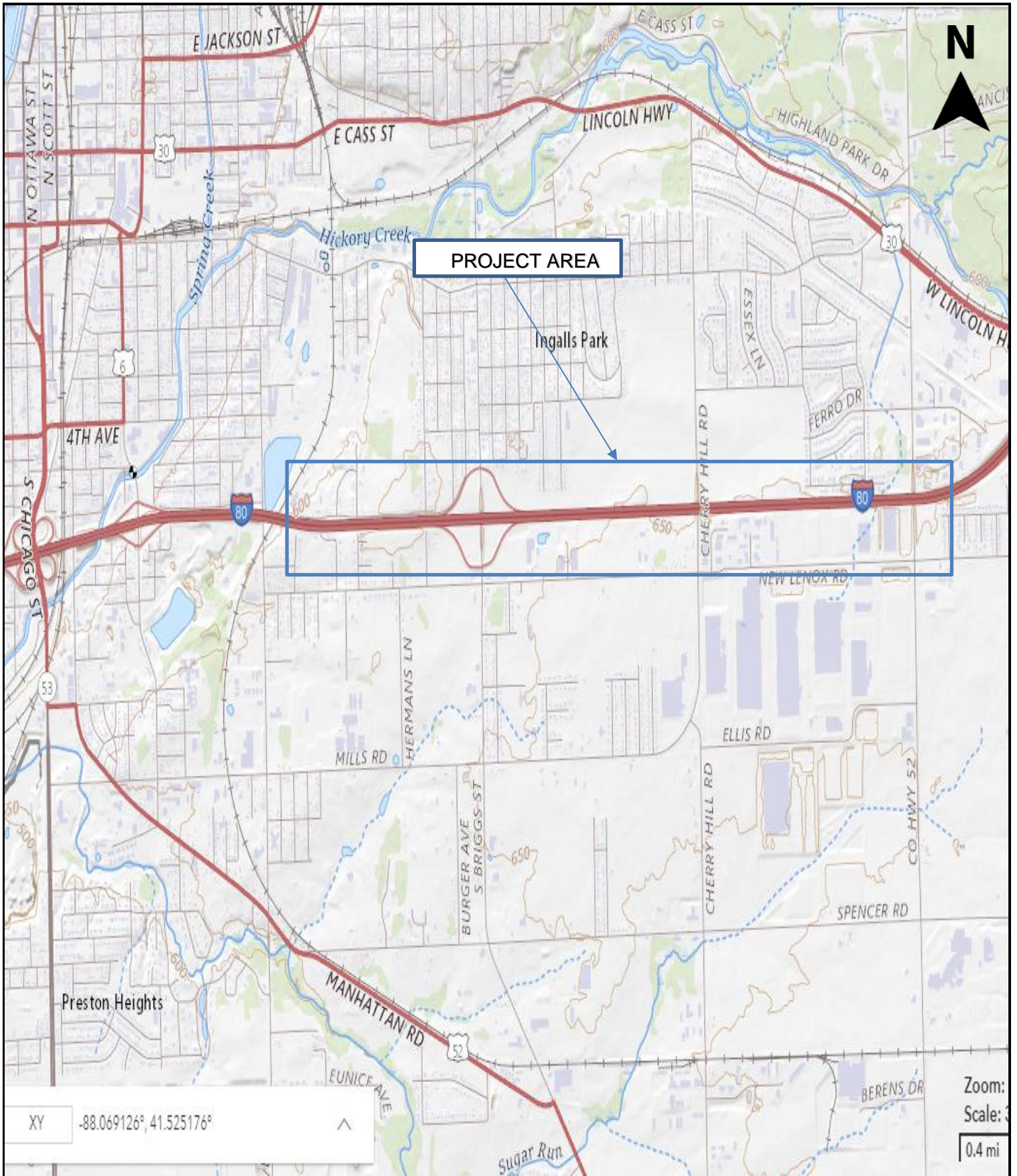
WATER LEVEL MEASUREMENT SYMBOLS

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.

APPENDIX "

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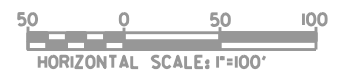
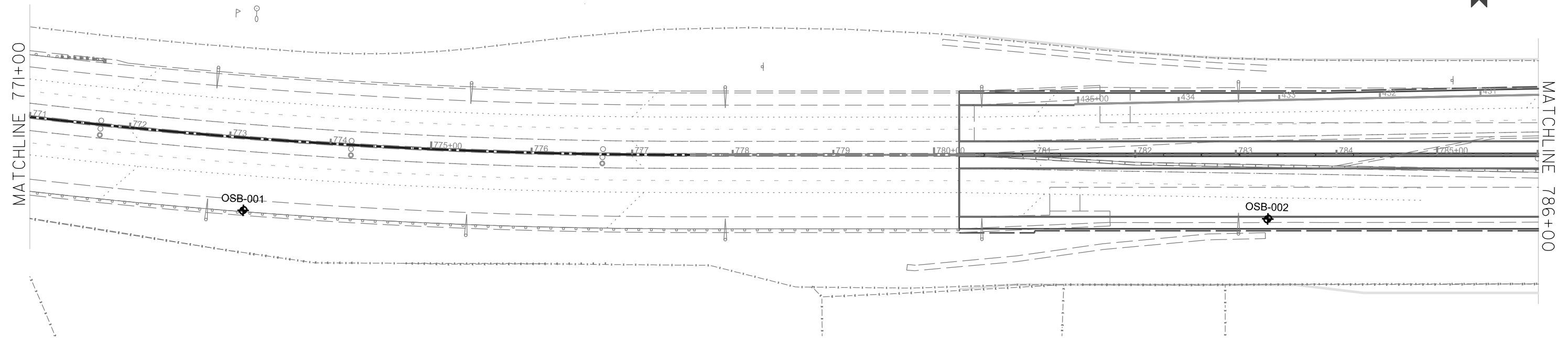
SITE MAP
Sign and Traffic Signal Structures Joliet, IL 60433


Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 805 Amherst Court, Suite 204
 Naperville, Illinois 60565
 (630) 355-2838

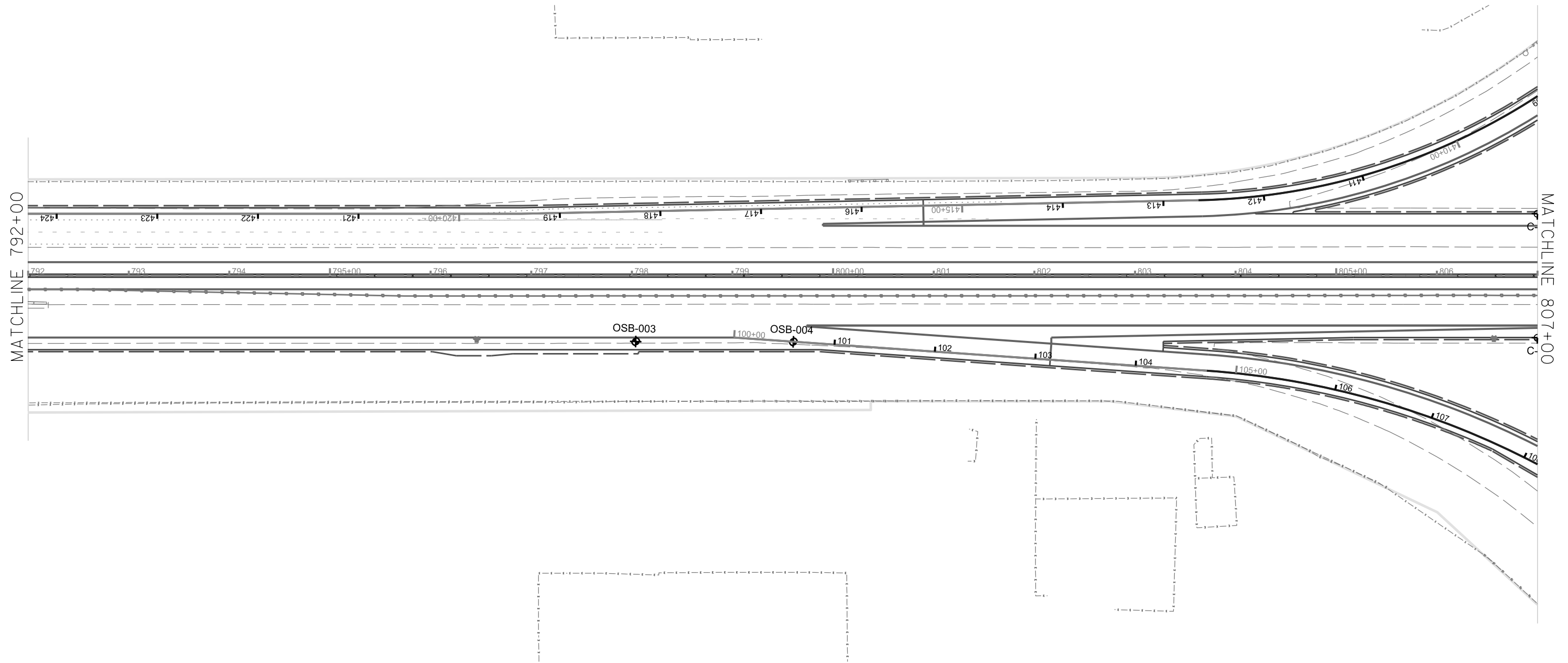
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GSI JOB No.	20012
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APPENDIX #

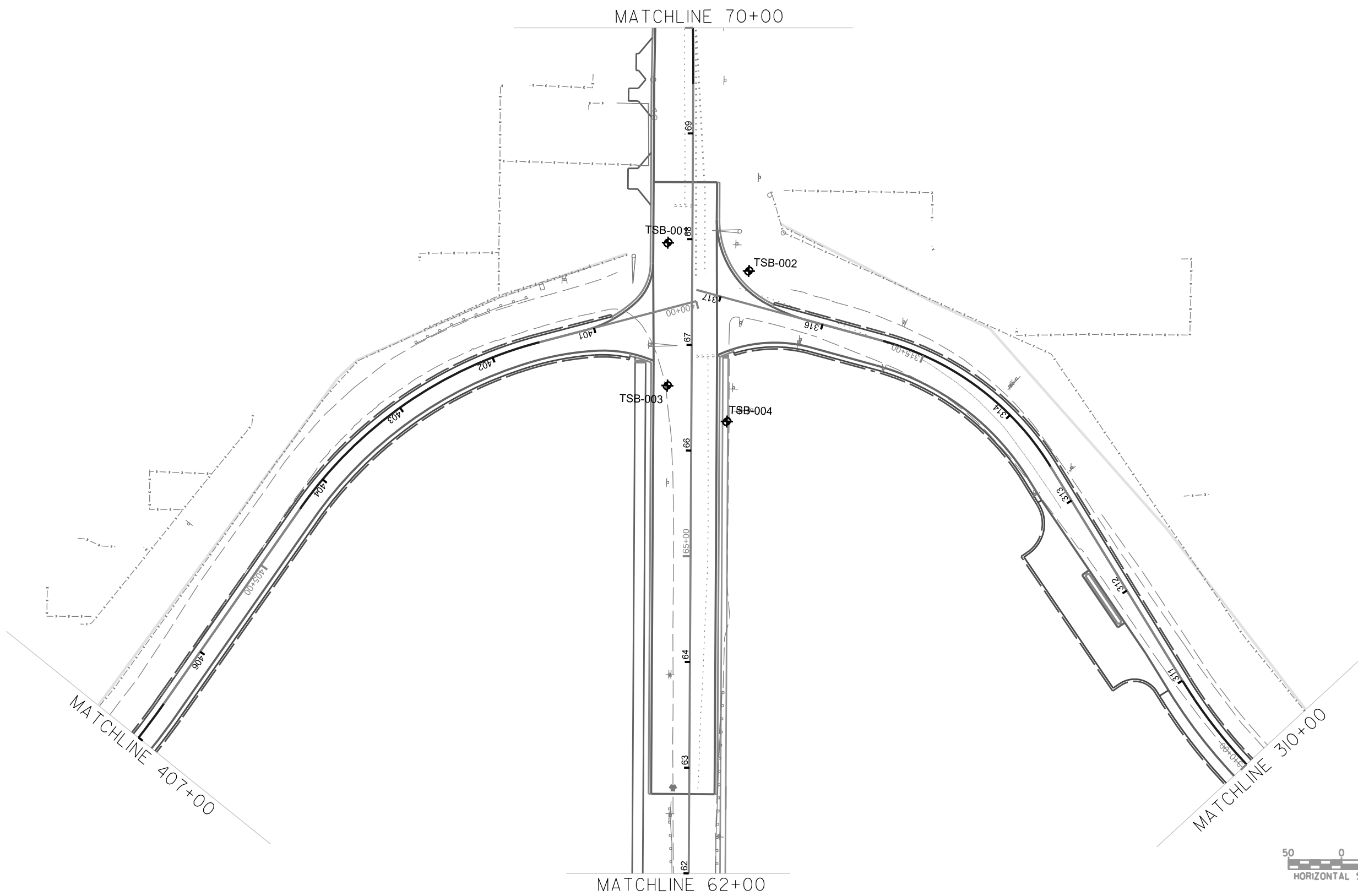
Plan



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											FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

62R29 SIGN AND TRAFFIC SIGNAL
BORING PLAN

SCALE: 1" = 100'

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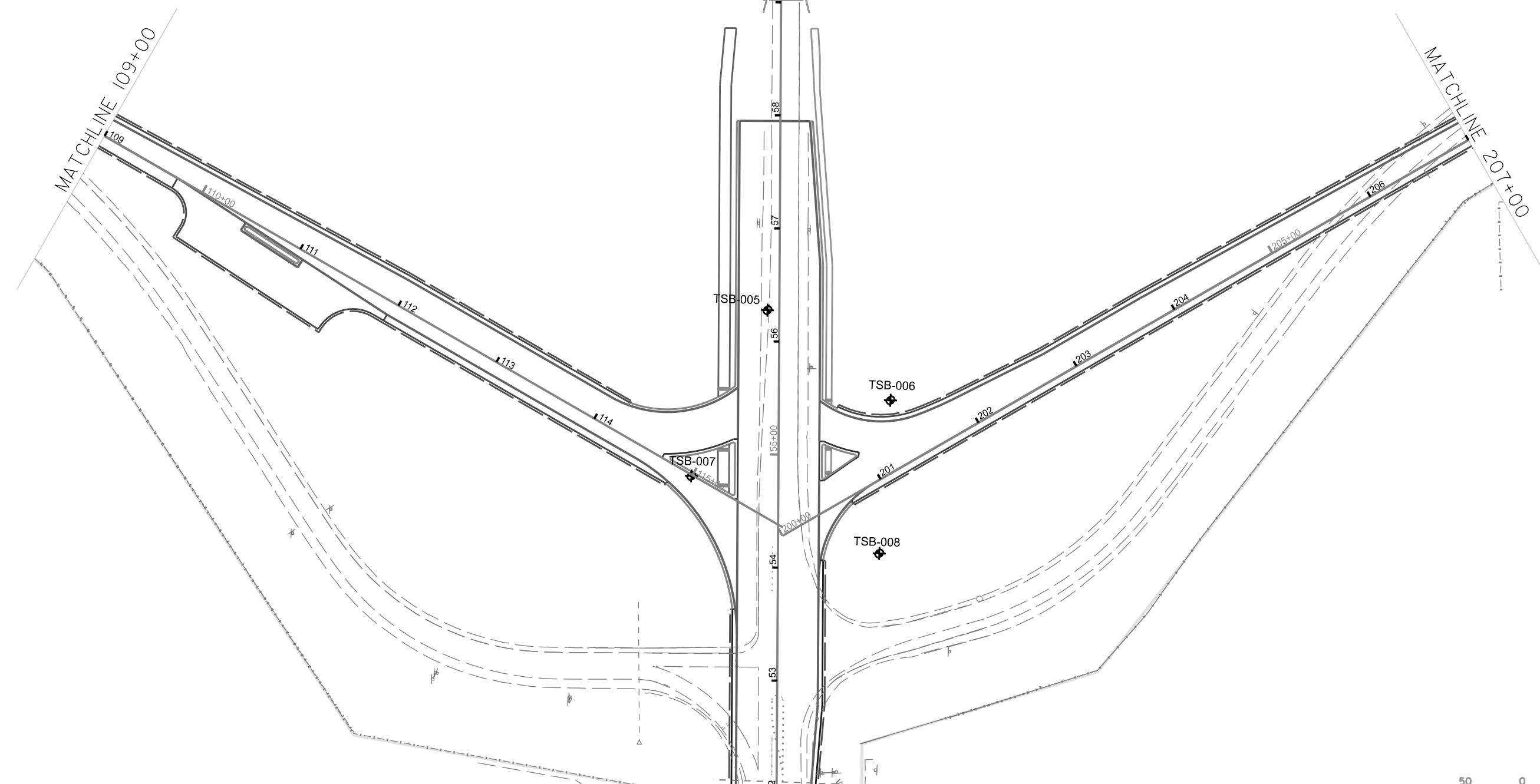
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FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

MATCHLINE 61+00

807 808 809 810+00 811 812 813 814 815+00 816 817 818 819 820+00 821

MATCHLINE 109+00

MATCHLINE 207+00



MATCHLINE 52+00

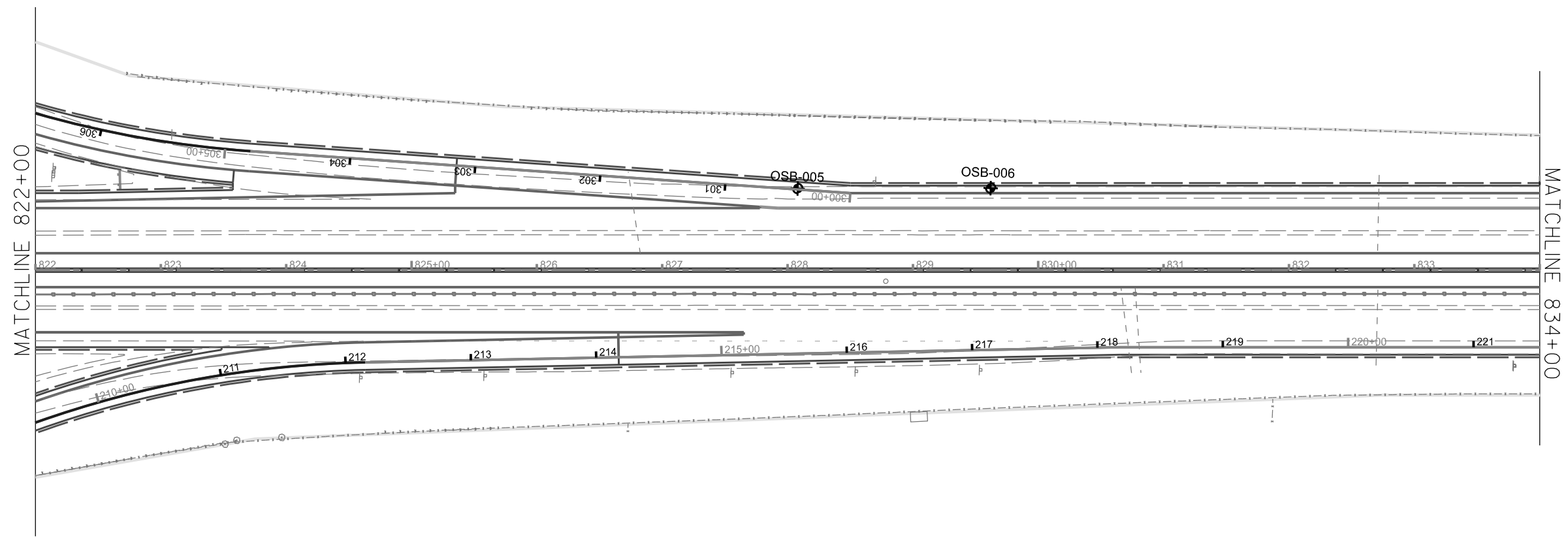


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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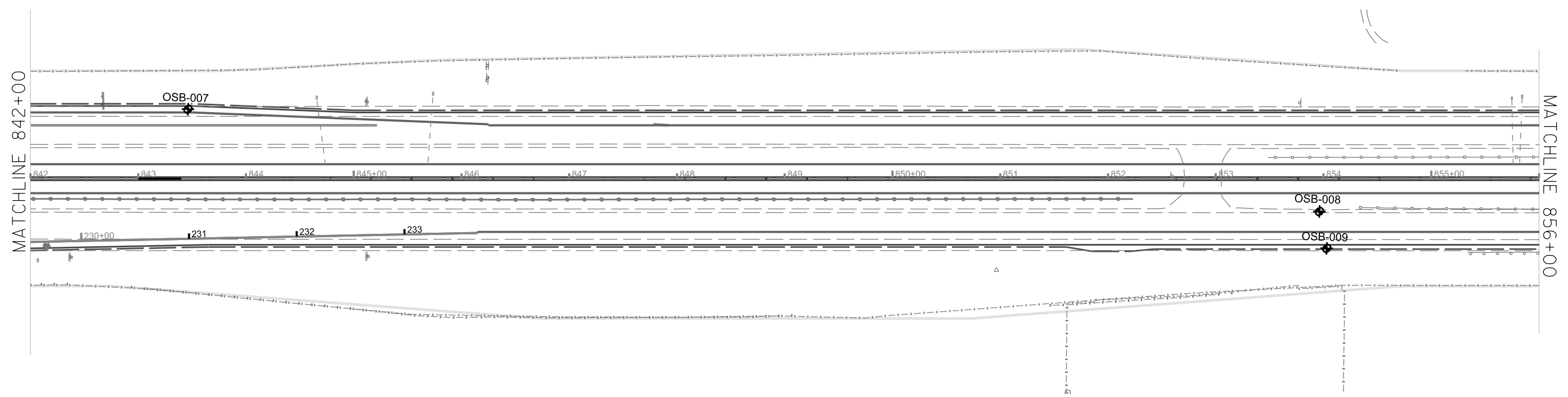


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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STA. 822+00 TO STA. 834+00

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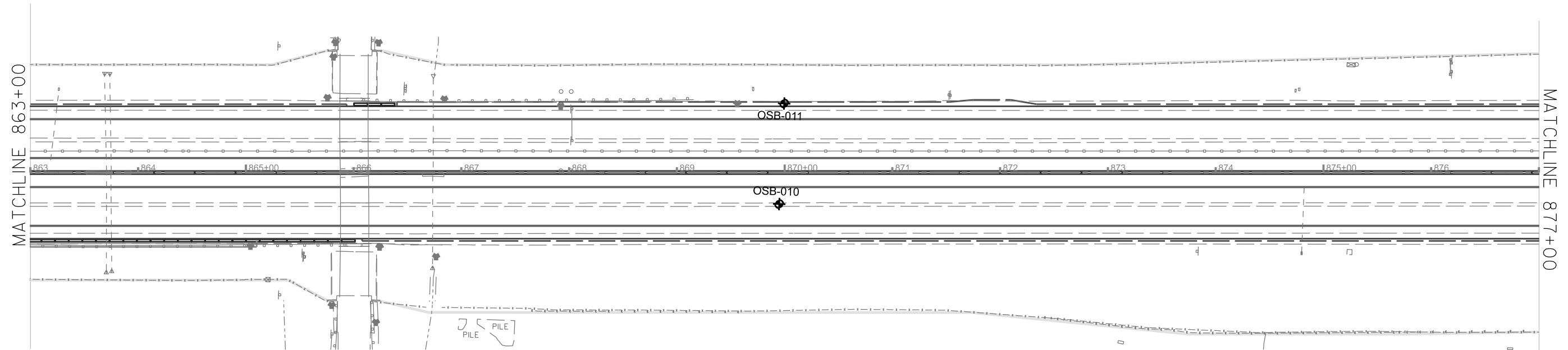
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

62R29 SIGN AND TRAFFIC SIGNAL BORING PLAN

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PLOT DATE : *DATE*		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

62R29 SIGN AND TRAFFIC SIGNAL BORING PLAN
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SHEET NO. 7 OF 7 SHEETS
STA. 863+00 TO STA. 877+00

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CONTRACT NO. 62R29				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

APPENDIX)

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SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. _____	D	B	U	M	Surface Water Elev. _____ n/a ft	D	B	U	M
Station _____	E	L	C	O	Stream Bed Elev. _____ n/a ft	E	L	C	O
BORING NO. <u>OSB-001</u>	P	O	S	I	Groundwater Elev.: _____	T	W	S	S
Station <u>773+19</u>	H	S	Qu	T	First Encounter _____ Dry ft	H	S	Qu	T
Offset <u>72.00ft Right</u>	(ft)	(/6")	(tsf)	(%)	Upon Completion _____ Dry ft	(ft)	(/6")	(tsf)	(%)
Ground Surface Elev. <u>633.55</u> ft					After _____ Hrs. _____ - ft				

DEPTH (ft)	BLOW COUNT (/6")	UCS (tsf)	MOISTURE (%)	DESCRIPTION	DEPTH (ft)	BLOW COUNT (/6")	UCS (tsf)	MOISTURE (%)
0				2.0" SAND, STONE & GRAVEL / 633.38'	0			
0			3	CLAY LOAM-brown & gray-very stiff	0			
4					9			
6	4.00	18			10	3.00	18	
7	P				50/5"	P		
3				610.05'				
7	2.50	20		SAND & GRAVEL-brown-medium dense to very dense	28			
7	P				35		8	
-5					33			
6					14			
8	3.50	22			11		13	
10	P				18			
4				becoming gray @ -8.5'	10			
5	3.00	23			9		13	
7	P				11			
-10					-30			
7								
10	4.00	17						
12	P							
10					38			
9	3.50	19			32		7	
13	P				27			
-15					-35			
6								
8	2.50	18						
7	P							
8					50/3"			
7	3.50	18		End Of Boring @ -40.0'. Boring backfilled with cuttings.				11
9	P				593.55	-40		

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. _____ n/a ft	D E P T H H	B L O W S	U C S Qu	M O I S T	
BORING NO. <u>OSB-002</u> Station <u>783+32</u> Offset <u>64.00ft Right</u> Ground Surface Elev. <u>643.55</u> ft					Stream Bed Elev. _____ n/a ft					Groundwater Elev.: First Encounter _____ Dry ft
					Upon Completion _____ Dry ft					After _____ Hrs. _____ - ft

Soil Description	(ft)	(/6")	(tsf)	(%)	Drillers Observation	(ft)	(/6")	(tsf)	(%)
15.0" ASPHALT				2	Drillers Observation: Possible Top of Bedrock @ -20.0'. Drilled 1' into bedrock to confirm (-20.0' to -21.0') Borehole continued with rock coring.				
642.30		18							
6.0" STONE	641.80	5	3.50	15					
CLAY LOAM-brown-very stiff		8	P						
becoming brown & gray @ -3.5'		4							
		8	3.50	19					
	-5	8	P				-25		
		8							
		10	2.50	20					
		15	P						
635.05									
SILTY CLAY-brown-very stiff		8							
		7	3.50	25					
	-10	13	P				-30		
		7							
		8	3.00	26					
		11	P						
630.05									
SILT-brown-medium dense		6							
		8		24					
	-15	9				-35			
627.55									
CLAY LOAM-gray-very stiff		3							
		4	2.50	21					
		6	P						
625.05									
SAND & GRAVEL-brown-very dense		38							
		50/5"		9					
623.55	-20					-40			

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-5 ft

Station _____

BORING NO. OSB-002 Core Diameter 2 in

Station 783+32 Top of Rock Elev. 623.55 ft

Offset 64.00ft Right Begin Core Elev. 622.55 ft

Ground Surface Elev. 643.55 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
	1	64	47		511.00
-25					
617.55					
-30					
-35					
-40					

RUN 1 (-21.0' to -26.0')
 SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
 Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.

End Of Boring @ -26.0'. Boring backfilled with cuttings.

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

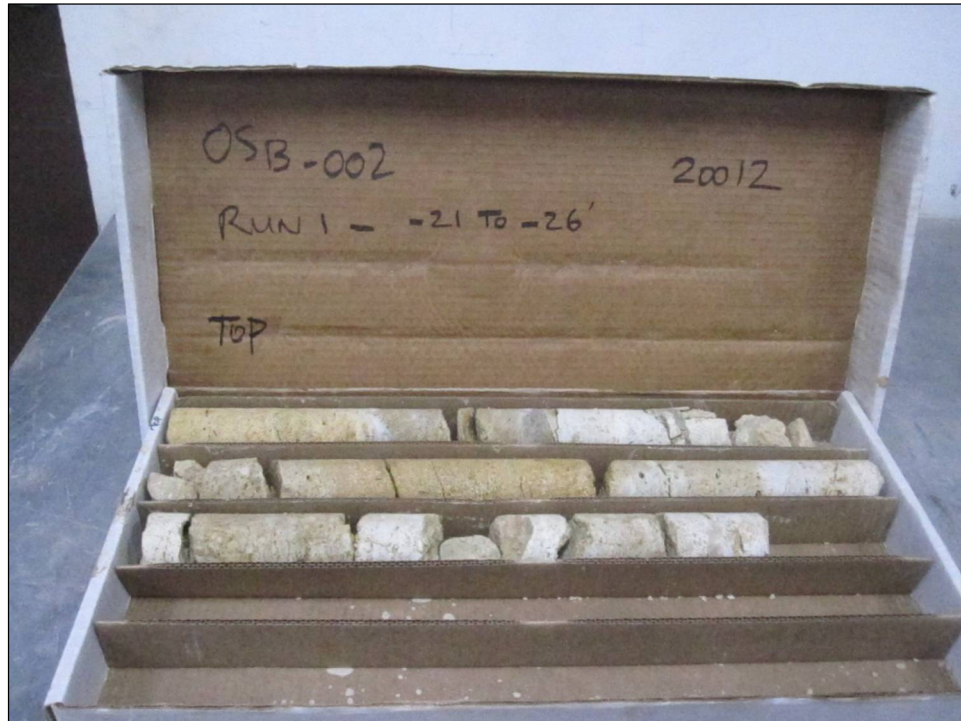
ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____	CORING BARREL TYPE & SIZE <u>NX Double Swivel-5 ft</u>
Station _____	
BORING NO. <u>OSB-002</u>	Core Diameter <u>2</u> in
Station <u>783+32</u>	Top of Rock Elev. <u>623.55</u> ft
Offset <u>64.00ft Right</u>	Begin Core Elev. <u>622.55</u> ft
Ground Surface Elev. <u>643.55</u> ft	



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H (ft)	B L O W S (/6")	U C S (tsf)	M O I S T (%)	Surface Water Elev. _____ n/a ft
					Stream Bed Elev. _____ n/a ft
BORING NO. <u>OSB-003</u> Station <u>798+04</u> Offset <u>65.00ft Right</u> Ground Surface Elev. <u>648.68</u> ft					Groundwater Elev.: First Encounter _____ Dry ft
					Upon Completion _____ Dry ft After <u>-</u> Hrs. _____ - ft

15.0" ASPHALT					
				2	
647.43					
6.0" STONE		9			
646.93					
CLAY LOAM-brown & gray-hard		7	4.50	18	
		9	P		
645.18					
SILTY CLAY LOAM-brown & gray-very stiff		4			
		6	3.50	25	
		8	P		
		-5			
		7			
641.68		9	3.00	18	
CLAY LOAM-gray-very stiff to hard		11	P		
		5			
		7	2.00	19	
		7	P		
		-10			
		6			
		8	3.50	15	
		9	P		
		6			
		7	3.00	16	
		14	P		
		-15			
becoming brown & gray @ -16.0'		6			
		9	4.50	15	
		19	P		
630.68					
Driller observation: Fractured/Weathered rock.		50/0"			
				NR	
628.68		-20			

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

Borehole continued with rock
 The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

FAI Route 80 from
Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-5 ft

Station _____

BORING NO. OSB-003 Core Diameter 2 in

Station 798+04 Top of Rock Elev. 630.68 ft

Offset 65.00ft Right Begin Core Elev. 628.68 ft

Ground Surface Elev. 648.68 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
628.68	1	68	0		168.00
RUN 1 (-20.0' to -25.0') SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE Light gray & fine grained with horizontal bedding. Highly fractured with rust some staining throughout.					
623.68	-25				
End Of Boring @ -25.0'. Boring backfilled with cuttings.					
-30					
-35					
-40					

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

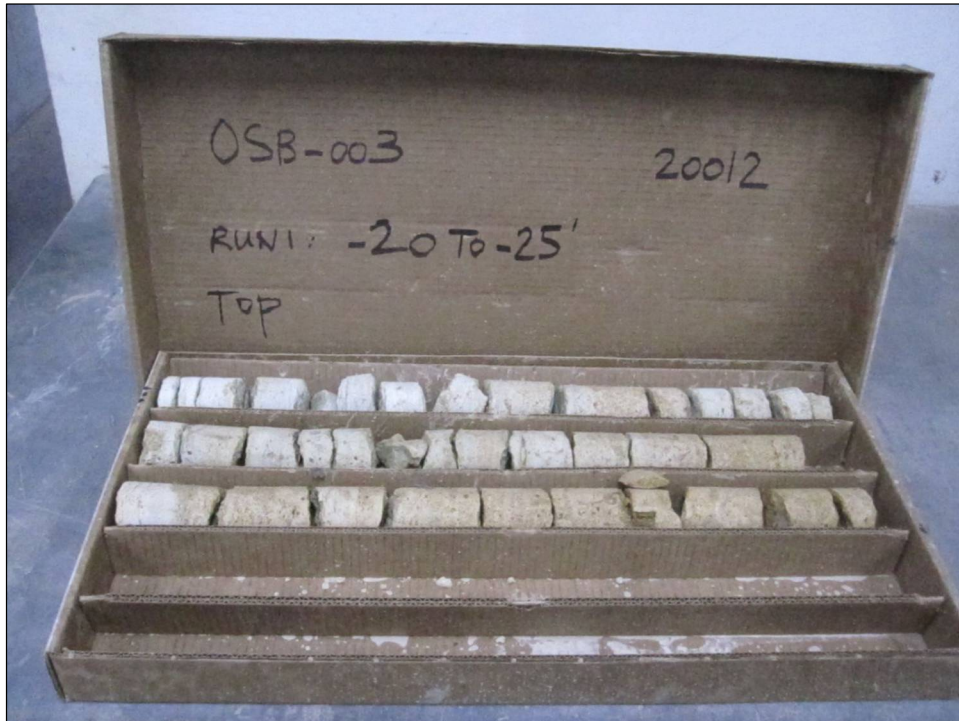
ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____	CORING BARREL TYPE & SIZE <u>NX Double Swivel-5 ft</u>
Station _____	Core Diameter <u>2</u> in
BORING NO. <u>OSB-003</u>	Top of Rock Elev. <u>630.68</u> ft
Station <u>798+04</u>	Begin Core Elev. <u>628.68</u> ft
Offset <u>65.00ft Right</u>	
Ground Surface Elev. <u>648.68</u> ft	



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

FAI Route 80 from
Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. _____ Station _____	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ n/a ft
					Stream Bed Elev. _____ n/a ft
BORING NO. <u>OSB-004</u> Station <u>799+60</u> Offset <u>66.00ft Right</u> Ground Surface Elev. <u>647.74</u> ft					Groundwater Elev.: First Encounter _____ Dry ft
					Upon Completion _____ Dry ft After <u>-</u> Hrs. _____ - ft

15.0" ASPHALT				1	
646.49		12			
6.0" STONE	645.99	5	4.50	17	
CLAY LOAM-brown-very stiff to hard		6	P		
		11			
		5	4.50	22	
		-5	7	P	
		5			
		6	4.00	20	
		11	P		
becoming gray @ -8.5'		6			
		5	3.00	18	
		-10	9	P	
636.74		4			
SILTY CLAY-gray-stiff to very stiff		6	1.50	22	
		8	P		
		4			
		6	2.00	25	
		-15	8	P	
631.74		5			
CLAY LOAM-brown-very stiff		6	2.50	16	
		7	P		
Driller observation: Fractured/Weathered rock.	629.74				
Borehole continued with rock coring.					
		-20			

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft

Station _____

BORING NO. OSB-004

Station 799+60

Offset 66.00ft Right

Ground Surface Elev. 647.74 ft

Core Diameter 2 in

Top of Rock Elev. 629.74 ft

Begin Core Elev. 629.74 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
629.74	1	56	67		365.00
-20					
624.74					
-25					
-30					
-35					

RUN 1 (-18.0' to -23.0')
 SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
 Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.

End Of Boring @ -23.0'. Boring backfilled with cuttings.

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

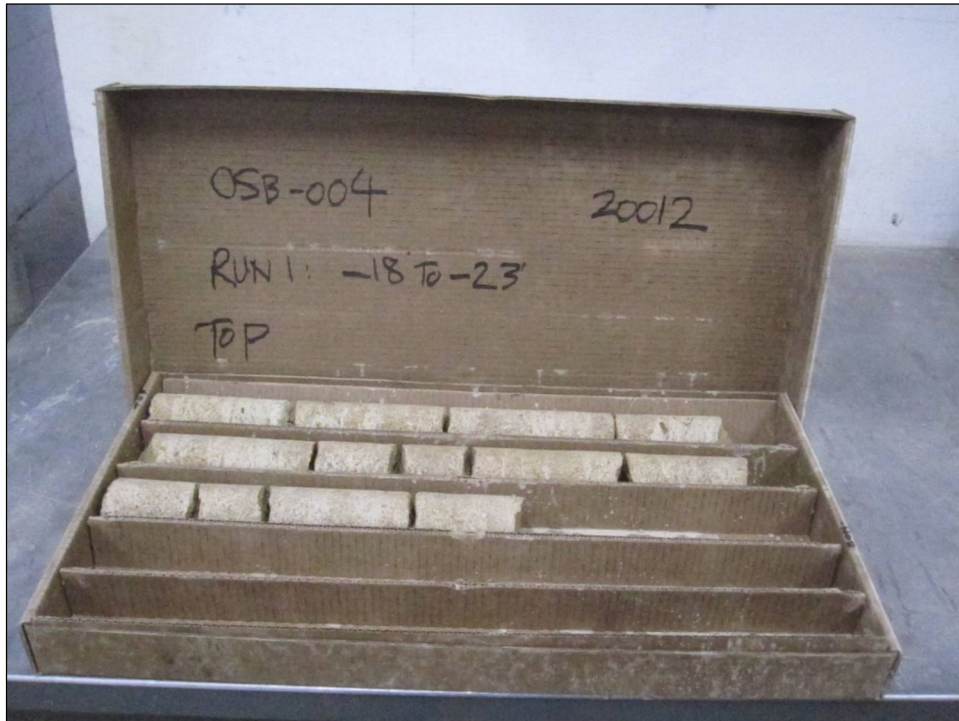
ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____	CORING BARREL TYPE & SIZE <u>NX Double Swivel-10 ft</u>
Station _____	
BORING NO. <u>OSB-004</u>	Core Diameter <u>2</u> in
Station <u>799+60</u>	Top of Rock Elev. <u>629.74</u> ft
Offset <u>66.00ft Right</u>	Begin Core Elev. <u>629.74</u> ft
Ground Surface Elev. <u>647.74</u> ft	



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)



SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. _____ n/a ft Stream Bed Elev. _____ n/a ft Groundwater Elev.: First Encounter _____ Dry ft Upon Completion _____ Dry ft After _____ Hrs. _____ - ft	DEPTH H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)
15.0" ASPHALT				3	SILTY CLAY-gray-medium stiff to very stiff (continued)				
637.08		7					6		
CLAY LOAM-black & gray-very stiff		9	3.00	23			8	3.00	19
		7	P				11	P	
634.83		7					6		
CLAY LOAM-brown & gray-hard		16	4.50	13			6	1.50	24
	-5	15	P			-25	9	P	
		4					5		
		10	4.50	14			6	0.50	16
		17	P				7	P	
629.83						609.83			
SANDY CLAY-brown & gray-loose		3			CLAY LOAM-gray-stiff		5		
		3		33			6	1.00	15
	-10	3				-30	11	P	
		1							
		2		23					
		5				605.83			
624.83					SILTY SAND-gray-medium dense				
SILTY SAND-brown-medium dense		4					9		
		4		26			10		13
	-15	7				-35	13		
622.33									
CLAY with Sand-gray-medium dense		6							
		6		21					
		5							
619.83						600.33			
SILTY CLAY-gray-medium stiff to very stiff		6			SAND-gray-medium dense				
		8	2.50	20	End Of Boring @ -40.0'. Boring backfilled with cuttings.		11		22
	-20	14	P			598.33	18		

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 4/5/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

FAI Route 80 from
 Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 13, TWP. T35N, RNG. R10E

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	DEPTH	BLOW	UCS	MOIST
Station	(ft)	(/6")	(tsf)	(%)	ft	ft	First Encounter	(ft)	(/6")	(tsf)	(%)
BORING NO.	Station	Offset	Ground Surface Elev.				Upon Completion				
OSB-006	829+62	65.00ft Left	639.90				After				
							Hrs.				
15.0" ASPHALT				5			SAND-gray-loose to medium dense (continued)				
	638.65	4				618.90			4		
SILTY CLAY-gray-very stiff		7	2.75	14			CLAY LOAM-gray-stiff		12	1.00	28
		12	P						21	P	
	636.40					616.40					
CLAY LOAM-brown & gray-stiff to very stiff		11					SAND-gray-medium dense		12		
		12	3.00	15					16		22
		-5	9	P					-25	16	
		4							12		
		4	1.50	22					11		9
		5	P						5		
	631.40										
SAND-brown-loose		3							9		
		4		20					10		23
		-10	4						-30	7	
	628.90										
SILTY CLAY-gray-medium stiff		3									
		2	1.00	27							
		3	P								
		3				606.40					
		3					SILT-gray-dense		19		
		3	0.50	28					22		27
		-15	6	P					-35	21	
	623.90										
SAND-gray-loose to medium dense		8									
		8		23							
		6									
		4				601.40					
		4					SAND & GRAVEL-gray-dense		14		
		4		19			End Of Boring @ -40.0'. Boring backfilled with cuttings.		20		14
		-20	4			599.90			-40	19	

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)	Surface Water Elev. Stream Bed Elev.	Groundwater Elev.: First Encounter Upon Completion After - Hrs.	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)
15.0" ASPHALT				1	n/a ft					
645.33		6			n/a ft		4			
CRUSHED STONE-medium dense		8		5			6	0.75	15	
		12					8	P		
643.08		5					4			
CLAY LOAM-brown & gray-very stiff to hard		4	4.50	17			5	1.50	21	
	-5	6	P				8	P		
		6					5			
		7	2.25	24			7	1.25	22	
		9	P				7	P		
		4				618.08	3			
		5		NR			4	1.50	17	
636.58	-10	7					4	P		
NO RECOVERY		8								
		10		28						
634.08		15								
SILTY LOAM-gray-medium dense		7				613.08	7			
		8	3.50	23			50/4"		NR	
631.58	-15	13	P			611.58	-35			
CLAY LOAM-gray-medium stiff to very stiff		6								
		9	1.25	21						
		10	P			609.58				
		5								
		6	0.75	21						
	-20	8	P				-40			

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

FAI Route 80 from
Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft

Station _____

Core Diameter 2 in

BORING NO. OSB-007 Top of Rock Elev. 610.58 ft

Station 843+46 Begin Core Elev. 609.58 ft

Offset 65.00ft Left

Ground Surface Elev. 646.58 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
609.58	1	67	15		611.00
604.58					
-40					
-45					
-50					
-55					

RUN 1 (-37.0' to -42.0')
 SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
 Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.

End Of Boring @ -42.0'. Boring backfilled with cuttings.

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

ROCK CORE PHOTO

FAI Route 80 from
Chicago Street to US

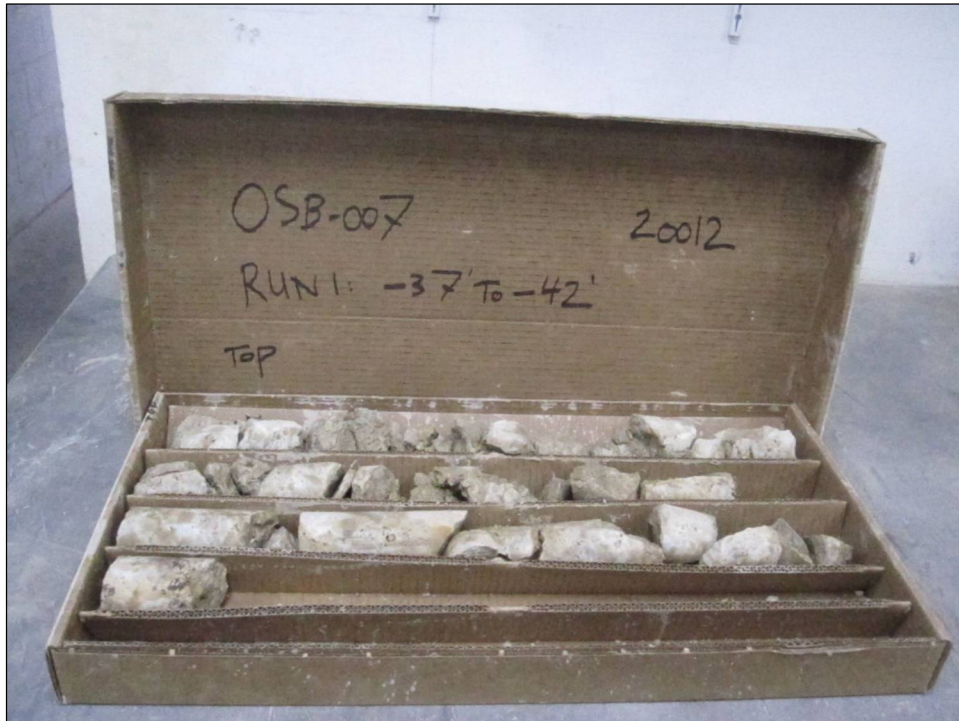
ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station _____

BORING NO. OSB-007 Core Diameter 2 in
 Station 843+46 Top of Rock Elev. 610.58 ft
 Offset 65.00ft Left Begin Core Elev. 609.58 ft
 Ground Surface Elev. 646.58 ft



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY TZ

SECTION - LOCATION , SEC., TWP., RNG.

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)	Surface Water Elev. Stream Bed Elev.	Groundwater Elev.: First Encounter Upon Completion After - Hrs.	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)
12.0" ASPHALT 648.76				1	n/a ft	n/a ft				
12.0" STONE 647.76		10						4		
CLAY with Gravel-brown & gray-hard 646.26		8		16				6	1.10	21
		4						8	B	
CLAY LOAM-brown & gray-medium stiff to very stiff		5						5		
		8	2.20	24				7	0.40	12
	-5	11	B				-25	9	B	
		4						5		
		6	1.20	26				7	0.70	13
		8	B					8	B	
		4						6		
		7	2.10	21				7	0.40	13
	-10	9	B				-30	10	B	
becoming gray @ -11.0'		7								
		11	2.80	19						
		14	B							
		6					616.26	9		
		8	1.80	19				50/5"		11
	-15	10	B				-35			
		5								
		7	1.30	21						
		8	B							
		5						50/2"		
		6	0.90	21						10
	-20	8	B				609.76	-40		

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/VH

SECTION - LOCATION SE 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	GROUNDWATER ELEV. (ft)	First Encounter Upon Completion After (Hrs.)	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)
Station					n/a	n/a						
BORING NO. OSB-009												
Station 854+03												
Offset 65.00ft Right												
Ground Surface Elev. 651.02												
15.0" ASPHALT				1								
	649.77	7								4		
SILTY CLAY with Gravel-brown-hard		5	4.50	19						6	1.00	13
		7	P							8	P	
		4								5		
		4	0.50	21						6	1.25	14
becoming brown & gray @ -5.0'	646.02	4	P						-25	7	P	
CLAY LOAM-brown & gray-hard												
		2								6		
		2	1.75	24						7	0.75	13
		4	P							10	P	
		4								7		
		6	2.25	22						8	0.75	14
	-10	11	P						621.02	12	P	
		5										
		8	3.25	24								
		11	P									
		7								50/5"		
becoming gray @ -13.5'		8	3.50	22								12
	-15	13	P						-35			
		5										
		7	2.00	20								
		9	P									
		5										
		8	1.75	15					612.52	50/1"		
		8	P									9
	-20	8	P						611.02			

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY TZ

SECTION - LOCATION , SEC., TWP., RNG.

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)	Surface Water Elev. Stream Bed Elev.	Groundwater Elev.: First Encounter Upon Completion After - Hrs.	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)
12.0" ASPHALT 645.98				2	n/a ft n/a ft					
12.0" CRUSHED STONE 644.98		24		17			4			
CLAY LOAM with Gravel-brown & gray-hard 643.48		4					5	0.90	22	
		5					7	B		
CLAY LOAM-brown & gray-very stiff to hard		7					5			
		12	4.90	17			5	0.50	22	
	-5	15	B				6	B		
		7					5			
		10	3.10	23			4	0.25	14	
		12	B				2	P		
becoming gray @ -8.5'		6				618.48	8			
		10	4.00	20			12		13	
	-10	12	B				15			
SILTY CLAY LOAM-brown-very stiff 635.98		7								
		9	2.60	21						
		11	B							
CLAY LOAM-gray-soft to very stiff 633.48		8				613.98				
		8	1.80	20			50/2"			16
	-15	10	B							
		5								
		7	0.50	22						
		9	P							
		5								
		7	0.25	25			50/0"			
	-20	8	P			606.98				NR

ZIPROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-920012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SE 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	GROUNDWATER ELEV.	DEPTH	BLOW	UCS	MOIST
Station	(ft)	(/6")	(tsf)	(%)	ft	ft	ft	(ft)	(/6")	(tsf)	(%)
					n/a	n/a					
BORING NO. OSB-011							Groundwater Elev.:				
Station 870+00							First Encounter				
Offset 64.00ft Left							Upon Completion				
Ground Surface Elev. 648.09 ft							After - Hrs.				
15.0" ASPHALT				2			CLAY LOAM-brown & gray-stiff to hard (continued)				
646.84		8							4		
6.0" STONE	646.34								6	1.50	22
SILTY CLAY with Gravel-brown-hard		6	4.50	13					8	P	
645.09		7	P								
CLAY LOAM-brown & gray-stiff to hard											
		6							5		
		9	4.50	21					6	1.50	22
		-5	P						8	P	
		8				622.09	CLAY with Gravel-gray-stiff				
		15	4.50	19					6	1.50	13
		22	P						8	P	
		9				619.59	CLAY LOAM-gray-stiff				
		12	4.50	23					8		
		-10	P						6	1.25	13
									9	P	
		6									
		10	3.50	22							
		16	P								
		7				614.59	SAND & GRAVEL-gray-very dense				
		13	4.00	21					8		
		-15	P						50/2"		6
		6									
		10	4.00	23							
		12	P								
becoming gray @ -18.5'		5							6		
		5	1.50	21			End Of Boring @ -40.0'. Boring backfilled with cuttings.		7		17
		-20	P						50/2"		
						608.09			-40		

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

FAI Route 80 from
 Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)	Surface Water Elev. Stream Bed Elev.	Groundwater Elev.: First Encounter Upon Completion After - Hrs.	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)
					n/a ft					
					n/a ft					
BORING NO. TSB-001 Station 67+97 Offset 27.10ft Left Ground Surface Elev. 640.70 ft										
3.0" ASPHALT, 9.0" GRAVEL, 6.0" STONE	639.20	5		4	CLAY LOAM-gray-stiff to very stiff (continued)					
								8		
CLAY LOAM-brown & gray-hard		5	4.50	21				9	2.00	19
		7	P					17	P	
	637.20					617.70				
CLAYEY SILT-brown & gray-medium dense		3			SAND & GRAVEL-brown-very dense			44		
		4	0.50	23	Drillers Observation: Possible Top of Bedrock @ -24.0'			50/3"		11
		-5	P					-25		
		4			Borehole continued with rock coring.					
		5		19						
		8								
	632.20									
CLAY-brown-stiff		4								
		5	2.00	20						
		-10	P					-30		
	629.70									
SANDY CLAY LOAM-brown-medium dense		13								
		11		14						
		14								
	627.20									
CLAY LOAM-gray-stiff to very stiff		5								
		6	1.00	18						
		-15	P					-35		
		4								
		5	2.50	18						
		11	P							
		6								
		7	2.50	20						
		-20	P					-40		

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

FAI Route 80 from
Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station _____

BORING NO. TSB-001 Core Diameter 2 in
 Station 67+97 Top of Rock Elev. 616.70 ft
 Offset 27.10ft Left Begin Core Elev. 614.70 ft

Ground Surface Elev. 640.70 ft

DEPT H (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
614.70	1	60	0		480.00
RUN 1 (-26.0' to -31.0')					
SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE					
Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.					
609.70					
End Of Boring @ -31.0'. Boring backfilled with cuttings.					
-30					
-35					
-40					
-45					

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

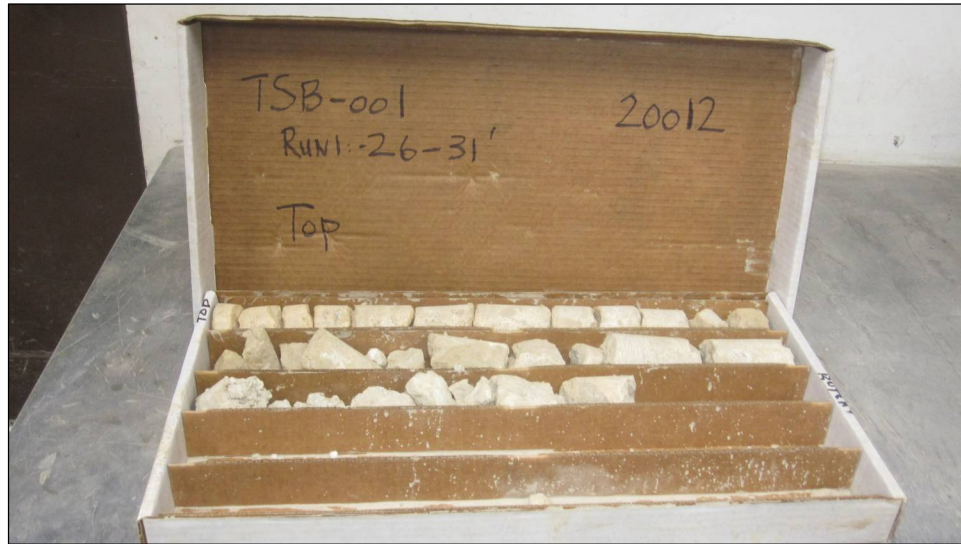
ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____	CORING BARREL TYPE & SIZE	NX Double Swivel-10 ft
Station _____	Core Diameter <u>2</u> in	
BORING NO. <u>TSB-001</u>	Top of Rock Elev. <u>616.70</u> ft	
Station <u>67+97</u>	Begin Core Elev. <u>614.70</u> ft	
Offset <u>27.10ft Left</u>		
Ground Surface Elev. <u>640.70</u> ft		



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

FAI Route 80 from
 Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. <u>n/a</u> ft	Stream Bed Elev. <u>n/a</u> ft	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)
2.0" ASPHALT, 6.0" CONCRETE 640.57				4	CLAY LOAM-gray-very stiff (continued)	620.24				
CLAY LOAM-brown & black-very stiff	4				CLAY-gray-soft		5			
	4	3.50	24				7	0.25	24	
	7	P					13	P		
						618.24				
637.74					Drillers Observation: Possible Top of Boulders @ -23.0'. Drilled @ -23.0' to -26.0' to confirm.					
CLAY-brown-very stiff	4									
	5	4.50	17							
	-5	7	P				-25			
						615.24				
	9				Borehole continued with rock coring.					
	6	2.50	20							
	9	P								
	8									
	9	3.00	18							
	-10	19	P				-30			
630.24										
SILTY CLAY-brown-very stiff	9									
	7			21						
	9									
627.74										
CLAY LOAM-gray-very stiff	4									
	4	2.00	17							
	-15	8	P				-35			
	6									
	8	3.00	19							
	13	P								
	5									
	10	2.00	19							
	11	P					-40			

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

FAI Route 80 from
Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft

Station _____

BORING NO. TSB-002

Station 67+70

Offset 49.60ft Right

Ground Surface Elev. 641.24 ft

Core Diameter 2 in

Top of Rock Elev. 618.24 ft

Begin Core Elev. 615.24 ft

DEPT H (ft)	CORE #	RECOVER Y (%)	R . Q . D . (%)	CORE T I M E (min/ft)	S T R E N G T H (tsf)
615.24	1	60	0		330.00
RUN 1 (-26.0' to -31.0') SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.					
610.24					
End Of Boring @ -31.0'. Boring backfilled with cuttings.					
-30					
-35					
-40					
-45					

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

ROCK CORE PHOTO

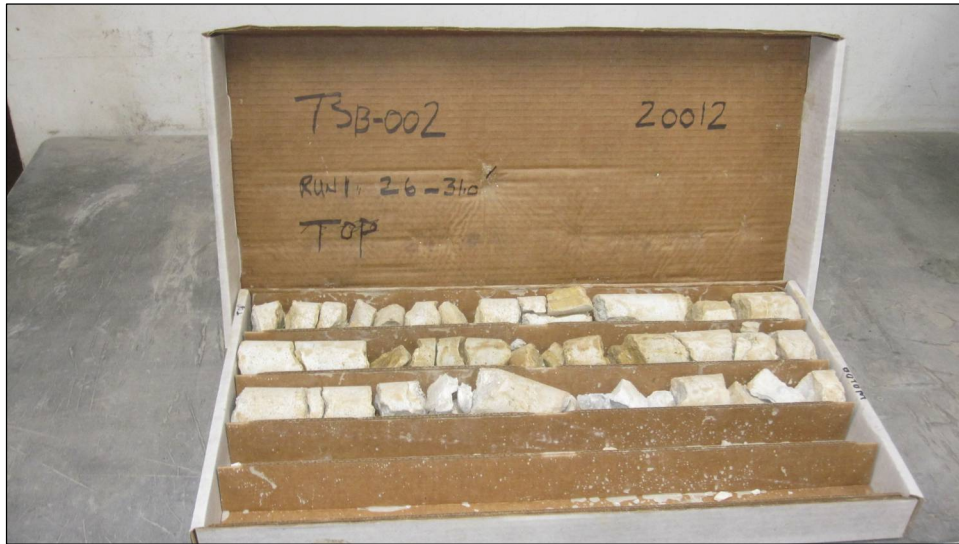
ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station _____

BORING NO. TSB-002 Core Diameter 2 in
 Station 67+70 Top of Rock Elev. 618.24 ft
 Offset 49.60ft Right Begin Core Elev. 615.24 ft
 Ground Surface Elev. 641.24 ft



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)	Surface Water Elev. Stream Bed Elev.	Groundwater Elev.: First Encounter Upon Completion After - Hrs.	DEPTH H (ft)	BLOW S (/6")	UCS Qu (tsf)	MOIST T (%)
					n/a ft					
					n/a ft					
BORING NO. TSB-003 Station 66+61 Offset 26.90ft Left Ground Surface Elev. 642.94 ft										
8.0" ASPHALT 642.28				5	CLAY LOAM-gray-medium stiff to very stiff (continued)					
GRAVEL with Asphalt-black-medium dense 640.44	12			4			6			
	5						9	3.50	19	
	7						15	P		
SAND & GRAVEL with Clay-brown-loose 640.44						619.44				
	2				SILTY CLAY-gray-stiff		6			
	4			14			8	1.50	22	
	5					617.94	11	P		
	-5				SILTY LOAM-gray-very dense					
	5					616.44	50/5"			
	4			21	Drillers Observation: Possible Top of Boulders @ -26.5'					27
	4				Borehole continued with rock coring.					
CLAY-brown-stiff 634.94										
	5									
	5	1.00	20							
	-10	P					-30			
	4									
	5	1.00	17							
	6	P								
CLAY LOAM-gray-very stiff 629.44										
	4									
	5	2.50	21							
	-15	P					-35			
CLAY with Gravel-gray-medium stiff 626.94										
	6									
	4	1.00	18							
	5	P								
CLAY LOAM-gray-medium stiff to very stiff 624.44										
	4									
	5	0.50	18							
	-20	P					-40			

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

FAI Route 80 from
Chicago Street to US

ROUTE Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station _____

BORING NO. TSB-003 Core Diameter 2 in
 Station 66+61 Top of Rock Elev. 616.44 ft
 Offset 26.90ft Left Begin Core Elev. 615.44 ft

Ground Surface Elev. 642.94 ft

RUN 1 (-27.5' to -32.5')
 SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
 Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.

End Of Boring @ -32.5'. Boring backfilled with cuttings.

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
	1	60	0		452.00
-30					
610.44					
-35					
-40					
-45					

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

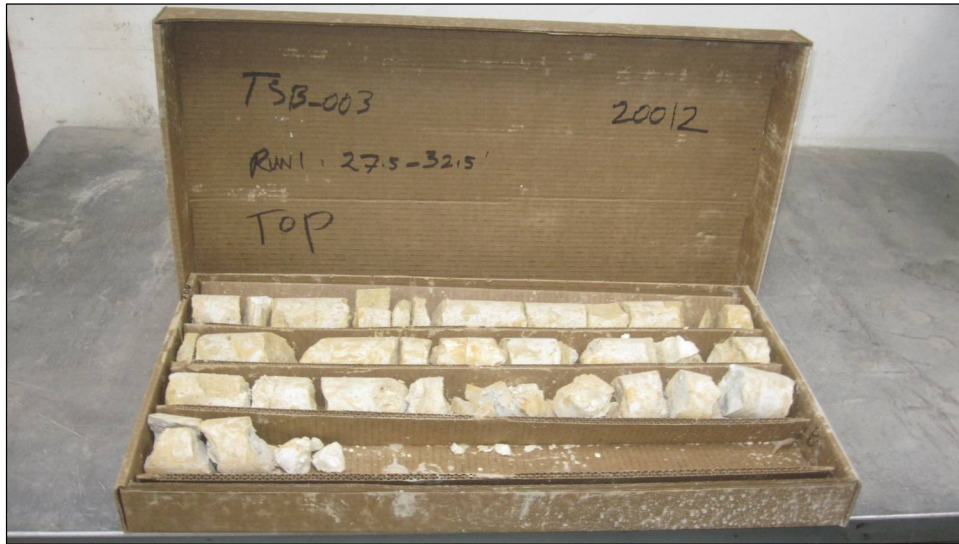
ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____	CORING BARREL TYPE & SIZE	NX Double Swivel-10 ft
Station _____	Core Diameter <u>2</u> in	
BORING NO. <u>TSB-003</u>	Top of Rock Elev. <u>616.44</u> ft	
Station <u>66+61</u>	Begin Core Elev. <u>615.44</u> ft	
Offset <u>26.90ft Left</u>		
Ground Surface Elev. <u>642.94</u> ft		



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After - Hrs.	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)
		TSB-004	66+28	29.50ft Right	644.53					n/a	n/a		Dry	Dry	-				

10.0" ASPHALT	643.70								1	CLAY LOAM-gray-medium stiff to stiff (continued)	623.53								
CLAY LOAM-brown & gray-very stiff							23			SILTY CLAY-gray-stiff							31		
							6	2.50	22								24	1.50	20
							5	P									9	P	
	641.03																		
CLAY LOAM with Gravel-brown-medium stiff							3										5		
							3	1.00	29								7	1.50	24
							-5	P									9	P	
											619.53	-25							
	638.53									Drillers Observation: Rock encountered @ -26.0'									
CLAY LOAM-brown-medium stiff to very stiff							5		21	Borehole continued with rock coring.									
							5	0.50											
							4	P											
							4												
							5	2.50	19										
							-10	P											
	633.53																		
CLAY LOAM with Gravel-gray-stiff to very stiff							5		17										
							6	1.50											
							9	P											
							5												
							7	2.50	16										
							-15	P											
	629.03																		
CLAY LOAM-gray-medium stiff to stiff							4												
							5	1.50	19										
							6	P											
							3												
							4	0.50	14										
							-20	P											

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station _____

BORING NO. TSB-004 Core Diameter 2 in
 Station 66+28 Top of Rock Elev. 618.53 ft
 Offset 29.50ft Right Begin Core Elev. 617.53 ft
 Ground Surface Elev. 644.53 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
	1	24	0		355.00
-30					
612.53					
-35					
-40					
-45					

RUN 1 (-27.0' to -32.0')
 SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
 Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.

End Of Boring @ -32.0'. Boring backfilled with cuttings.

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

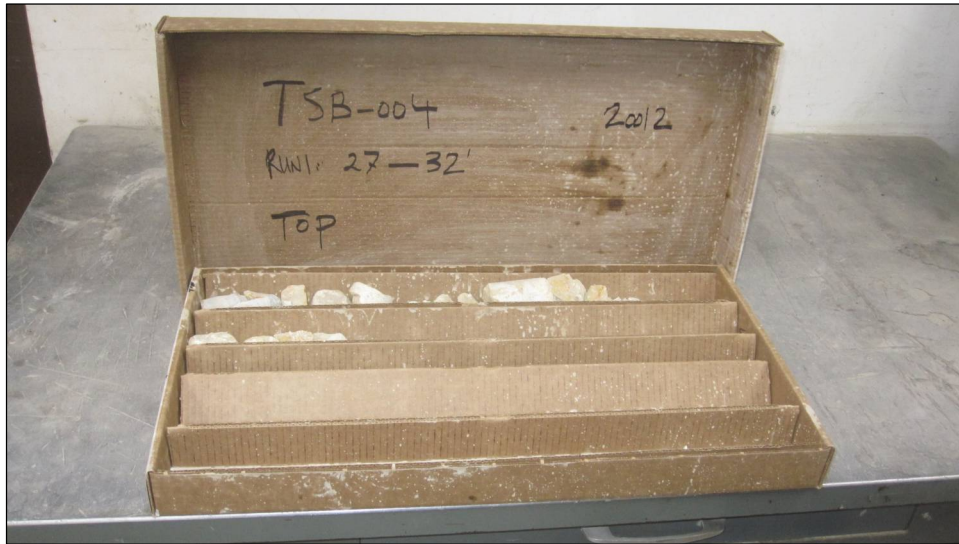
ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY RT/QZ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ Station _____	CORING BARREL TYPE & SIZE <u>NX Double Swivel-10 ft</u>
BORING NO. <u>TSB-004</u> Station <u>66+28</u> Offset <u>29.50ft Right</u> Ground Surface Elev. <u>644.53</u> ft	Core Diameter <u>2</u> in Top of Rock Elev. <u>618.53</u> ft Begin Core Elev. <u>617.53</u> ft



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION , SEC., TWP., RNG.

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev.: First Encounter (ft)	Upon Completion (ft)	After (ft)	H	B	U	M
Station	(ft)	(/6")	(tsf)	(%)	n/a	n/a	635.4	n/a	-	(ft)	(/6")	(tsf)	(%)
10.0" ASPHALT	650.53			3									
CLAY LOAM with Gravel-black-very stiff	4	4	2.50	19							3	5	0.90
	9		P								8	B	26
SAND & GRAVEL-brown-medium dense to very dense	7			6							1	1	0.25
	13										1	P	27
	-5										-25		
	14			4									
	50/4"										1	1	28
											1		
SANDY CLAY LOAM with Gravel-brown-medium dense	5			7							7	9	27
	17										5		
	-10										-30		
SAND & GRAVEL-brown-dense	13			5									
	18												
	13												
SANDY CLAY LOAM-brown-medium dense to dense	5			5							4	2	0.25
	16										1	P	26
	19										-35		
	-15												
	5			10									
	8												
	12												
CLAY LOAM-gray-medium stiff to stiff	5			15							4	6	0.90
	8		2.50								6	0.90	23
	10		P								6	B	
	-20										-40		

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-920012 BORING LOGS\20012 LOG.GPJ 3/7/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter Upon Completion After Hrs.	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)
Station					n/a	n/a						
BORING NO. TSB-006												
Station 55+52												
Offset 94.00ft Right												
Ground Surface Elev. 631.63												
12.0" TOPSOIL-black	630.63			25								
SILTY CLAY-brown & gray-stiff		2								5		
		3	1.50	22						6		13
		4	P							8		
	628.13						608.13					
SANDY CLAY-brown & gray-loose		1								23		
		1		30						14		11
		-5								15		
							605.63					
		1								9		
		1		26						13		10
		1								14		
	623.13						603.13					
CLAY LOAM-gray-soft		2								7		
		3	0.25	27						9		10
		-10	P							16		
							600.13					
	619.63			25								
CLAY with Sand-gray-stiff		3										
		3					599.13					
	618.13											
CLAY LOAM-gray-medium stiff		2										
		3	0.50	25								
		-15	P							-35		
		3										
	614.63		0.50	18								
SANDY LOAM-gray-medium dense		5	P									
		17										
		14		12								
		15										
		-20								-40		

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station _____

BORING NO. TSB-006 Core Diameter 2 in
 Station 55+52 Top of Rock Elev. 599.13 ft
 Offset 94.00ft Right Begin Core Elev. 599.13 ft
 Ground Surface Elev. 631.63 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
599.13	1	62	13		394.00
-35					
594.13					
-40					
-45					
-50					

RUN 1 (-32.5' to -37.5')
 SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
 Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.

End Of Boring @ -37.5'. Boring backfilled with cuttings.

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

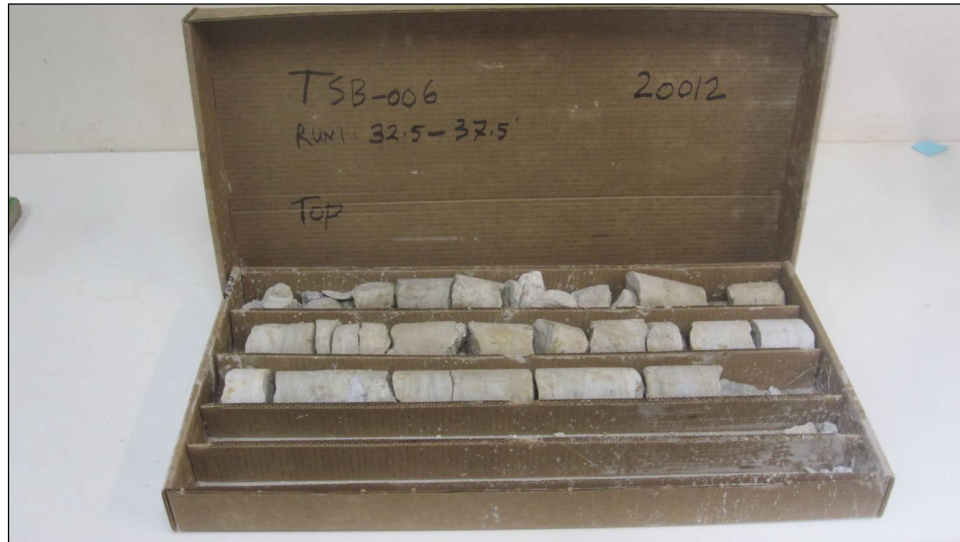
ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____	CORING BARREL TYPE & SIZE	NX Double Swivel-10 ft
Station _____	Core Diameter <u>2</u> in	
BORING NO. <u>TSB-006</u>	Top of Rock Elev. <u>599.13</u> ft	
Station <u>55+52</u>	Begin Core Elev. <u>599.13</u> ft	
Offset <u>94.00ft Right</u>		
Ground Surface Elev. <u>631.63</u> ft		



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter Upon Completion After (ft)	DRPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)
	627.31			39	n/a	n/a						
12.0" TOPSOIL-black												
CLAY LOAM-brown & gray-very stiff		3								12		
		4	3.50	18						7		2
		6	P							5		
	624.81											
SANDY CLAY-brown & gray-very loose to medium dense		1								7		
		1		27						3		18
		-5	3							-25	4	
		11					602.31					
		0		28						4		
										3		15
							600.81			6		
		4					600.31					
		6		14								
		7										
	-10									-30		
		2										
		5		15								
		3										
		3										
		2		14								
		3										
	-15									-35		
	612.31											
SAND & GRAVEL-gray-loose to medium dense		4										
		3		9								
		2										
		10										
		5		5								
		9										
	-20									-40		

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft

Station _____

BORING NO. TSB-007 Core Diameter 2 in

Station 54+77 Top of Rock Elev. 598.31 ft

Offset 80.00ft Left Begin Core Elev. 598.31 ft

Ground Surface Elev. 628.31 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
	1	60	23		597.00
593.31	-35				
-40					
-45					
-50					

RUN 1 (-30.0' to -35.0')
 SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
 Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.

End Of Boring @ -35.0'. Boring backfilled with cuttings.

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

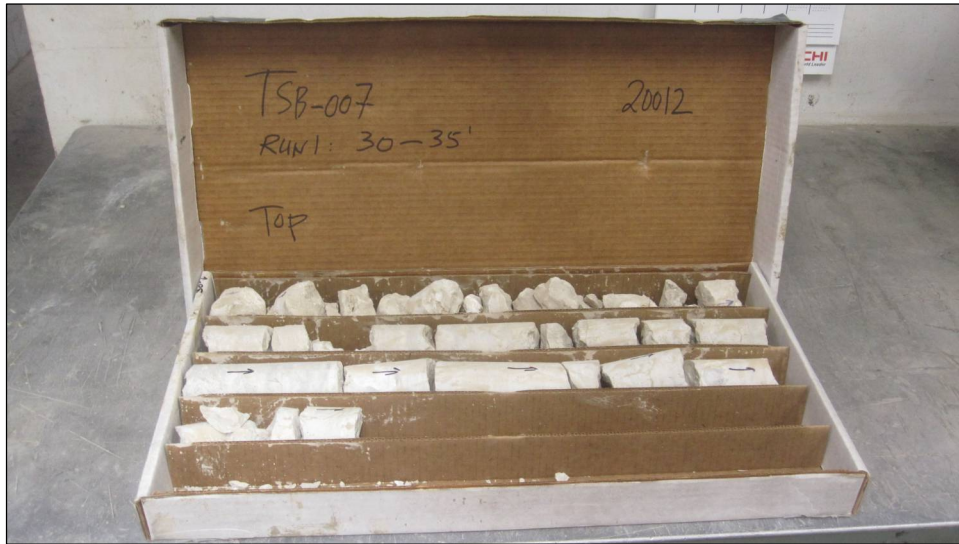
ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____	CORING BARREL TYPE & SIZE	NX Double Swivel-10 ft
Station _____	Core Diameter <u>2</u> in	
BORING NO. <u>TSB-007</u>	Top of Rock Elev. <u>598.31</u> ft	
Station <u>54+77</u>	Begin Core Elev. <u>598.31</u> ft	
Offset <u>80.00ft Left</u>		
Ground Surface Elev. <u>628.31</u> ft		



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev.: First Encounter (ft)	Upon Completion (ft)	After (ft)	Hrs.	DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)
	630.93			30										
		2										3		
		4	2.00	28								4	1.25	19
		5	P									5	P	
	628.43													
		3										7		
		4	1.50	28								13		9
		4	P									14		
	625.93													
		2										19		
		2		21								12		9
		2										12		
		2										28		
		2		20								12		6
		3										12		
	-10													
		5												
		4		22										
		5												
	618.43													
		2										5/5"		
		3	0.50	18										13
		3	P											
	-15													
		3												
		3	2.00	12										
		6	P											
		2												
		3	0.50	19										
		4	P											
	-20													

Z:\PROJECTS\2020\20012 EXP. I-80 FROM CHICAGO ST. TO RT 30, PTB 194-9\20012 BORING LOGS\20012 LOG.GPJ 3/6/23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

ROCK CORE LOG

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____ CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station _____

BORING NO. TSB-008 Core Diameter 2 in
 Station 54+12 Top of Rock Elev. 595.93 ft
 Offset 85.00ft Right Begin Core Elev. 595.93 ft
 Ground Surface Elev. 631.93 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
	1	48	47		552.00
-40					
590.93					
-45					
-50					
-55					

RUN 1 (-36.0' to -41.0')
 SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE
 Light gray & fine grained with horizontal bedding. Numerous horizontal fractures throughout.

End Of Boring @ -41.0'. Boring backfilled with cuttings.

Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

ROCK CORE PHOTO

ROUTE FAI Route 80 from Chicago Street to US Route 30 DESCRIPTION I-80 Phase II LOGGED BY DJ

SECTION - LOCATION SW 1/4, SEC. 13, TWP. T35N, RNG. R10E, 3rd PM

COUNTY Will CORING METHOD Rotary Wash

STRUCT. NO. _____	CORING BARREL TYPE & SIZE <u>NX Double Swivel-10 ft</u>
Station _____	
BORING NO. <u>TSB-008</u>	Core Diameter <u>2</u> in
Station <u>54+12</u>	Top of Rock Elev. <u>595.93</u> ft
Offset <u>85.00ft Right</u>	Begin Core Elev. <u>595.93</u> ft
Ground Surface Elev. <u>631.93</u> ft	



Color pictures of the cores Yes

Cores will be stored for examination until 5 yrs after const.

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)