



Planning and Engineering
Environmental Office
700 E Broadway Avenue
Pierre, SD 57501-2586
O: 605.773.4336
dot.sd.gov

February 16, 2023

Tom Lehmkuhl, Environmental Protection Specialist
FHWA – SD Division
116 E. Dakota Ave, Suite A
Pierre, SD 57501

RE: NH 0100(110)045, PCN 01V9, I-29 to Western Ave
P 1359(00), PCN 08DA, CIP 11111
P 1391(00), PCN 08DC, CIP 11112
NH 0100(108)407, PCN 01V6, Western Ave to Cliff Ave
P 1353(00), PCN 08DD, CIP 11113
P 2116(00), PCN 08DE, CIP 11114
P 1261(00), PCN 08DF, CIP 11115
NH 0100(106)409, PCN 01V7, Cliff Ave to Sycamore Ave
P 8042(00), PCN 08DG, CIP 11116
P 8042(00), PCN 08DH, CIP 11117
NH 0100(107)411, PCN 01VA, Sycamore Ave to 57th St
P 1440(00), PCN 08DJ, CIP 11118
P 1432(00) PCN 08DK, CIP 11119
South Veterans Parkway Project, Lincoln and Minnehaha Counties

Dear Mr. Lehmkuhl:

The Federal Highway Administration – South Dakota Division (FHWA) approved a Finding of No Significant Impact (FONSI) and Section 4(f) Finding on January 23, 2023, for South Dakota Department of Transportation (SDDOT) South Veterans Parkway project in Lincoln and Minnehaha Counties.

The FONSI for the proposed action is based on the 2022 Supplemental Environmental Assessment (2022 EA) signed by FHWA on November 16, 2022.

In accordance with 23 CFR 771.129, the project is being re-evaluated due the following:

- The final project plans include expansion of a borrow material site located east of Cliff Avenue (Borrow Site No. 2) that will be managed by the City of Sioux Falls as stormwater detention ponds following construction. The expansion includes the two rural residence acreages that are located between Station 325+00 and 330+00 on the grading plans. Section 106 consultation had not yet been completed for this area at the time of the 2022 EA public release (see Figure 1).
- The final project plans may include expansion of a borrow material site located west of Minnesota Avenue and south of the South Veterans Parkway corridor between Stations 235+00 and 250+00. If this borrow site is used for the project, it will be identified as Borrow Site No. 3. This area would also be managed by the City of Sioux Falls as a stormwater detention pond following construction. Section 106 consultation had not yet been completed for this area at the time of the 2022 EA public release (see Figure 1).

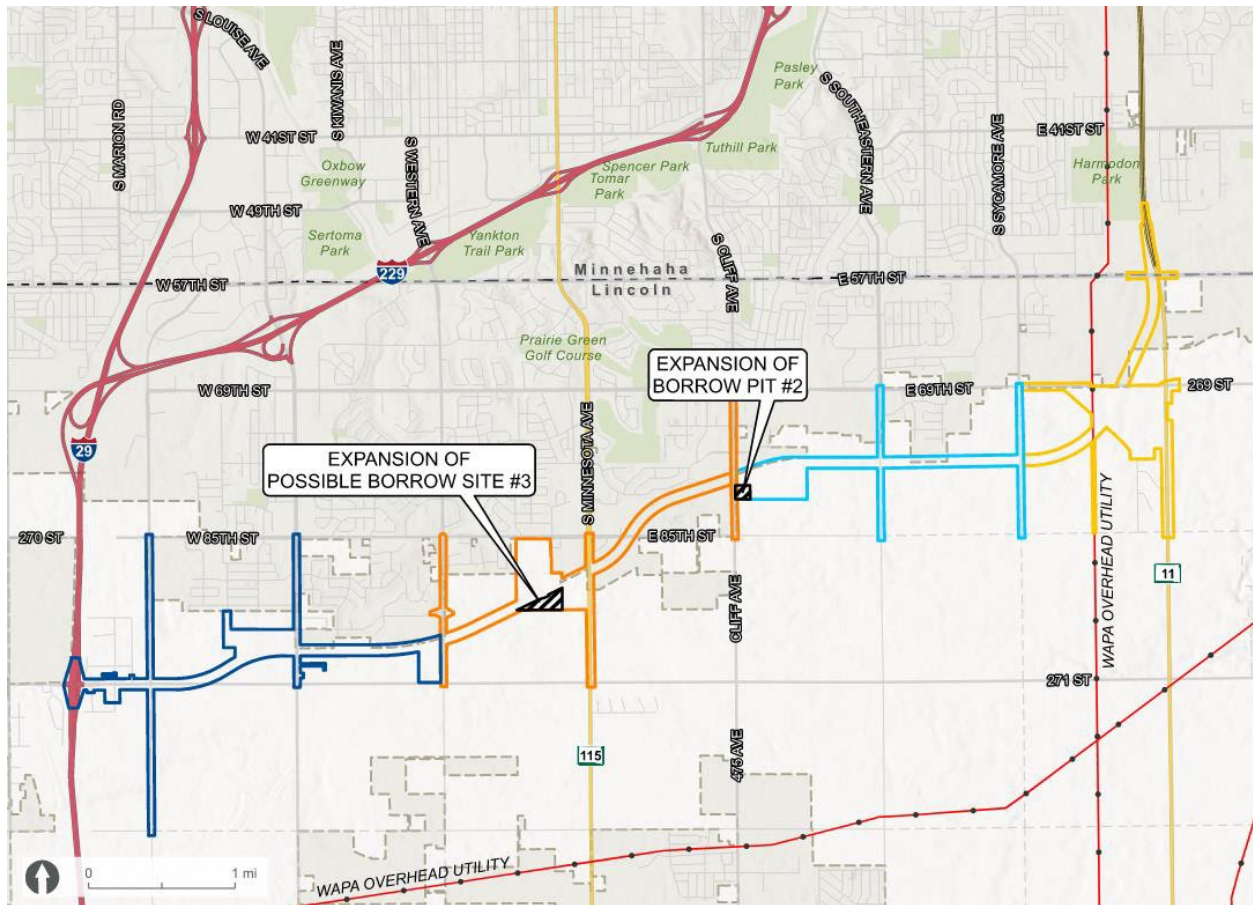


Figure 1. Expanded borrow sites where Section 106 Clearance has now been obtained and being documented in this FONSI Re-evaluation.

Both borrow site / detention areas (as shown in Figure 1) noted above were included within the Study Area of the 2022 EA and all tribes and resource agencies were solicited. Cultural resource field surveys had been completed at the time of the 2022 EA public release; however, Section 106 consultation had not yet been initiated. The State Historic Preservation Office (SHPO) is the only necessary agency coordination that had not been completed for the above-mentioned borrow site / detention areas. On January 17, 2023, SDDOT provided the SHPO two additional reports for cultural resource surveys of the expanded areas described above. No cultural or historic sites were identified during the additional investigations. Three structures were identified during the investigations; all three were recommended not eligible for the National Registry of Historic Places. On February 1, 2023, SHPO concurred with SDDOT's eligibility and continued overall project No Adverse Effect determinations. Documentation of SHPO's continued No Adverse Effect concurrence is included as **Attachment A**.

The final plans will include a Special Provision regarding the right of entry / work limits for Borrow Pit No. 1 (also referred to as the Oppold Borrow Pit). The Special Provision prohibits work beyond 300 feet of the South Veterans Parkway centerline prior to completing a cultural resource survey and coordination with SHPO. The Special Provision as well as the Borrow Pit No. 1 grading plan sheet is included as **Attachment B**. A FONSI re-evaluation will be completed when environmental coordination is complete for the Oppold site because the 2022 EA Study Area did not include Oppold Borrow Pit.

Attachment C provides the grading plans for Borrow Pit No. 1 and No. 2 that are currently in the construction plans for PCN 01V6.

Changes to the Affected Environment and Environmental Consequences:

The 2022 EA documents the affected environment and environmental consequences that the project has on the following resources. Extracting road fill material from the borrow sites and the City's long-term management of these areas as stormwater detention facilities will not result in changes to either the affected environment or the environmental consequences that were documented within the 2022 EA. The study area within the 2022 EA included the expanded borrow site / detention ponds considered within this re-evaluation. The 2022 EA documents the technical studies and database reviews, agency and tribal coordination, as well as public involvement that was conducted to inform the project, impact analysis, and environmental commitments.

- **Land Use**
- **Public Facilities, Utilities, and Services**
- **Visual Impacts and Aesthetics**
- **Economic Resources**
- **Noise**
- **Relocations**
- **Wetlands and Other Waters of the U.S.**
- **Floodplains**
- **Threatened and Endangered Species**
- **Section 4(f) and Section 6(f) Resources**
- **Regulated Materials**
- **Climate and Resiliency**
- **Cumulative Impacts**

Since the FONSI was approved by FHWA on January 23, 2023, SDDOT has initiated and completed Section 106 Consultation with the SHPO for the borrow site / detention ponds that had not yet been completed at the time the 2022 EA was made available for public release. SHPO has concurred with SDDOT's continued overall project No Adverse Effect determinations for the borrow site / detention ponds.

Conclusion

Based on the analysis contained in this re-evaluation, it has been determined that the change in project design and/or environmental effects would not significantly alter the conclusions reached in the 2022 EA.

I am requesting FHWA concurrence that the FONSI and Section 4(f) evaluations remain valid for the South Veterans Parkway project.

Sincerely,



Chad Babcock
SDDOT Environmental Office Manager
605.773.3721

Attachments:

- Attachment A: SHPO continued concurrence of No Adverse Effect for Project 210923001F
- Attachment B: Special provision regarding right of entry/work limits related to Borrow Pit No. 1
- Attachment C: 01V6 Section B Grading Plans (Borrow Pit No. 1 and No. 2)

A NEPA re-evaluation of the South Veterans Parkway project, in accordance with 23 CFR § 771.129, was approved on 02/16/2023. The FONSI & Section 4(f) Evaluation remain valid.

Tom Lehmkuhl
Environmental Protection Specialist
FHWA – SD Division

Date



Appendix A: SHPO NAE Continued Concurrence



February 1, 2023

Mr. Chad Babcock
Department of Transportation
Environmental Office
700 E. Broadway Avenue
Pierre, SD 57501-2586

SECTION 106 PROJECT CONSULTATION

Project: 210923001F –
NH0100(110)045, PCN 01V9, I-29 to Western Ave
NH0100(108)407, PCN 01V6, Western Ave to Cliff Ave
NH0100(106)409, PCN 01V7, Cliff Ave to Sycamore Ave
NH0100(107)411, PCN 01VA, Sycamore Ave to 57th St
South Veterans Parkway, Sioux Falls SD Roadway Construction
Location: Minnehaha County and Lincoln County
(FHWA/DOT)

Dear Mr. Babcock,

Thank you for the opportunity to comment on the above-referenced project pursuant to 54 U.S.C. 306108 (Section 106) of the National Historic Preservation Act of 1966 (as amended). The Office of the South Dakota State Historic Preservation Officer (SHPO) concurs with your determination regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

On January 25th, 2023, we received your updated letter and enclosures pertaining to the proposed Roadway Construction for PCN 01V9, PCN 01V6, PCN 01V7, and PCN 01VA in Minnehaha and Lincoln Counties. Included in the enclosures were the reports titled “A Level III Cultural Resources Survey of the Expanded Cliff Avenue Stormwater Detention Pond Project Sioux Falls, Lincoln County, South Dakota”, and “A Level III Cultural Resources Survey of the Expanded Minnesota Avenue Soil Borrow Area Associated With the Construction of South Veterans Parkway in Sioux Falls, Lincoln County, South Dakota”, by Troy Kogel of Kogel Consulting Services. Mr. Kogel’s reports identified three structures near the project area: a single-story ranch style residence (LN00000755), a two-story stud frame residence (LN08100001), and a prefabricated metal Morton building (LN08100002). None of these structures are 50 years old nor hold any particular significance and are therefore recommended as Not Eligible for listing in the National Register of Historic Places. Your letter indicated that two borrow locations had been expanded and that additional cultural resource survey was needed. The purpose of this letter was

to give an updated plan for the proposed undertaking, share additional information regarding the structures that were identified, and to request continued concurrence for the proposed undertaking. Regarding the coordination of site eligibility recommendations, SHPO concurs that structures LN00000755, LN08100001, and LN08100002 are Not Eligible for listing in the National Register of Historic Places (NRHP). Therefore, SHPO still concurs with your determination of "No Adverse Effect" for the proposed undertaking.

Project activities occurring in any areas not identified in your original request, will require the submission of additional documentation as described in 36 C.F.R. § 800.4.

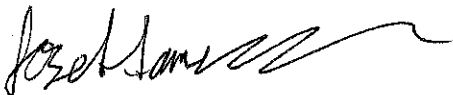
Concurrence of the SHPO does not relieve the federal agency official from consulting with other appropriate parties, as described in 36 C.F.R. § 800.2(c).

If historic properties are discovered or unanticipated effects on historic properties are found after the agency official has completed the process outlined by 54 U.S.C. 306108 (Section 106) of the National Historic Preservation Act, the agency official shall avoid, minimize, or mitigate the adverse effects to such properties and notify the SHPO and Indian tribes that might attach religious and cultural significance to the affected property within 48 hours of the discovery, pursuant to 36 C.F.R. § 800.13.

Should you require any additional information, please do not hesitate to contact Jozef Lamfers at Jozef.Lamfers@state.sd.us or at (605)773-6004. Your concern for the non-renewable cultural heritage of our state is appreciated.

Sincerely,

Ted Spencer
State Historic Preservation Officer



Jozef Lamfers
Review and Compliance Archaeologist

CC: Cassie Vogt - Archaeological Research Center, Rapid City
Lynn Griffin - Archaeological Research Center, Rapid City



Planning and Engineering
Environmental Office
700 E Broadway Avenue
Pierre, SD 57501-2586
O: 605.773.4336
dot.sd.gov

January 17, 2023

Jozef Lamfers, Review & Compliance Archaeologist
State Historic Preservation Office
Cultural Heritage Center
900 Governors Drive
Pierre, SD 57501-2217

RE: **SHPO Project 210923001F-**,
NH0100(110)045, PCN 01V9, I-29 to Western Ave
NH0100(108)407, PCN 01V6, Western Ave to Cliff Ave
NH0100(106)409, PCN 01V7, Cliff Ave to Sycamore Ave
NH0100(107)411, PCN 01VA, Sycamore Ave to 57th St
Minnehaha and Lincoln Counties
Roadway Construction

Dear Mr. Lamfers:

We are reaching out to provide an update on the South Veterans Parkway project and request continued concurrence with the Section 106 determination of "No Adverse Effect" for the proposed undertaking. Since our last correspondence in August 2022 (letter dated August 31, 2022), two borrow locations have been expanded, which required additional cultural resource survey.

Attached for your review are two cultural resources survey reports: *A Level III Cultural Resources Survey of the Expanded Minnesota Avenue Soil Borrow Area Associated with the Construction of South Veterans Parkway in Sioux Falls, Lincoln County, South Dakota* and *A Level III Cultural Resources Survey of the Expanded Cliff Avenue Stormwater Detention Pond Project in Sioux Falls, Lincoln County, South Dakota*. Both reports were authored by Troy Kogel of Kogel Archeological Consulting Services.

SDDOT is planning to use both sites as borrow material for the construction of South Veterans Parkway and if used for borrow material, would be managed by the City of Sioux Falls as stormwater detention ponds upon project completion. Both sites are expansions of borrow sites that your office previously reviewed on September 19, 2022.

The archaeological survey to the west of Minnesota Avenue and south of the proposed South Veterans Parkway corridor examined total of 17.4 acres and based on the negative results of the pedestrian survey and shovel tests, there is low potential for buried cultural resources. No cultural resources were identified as a result of the investigation of the expanded borrow location, and the consultant recommended that no further cultural resource was warranted.

The archeological survey for the expanded stormwater detention pond to the east of Cliff Avenue examined 6.5 acres and resulted in the documentation of three structures (LN00000755, LN08100001, and LN08100002), all of which were under 50 years old. No archaeological sites were identified during the investigation. The report concluded the potential for buried resources within the proposed project area is low, based on previous subsurface testing results and known disturbance to the area. As a result of this investigation SDDOT recommends structures LN00000755, LN08100001, and LN08100002 are

not eligible for National Register of Historic Places (NRHP)-listing and requests SHPO concurrence on these eligibility recommendations.

Additional survey conducted in association with changes to the Minnesota Avenue and Cliff Avenue borrow locations did not identify any historic properties. As such, SDDOT recommends there be no changes the Section 106 project effect determination for the project as a result of the borrow location modifications (SHPO letters dated October 4, 2021, and September 18, 2022). **SDDOT recommends continued concurrence with the Section 106 determination of "No Adverse Effect" for the proposed undertaking.**

Should any evidence of buried cultural resources be encountered during the project construction activities, such activities will cease and the SHPO in Pierre or the ARC in Rapid City will be notified immediately in order to determine an appropriate course of action.

Sincerely,



Emily Calhoun, MA, RPA
Environmental Scientist
605.773.3436



Chad Babcock
Environmental Scientist Manager I
605.773.3721

Attachments:

A Level III Cultural Resources Survey of the Expanded Minnesota Avenue Soil Borrow Area Associated With the Construction of South Veterans Parkway in Sioux Falls, Lincoln County, South Dakota

A Level III Cultural Resources Survey of the Expanded Cliff Avenue Stormwater Detention Pond Project in Sioux Falls, Lincoln County, South Dakota



Appendix B: Special Provision

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
REGARDING
RIGHT OF ENTRY/WORK LIMITS**

**NH 0100(108)407, PCN 01V6
LINCOLN COUNTY**




JANUARY 12, 2023

All State Historic Preservation Office (SHPO) / cultural resources clearances for this project have been secured or will be secured prior to the day of the letting, except for those parcels listed below. The contractor's work limits will be confined to the area within 300' of the Veterans Parkway centerline within Borrow Pit No. 1 as depicted in the Borrow Pit Plan sheet.

The Region Engineer will notify the contractor of the date and time when would work outside the 300' limit from centerline may proceed. The anticipated access date is listed in the table below.

<u>PARCEL</u>	<u>OWNER</u>	<u>ANTICIPATED ACCESS DATE</u>
21	SDDOT Borrow Pit No. 1	May 1, 2023

BORROW PIT NO. 1 INFORMATION LAYOUT

- Legend**
-  Detention Pond / Borrow Area
 -  Delineated Wetland
 -  Soil Boring

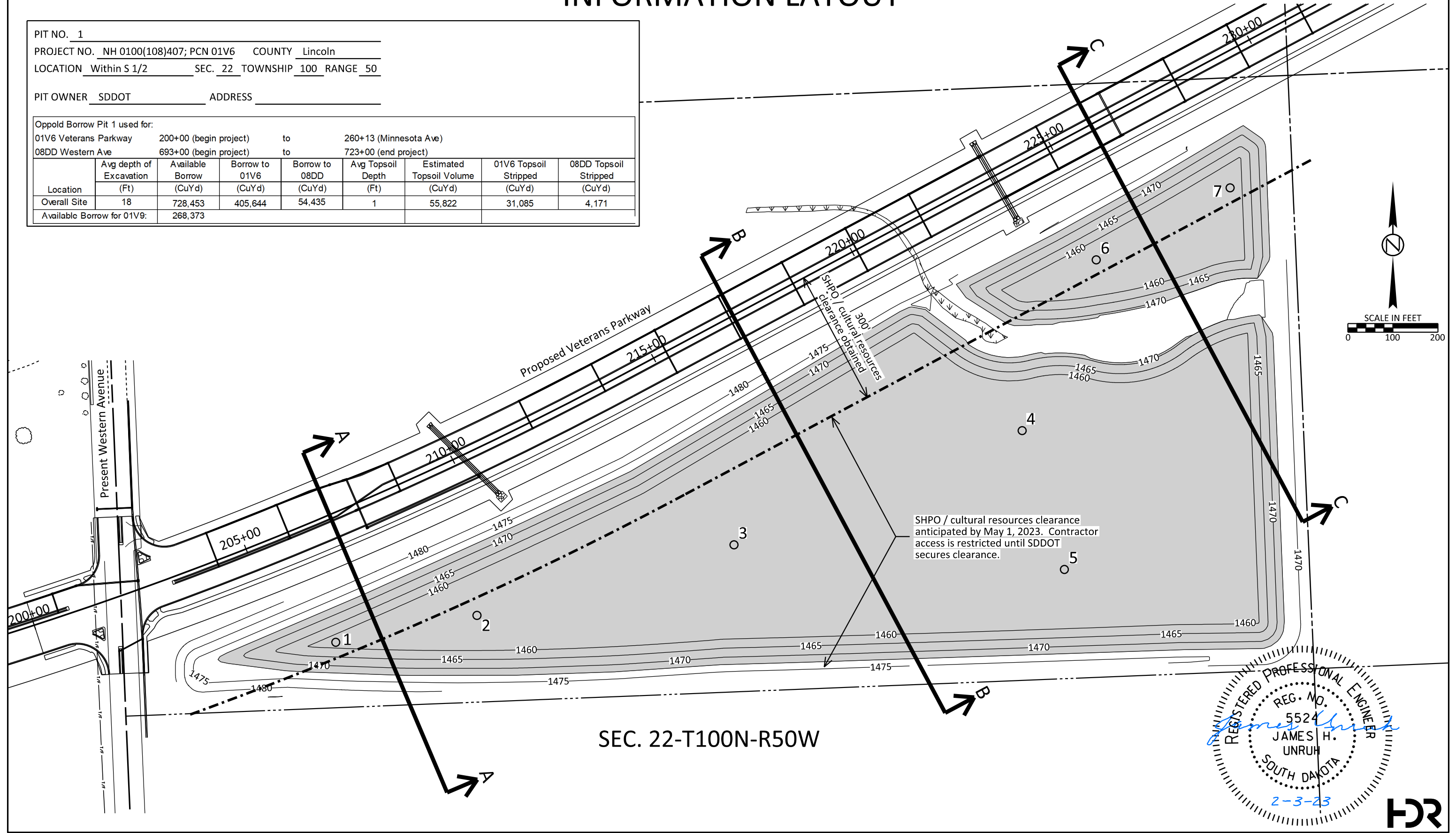
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(108)407 & P 1353(00) NH 2115(00) & P 1261(00)	B36	B180
FILE: ...\\B36-B37 (Borrow Pit 1).dgn		REV DATE: 02-03-2023	
PLOTING DATE: 02-03-2023		INITIAL: JHU	

PIT NO. 1
 PROJECT NO. NH 0100(108)407; PCN 01V6 COUNTY Lincoln
 LOCATION Within S 1/2 SEC. 22 TOWNSHIP 100 RANGE 50
 PIT OWNER SDDOT ADDRESS _____

Oppold Borrow Pit 1 used for:

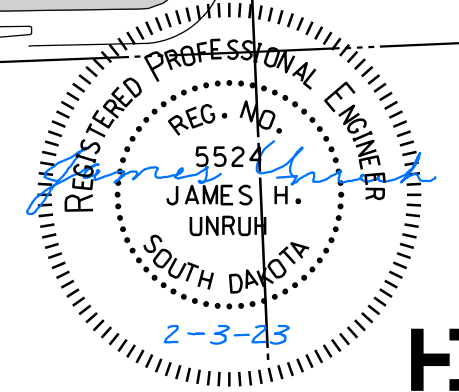
01V6 Veterans Parkway	200+00 (begin project)	to	260+13 (Minnesota Ave)
08DD Western Ave	693+00 (begin project)	to	723+00 (end project)

Location	Avg depth of Excavation (Ft)	Available Borrow (CuYd)	Borrow to 01V6 (CuYd)	Borrow to 08DD (CuYd)	Avg Topsoil Depth (Ft)	Estimated Topsoil Volume (CuYd)	01V6 Topsoil Stripped (CuYd)	08DD Topsoil Stripped (CuYd)
Overall Site	18	728,453	405,644	54,435	1	55,822	31,085	4,171
Available Borrow for 01V9:		268,373						



SHPO / cultural resources clearance anticipated by May 1, 2023. Contractor access is restricted until SDDOT secures clearance.

SEC. 22-T100N-R50W



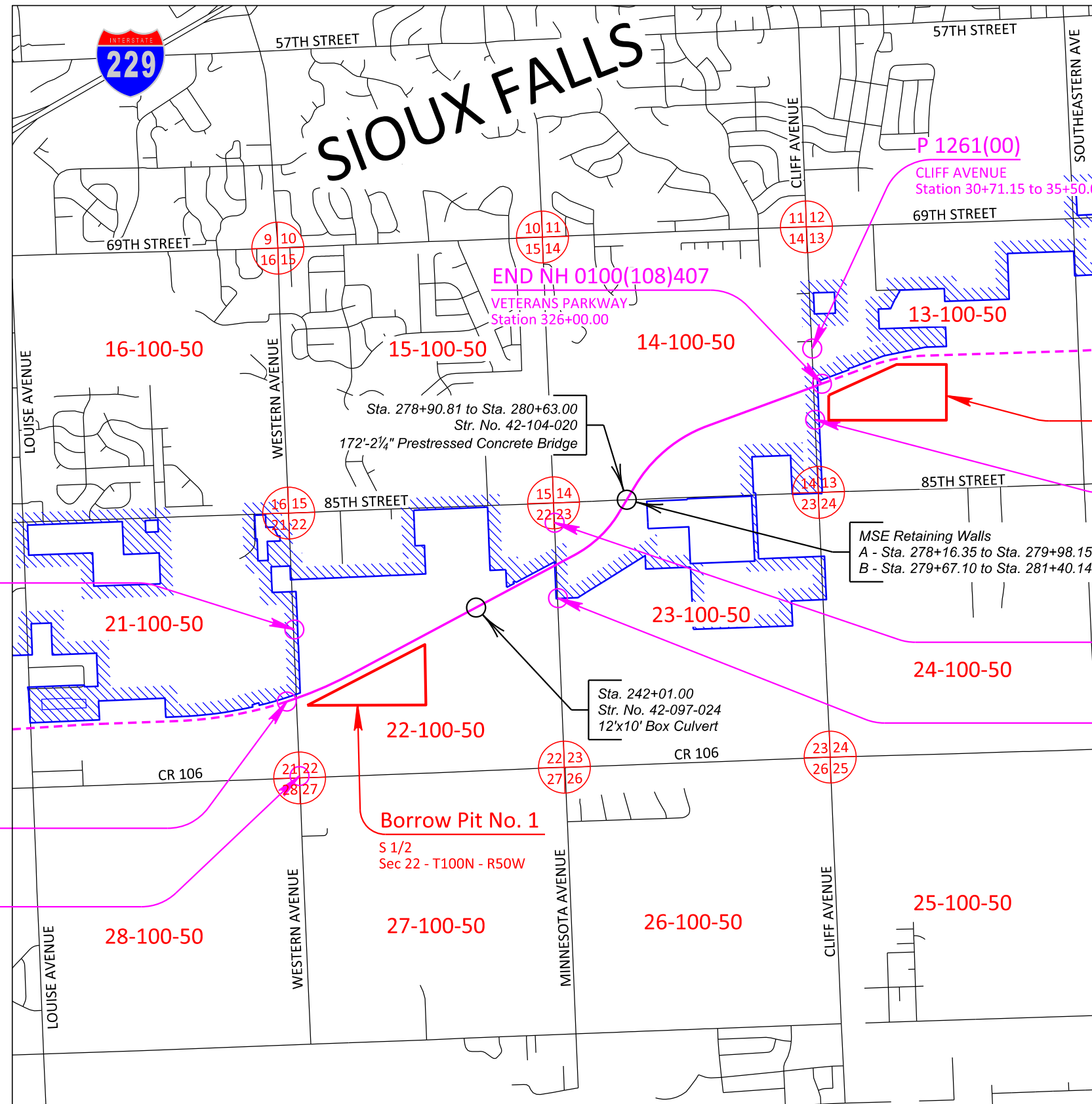


Appendix C: 01V6 Section B Grading Plans

SECTION B: GRADING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(108)407 & P 1353(00) NH 2115(00) & P 1261(00)	B1	B180

FILE: ...Section B\B01 (Title).dgn
PLOT DATE: 11-23-2022
REV DATE: INITIAL:



INDEX OF SHEETS

- B1 General Layout with Index
- B2 TO B35 Estimate with General Notes and Tables
- B36 TO B38 Borrow Pit 1 Information Layout
- B39 TO B41 Borrow Pit 2 Information Layout
- B42 TO B45 Typical Grading Sections
- B46 Horizontal Alignment Data
- B47 Control Data
- B48 TO B50 Subsurface Utility Locations
- B51 Existing Topography Symbology and Legend
- B52 TO B69 Veterans Parkway Plan and Profile
- B70 TO B79 Western Avenue Plan and Profile
- B80 TO B81 95th Street Plan and Profile
- B82 TO B87 Minnesota Avenue Plan and Profile
- B88 TO B93 Cliff Avenue Plan and Profile
- B94 TO B105 CIP Removal Sheets
- B106 TO B122 Veterans Parkway Curb & Gutter Layout Plans

Borrow Pit No. 2

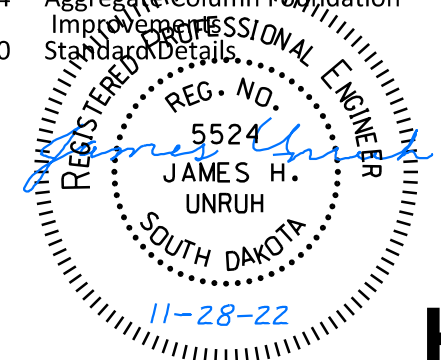
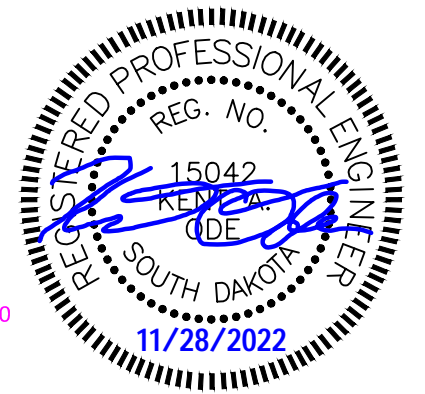
S 1/2
Sec 13 - T100N - R50W

P 1261(00)
CLIFF AVENUE
Station 21+00.00 to 27+19.15




NH 2115(00)
MINNESOTA AVENUE
Station 184+50.07 to 191+50.00

NH 2115(00)
MINNESOTA AVENUE
Station 176+00.00 to 181+34.12

- B123 TO B129 Western Avenue Curb & Gutter Layout Plans
- B130 TO B132 95th Street Curb & Gutter Layout Plans
- B133 TO B137 Minnesota Avenue Curb & Gutter Layout Plans
- B138 TO B140 Cliff Avenue Curb & Gutter Layout Plans
- B141 Guardrail Layout
- B142 Concrete Barrier End Protection Layout
- B143 TO B144 Aggregate Column Foundation
- B145 TO B180 Improvement Standard Details



BORROW PIT NO. 1 INFORMATION LAYOUT

- Legend**
-  Detention Pond / Borrow Area
 -  Delineated Wetland
 -  Soil Boring

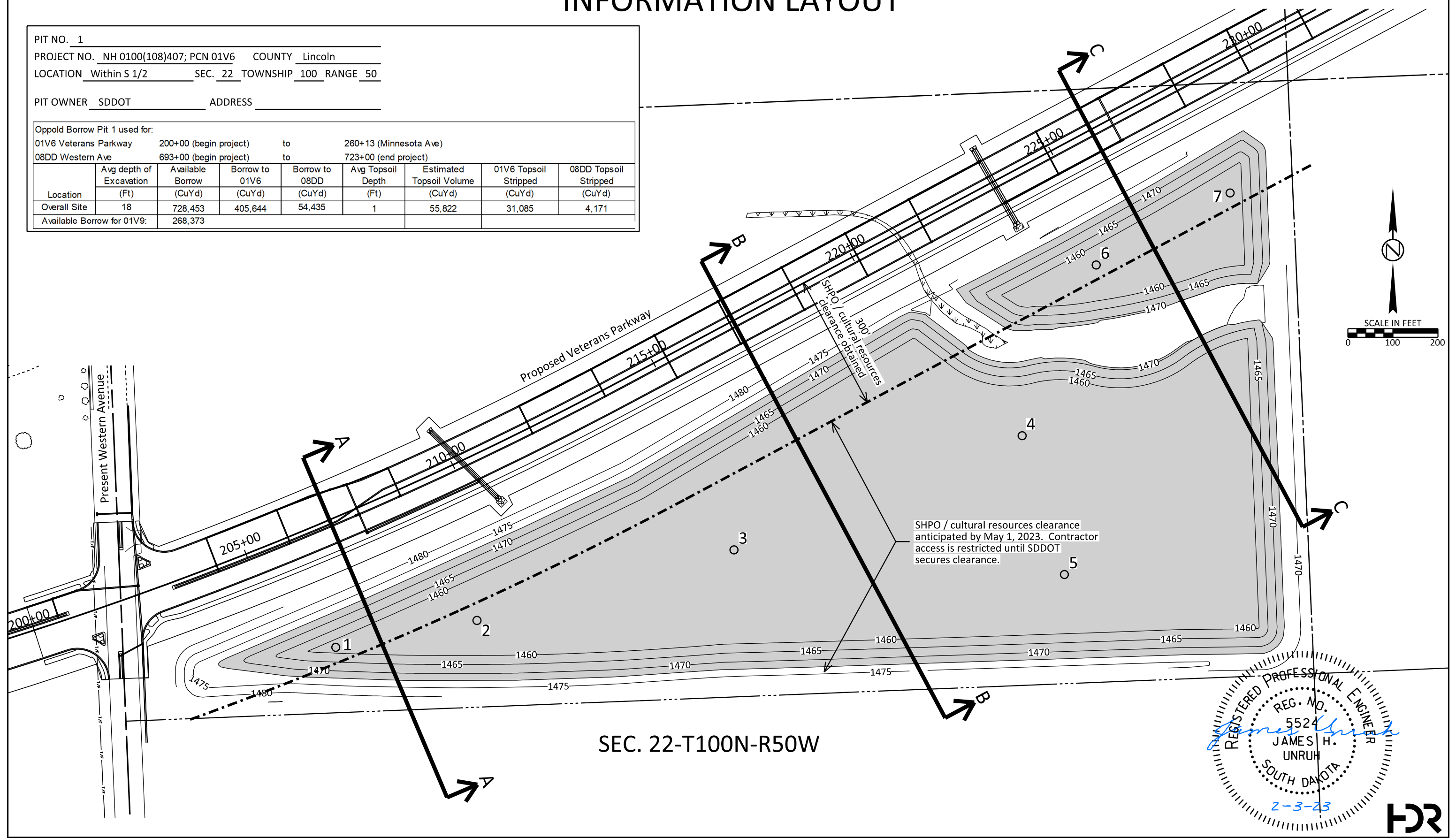
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(108)407 & P 1353(00) NH 2115(00) & P 1261(00)	B36	B180
FILE: ...\\B36-B37 (Borrow Pit 1).dgn		REV DATE: 02-03-2023	
PLOT DATE: 02-03-2023		INITIAL: JHU	

PIT NO. 1
 PROJECT NO. NH 0100(108)407; PCN 01V6 COUNTY Lincoln
 LOCATION Within S 1/2 SEC. 22 TOWNSHIP 100 RANGE 50
 PIT OWNER SDDOT ADDRESS _____

Oppold Borrow Pit 1 used for:

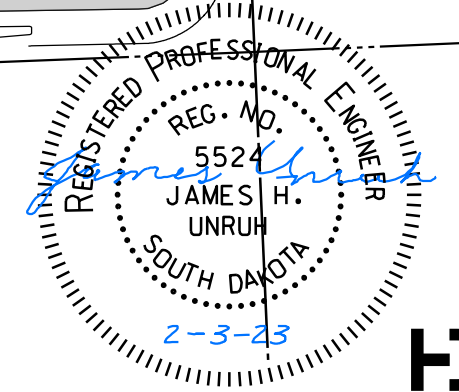
01V6 Veterans Parkway	200+00 (begin project)	to	260+13 (Minnesota Ave)
08DD Western Ave	693+00 (begin project)	to	723+00 (end project)

Location	Avg depth of Excavation (Ft)	Available Borrow (CuYd)	Borrow to 01V6 (CuYd)	Borrow to 08DD (CuYd)	Avg Topsoil Depth (Ft)	Estimated Topsoil Volume (CuYd)	01V6 Topsoil Stripped (CuYd)	08DD Topsoil Stripped (CuYd)
Overall Site	18	728,453	405,644	54,435	1	55,822	31,085	4,171
Available Borrow for 01V9:		268,373						



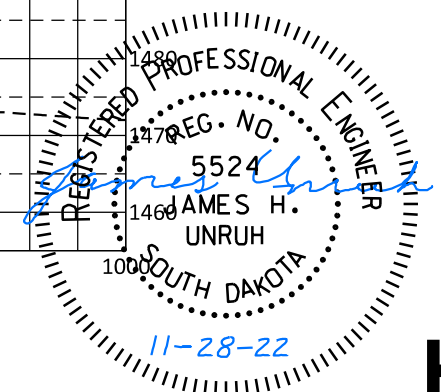
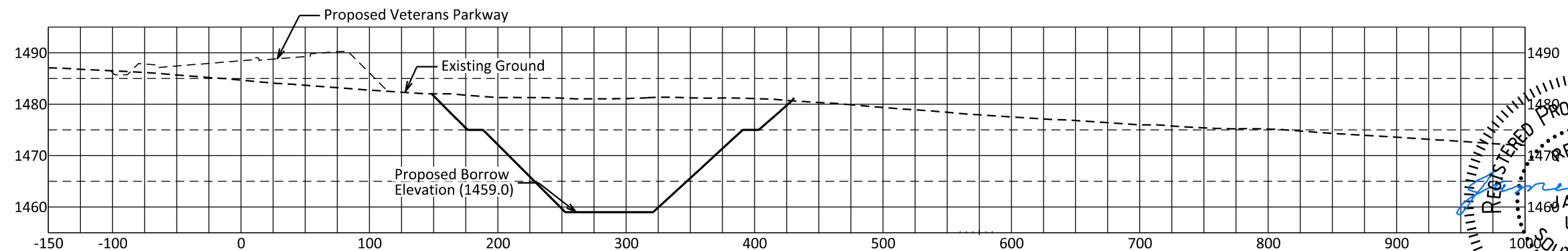
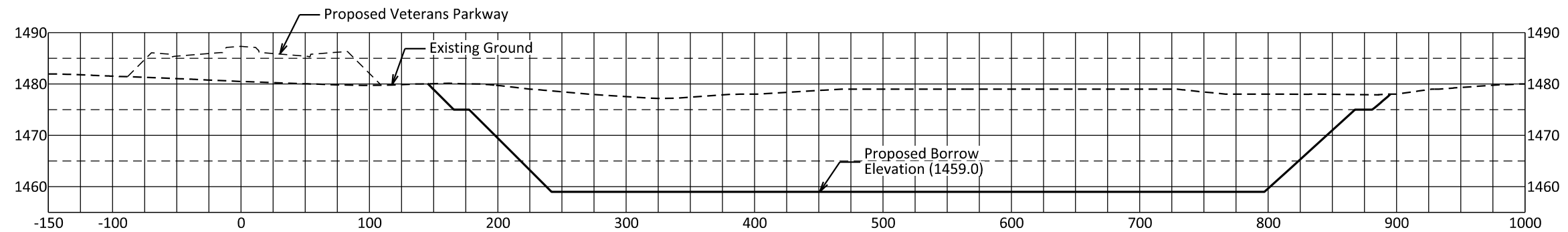
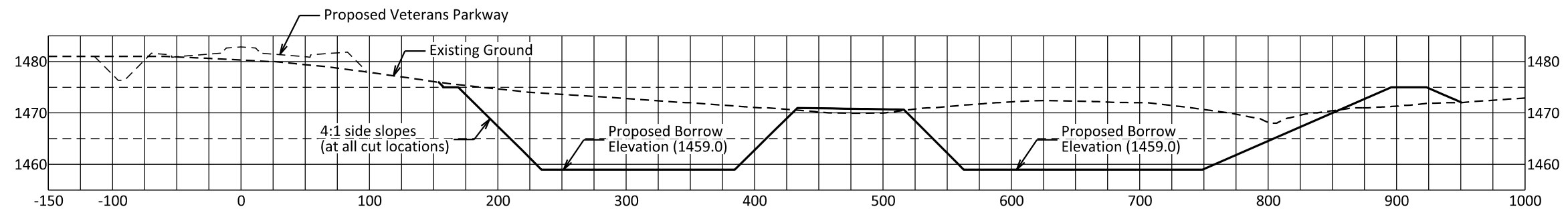
SHPO / cultural resources clearance anticipated by May 1, 2023. Contractor access is restricted until SDDOT secures clearance.

SEC. 22-T100N-R50W



BORROW PIT NO. 1 INFORMATION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(108)407 & P 1353(00) NH 2115(00) & P 1261(00)	B37	B180
FILE: ...\\B36-B37 (Borrow Pit 1).dgn		REV DATE:	
PLOTING DATE: 11-23-2022		INITIAL:	



BORROW PIT NO. 1 INFORMATION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(108)407 & P 1353(00) NH 2115(00) & P 1261(00)	B38	B180

Plotting Date: 2/3/2023

REV DATE: 2/3/2023
INITIAL: JHU

BORROW PIT #1 (Oppold site)

Soil borings were conducted on December 29, 2022.

Material from Borrow Pit #1 will be used for this project (01V6 Veterans Parkway and (08DD Western Avenue) and for a future project (01V9 Veterans Parkway from I-29 to Western Avenue). The amount of material used for 01V6 and 08DD is listed in the applicable tables.

The Contractor is alerted that the groundwater level in the site at most locations will likely be above the bottom of the proposed excavation. Extra effort will likely be required to dry and place this material in the highway embankment. Subsurface groundwater levels should be expected to fluctuate seasonally and yearly from the groundwater readings recorded at the test boring locations. Fluctuations occur due to varying seasonal and yearly rainfall amounts and snowmelt, as well as other factors. It is possible that the subsurface groundwater levels during or after construction could be significantly different than the time the test borings were performed.

Dewatering of the borrow pit areas may be necessary. All work necessary for dewatering including labor, equipment, and incidentals will be incidental to the contract unit price per cubic yard for "Borrow Unclassified Excavation".

Soil borings showed an average of 1' of topsoil. Stripped topsoil will not be placed in designated wetland areas. Topsoil will be placed around the south and east edges of the borrow site or as directed by the Engineer or will be disposed of by the Contractor.

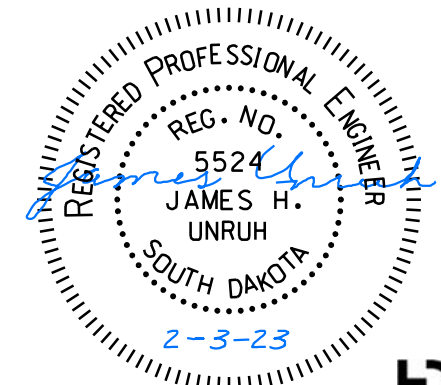
The estimated quantity for topsoil excavation is included in the Section B Table of Borrow Unclassified Excavation. If approved by the Engineer, additional borrow material may be taken from this borrow pit by excavating deeper than shown in the borrow site plan and sections.

Estimated quantities for silt fence are included in Section D.

LAB. SAMPLE #	23-0806	23-0807	23-0808	23-0809	23-0810	23-0811	23-0812	23-0813	23-0814	23-0815
PIT NUMBER	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1
HOLE#	23	23	24	24	24	25	25	25	26	26
FIELD SAMPLE #	11	12	13	14	15	16	17	18	19	20
DEPTH	10'-15'	20'-25'	5'-10'	10'-15'	20'-25'	5'-10'	10'-15'	20'-25'	5'-10'	10'-15'
FIELD MOISTURE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
DRY LOOSE WT.	74.6	76.1	75.5	74.2	75.2	76.3	73.5	76.6	75.1	73.1
% passing 3/8	100.0	100.0	100.0	97.8	99.4	99.8	100.0	100.0	100.0	97.9
% passing # 4	99.6	99.6	99.7	97.5	99.1	99.4	99.9	100.0	100.0	97.7
% passing # 10	99.1	99.1	98.9	96.9	98.4	98.5	99.4	99.1	99.5	97.2
% coarse sand	8.5	10.2	9.9	10.1	9.3	9.6	7.7	12.0	7.7	8.3
% fine sand	18.8	20.0	18.5	19.0	18.8	17.7	17.5	20.7	19.2	17.9
% silt	34.0	28.9	30.6	28.6	28.6	31.5	32.1	28.4	34.4	27.9
% clay	37.8	40.0	40.0	39.2	41.7	39.8	42.2	38.1	38.2	43.2
% passing # 40	90.6	88.9	89.0	86.8	89.1	89.0	91.7	87.1	91.8	88.9
% passing # 200	71.8	69.0	70.5	67.8	70.3	71.3	74.2	66.4	72.6	71.0
% coarse & fine sand	27.3	30.1	28.4	29.1	28.1	27.3	25.2	32.7	26.9	26.2
liquid limit	42	43	41	42	44	43	45	40	39	43
liquid plastic limit	17	17	18	18	18	18	19	18	17	18
P. I.	25	25	23	24	25	24	25	23	22	25
TEX. CLASSIFICATION	SILT CLAY	SANDY CLAY	SILT CLAY	SANDY CLAY	SILT CLAY	SILT CLAY	SILT CLAY	SANDY CLAY	SILT CLAY	SILT CLAY
AASHTO CLASS.	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6	A-6	A-6	A-7-6
GP Index	13	13	12	12	14	14	15	11	12	14
Field Color	0	0	0	0	0	0	0	0	0	0
DEPTH TO GROUNDWATER			18			22			22.5	
OPT. MOISTURE										
MAX. DRY DENSITY										
DEPTH OF TOPSOIL			1.0			1.0			1.0	


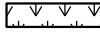

LAB. SAMPLE #	23-0796	23-0797	23-0798	23-0799	23-0800	23-0801	23-0802	23-0803	23-0804	23-0805
PIT NUMBER/NAME	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1	(Oppold) Pit 1
HOLE#	20	20	20	21	21	21	22	22	22	23
FIELD SAMPLE #	1	2	3	4	5	6	7	8	9	10
DEPTH	5'-10'	15'-20'	20'-25'	5'-10'	10'-15'	15'-20'	5'-10'	15'-20'	20'-25'	5'-10'
FIELD MOISTURE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
DRY LOOSE WT.	76.9	76.3	79.3	77.4	75.6	80.8	77.8	78.0	77.6	77.2
% passing 3/8	100.0	99.5	99.2	98.8	99.8	93.6	99.8	100.0	99.1	100.0
% passing # 4	99.5	98.8	99.0	98.3	99.5	92.9	99.7	99.7	98.9	99.7
% passing # 10	98.6	98.0	98.4	97.4	98.6	92.0	98.5	98.7	98.0	99.4
% coarse sand	8.5	8.6	10.1	9.5	10.6	9.6	9.5	9.5	8.7	7.0
% fine sand	18.6	19.9	18.8	18.7	20.2	19.4	18.9	19.2	19.1	16.0
% silt	28.3	26.6	26.4	30.4	26.5	24.5	28.9	26.8	27.3	32.9
% clay	43.2	42.9	43.1	38.8	41.2	38.5	41.2	43.2	42.9	43.5
% passing # 40	90.1	89.5	88.3	87.9	88.0	82.4	88.9	89.2	89.4	92.4
% passing # 200	71.5	69.6	69.5	69.2	67.7	63.0	70.0	70.0	70.2	76.4
% coarse & fine sand	27.1	28.5	29.0	28.2	30.8	29.0	28.4	28.7	27.8	23.0
liquid limit	44	43	45	41	43	43	42	44	45	45
liquid plastic limit	19	18	18	18	18	17	18	18	18	18
P. I.	25	25	27	23	24	26	23	26	27	27
TEX. CLASSIFICATION	SILT CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SILT CLAY	SANDY CLAY	SILT CLAY	SILT CLAY
AASHTO CLASS.	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6	A-7-6
GP Index	14	13	14	12	13	12	13	14	15	16
Field Color	0	0	0	0	0	0	0	0	0	0
DEPTH TO GROUNDWATER	19			19.5			23			22
OPT. MOISTURE										
MAX. DRY DENSITY										
DEPTH OF TOPSOIL	0.8			0.8			1.2			1.0

LAB. SAMPLE #	23-0816
PIT NUMBER/NAME	(Oppold) Pit 1
HOLE#	26
FIELD SAMPLE #	21
DEPTH	15'-20'
FIELD MOISTURE	#N/A
DRY LOOSE WT.	74.5
% passing 3/8	96.6
% passing # 4	96.4
% passing # 10	95.8
% coarse sand	7.7
% fine sand	18.2
% silt	31.2
% clay	38.7
% passing # 40	88.1
% passing # 200	69.9
% coarse & fine sand	25.9
liquid limit	41
liquid plastic limit	17
P. I.	24
TEX. CLASSIFICATION	SANDY CLAY
AASHTO CLASS.	A-7-6
GP Index	13
Field Color	0
DEPTH TO GROUNDWATER	
OPT. MOISTURE	
MAX. DRY DENSITY	
DEPTH OF TOPSOIL	



PIT NO. 2
 PROJECT NO. NH 0100(108)407; PCN 01V6 COUNTY Lincoln
 LOCATION Within S 1/2 SEC. 13 TOWNSHIP 100 RANGE 50
 PIT OWNER SDDOT ADDRESS _____

BORROW PIT NO. 2 INFORMATION LAYOUT

- Legend**
-  Detention Pond / Borrow Area
 -  Delineated Wetland
 -  Soil Boring

STATE OF SOUTH DAKOTA	PROJECT NH 0100(108)407 & P 1353(00) NH 2115(00) & P 1261(00)	SHEET B39	TOTAL SHEETS B180
FILE: ...\\B39-B40 (Borrow Pit 2).dgn		REV DATE: INITIAL:	
PLOT DATE: 11-23-2022			

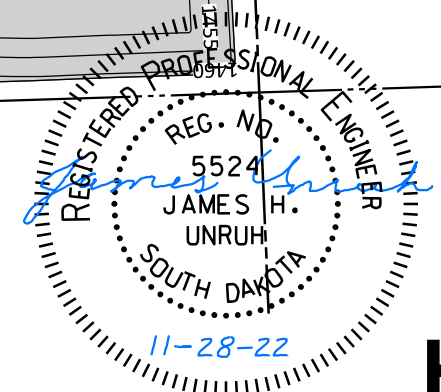
Cliff Avenue Borrow Pit 2 used for:
 01V6 Veterans Parkway 260+13 (Minnesota Ave) to 326+00 (end project)

Location	Avg depth of Excavation (Ft)	Available Borrow (CuYd)	Borrow to 01V6 (1) (CuYd)	Avg Topsoil Depth (Ft)	Estimated Topsoil (CuYd)	01V6 Topsoil Stripped (Ft)
Pond A	10	6,089	6,089	5	13,580	13,580
Pond B	13	17,897	17,897	2	5,289	5,289
Pond C	15	627,060	218,513	2	112,067	39,052
Total Borrow Site 2:		651,046	242,499		130,936	57,921

(1) Excavate this borrow site starting at the west side and progress to the east.
 Available Borrow for 01V7: 408,547

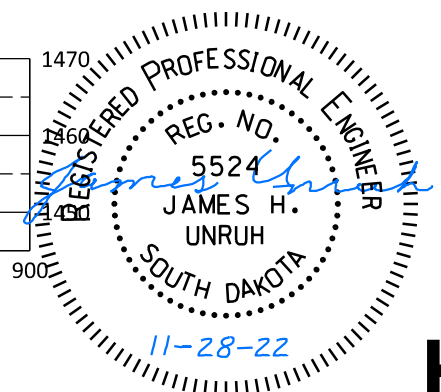
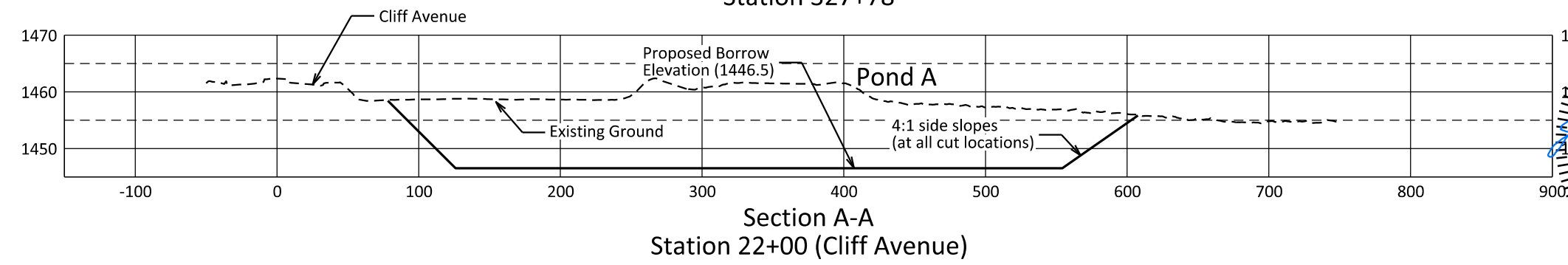
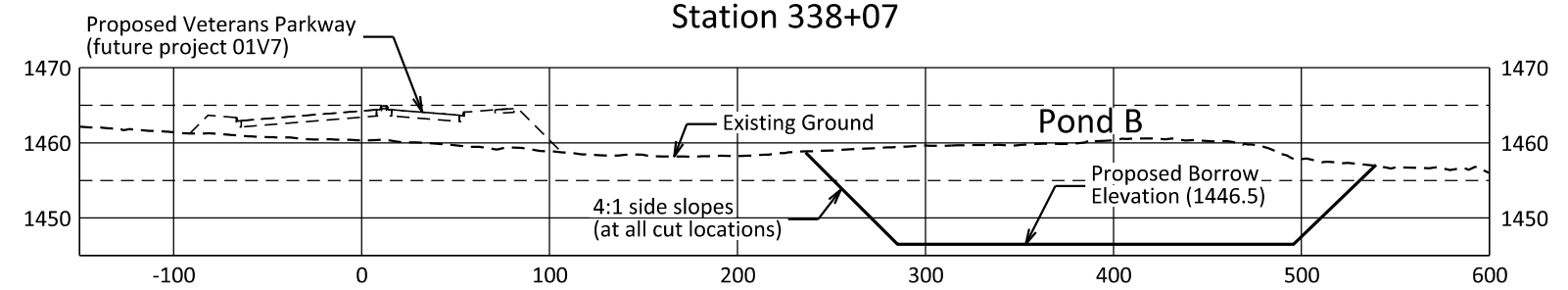
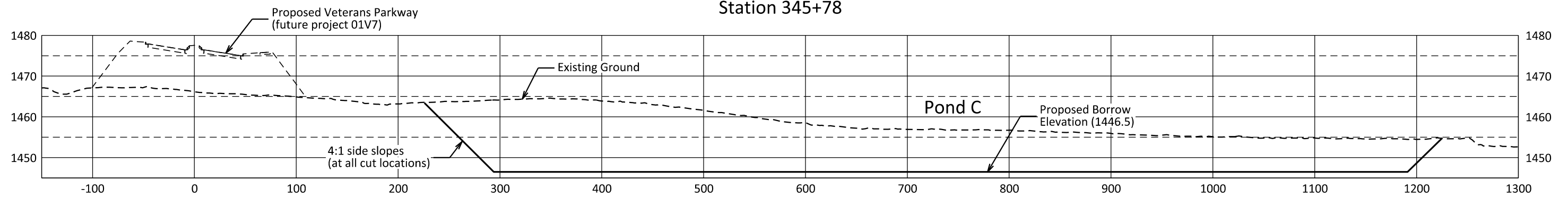
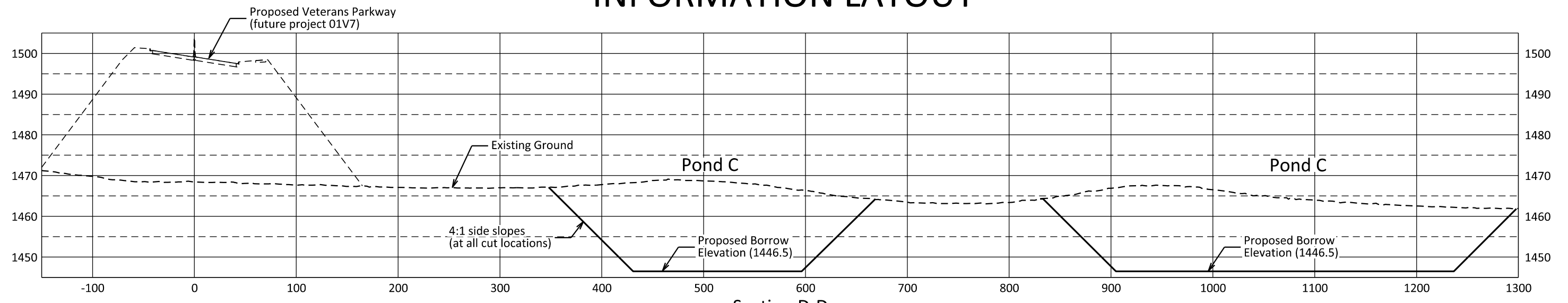


SEC. 13-T100N-R50W



BORROW PIT NO. 2 INFORMATION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(108)407 & P 1353(00) NH 2115(00) & P 1261(00)	B40	B180
FILE: ...\\B39-B40 (Borrow Pit 2).dgn		REV DATE:	
PLOTING DATE: 11-23-2022		INITIAL:	



BORROW PIT NO. 2 INFORMATION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(108)407 & P 1353(00) NH 2115(00) & P 1261(00)	B41	B180

Plotting Date: 11/23/2022

CLIFF AVENUE BORROW PIT #2

Soil borings were conducted on June 11 and 12, 2022.

Material from Borrow Pit #2 will be used for this project (01V6 Veterans Parkway) and for a future project (01V7 Veterans Parkway from Cliff Avenue to Sycamore Avenue). The amount of material used for 01V6 is listed in the appropriate tables.

The Contractor is alerted that the groundwater level in the site at most locations will likely be above the bottom of the proposed excavation. Extra effort will likely be required to dry and place this material in the highway embankment. Subsurface groundwater levels should be expected to fluctuate seasonally and yearly from the groundwater readings recorded at the test boring locations. Fluctuations occur due to varying seasonal and yearly rainfall amounts and snowmelt, as well as other factors. It is possible that the subsurface groundwater levels during or after construction could be significantly different than the time the test borings were performed.

Dewatering of the borrow pit areas may be necessary. All work necessary for dewatering including labor, equipment, and incidentals will be incidental to the contract unit price per cubic yard for "Borrow Unclassified Excavation".

Soil borings showed between 1.5' to 5' of topsoil. Stripped topsoil will not be placed in designated wetland areas. Topsoil will be placed around the south and east edges of the borrow site or as directed by the Engineer or will be disposed of by the Contractor.

The estimated quantity for topsoil excavation is included in the Section B Table of Borrow Unclassified Excavation. If approved by the Engineer, additional borrow material may be taken from this borrow pit by excavating deeper than shown in the borrow site plan and sections.

Estimated quantities for silt fence are included in Section D.

PRELIMINARY SOIL DATA										
LAB. SAMPLE #	23-0181	23-0182	23-0183	23-0184	23-0185	23-0186	23-0187	23-0188	23-0189	23-0190
PIT NUMBER	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave
HOLE#	4	4	5	5	5	6	6	6	7	7
FIELD SAMPLE #	11	12	13	14	15	16	17	18	19	20
DEPTH	10'-15'	15'-20'	10'-15'	15'-20'	20'-25'	5'-10'	10'-15'	15'-20'	2'-6'	10'-15'
FIELD MOISTURE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
DRY LOOSE WT.	73.2	73.8	73.8	73.4	72.5	74.7	72.2	73.1	70.3	79.2
% passing 3/8	99.8	100.0	99.6	99.5	100.0	99.3	99.6	99.6	100.0	96.8
% passing # 4	99.8	99.8	99.5	99.1	99.6	98.9	99.6	99.5	99.8	96.3
% passing # 10	99.4	99.5	99.3	98.9	99.3	98.7	99.3	99.4	99.8	96.1
% coarse sand	10.6	14.0	11.5	9.5	8.0	12.8	10.1	11.1	2.2	17.2
% fine sand	18.7	24.4	24.6	20.2	18.2	21.3	20.8	20.6	3.9	23.4
% silt	32.1	27.1	29.2	31.4	27.1	30.5	30.4	29.6	49.4	26.3
% clay	38.0	34.0	34.0	37.8	46.1	33.9	38.1	38.2	44.3	29.2
% passing # 40	88.8	85.5	87.8	89.4	91.3	85.8	89.3	88.4	97.6	78.9
% passing # 200	70.1	61.1	63.2	69.1	73.1	64.5	68.5	67.8	93.7	55.5
% coarse & fine sand	29.3	38.4	36.1	29.7	26.1	34.2	30.8	31.6	6.1	40.5
liquid limit	40	37	36	40	44	35	38	39	46	33
liquid plastic limit	18	16	16	17	16	16	16	17	20	16
P. I.	22	21	20	23	28	19	21	22	26	18
TEX. CLASSIFICATION	SILT CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SILT CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SILT CLAY	CLAY SAND
AASHTO CLASS.	A-6	A-6	A-6	A-6	A-7-6	A-6	A-6	A-6	A-7-6	A-6
GP Index	12	9	10	12	16	10	11	11	16	7
Field Color	0	0	0	0	0	0	0	0	0	0
DEPTH TO GROUNDWATER	0	0	3'	0	0	4.5'	0	0	3'	0
OPT. MOISTURE										
MAX. DRY DENSITY										
DEPTH OF TOPSOIL			3'			2'			2'	

PRELIMINARY SOIL DATA				
LAB. SAMPLE #	23-0191	23-0192	23-0193	23-0194
PIT NUMBER/NAME	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave
HOLE#	7	8	8	8
FIELD SAMPLE #	21	22	23	24
DEPTH	15'-20'	5'-10'	10'-15'	15'-20'
FIELD MOISTURE	#N/A	#N/A	#N/A	#N/A
DRY LOOSE WT.	72.7	73.0	74.3	75.2
% passing 3/8	99.5	98.7	99.6	98.9
% passing # 4	99.3	98.7	99.2	98.8
% passing # 10	99.2	98.5	99.0	98.7
% coarse sand	7.6	8.6	9.4	10.3
% fine sand	14.6	19.1	20.0	20.9
% silt	38.9	36.0	37.5	35.5
% clay	38.1	34.9	32.1	32.0
% passing # 40	91.6	90.0	89.6	88.4
% passing # 200	77.0	70.9	69.6	67.5
% coarse & fine sand	22.2	27.7	29.4	31.2
liquid limit	38	36	34	32
liquid plastic limit	18	16	16	16
P. I.	20	20	17	16
TEX. CLASSIFICATION	SILT CLAY	SILT CLAY	SANDY CLAY	SANDY CLAY
AASHTO CLASS.	A-6	A-6	A-6	A-6
GP Index	12	11	10	9
Field Color	0	0	0	0
DEPTH TO GROUNDWATER	0	3.5'	0	0
OPT. MOISTURE				
MAX. DRY DENSITY				
DEPTH OF TOPSOIL		2'		

PRELIMINARY SOIL DATA										
LAB. SAMPLE #	23-0171	23-0172	23-0173	23-0174	23-0175	23-0176	23-0177	23-0178	23-0179	23-0180
PIT NUMBER/NAME	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave	VP & Cliff Ave
HOLE#	1	1	1	2	2	2	3	3	3	4
FIELD SAMPLE #	1	2	3	4	5	6	7	8	9	10
DEPTH	0-5'	10'-15'	15'-20'	5'-10'	10'-15'	15'-20'	5'-10'	10'-15'	20'-25'	5'-10'
FIELD MOISTURE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
DRY LOOSE WT.	77.0	77.3	76.2	77.0	79.3	76.6	76.6	74.1	73.1	73.7
% passing 3/8	99.6	99.6	99.6	99.0	100.0	99.1	99.2	99.7	99.8	98.8
% passing # 4	99.3	99.5	99.1	98.5	99.9	99.0	99.0	99.4	99.5	98.1
% passing # 10	98.7	99.0	99.0	98.0	99.2	98.5	98.4	98.9	99.4	97.9
% coarse sand	3.8	10.3	12.3	13.8	9.9	9.9	11.3	10.5	10.0	10.8
% fine sand	7.9	20.6	21.9	20.8	21.1	19.8	19.5	19.0	19.8	18.6
% silt	43.5	32.2	26.9	29.9	30.3	29.3	28.1	27.7	29.6	31.1
% clay	43.6	35.8	37.8	33.5	37.9	39.6	39.6	41.7	39.9	37.4
% passing # 40	95.0	88.7	86.6	84.3	89.3	88.7	87.1	88.4	89.4	87.1
% passing # 200	87.1	68.1	64.7	63.4	68.2	68.9	67.6	69.5	69.6	68.5
% coarse & fine sand	11.6	30.9	34.2	34.6	31.0	29.7	30.8	29.4	29.8	29.4
liquid limit	52	39	40	35	38	40	41	42	42	39
liquid plastic limit	22	16	17	16	16	17	17	17	16	17
P. I.	30	22	23	19	22	23	24	25	25	22
TEX. CLASSIFICATION	SILT CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY	SANDY CLAY
AASHTO CLASS.	A-7-6	A-6	A-6	A-6	A-6	A-6	A-7-6	A-7-6	A-7-6	A-6
GP Index	18	12	11	9	11	12	12	13	13	12
Field Color	0	0	0	0	0	0	0	0	0	0
DEPTH TO GROUNDWATER	1.5'	0	0	4.5'	0	0	8'	0	0	3.5'
OPT. MOISTURE										
MAX. DRY DENSITY										
DEPTH OF TOPSOIL	5'			2'			2'			1.5'

