Prepared for:

Illinois Department of Transportation, District 2 819 Depot Avenue Dixon, Illinois 61021

Structure Designer:

Hanson Professional Services Inc. 6775 Fincham Drive Rockford, Illinois 61108 (815)-398-4600

Prepared By:

Hanson Professional Services Inc. 13801 Riverport Drive, Suite 300 Maryland Heights, MO 63043 (314) 770-0467

kchepkoit@hanson-inc.com PROFESSIONAL KIPKOECH K. 19 CHEPKOIT 062-063436 062-063436 062-063436 062-063436 062-063436 062-063436 062-063436

Abbreviated Structure Geotechnical Report

F.A.I. 39 (I-39)/F.A.P. 301 (US 20) Section (201-3)K & (4-1, 5)R Winnebago County Job No. P-92-111-06 Contract No. 64C24 PTB No. 141-004 I-39/U.S. 20 over Harrison Avenue Structure Nos. 101-0213 & 101-0214 Ex. Structure Nos. 101-0071 & 101-072

Revised December 2016; March 2017



Abbreviated Structure Geotechnical Report

Original Report Date:	10/04/2016	Proposed SN:	101-0213/14	Route:	FAI 39 (I-39)/FAP 301 (US 20)
Revised Date: 12/20/1	6; 03/16/17	Existing SN:	101-0071/72	Section:	(201-3)K & (4-1, 5)R
Geotechnical Enginee	r: Kipkoech Che	epkoit		County:	Winnebago
Structural Engineer:	Hanson Profess	onal Services In	С.	Contract:	64C24

Indicate the proposed structure type, substructure types, and foundation locations (attach plan and elevation drawing):

The new structures will be four-span steel girder bridges. The substructures will consist of integral abutments and multiple column piers with crash walls and pile-supported footings. S.N. 101-0213 will replace existing S.N. 101-0071, which is the bridge carrying the northbound traffic, and S.N. 101-0214 will replace existing S.N. 101-0072, which is the bridge carrying the southbound traffic. According to information provided by the structural designer, the estimated vertical factored substructure loads are 1,100 kips at the abutments and 2,200 to 2,400 kips at the piers of the northbound structure and 1,350 kips at the abutments and 2,750 to 2,950 kips at the piers of the southbound structure. The general plan and elevation drawing for the new structures is attached.

Discuss the existing boring data, existing plans foundation information, new subsurface exploration and need for any additional exploration to be provided with SGR Technical Memo (attach all data and subsurface profile plot):

The existing bridge plans contained logs from five borings terminated in glacial deposits at a maximum depth of 21 feet. These borings are not deep enough to design the metal shell piles now used by IDOT, so new borings were drilled at all substructure units.

The existing bridge was constructed in 1963 and widened in 1990. Abutments are supported on 30 ton (allowable) precast piles and 20 ton timber piles. Both types of piles had an estimated length of 20 feet. The three piers are supported on spread footings bearing on glacial soils at Elev. 773.0, 773.0, and 770.0 from south to north. Plans from the 1990 widening indicate that the maximum allowable footing pressure was 3.5 tsf at Piers 1 and 2 and 3.0 tsf at Pier 3.

Five boring logs were provided to Hanson Professional Services Inc. (Hanson) by IDOT District 2. Borings B-1 through B-4 were drilled in January 2012 and Boring B-5J was drilled in August 2016. Locations of the borings are as shown on the attached Boring Location Plan. The stations and offsets shown on the boring logs are relative to the Harrison Avenue and existing US 20 alignments. Boring locations along the current I-39 alignment are shown on the attached Subsurface Data Profile. These borings are sufficient to design the proposed structure.

Two of the borings were drilled through the existing approach embankments, which are composed of medium stiff to very stiff sandy loam, loam, and silty clay loam. The other borings encountered glacial deposits within seven feet of the ground surface. The glacial deposits consisted of layers of very stiff to hard sandy loam till and dense to very dense sand gravel. The deepest boring was terminated at Elev. 717 without encountering bedrock.

Underground coal mine information available from ISGS indicates that the project area has not been undermined.

Provide the location and maximum height of any new soil fill or magnitude of footing bearing pressure. Estimate the amount and time of the expected settlement. Indicate if further testing, analysis, and/or ground improvement/treatment is necessary:

A small amount of fill will be required, because the new profile grade is slightly higher than the existing condition. Up to 2 feet of fill will be placed behind the existing abutments. The area in the median between existing bridges will require up to 4 feet of fill. Anticipated settlement due to the new fill is expected to be less than 0.4 inches.

No treatment or settlement waiting period is necessary.

Identify any new cuts or fill slope angles and heights. Estimate the factor of safety against slope failure. Indicate if further testing, analysis or ground improvement/treatment is necessary:

The proposed end slopes will be constructed to the same 1:2 inclination as the existing end slopes, which show no signs of instability. The existing side slopes will not be affected by the proposed construction. Therefore, global stability analyses are not needed, and the proposed slopes may be assumed to meet IDOT and AASHTO requirements.

Indicate at each substructure, the 100-year and 200-year total scour depths in the Hydraulics report, the nongranular scour depth reduction, the proposed ground surface, and the recommended foundation design scour elevations:

N/A

Determining the seismic soil site class, the seismic performance zone, the 0.2 and 1.0 second design spectral accelerations and indicate if that the soils are liquefiable:

The seismic Site Class is C, the SPZ is 1, S_{DS} = 0.101g, and S_{D1} = 0.056g. The soils are not considered to be liquefiable for the design earthquake.

Confirm feasibility of the proposed foundation or wall type and provide design parameters. Attach a pile design table indicating feasible pile types, various nominal required bearings, factored resistances available and corresponding estimated lengths at locations where piles will be used. Provide factored bearing resistance and unit sliding resistance at various elevations and confirm no ground improvement/treatment is necessary where spread footings are proposed. Estimated top of rock elevations as well as preliminary factored unit side and tip resistance values shall be indicated when drilled shafts are proposed:

Shallow spread footing foundations bearing on the soils at the piers are not feasible because of unfavourable subsurface conditions. Medium stiff to sriff sandy clay and sandy loam was encountered at soil boring B-5j from El. 775 to El. 764. In addition, possibility of varying subsurface conditions between the piers coupled with high bridge loads could result in excessive differential settlement.

A Pile Design Table including data for several pile types at each substructure is attached.

Metal shell piles that extend to hard till or very dense sand are preferred for the subsurface conditions encountered at the substructure locations. Steel H-piles are feasible, but would be significantly longer than similar capacity metal shell piles. H-piles driven to maximum nominal required bearing (MNRB) would be beyond the depth of the borings with exception of B-2. Therefore, only the nominal required bearing within the limits of the borings are provided in the Pile Design Table for north abutment and pier.

Shoes are not required for H-piles, but are recommended for metal shell piles to protect against damage during driving.

Due to variable subsurface conditions and drilled soil borings located in a significant distance from the bents, four test piles should be specified to determine the pile lengths for production piles. Test piles are recommended at south and north abutments for structure SN 101-0214 (south bound), and between structures at piers 1 and 3. Test piles should be driven at locations to be constructed under the first stage.

If the lateral loads on the piles supporting the piers are larger than can be resisted with battered piles, the structure designer should evaluate lateral resistance considering both soil and structure properties. Soil parameters for generating P-y curves with the LPILE computer program are provided in the attached table.

Calculate the estimated water surface elevation and determine the need for cofferdams (type 1 or 2), and seal coat:

N/A

Assess the need for sheeting or soil retention or temporary construction slope and provide recommendation for other construction concerns:

The proposed structures will be staged to maintain traffic on I-39/US 20 during construction. There is enough space for the sides of the pier footing excavations to be sloped back or benched according to OSHA regulations as the construction is staged. If the project staging changes, then Temporary Sheet Piling, designed in accordance with IDOT Design Guide 3.13.1 – Temporary Sheet Piling Design, may be used for the pier excavation.

A near-vertical cut with approximately 8 ft retained height will be required to construct the abutments near active traffic lanes. Temporary sheet piling, designed in accordance with IDOT Design Guide 3.13.1 – Temporary Sheet Piling Design, is feasible within the existing embankment fill.

Structure No. 101-0213 NB Pile Design Table

Location	Cutoff Elevation (ft)	Pile Type	Factored Resistance Available, R _F (kips)	Geotechnical Losses, R _{Sdd} (kips)	Nominal Required Bearing, R _N (kips)	Estimated Pile Length (ft)
		MS 12"Φ w/.25" walls	141	0	256	16
		-	166	0	301	19
		-	194	0	353	20
		MS 14"Ф w/.25" walls	186	0	338	16
		-	227	0	413	19
		MS 14"Ф w/.312" walls	186	0	338	16
		-	215	0	391	19
		-	282	0	513	21
South Abutment	704.2	HP 10x42	74	0	134	24
ЪĴ	/94.3	-	184	0	335	29
D-2		HP 12x53	89	0	161	24
		-	230	0	418	30
		HP 12x63	94	0	171	24
		-	273	0	497	31
		HP 14x73	111	0	201	24
		-	318	0	578	31
		HP 14x89	118	0	215	24
		-	388	0	705	33
		MS 12"Ф w/.25" walls	194	0	353	20
		MS 14"Ф w/.25" walls	227	0	413	19
		MS 14" Φ w/.312" walls	282	0	513	22
		HP 10x42	65	0	118	29
			107	0	195	36
			151	0	275	43
		HP 12x53	80	0	146	29
			135	0	246	36
			192	0	348	43
Pier 1		HP 12x63	81	0	147	29
	777.8	_	137	0	249	36
B-1			196	0	356	43
		HP 14x73	98	0	178	29
		_	168	0	306	36
			232	0	421	43
		HP 14x89	99	0	180	29
		_	171	0	310	36
			236	0	429	43
		HP 14x102	100	0	183	29
		_	173	0	314	36
			238	0	434	43

Structure No. 101-0213 NB Pile Design Table

	Cutoff Elevation		Factored Resistance Available,	Geotechnical Losses,	Nominal Required Bearing,	Estimated Pile Length
Location	(ft)	Pile Type	R _F (kips)	R _{Sdd} (kips)	R _N (kips)	(ft)
		MS 12" Φ w/.25" walls	194	0	353	14
		MS 14" Φ w/.25" walls	227	0	413	13
		MS 14"Ф w/.312" walls	282	0	513	14
		HP 10x42	59	0	107	18
		_	81	0	147	26
		_	89	0	162	36
			135	0	245	61
		HP 12x53	71	0	129	18
		_	99	0	179	26
		_	111	0	202	36
			168	0	306	61
		HP 12x63	73	0	133	18
Pier 2			101	0	183	26
	777.8	_	112	0	204	36
B-5j			170	0	309	61
		HP 14x73	86	0	157	18
			119	0	217	26
			138	0	250	36
			207	0	377	61
		HP 14x89	89	0	162	18
			122	0	221	26
			139	0	254	36
			210	0	382	61
		HP 14x102	91	0	166	18
		_	123	0	224	26
		_	141	0	257	36
			213	0	387	61

Structure No. 101-0213 NB Pile Design Table

	Cutoff Elevation		Factored Resistance	Geotechnical	Nominal Required Bearing	Estimated Pile
Location	(ft)	Pile Type	Available, R _F (kips)	Rsaa (kips)	Bearing, R _N (kips)	(ft)
		MS 12"Φ w/.25" walls	<u> </u>	0	353	43
		MS 14"Ф w/.25" walls	227	0	413	43
		MS 14"Ф w/.312" walls	282	0	513	44
		HP 10x42	63	0	115	35
		-	78	0	141	43
		-	176	0	319	50
		HP 12x53	76	0	138	35
		-	97	0	177	43
		-	210	0	382	50
Pier 3		HP 12x63	77	0	141	35
	778.6	-	98	0	179	43
B-3		-	215	0	391	50
		HP 14x73	92	0	167	35
		-	121	0	220	43
		-	255	0	463	50
		HP 14x89	94	0	170	35
		-	123	0	223	43
		_	260	0	473	50
		HP 14x102	95	0	173	35
		_	124	0	226	43
		_	264	0	480	50
		MS 12" Φ w/.25" walls	194	0	353	28
		MS 14" Φ w/.25" walls	227	0	413	27
		MS 14" Φ w/.312" walls	282	0	513	28
		HP 10x42	71	0	129	28
			113	0	205	38
			119	0	216	56
		HP 12x53	85	0	155	28
No.46 Alexand			135	0	245	38
North Adutment	706 1		148	0	270	56
B-4	/ 90.1	HP 12x63	88	0	160	28
		_	139	0	252	38
			150	0	272	56
		HP 14x73	104	0	189	28
		_	164	0	298	38
			183	0	333	56
		HP 14x89	108	0	195	28
		_	168	0	306	38
		_	185	0	337	56

Note: Where a range of values is shown, pile lengths and capacities may be interpolated between the values given.

Structure No. 101-0214 SB Pile Design Table

			Factored		Nominal	
	Cutoff		Resistance	Geotechnical	Required	Estimated Pile
	Elevation		Available,	Losses,	Bearing,	Length
Location	(ft)	Pile Type	R _F (kips)	R _{Sdd} (kips)	R _N (kips)	(ft)
		MS 12"Φ w/.25" walls	137	0	249	15
			194	0	353	19
		MS 14"Φ w/.25" walls	181	0	330	15
			227	0	413	18
		MS 14"Φ w/.312" walls	181	0	330	15
			282	0	513	20
South Abutment		HP 10x42	70	0	127	22
South / Youthent	792.9		184	0	335	28
B-2	192.9	HP 12x53	85	0	154	22
			230	0	418	28
		HP 12x63	90	0	163	22
			273	0	497	30
		HP 14x73	106	0	192	22
			318	0	578	30
		HP 14x89	113	0	205	22
			388	0	705	31
		MS 12"Ф w/.25" walls	194	0	353	13
		MS 14"Φ w/.25" walls	227	0	413	12
		MS 14"Ф w/.312" walls	282	0	513	13
		HP 10x42	59	0	107	18
		_	81	0	147	25
		_	89	0	161	35
			135	0	245	60
		HP 12x53	70	0	128	18
		_	98	0	178	25
		_	111	0	202	35
			168	0	306	60
		HP 12x63	72	0	132	18
Pier 1 & Pier 2		_	100	0	182	25
	777.4	_	112	0	204	35
B-5j			170	0	309	60
		HP 14x73	86	0	156	18
		_	119	0	216	25
		_	137	0	249	35
			207	0	376	60
		HP 14x89	88	0	161	18
		_	121	0	220	25
		_	139	0	253	35
			210	0	382	60
		HP 14x102	90	0	164	18
		-	122	0	223	25
		-	141	0	256	35
			213	0	387	60

1/3

Structure No. 101-0214 SB Pile Design Table

Location	Cutoff Elevation (ft)	Pile Type	Factored Resistance Available, R _F (kips)	Geotechnical Losses, R _{Sdd} (kips)	Nominal Required Bearing, R _N (kips)	Estimated Pile Length (ft)
		MS 12"Ф w/.25" walls	110	0	200	19
		-	125	0	228	32
		-	159	0	289	40
		-	194	0	353	42
		MS 14"Ф w/.25" walls	146	0	265	19
		-	150	0	273	32
		-	188	0	343	40
		-	227	0	413	42
		MS 14"Ф w/.312" walls	146	0	265	19
		-	150	0	273	32
		-	201	0	365	42
		-	282	0	513	43
		HP 10x42	49	0	89	32
Dian 2		_	77	0	140	42
Plef 5	770 2	_	175	0	318	50
B_3	110.2	HP 12x53	58	0	106	32
D- 3			97	0	176	42
			210	0	381	50
		HP 12x63	60	0	109	32
		_	98	0	178	42
			215	0	390	50
		HP 14x73	71	0	129	32
			120	0	219	42
			254	0	462	50
		HP 14x89	73	0	132	32
			122	0	222	42
			259	0	472	50
		HP 14x102	74	0	135	32
		_	124	0	225	42
			263	0	478	50

Structure No. 101-0214 SB Pile Design Table

	Cutoff		Factored	Cootoobnicol	Nominal Boquirod	Estimated Pile
Location	Elevation	Bile Type	Available,	Losses,	Bearing,	Length
Location	(11)	r në 1 ypë	к _F (кips)	к _{sdd} (кips)	к _N (кips)	(11)
		MS 12" Φ w/.25" walls	194	0	353	26
		MS 14" Φ w/.25" walls	227	0	413	26
		MS 14"Ф w/.312" walls	282	0	513	27
		HP 10x42	84	0	153	29
		-	111	0	202	37
		-	118	0	214	54
		HP 12x53	101	0	184	29
NT 1 11		-	133	0	242	37
North Abutment	704.0	-	147	0	268	54
D /	/94.9	HP 12x63	104	0	189	29
D-4		-	137	0	249	37
		-	149	0	270	54
		HP 14x73	123	0	224	29
		-	162	0	295	37
		-	182	0	330	54
		HP 14x89	126	0	230	29
		-	166	0	302	37
		-	184	0	335	54

Note: Where a range of values is shown, pile lengths and capacities may be interpolated between the values given.

Structure No. 101-0213 / 101-0214 Pile Design Parameters

		11015 (20				
Elevations	LPILE Soil Type	γ' (pcf)	c (psf)	Φ	k (pci)	3
*** - 764.0	Stiff Clay w/o Free Water	122	950	N/A	100	0.01
764.0 - 756.5	Sand (Reese)	130	N/A	36	225	0
756.5 - 754.0	Stiff Clay w/o Free Water	125	2,100	N/A	1,000	0.005
754.0 - 746.5	Sand (Reese)	128	N/A	34	175	0
746.5 - 726.5	Stiff Clay w/o Free Water	63	3,000	N/A	1,000	0.005
726.5 - 724.0	Sand (Reese)	63	N/A	33	90	0
724.0 - 721.5	Stiff Clay w/o Free Water	58	1,200	N/A	500	0.007
721.5 - 717.0	Sand (Reese)	66	N/A	35	125	0

Piers (Boring B-5j)

*** - Bottom of footing



HIGHWAY CLASSIFICATION

F.A.P. Rte. 0525 - Harrison Functional Class: Other Principal Arterial ADT: 29,000 (2015); 41,250 (2035) ADTT: 2,610 (2015); 3,713 (2035) DHV: 4,125 (2035) Desian Speed: 35 m.p.h. Posted Speed: 35 m.p.h. 2 - Way Traffic Directional Distribution: 50:50

30.60

Sta.

HIGHWAY CLASSIFICATION

Functional Class: Interstate ADT: 63,800 (2015); 104,800 (2035) ADTT: 18,502 (2015); 30,392 (2035) DHV: 10,480 (2035) Design Speed: 70 m.p.h. Posted Speed: 65 m.p.h. 2 -Way Traffic Directional Distribution: 50:50

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi (Substructure Concrete) f'c = 4,000 psi (Superstructure Concrete) fy = 60,000 psi (Reinforcement) fy = 50,000 psi (Structural Steel) *** (M270 Grade 50)

> *** All structural steel shall be metalized.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.056g Soil Site Class = C

CURVE DATA HARRISON AVE.

PI STA. = 149+02.51 PI STA. = 1316+03.34 △ = 9° 34′ 19" (LT) ⊿ = 8° 20′ 45″ (LT) $D = 1^{\circ} 00' 00''$ $D = 1^{\circ} 00' 00''$ R = 5,729.71' R = 5,729.71' T = 418.03' T = 479.72' L = 834.59' L = 957.22E = 15.23' = 20.051 P.C. STA. = 144+84.47 P.C. STA. = 1311+23.61 P.T. STA. = 153+19.06 P.T. STA. = 1320+80.83



EQUAT Stoli Stoli Stoli U.S. Ri U.S. Ri

10.60 5.5

VPI STA. 27

V.C. = 960'

PROPOSED PROFILE

Along I-39/U.S. 20

Note: The profile grade shows the final

elevations after grinding. Up to $^{I}_{4}$ inch

may be ground off the bridge deck and

153+. 79 R

Sta.

+ 3.00%

the bridge approach slabs.

+0.60%

152+00 79.20

Sta.

-0.44%

Proposed

Bridge

Limits

Sta. 2727+90.60 801.44

EI. 8

1312+00 780.37

Sta. EI.



TULINOIS FED ATD PROJECT

<u>CU</u>	RI	<u>'E</u>	D	47	<u> A</u>
			_	_	-

<u>F.A.I. I-39</u>	<u>GENERAL PLAN</u>
PI STA. = 2724+10.28	<u>I-39/U.S. 20 over HARRISON AVE.</u>
Δ = 17° 40′ 00" (LT) D = 0° 50′ 00"	<u>F.A.I. RTE. 39</u>
R = 6,875.65′ F = 1.068.50′	<u>SECTION (201-3)K & (4-1, 5)R</u>
= 2,120.05'	<u>WINNEBAGO COUNTY</u>
= 82.53' 5.E. = 3.0%	<u>STATION 2724+47.66</u>
P.C. STA. = 2713+41.77 P.T. STA = 2734+61.82	STRUCTURE NUMBER 101-0213 (N.B.)
.1. 374, - 2734 01.02	STRUCTURE NUMBER 101-0214 (S.B.)
ELEVATION	F.A.I. SECTION COUNTY TOTAL SHEETS NO.
TRUCTURE NO 101-0214	39 (201-3)K & (4-1, 5)R WINNEBAGO 3 1
	CONTRACT NO. 64C24



0.0. 2.20	N	0,,	w%	
۲ <i>97.0</i> ۲	<u></u>	<u></u>		
		0.6P	15.0	MEDIUM brown SILTY CLAY LOAM
	10	0.3B	13.0	SOFT tan SANDY LOAM
	13	1.5P	10.0	STIFF tan SANDY LOAM with GRAVEL
	9	1 . 1P	17.0	STIFF gray LOAM with GRAVEL
	7	1 70	15 0	STIFF gray SILTY CLAY LOAM with
785.0-	/	1.78	15.0	medium GRAVEL
	16			No Recovery
	13	1 . 1B	14.0	STIFF gray LOAM with GRAVEL
	20	<i>1.</i> 9S	11.0	STIFF gray LOAM with GRAVEL
	54		70	VERY DENSE top LOAN TILL
	54		1.0	VERT DENSE TUIT LOAM TILL
	55		7.0	VERY DENSE tan SANDY LOAM TILL
				with GRAVEL
	71			VERY DENSE tan SANDY LOAM TILL
	100 /01			WITH GRAVEL
	10076"			VERT DENSE TAN SANDY LUAM TILL with GRAVEL
	100/1"			Same as above
	100/1			
	100/4"			VERY DENSE tan SANDY LOAM TILL
760 5	100/5.5	5″		VERY DENSE tan SANDY LOAM TILL

775 81	<u>N Qu w%</u>		_
773 81	0.9P 9.0	MEDIUM tan SANDY LOAM	
115.01	25	MEDIUM tan fine dry SAND	
70.01	65	VERY DENSE tan fine SAND with GRAVEL	
/60.01	33 9.0	DENSE tan SANDY LOAM TILL	
	34 9.0	DENSE tan SANDY LOAM TILL	
	32 2.45 9.0	VERY STIFF tan SANDY LOAM TILL	
750 01	30 4.0P 13.0	DENSE tan SANDY LOAM TILL	
138.81	31	DENSE tan fine SAND	
	38	DENSE tan clean medium coarse dry SAND	
	47	DENSE tan clean medium coarse SAND with GRAVEL	
740.01	55	VERY DENSE tan clean medium coarse SAND with GRAVEL	
748.81	39 1.7B 17.0	STIFF tan SANDY LOAM TILL with SAND lens	
746.51	72	VERY DENSE tan dry SANDY GRAVEL	
143.81	37 4.3P 11.0	HARD tan LOAM TILL with SAND lens	
	36 3.1P 13.0	VERY STIFF tan LOAM TILL with dirty SANDY GRAVEL	
	54	VERY DENSE tan dirty SANDY GRAVEL	
734.31	50	DENSE tan moist SANDY GRAVEL	
	Bo	itom of Hole = 41.5 teet	

N Standard Penetration Test N (blows/ft)

Qu Unconfined Strength (tsf)

w% Natural Moisture Content (%)

DD 507.20 Water Surface Elevation Encountered in Boring DD = during drilling Oh = at completion 24h = 24 hours after completion

Approximate Finish Grade Bottom of Footing

FILE NAME =	USER NAME =	DESIGNED - EJM	REVISED		SUBSUBFACE DATA PROFILE	F.A.I	SECTION	COUNTY	TOTAL	SHEET
		CHECKED - KKC	REVISED	STATE OF ILLINOIS	CTDUCTUDE NO 101 0212 8 101 0214	39	(201-3)K & (4-1,5)R	WINNEBAGO		
	PLOT SCALE =	DRAWN - EJM	REVISED	DEPARTMENT OF TRANSPORTATION	SIRUCIURE NU. 101-0213 & 101-0214			CONTRACT	T NO. 6	4C24
Copyright Hanson Professional Services Inc. 2016	PLOT DATE = 12/21/16	CHECKED - KKC	REVISED		SHEET NO. 1 OF 2 SHEETS		ILLINOIS FED. AI	D PROJECT		
									-	

/80.0 779.2	7 9 7 17 8	2.7B 18.0 0.5S 12.0 0.9P 9.0	9" Asphalt Shoulder VERY STIFF gray CLAY LOAM MEDIUM brown SANDY LOAM MEDIUM tan SANDY LOAM TILL	-	
	7 9 7 17 8	2.7B 18.0 0.5S 12.0 0.9P 9.0	VERY STIFF gray CLAY LOAM MEDIUM brown SANDY LOAM MEDIUM tan SANDY LOAM TILL		
	9 7 17 8	0.55 12.0 0.9P 9.0	MEDIUM brown SANDY LOAM MEDIUM tan SANDY LOAM TILL		
	7 17 8	0.9P 9.0	MEDIUM tan SANDY LOAM TILL		
	17 8				
	8		No Recovery		
	0	0.8B 11.0	MEDIUM tan SANDY CLAY TILL		
764 0	31	1.65 9.0	STIFF tan SANDY LOAM TILL	_	
104.0	100/8	211	VERY DENSE tan SANDY LOAM TILL		
	92		VERY DENSE tan SANDY LOAM TILL		
756 5	62		VERY DENSE tan SANDY LOAM TILL	_	
754 0	27	2.1P 10.0	VERY STIFF tan SANDY LOAM	_	
101.0	73	8.0	VERY DENSE light gray SANDY LOAM TIL	-	
	39	4.5P 7.0	DENSE light gray SANDY LOAM TILL		
746 5	61		VERY DENSE light gray SANDY LOAM TIL		
, 10.5	24	2.95 9.0	VERY STIFF light gray SANDY LOAM TILL		
2.5∇	44	3.4P 9.0	VERY STIFF light gray SANDY LOAM TILL with SAND lens		
0.0 .0	19	3.5B 9.0	VERY STIFF light gray SANDY LOAM TILL		
	23	2.0B 10.0	STIFF/VERY STIFF light gray SANDY LOAM TILL with SAND lens		
	26		No Recovery		
	21	3.6P 26.0) VERY STIFF light gray SANDY LOAM TILL		
	22		No Recovery		
726.5	18		No Recovery SANDY LOAM TILL	_	
724.0	27		MEDIUM tan fine SAND	_	
721.5	16	1.2B 15.0	STIFF light gray LOAM TILL	_	
-	38		DENSE light gray fine SAND with medium GRAVEL		
717.0	27		MEDIUM tan SANDY GRAVEL	_	
		BC	1000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 00		

			B-4 Sta. 2725+	1 35. 1' F	₹ <i>T</i>	
			799.6-	<u>N</u>	<u>Qu w%</u>	
					0.6P 18.0	MEDIUM brown SILTY C
				13	0.9P 14.0	MEDIUM light brown SA
				9	0.5P 12.0	MEDIUM light brown/tan
				14	0.8B 16.0	MEDIUM brown LOAM
				10	1.5P 17.0	STIFF gray SILTY CLA
				15	1.5B 10.0	STIFF gray SANDY LOA
				21	1.7B 13.0	STIFF gray LOAM
777857785				15	2.0B 24.0	VERY STIFF light brown
B-3			777.6	12	2.95 25.0	VERY STIFF gray SILT
Sta. 2725+07,	, 125′ LT <u>N Qu w%</u>		775 1	17		MEDIUM tan SAND
115.0	0.6P 35.0	MEDIUM brown SILTY CLAY LOAM	110.1	19	1.5P 8.0	STIFF tan SANDY LOAN
770.5	9 0.7B 27.0	MEDIUM light brown SILTY CLAY LOAM		16	1.2S 8.0	STIFF tan SANDY LOAN Added water, hard drilli
768.0	17 14.0	MEDIUM tan dirty SAND with medium GRAVEL		22	1.6S 9.0	STIFF tan SANDY LOAN
	12 0.4B 10.0	SOFT tan SANDY LOAM TILL		84	8.0	VERY DENSE tan SAND GRAVEL
	16 1.4P 10.0	STIFF tan SANDY LOAM TILL		77		VERY DENSE tan SAND GRAVEL
	13 0.6B 10.0	MEDIUM tan SANDY LOAM TILL		58	8.0	VERY DENSE tan SAND medium GRAVEL
	18 0.45 10.0	SOFT tan SANDY LOAM TILL		57	4.65 8.0	VERY DENSE tan SAND with medium GRAVEL
757.5	75 4.5P 8.0	VERY DENSE fan SANDY LOAM TILL with GRAVEL		86	3.55 8.0	VERY DENSE tan SAND with medium GRAVEL
	71 8.0	VERY DENSE fan SANDY LOAM FILL with GRAVEL - Hard Drilling		73	4.45 7.0	VERY DENSE tan SAND with GRAVEL
	36 8.0	DENSE gray SANDY LOAM TILL		44		DENSE tan SANDY LOA
	33 3.8P 8.0	VERY STIFF gray SANDY LOAM TILL		44	5.55 9.0	DENSE tan SANDY LOA lens
	31 3.4P 7.0	VERY STIFF gray SANDY LOAM TILL		28	3.9B 9.0	VERY STIFF gray SANL
	25 4.5B 8.0	HARD gray SANDY LOAM TILL		36	3.55 9.0	VERY STIFF gray SAND
	25 4.5P 8.0	HARD gray SANDY LOAM TILL	740.6	33	3.9B 9.0	VERY STIFF gray SAND
	40	DENSE gray SANDY LOAM TILL	110.0		Bott	om of Hole = 59.0 feet
	21 3.5B 9.0	VERY STIFF gray SANDY LOAM TILL				
734.0 V	26 3.3B 8.0	VERY STIFF gray SANDY LOAM TILL				
, 33.0	91	VERY DENSE tan SANDY GRAVEL				
700 5	76	VERY DENSE tan/gray SANDY GRAVEL				

Bottom of Hole = 46.5 feet

FILE NAME =	USER NAME =	DESIGNED - EJM	REVISED		SUBSUBFACE DATA PROFILE	F.A.I SECTION	COUNTY TOTAL SHEET
		CHECKED - KKC	REVISED	STATE OF ILLINOIS	STRUCTURE NO 101 0213 & 101 0214	39 (201-3)K & (4-1,5)R	WINNEBAGO
	PLOT SCALE =	DRAWN - EJM	REVISED	DEPARTMENT OF TRANSPORTATION	STRUCTURE NO. 101-0213 & 101-0214		CONTRACT NO. 64C24
C Copyright Hanson Professional Services Inc. 2016	PLOT DATE = 12/21/16	CHECKED - KKC	REVISED		SHEET NO. 2 OF 2 SHEETS	ILLINOIS FEE	D. AID PROJECT

CLAY LOAM

ANDY LOAM

SANDY LOAM

AY LOAM

AM

WN SILTY CLAY LOAM

TY CLAY

M TILL with GRAVEL AM TILL Iling M TILL DY LOAM TILL with DY LOAM TILL with DY LOAM TILL with DY LOAM TILL DY LOAM TILL DY LOAM TILL AM TILL with GRAVEL AM TILL with SAND IDY CLAY LOAM TILL NDY CLAY LOAM TILL

IDY CLAY TILL

<u>LEGEND</u>

N	Standard Penetration Test N (blows/ft)
Qu	Unconfined Strength (tsf)
w%	Natural Moisture Content (%)
^{DD} 507.20 ▽	Water Surface Elevation Encountered in Boring DD = during drilling Oh = at completion 24h = 24 hours after completion
	Approximate Finish Grade
	Bottom of Footing

Illinois De of Transp	eparti ortat	me ior	ent 1		S	OIL BORING LC)G		Page	ə <u>1</u>	of _
ROUTE FAP 301	DE	SCR		10 N	1-007	1 0072 I-39 Bridge over Harrison F <u>.6 miles west of</u> Mill Road	load, L	OGG	Date ED B)	• <u>1/</u>	<u>24/12</u>
SECTION (201-3) K (4-1	, 5) K		LOCA	TION	Rock	ford Twp 35SE, SEC. , TWP . 44N	, RNG. 2	E			
COUNTY Winnebago	DRILLING	G ME	THOD		Ho	bllow Stem Auger HAMME	R TYPE	<u>B-53</u>	Diedr	ich Au	itomati
STRUCT. NO. 101-0071/007 Station	<u>venu</u> e	D E P T H	B L O W S	U C S Qu (tsf)	M O I S T	Surface Water Elev Stream Bed Elev Groundwater Elev.: First Encounter Upon Completion	ft ft ft	D E P T H	B L O W S	U C S Qu	M O I S T
MEDIUM tan SANDY LOAM				0.0		DENSE tan clean medium coarse	ft	(π)	(/6) 10	(tsf)	(%)
	773.81			0.9 P	9.0	UIY SAND	754.31		16 22		
MEDIUM tan fine dry SAND	771 81		8 11 14			DENSE tan clean medium coarse SAND with GRAVEL	1		15 21		
VERY DENSE tan fine SAND wit GRAVEL	h	5	9 30 35			VERY DENSE tan clean medium coarse SAND with GRAVEL	751.81	-25	26 26 23 32		
DENSE tan SANDY LOAM TILL	766.81 _		17 14 19		9.0	STIFF tan SANDY LOAM TILL with SAND lens	746.31		10 8 31	1.7 B	17.0
DENSE tan SANDY LOAM TILL		-10	13 14 20		9.0	VERY DENSE tan dry SANDY GRAVEL	743.91	-30	33 34 38		
VERY STIFF tan SANDY LOAM TILL	761.81		10 14 18	2.4 S	9.0	HARD tan LOAM TILL with SAND lens	741.81		13 17 20	4.3 P	11.0
DENSE tan SANDY LOAM TILL		-15	13 13 17	4.0 P	13.0	VERY STIFF tan LOAM TILL with dirty SANDY GRAVEL	739.31	-35	19 19 17	3.1 P	13.0
DENSE tan fine SAND	758.81		12 13 18			VERY DENSE tan dirty SANDY GRAVEL			24		
	100.01	-20					736.81		30		

-6

Pige 2 of Pige 3 of Pige 4 of Pige 4 of	\frown					
Contraction SolL BORING LOG Note of the determined transportation 2 Dife124/12 ROUTE FAP 301 DESCRIPTION 20107 (201-3) K (4.1.5) K L COATION Rockford Twp. 355E SEC. TWP. 44N, RNG.2E COUNTY	(T) Illinois I	Departmer	nt			Page <u>2</u> of
Base Digeneration of temportation 2 Date 1/24/12 ROUTE FAP 301 DESCRIPTION 101-0071 0072 1:39 Bridge over Harrison Road. Grand Strate LOGGED BY W. Garz SECTION (201-3) K (4-1.5) K. LOCATION Rockford Twp335E, SEC., TWP. 44N, RNG. 2E COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automa STRUCT. NO. 101-0071/0072 D B C O Straton nt BORINS NO. B-1 Y S S Straton nt Station 50/92 - Harison Avenue T H S Qu T Offset 88.001 Rt (LL) H S Qu T First Brocurie Tax: nt DENSt tan moals SANDY 73.31 ft (t)	Of Trans	sportation		SOIL BORIN	IG LOG	
ROUTE FAP 301 DESCRIPTION Diversity and statistical Milling and the mission Road LOGGED BY W. Garz SECTION (201:3) K (4-1, 5) K LOCATION Rockford Twp - 35SE, SEC., TWP, 44N, RNG, 2E COUNTY (201:3) K (4-1, 5) K LOCATION Rockford Twp - 35SE, SEC., TWP, 44N, RNG, 2E COUNTY (201:3) K (4-1, 5) K LOCATION Rockford Twp - 35SE, SEC., TWP, 44N, RNG, 2E COUNTY (201:3) K (4-1, 5) K LOCATION Rockford Twp - 35SE, SEC., TWP, 44N, RNG, 2E COUNTY (201:3) K (4-1, 5) K LOCATION Rockford Twp - 35SE, SEC., TWP, 44N, RNG, 2E COUNTY (201:3) K (4-1, 5) K LOCATION Rockford Twp - 35SE, SEC., TWP, 44N, RNG, 2E Station (201:3) K (4-1, 5) K Counts and the second transmit of the second transet transet transmit of the second transmit of the seco	Illinios Department of	f Transportation/D-2	101		and the second	Date1/24/12
SECTION (201-3) K (4-1, 5) K LOCATION Rockford Twp 35SE, SEC, TWP, 44N, RNG, 2E COUNTY MINnebago DILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Auforma Station B U N Surface Water Elev.	ROUTE FAP 301	DESCRIF	PTION	.6 miles west of Mill	Road LOG	GED BY W. Garza
COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-33 Diedrich Automa STRUCT, NO. 101-0071/0072 P B U M Surface Water Elev. ft BORING NO. B-1 Y W S S Groundwater Elev. ft Offset B8.000 R1 CL F W S S Groundwater Elev. ft Offset B8.000 R1 CL F W S S Groundwater Elev. ft Oreand Suffrage Elev. 775.81 ft H S Qu T ORNE tan moist SANUY 18 - - A A A ORAVEL 734.31 27 - - - - - - - - - - - - - - -	SECTION(201-3) K (4	I-1, 5) K LO	OCATION F	Rockford Twp 35SF SEC	TWP 44N PNG 2E	
STRUCT. NO. 101-0071/0072 D B U N Surface Water Elev. ft BORING NO. B-1 F V S S Groundwater Elev. ft Station 50+92 - Harison Avenue T W S S Groundwater Elev. ft Offset B8.00ft Rt CL. (ft) (ft) (ft) (ft) (ft) Ground Strater Elev. ft Ground Strate Elev. 775.31 ft (ft) (ft) (ft) (ft) Ground Strater Elev. ft GRAVEL 18 23 27 18 Ft	COUNTY Winnebago	DRILLING MET	HOD	Hollow Stem Auger	HAMMER TYPE B-	53 Diedrich Automat
Station P C O Surface Water Flev. ft BORING NO. B-1 T W S S Station 50-92.1 Harrison Avenue H S Groundwater Elev.: ft Ground Surface Elev. 775.81 ft (ft) (#7) (staf) (%) After H BORING 283 18 Completion ft GRAVEL 233 27 18 Completion ft GRAVEL 734.31 27 18 Completion ft Ground Boring 734.31 27 18 Completion ft Ground Boring - - - - - - Ground Boring - - - - - - - - <td>STRUCT. NO. 101-0071/</td> <td>0072 D</td> <td>B U</td> <td>M Surface Michael</td> <td></td> <td></td>	STRUCT. NO. 101-0071/	0072 D	B U	M Surface Michael		
BORING NO. B-1 T W S I Station <u>50-92</u> -Harrison Avenue H S Gu T Ground Surface Elev. 775.81 ft (ft) (#6") (tsf) (%) First Encounter ft DENSE tan moist SANDY 18 - - 18 - GRAVEL 18 - - - - End of Boring - - - - - - - - - - - - - - - - - - - - -	Station	E	LC	O Stream Bed Elev.	ft ft	
Station 50:92 Harison Avenue B8.001 Rt CL Ground Surface Elev. 772,81 ft Ground Surface Elev. 772,81 ft (ft) (f6") (ft) (f6") DENSE tan moist SANDY GRAVEL 18 - - 23 - - - - End of Boring 734.31 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - <td>BORING NO. B-1</td> <td></td> <td>U S W</td> <td>S O</td> <td></td> <td></td>	BORING NO. B-1		U S W	S O		
Offset	Station 50+92 - Harrison	Avenue H	S Qu	T First Encounter	5	
Order Salade Elev. (1/3.61) ft DRSE tam moist SANDY 18 734.31 27 23 27 End of Boring	Offset 88.00ft Rt	CL (ft)		Upon Completion	it	
GRAVEL	DENSE tan moist SANDY	<u>5.81</u> ft (III)	/6") (tst)	(%) After Hrs.	ft	
End of Boring 27	GRAVEL		23			
End of Boring		734.31	27			
	End of Boring					
		45				

.

Illinois Do of Transp	epartn ortati	ıen on	t		S	OIL BORING LO	G		Page) <u>1</u>	of <u>1</u>
Division of Highways Illinios Department of Tra ROUTE FAP 301	Insportation/D-2	CDID	TION	10 ⁻	1-0071	0072 I-39 Bridge over Harrison Ro	bad,		Date	1/2	26/12
SECTION (201-3) K (4-1	023				Doole	ford Turne 2505 and	L	OGG	ED BY	<u>W.</u>	<u> Garza</u>
COUNTY Winnebago		 METH				Nord Twp 355E, SEC. , TWP. 44N,	RNG. 2	<u>E</u>			
			-00 -00			HAMMER	TYPE	<u>B-53</u>	Diedr	ich Aut	omatic
Station	<u>/2</u>	E	L	C	M O	Surface Water Elev Stream Bed Elev.	ftft	D E	BL	U C	M
BORING NOB-2 Station571+05 - 1-30 Official)	Р Т Н	o w s	S Qu	I S T	Groundwater Elev.: First Encounter	ft	P T H	O W S	S Qu	I S T
Ground Surface Elev. 797.0	00 ft	(ft) (/	6")	(tsf)	(%)	Upon Completion After Hrs.	ftft	(ft)	(/6'')	(tsf)	(%)
MEDIUM brown SILTY CLAY LOAM	· · · · · · · · · · · · · · · · · · ·			0.6	15.0	VERY DENSE tan LOAM TILL			27		
	_			P	13.0		775.50		22 32		7.0
SOFT tan SANDY I OAM	794.50		0								
			4	0.3	13.0	VERY DENSE tan SANDY LOAM TILL with GRAVEL			22 25		70
	793.00		6	В			773.00		30		
STIFF tan SANDY LOAM with		-5	4					-25			
GRAVEL			5	1.5	10.0	TILL with GRAVEL		-	19 28		
	790.50		3	<u>Р</u>			770.50		43		
STIFF gray LOAM with GRAVEL			4			VERY DENSE ton SANDY LOAM					
		4	1	1.1	17.0	TILL with big GRAVEL	-		100/6		
	788.00		<u>'</u>	P			768.00 _	\neg			
STIFF gray SILTY CLAY LOAM		10 4	•			Same as above	-	-30	00/11		
with medium GRAVEL		3	3	1.7 B	15.0				00/1		
	785.00		<u> </u>				765.50	-			
No Recovery		6	;			VERY DENSE tan SANDY LOAM		1	00/41		
	783.00	8				TILL					
	/00.00						763.00				
STIFF gray LOAM with GRAVEL		¹⁵ 6				VERY DENSE tan SANDY LOAM		-35	0/5 5"		
	780 50	6		1.1 B	14.0	TILL					
				-		End of Boring	760.50				
STIFF gray LOAM with GRAVEL	-	8						_			
	778.00	8		1.9 S	11.0						
	-										
	-2	0						40			

1

Illinois De of Transp	epartn ortati	nei on	nt		S	OIL BORING LC	G		Page	• <u>1</u>	of <u>2</u>
ROUTE FAP 301	DES	CRI	PTIO	10 ⁻ N	1-0071	0072 I-39 Bridge over Harrison R .6 miles west of Mill Road	load, L	OGG	Date ED B	1/: /W.	27/12 Garza
COUNTY Winnebago	DRILLING	L MET			Rock	ford Twp 35SE, SEC. , TWP. 44N billow Stem Auger HAMME	<u>, RNG. 2</u> R TYPE	E B-53	Diedr	ich Au	tomatic
STRUCT. NO. 101-0071/007 Station	2 venue 10 ft	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 757.5 Upon Completion After Hrs. VERY DENSE tan SANDY LOAN TILL with GRAVEL	ft ft ft ⊻ ft 1	D E P T H (ft)	B L O W S (/6") 33	U C S Qu (tsf)	M O I S T (%)
MEDIUM light brown SILTY CLA	Y 772.50		3 4 5	P 0.7 B	27.0	Hard Drilling	753.50 751.00		32 39 17 19 17		8.0
MEDIUM tan dirty SAND with medium GRAVEL		-5	6 7 10		14.0	VERY STIFF gray SANDY LOAM TILL	748.50	-25	14 16 17	3.8 P	8.0
SOFT tan SANDY LOAM TILL	766.00		4 5 7	0.4 B	10.0	VERY STIFF gray SANDY LOAM TILL	- 746.00 _		11 12 19	3.4 P	7.0
STIFF tan SANDY LOAM TILL	763.50	-10	5 8 8	1.4 P	10.0	HARD gray SANDY LOAM TILL	743.50	-30	5 10 15	4.5 B	8.0
MEDIUM tan SANDY LOAM TILL	761.00		3 5 8	0.6 B	10.0	HARD gray SANDY LOAM TILL			6 12 13	4.5 P	8.0
SOFT tan SANDY LOAM TILL	758.50	15	3 7 11	0.4 S	10.0	DENSE gray SANDY LOAM TILL	738.50	-35	13 18 22		
VERY DENSE tan SANDY LOAM TILL with GRAVEL	756.00		38 10 35	4.5 P	8.0	VERY STIFF gray SANDY LOAM TILL	 736.00		2 7 14	3.5 B	9.0
	-2	20			[]			40			

÷,

Illinois De of Transp	epartm ortatio	ient on		S		IG LOG	Page <u>2</u> of <u>2</u>
ROUTE FAP 301	DES	CRIPTIO	10 [.]	1-0071	0072 I-39 Bridge ove .6 miles west of Mill	er Harrison Road, Road LOG	Date <u>1/27/12</u>
SECTION(201-3) K (4-1,	5) K	LOCA	TION	Rock	ford Twp 35SE, SEC.	, TWP. 44N. RNG. 2E	
COUNTY Winnebago		METHO)	Но	llow Stem Auger	HAMMER TYPE B-8	53 Diedrich Automatio
STRUCT. NO101-0071/007 Station	2	D B E L	U C	M O	Surface Water Elev. Stream Bed Elev.	ft	
BORING NO.B-3Station49+03 - Harrison AvOffset98.00ft Lt CLGround Surface Elev.775.0	<u>venu</u> e 0ft (P O T W H S ft) (/6'')	S Qu (tsf)	 S T (%)	Groundwater Elev.: First Encounter Upon Completion After Hrs.	<u></u>	
VERY STIFF gray SANDY LOAM TILL	1 V	6 10 16	3.3 B	8.0		II	
VERY DENSE tan SANDY GRAVEL	733.00	38 31 60					
VERY DENSE tan/gray SANDY GRAVEL	728 50	45 19 43 33					
End of Boring		55					

50,

Illinois D of Transp	epartr portati	ne ion	nt		S	OIL BORING LO)G		Pag	• <u>1</u>	of _2
Illinios Department of Tr ROUTE FAP 301	ansportation/D-	2 SCRI	ΡΤΙΟ	10 N	1-007	1 0072 I-39 Bridge over Harrison I	Road,		Date	1/	30/12
SECTION(201-3) K (4-1	, 5) K	L	.OCA		Rock	ford Two - 35SE SEC TWP 440	L	.OGG	ED B	<u>W.</u>	Garza
COUNTY Winnebago	DRILLING	ME	тнор)	Но	bllow Stem Auger HAMME	R TYPE	<u>с</u> B-53	Diedr	ich Au	Itomatic
STRUCT. NO101-0071/00 Station	72	D E	B L	U C	M	Surface Water Elev.	ft	D	В	U	M
BORING NO. B-4 Station 873+74 - 1-39 Offset 1.00ft Rt CL Ground Surface State 1000 Rt CL	9	P T H	O W S	S Qu	I S T	Groundwater Elev.: First Encounter Upon Completion	ft ft ft	P T H	L O W S	S Qu	O I S T
MEDIUM brown SILTY CLAY	<u>60</u> ft	(π)	(/6**)	(tsf)	(%)	After Hrs.	ft	(ft)	(/6'')	(tsf)	(%)
	-			0.6 P	18.0				4 5 7	2.9 S	25.0
MEDIUM light brown SANDY	797.10 -		4	0.0	14.0	MEDIUM tan SAND	777.60		6		
	795.60 _		7	P	14.0		775 10		8 9		
MEDIUM light brown/tan SANDY LOAM	, –	-5	2 3	0.5 B	12.0	STIFF tan SANDY LOAM TILL with GRAVEL	······································	-25	6 10	1.5	8.0
MEDIUM brown LOAM	793.10 —		4	P			773.10		9	P	
	 790.60		5 9	0.8 B	16.0	Added water, hard drilling	- 770.60	_	5 8 8	1.2 S	8.0
STIFF gray SILTY CLAY LOAM		<u>-10</u>	3	1.5	17.0	STIFF tan SANDY LOAM TILL	-	-30	5 8	1.6	9.0
STIFF gray SANDY LOAM	788.10		5	P		VERY DENSE tan SANDY I OAM	768.10 -		14	S	
	785.60		7 8	1.5 B	10.0	TILL with GRAVEL	- 765.60		30 54		8.0
STIFF gray LOAM		15	4	1.7	13.0	VERY DENSE tan SANDY LOAM TILL with GRAVEL		-35	29 36		
VERY STIFF light brown SIL TY	/83.10		4	B			763.10		41		
CLAY LOAM	780.60		- 6 : 9	2.0 2 B	24.0	TILL with medium GRAVEL	760.60		25 28 30		8.0
		20						40			

.

Illinois De	epartmo	ent		6			Page <u>2</u> of <u>2</u>
Division of Highways Illinios Department of Tra ROUTE FAP 301	DOILALIO	II RIPTIOI	101 N	3 (0072 I-39 Bridge over I	Harrison Road,	Date <u>1/30/12</u>
SECTION(201-3) K (4-1 COUNTYWinnebago	<u>, 5) K</u> DRILLING M	LOCA [®] ETHOD		Rock Ho	ford Twp 35SE, SEC. ,	TWP. 44N, RNG. 2E	-53 Diedrich Automatic
STRUCT. NO. 101-0071/007 Station	72 D E P T 30 ft (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	ft ft ft ft ft ft	
TILL with medium GRAVEL	M	25 25 32	4.6 S	8.0			
VERY DENSE tan SANDY LOAN TILL with medium GRAVEL	VI	25 34 52	3.5 S	8.0			
VERY DENSE tan SANDY LOAM TILL with GRAVEL	л 753.10	32 36 37	4.4 S	7.0			
DENSE tan SANDY LOAM TILL with GRAVEL	750.60	21 21 23					
DENSE tan SANDY LOAM TLIL with SAND lens	<u>-50</u> 748.10	15 19 25	5.5 S	9.0			
VERY STIFF gray SANDY CLAY LOAM TILL	745.60	8 12 16	3.9 B	9.0			
VERY STIFF gray SANDY CLAY LOAM TILL	743.10	23 16 20	3.5 S	9.0			
VERY STIFF gray SANDY CLAY TILL End of Boring	740.60	10 13 20	3.9 9 B	9.0			
	-60						

Illinois Depa of Transport	rtme atior	nt 1		SC	DIL BORING LOO		P	age	1	of _2
BOT ROUTE FAL 39 & FAP 301	DESCRIPTION		P92	2-111-0	06 NB & SB Bridge - I-39 over Harriso	on		ate	<u> </u>	<u>2/16</u>
SECTION (201-3)K & 4-1.5)K	DEOON		10N	Rockfo	prrd N.E. Twp SE. SEC. 35. TWP. 4	4N RN	G 2F	ы		28128
COUNTY Winnebago DRIL	LING ME	THOD		Но	llow Stem Auger HAMMER	YPE		СМ	E-55	
STRUCT. NO101-0213	Latitude Longitude		<u>42°</u> -88	<u>14' 23</u> ° 57' 5	8.03" Northing 8.86" Easting	2,032,17		70.6978 08.6896		
Station 153+19 Elevation Conversion: 99.80 = EI. 780 BORING NO. B-5J Station 153+28 Offset 10.00ft Rt Median CL Ground Surface Elev. 99.80	D E P T H	B L O W S	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. Stream Bed Elev. Groundwater Elev.: First Encounter 62.3 Upon Completion 59.8 After Hrs.	ft ft ft ft ♥ ft ♥	D E P T H	B L O W S	U C S Qu (tsf)	M O I S T
9" Asphalt Shoulder			(101)	(70)		79.30		53	((3))	(70)
VERY STIFF gray CLAY LOAM	98.30 96.80	2 3 4	2.7 B	18.0	VERY DENSE tan SANDY LOAM TILL	76 30		22 33 29		
MEDIUM brown SANDY LOAM	 	2 5 4 5	0.5 S	12.0	VERY STIFF tan SANDY LOAM TILL	73.80	-25	7 13 14	2.1 P	10.0
MEDIUM tan SANDY LOAM TILL	91.80	3 3 4	0.9 P	9.0	VERY DENSE light gray SANDY LOAM TILL	71.80		14 35 38		8.0
No Recovery		6 0 8 9			DENSE light gray SANDY LOAM TILL	69.30	-30	11 17 22	4.5 P	7.0
MEDIUM tan SANDY GRAY TILL	 36.80	0 3 5	0.8 B	11.0	VERY DENSE light gray SANDY LOAM TILL	66.30		18 28 33		
STIFF tan SANDY LOAM TILL	 	4 5 11 20	1.6 S	9.0	VERY STIFF light gray SANDY LOAM TILL	64.30	-35	7 11 13	2.9 S	9.0
VERY DENSE tan SANDY LOAM	 	27 100/8''			VERY STIFF light gray SANDY LOAM TILL with SAND lens	61.80		10 15 29	3.4 P	9.0
VERY DENSE tan SANDY LOAM		30 39			VERY STIFF light gray SANDY LOAM TILL	7	7-40	5 7	3.5	9.0

Illinois Dep of Transpo	artn rtati	ner on	nt		SC	DIL BORIN	G LOC			Page	2	of _2
				P92	2-111-(06 NB & SB Bridge - I-3	39 over Harrisc	on La		Date	8/	2/16
ROUTE <u>FAI 39 & FAP 301</u>	_ DE:	SCRI			Dealif							<u>Jarza</u>
SECTION (201-3)K & 4-1,5		L		ION _	RUCKI	" Ote A	U. 35, TWF. 44		9. 2L			
COUNTYUnnebagoDR	ILLING	I ME I	HOD		HO	low Stem Auger		TPE			E-33	
STRUCT. NO. 101-0213		Latit Long	ude gitude	<u>42°</u> 88	' 14' 23 ° 57' 5	.03" 8.86"	Northing Easting	2,032	2,170 1,608).6978 3.6896		
BORING NOB-5J Station153+28 Offset10.00ft Rt Median C Ground Surface Elev99.80	L ft	D E 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.	62.3 59.8	ft ft ft ♥ ft ♥ ft ♥ ft ■	D E T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)
STIFF/VERY STIFF light gray SANDY LOAM TILL with SAND lens	59.30		5 7 16	2.0 B	10.0	MEDIUM tan SANDY	GRAVEL	39.30		12 13 14		
No Recovery	54.30	45	13 13 13			End of Boring			-65			
VERY STIFF light gray SANDY LOAM TILL	51.80		10 9 12	3.6 P	26.0							
No Recovery	49.30		6 9 13			-			-70			
No Recovery SANDY LOAM TILL	46.20		6 8 10									
MEDIUM tan fine SAND	40.30	- <u>-55</u>	8 9 18									
STIFF light gray LOAM TILL	43.80		8 6 10	1.2 B	15.0							
DENSE light gray fine SAND with medium GRAVEL	41.30		7							-		

.,8

, re



Revised: 12:10=59: Class=: Concrete from 1448.6 to 1456.6 Due to rise in curb height from 9" to 10" - R.D.

12.16-59 Removed notefor Red Concrete. W.E.D.

Revised 11-23-

11-20

FA: 94 974 FLD.RDAD D	545	#INHE 8460	34	Z
STA FLD. R DAD D		TO 314.		
1(D. 0 0AD L				
	······································	ILLINOIS I	PRQ 3	
		-		
ROD GH OL HAMFER .	· .			
NSHED IN NS. S.S. MOTEI	AC208].	DANCE W	ITH AG	?7.
O AS NOT	50.			
SI LEAD PL	ATES	PINTLES	4 N D	
IU SET IN C AND ADI	45534 F 1656	DANCE NI	TH	
				'
VETING	DIA PH	RAGMS	OVER	
A				
DE VERT				
2164 780	440	ERECTE	a	
	NOT NAMFER. NAMFER. NAMFER. NAMFER. SS NOTEL O AS NOTEL O SET IN AND ARI NETING AF VERT	NOTES NOTES NAMFER NAMFER NAMFER SS NOTED SA NOTED SA NOTED SI LEAD PLATES NO SET IN ACCOR SI LEAD PLATES AND ARE SEL NYETING DIAPH AE VERTISAL	NOTES NOTES NAMFER. NSHED IN ACCORDANCE WI NS. SS NOTED. O AS NOTED. S, LEAD PLATES, PINTLES O SET IN ACCORDANCE WI S AND ARE ISLUDED IN C NYETING DIAPHRAGMS AE WERTISAL.	NOTES HRODGHOUT. MAMFER. HISHED IN ACCORDANCE WITH AG NS. SS NOTED. O AS NOTED. S, LEAD PLATES, PINTLES AND IO SET IN ACCORDANCE WITH AR S AND ARE SCLUDED IN QUANTIS INFETING DIAPHRAGMS OVER AE WERTISAL.

4_1 578 EXPANS EFFANSION GUARDS SMALL BE FABRIGATED AND ERECTED IN ACCORDANCE WITH ART. 51.13 (d) OF THE STANDARD SPECIFICATIONS AND ARE INCLUDED IN DJANTITY DE STRUCTURAL STEEL. THE DJTSIDE FACE OF THE VERTICAL LEGS OF THE EFFANSION SUARDS SHALL BE GIVEN TWO SHOP COATS OF RED LEAD PAINT. EREET AS OTHERWISE NOTED, ALL STOJCTURAL STEEL SHALL RECEIVE CHE SHOP COAT DE RED LEAD PAINT AND TWO FIELD COATS OF ALUMINUM DAINT. SEE ART 56.1 TO 56.5 IVCLUSIVE OF THE STANDARC SPECIFICATIONS. LL PAINT SHALL BE FURNISHED AND APALIED BY THE CONTRACTOR. ZINFDCEMENT BACK SHALL BE PLACED EFACTLY AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH ART. 59.5 GF THE STANDARD DECIFICATIONS. THE SUDIRACTOR SHALL SCIVE TWO CONCRETT TEST PILES, ONE AT ASUTMENT Nº LADO WE AT ABUTMENT Nº L IN A PREMANENT LOCATION. TWO TIMBER TEST PILES SHALL BE DRIVEN, DWE IN THE VICINITY OF THE WINGWALL AT ABUTMENT Nº LADO DWE IN THE VICINITY OF THE WINGWALL AT ASUTMENT Nº L SEFORE DROBERING THE REMAINDER OF THE PILES.

= · 5 10 0

4LL ROL

44CN00

の言語を言語の言語

17EM		UNIT	SUPER STRUCTURE	SUB STRUCTURE	TOTAL			
BORROW EXCAVATION		50.103.			14557			
EARTH EXCAVATION		23. 105.			2015			
SRAVEL OF CRUSHED STONE LASE COURSE.	SYPE B	20. 105.			1262			
SITUMINOUS MATERIALS (PRIME COAT)		5415.			397			
SITUMINOUS MATERIALS (COVER & SEAL CO	ATS)	GAIS.			310			
COVER COAT AGGREGATE	7245	·		38				
SEAL COAT AGGREGATE		TOUS			17			
PAVEMENT REMOVAL	53. 105,	<u> </u>		1197				
CLASS A SECAVATION FOR STRUCTURES	CU. 105.	1		503				
CLASS 'A' CONCRETE	CU. 10 5.	\$12 .1	336.5	1456.6				
ERECTING STRUCTURAL STEEL	2 85.	\$13724		633726				
FUCHISHING AND ERECTING METAL -ANDRA	LIN. IT.			321				
REINFORCEMENT BARS	2 85. j	126 72	75 532	211704				
FJRNISHING CONCRETE FILTS		214. 77.			\$80			
DRIVING CONCRETE PILES		LIN. 17.			603			
FUCLISHING CREDIDITED FILLS, UP TO 20		LIN. 17.			640			
DRIVING TIMBER PILES	2.4.17			1490				
TEST PILES (CONCRETE)	EACH			2				
TEST PILES (TIMBER)	EACH			<u> </u>				
VAME PLATES		EACH			2			
· JPE WALL		39. YDS			1050			
TE CULVERTS TYPE 2 (34 3.4.)		614. 12.			440			
1742 5-7283		54CH			J?			
WANISHING CREOSOTED PILES, Zal'to	38'	LINFT		<u></u>	850			
SUMMARY OF QUA	NTIT	IES	52671	<u> 2 N - 5 A</u>	1 B - F			
17EM		UN T	3907200E	575067088	TOTAL			
FURNISHING STRUCTURAL STEEL		6 55.			\$ \$ 3 726			
· · · · [ILLI	INOIS RO	DIVISIO CKFORD	N OF H	IGHWAY			
	F. A. ROUTE 194 PROJECT SECTION_5H							
	GEM	۱ ۲ D ۸ 1	NOTES	O COUNT				
	SEN S		ARY OF	QUANT	TIES			
- a	Can		Draus By	GWG. CH	ctos 8, 24			