

ESTIMATED PROJECT QUANTITIES

Item No.	Item Code	Item	Unit	Quantities		
				Division I	Total	As-built
1	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	150	150	
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	650	650	
3	2102-2710080	EXCAVATION, CLASS 10, UNSUITABLE OR UNSTABLE MATERIAL	CY	550	550	
4	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	175	175	
5	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	770	770	
6	2109-8225100	SPECIAL COMPACTION OF SUBGRADE	STA	0.70	0.70	
7	2115-0100000	MODIFIED SUBBASE	CY	36	36	
8	2301-1033070	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 7 IN.	SY	185	185	
9	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	18	18	
10	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1	1	
11	2402-0425040	FLOODED BACKFILL	CY	184	184	
12	2402-2720000	EXCAVATION, CLASS 20	CY	1,187	1,187	
13	2402-3825025	GRANULAR MATERIAL FOR BLANKET	CY	114	114	
14	2418-0000010	TEMPORARY STREAM DIVERSION	EACH	1	1	
15	2507-3250005	ENGINEERING FABRIC	SY	316	316	
16	2507-6800032	REVTMENT, CLASS C	TON	166.5	166.5	
17	2507-6800061	REVTMENT, CLASS E	TON	81.1	81.1	
18	2510-6745850	REMOVAL OF PAVEMENT	SY	133	133	
19	2524-9100030	OBJECT MARKER, TYPE 3	EACH	4	4	
20	2526-8285000	CONSTRUCTION SURVEY	LS	1	1	
21	2528-2518000	SAFETY CLOSURE	EACH	1	1	
22	2533-4980005	MOBILIZATION	LS	1	1	
23	2536-6745045	REMOVAL OF ASBESTOS	LS	1	1	
24	2599-9999009	REINFORCED CONCRETE BOX CULVERT BARREL	LF	58	58	
25	2599-9999005	REINFORCED CONCRETE BOX CULVERT END SECTION	EACH	2	2	
26	2599-9999010	EROSION CONTROL	LS	1	1	
27	2599-9999010	CLEARING AND GRUBBING	LS	1	1	
28	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	0.35	0.35	
29	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	0.35	0.35	

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NO.	REVISION DESCRIPTION	APPROVED	DATE

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED The project requires 150 CY of Contractor Furnished Embankment. The quantity does not include shrinkage. Overhaul will not be measured or paid for but shall be considered incidental to this item. This item shall be paid for based on plan quantity. Existing side slopes of roadway should be benched prior to fill in accordance with article 2107.03, C of the standard specifications. The contractor shall confirm soil volumes present on site prior to utilizing this item.
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW The project requires 650 CY of cut and 840 CY of factored fill including at 30% shrinkage factor. 195 CY of the factored fill shall be paid for by the Embankment-in-Place item. Overhaul will not be measured and shall be considered incidental to this item. Shoulder Finishing shall be considered incidental to this item and the material required for shoulder finishing is included in the fill quantity above. This item includes a estimated volume of cut generated by coring out and embedding the revetment. Existing side slopes of roadway should be benched prior to fill in accordance with article 2107.03, C of the standard specifications. This item shall be paid for based on plan quantity.
3	2102-2710080	EXCAVATION, CLASS 10, UNSUITABLE OR UNSTABLE MATERIAL The geotechnical report indicates that there is likely a layer of unsuitable loose sand below the proposed culvert structure. Refer to sheet V.1 for approximate unsuitable layer elevations. This layer shall be overexcavated and removed from the project site. Overhaul will not be measured and shall be considered incidental to this item. The contractor shall remove and properly dispose of unsuitable material. This item shall be paid for based on plan quantity.
4	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD Strip and salvage topsoil to a minimum depth of 8" before excavation occurs. Topsoil to be spread to a minimum of 6" in all disturbed areas. This item shall include stripping of topsoil in the staging area. Quantity represents the quantity to be stripped. Do not stockpile with other materials. Excess material, if any, to be wasted on site upon foreslopes, backslopes, and ditches.
5	2107-0875100	COMPACTION WITH MOISTURE CONTROL This item shall be utilized for all embankment construction. Plan quantity based on the estimated fill volume minus the volume of soil included in the Special Compaction of Subgrade item. Contractor shall be responsible for proctor testing and moisture testing. Contractor shall provide test reports to the DNR and the Engineer as they are developed.
6	2109-8225100	SPECIAL COMPACTION OF SUBGRADE Refer to Typical Sections in the B-Sheets for locations and details. Subgrade preparation shall be to a depth of 12". Subgrade shall be prepared in 6-inch lifts. For areas in cut, remove and replace the existing subgrade to specified depths, this work shall be considered incidental to this item. Subgrade preparation shall extend a minimum of 2' beyond the edge of pavement. The items, "Excavation, Class 10, Roadway and Borrow" and "Embankment-in-Place, Contractor Furnished" includes the earth material quantity for the subgrade preparation in fill sections. Density with Moisture Control will be required for compaction of soils under this item. Testing will be the contractor's responsibility and incidental to this item.
7	2115-0100000	MODIFIED SUBBASE Refer to B-Sheets for location, depth, and details. Modified subbase placement shall extend 2 feet beyond edge of pavement. Place modified subbase in lifts no greater than 6 inches.
8	2301-1033070	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 7 IN. Refer to B and D Sheets for locations and details. Includes reinforcing and dowel bars as detailed on the D Sheet. Reinforcing steel shall be epoxy coated. Submit proposed mix design to Owner and Engineer for approval. All pavement joints shall be cleaned and sealed. Certified plant inspection will be required. Pavement smoothness incentives shall not apply. Pavement thickness incentives shall not apply.
9	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE This item shall be used for the 2' Granular Shoulder as shown in the B Sheet and for the the Gravel driveway surfacing. Item shall be paid for based on material placed (verified by material tickets). This item does not include the quantity for the stabilized construction entrance.
10	2401-6745625	REMOVAL OF EXISTING BRIDGE Refer to notes on C.3. Includes all work for removal and off-site disposal of existing 18'x24' Precast Concrete Bridge with Steel Rail and Concrete and Timber Abutments. Removal of scheduled items shall be in accordance with Section 2401 of the Iowa DOT Standard Specifications. Contractor to attempt to remove existing bridge piles completely, if piles cannot be removed, cut and remove top of piling to 2' min. below base of proposed culvert core out. Removal of piling shall be considered incidental to this item. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the state. Contractor to add the following information when submitting the Iowa DNR "Notification of Demolition" form: Name of Asbestos Inspector: Brad Azelline Date Inspected: 7/17/2024 IA License Number: Iowa DOT Inspector Phone: 515-239-1938 Procedure used to detect the presence of asbestos materials: Polarized Light Microscopy (PLM)
11	2402-0425040	FLOODED BACKFILL Refer to standard road plan DR-111 for location and details.
12	2402-2720000	EXCAVATION, CLASS 20 Includes filling and compacting low areas around proposed culvert. Includes excavation necessary to place Granular Material for Blanket.
13	2402-3825025	GRANULAR MATERIAL FOR BLANKET Refer to detail on Sheet V.1. Granular material shall be in accordance with Section 4118 of the Standard Specifications. The working blanket may be deleted if determined to be unnecessary at the time of construction.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
14	2418-0000010	TEMPORARY STREAM DIVERSION Do not fully obstruct drainage channels. The contractor is fully liable for all damages to public or private property caused by their action or inaction in providing for handling of storm water flow during construction.
15	2507-3250005	ENGINEERING FABRIC Engineering fabric shall be material as specified for embedment erosion control in accordance with Article 4196.01, B, 3 of the Standard Specifications. Material will be measured in square yards of actual area covered. This item does not include any required engineering fabric for culvert installation.
16	2507-6800032	REVETMENT, CLASS C See V Sheets for locations. Revetment shall be embedded. Estimated at 105pcf. Revetment shall meet the requirements on Article 4130 of the Standard Specifications. Broken concrete and granite is not allowed.
17	2507-6800061	REVETMENT, CLASS E See V Sheets for locations. Revetment shall be embedded. Estimated at 105pcf. Revetment shall meet the requirements on Article 4130 of the Standard Specifications. Broken concrete and granite is not allowed.
18	2510-6745850	REMOVAL OF PAVEMENT Remove existing pavement in the area shown on the D sheet. Quantity includes removal and proper disposal of all roadway pavement and reinforcing, including approach slabs if present. Removal of the bridge slab shall be paid for by the item Removal of Existing Bridge. Full depth sawcutting at removal limits is incidental to this item and is required prior to removal of the existing pavement. Adjacent pavement damaged during removals shall be replaced by the Contractor incidental to this item. No additional payment will be made for varying pavement thickness.
19	2524-9100030	OBJECT MARKER, TYPE 3 See D Sheets for locations. Item shall include furnishing all materials, equipment, and labor required. Measurement shall be made based each sign installed.
20	2526-8285000	CONSTRUCTION SURVEY -
21	2528-2518000	SAFETY CLOSURE Item includes the placement, maintenance, and removal of a safety closure where shown on the Location Map on Sheet A.1. The Safety Closure shall include a full Road Closure as described in Section 2528 of the Standard Specifications. Place a series of Type 3 barricades across roadway from outside edge of shoulder to outside edge of shoulder. Ensure gaps between Type 3 barricades are no greater than 6 inches. Mount ROAD CLOSED (R11-2) sign over the top two rails of on the Type 3 barricade located closest to the approximate roadway centerline.
22	2533-4980005	MOBILIZATION -
23	2536-6745045	REMOVAL OF ASBESTOS Refer to notes on Sheet C.3.
24	2599-9999009	REINFORCED CONCRETE BOX CULVERT BARREL See V Sheets for locations and details. This item shall include all necessary material, labor, and equipment to install culvert barrel section, including subdrain pipe and engineering fabric (if required). This item will pay for a precast or cast in place barrel section subject to approved submittals. Refer to V Sheets for additional notes.
25	2599-9999005	REINFORCED CONCRETE BOX CULVERT END SECTION See V Sheets for locations and details. This item shall include all necessary material, labor, and equipment to install culvert end section, including subdrain pipe and engineering fabric (if required). This item will pay for a precast or cast in place end section subject to approved submittals. Refer to V Sheets for additional notes.
26	2599-9999010	EROSION CONTROL This item shall pay for the installation, maintenance, and removal of all required erosion control devices that may be required for the project. The contractor is responsible for ensuring no sediment is allowed to leave the project site. A sediment trap is incidental to this item to prevent sediment from being washed downstream via the stream flow. Item also includes material, placement, maintenance, and removal of stabilized construction entrance. Incidental to this item shall be decompaction of the staging area following use and just before seeding. Erosion control mobilizations and emergency mobilizations shall also be considered incidental.
27	2599-9999010	CLEARING AND GRUBBING This item shall comply with Section 2101 of the Iowa DOT Standard Specifications. Tree and shrubs within the grading limit shall be removed, protect all trees outside of the grading limit. Trees and shrubs shall be felled prior to April 1, 2025. Removal of felled trees, shrubs, and grubbing of stumps 24" below finish grade may occur during the construction project as needed. Burning of trees and stumps shall not be allowed. Tree protection shall be incidental to this item and shall be applied to all trees not noted to be removed. Item includes removal of all other vegetation within the grading limits. This item will not be measured and shall be paid upon successful completion of the clearing and grubbing.
28	2601-2636043	SEEDING AND FERTILIZING (RURAL) Top six inches of the seedbed shall be free of rock and debris. Mulching shall be considered incidental to this item. This item includes furnishing water and other care during the establishment period. Acceptance shall be no sooner than 60 days following planting. The estimated quantity includes the disturbed area within the grading limits, an allowance for restoration of the staging area, and an additional 20% to account for disturbed areas outside of the grading limits.
29	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING The estimated quantity for this item was set in the same way as the permanent seeding item.

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NO.	REVISION DESCRIPTION	APPROVED	DATE

ASBESTOS AND PAINT NOTES

Laboratory analysis has identified asbestos at this site. Asbestos shall be removed prior to bridge demolition operations. Removal, transport, and disposal shall be in accordance with Section 2536, of the Standard Specifications.

Required DNR information includes:

- Year Constructed - 1957
- Asbestos Location - Tar sealant on the top and sides of the metal caps for the vertical timber piles at each corner of the bridge, 10 sq. ft.
- FHWA Number (Existing) - N/A
- Road/Route (City) - Hill Road
- County - Fayette
- Direction to Bridge Road - 850' South of Intersection of Hill Road and Ivy
- Bridge Size - 18' x 24' Precast Concrete Bridge
- Number of Decks - 1 (Typ.)
- Asbestos Inspector/Amounts - Information provided by Engineer

A scrape sample was taken from an area of this bridge to get an indication of the existence of and level of total lead and total chromium. Analysis of total lead on the Piling sample was 669 parts per million (ppm), on the Railing sample it was 759 ppm, and on the bolt bracket it was 3,700 ppm. Analysis of total chromium on the Piling sample was 12,400 ppm, on the Railing sample it was 1,760 ppm, and on the bolt bracket it was 21,500 ppm. These analyses show the existence of these two toxic constituents. Levels indicated by these tests could create conditions above regulatory limits for health and safety requirements. No other constituents were analyzed. The Bidder should not rely on the Iowa DOT's testing and analysis for any purpose other than as an indication of the existence of these two toxic constituents.

The Contractor shall conduct their operations in such a manner that any paint removed during demolition is contained, collected, and disposed of in accordance with Section 2508, of the Standard Specifications. Before delivery of any scrap steel the Contractor shall provide a written notice to the receiving facility. This notice shall at a minimum include:

1. A notice that the scrap steel is coated with paint that has regulated materials at levels which could be hazardous to employees or the environment.
2. A Copy of the scrape sample provided in the contract documents.
3. A signature block for the receiving facility to confirm their receipt of this information.

A copy of this notice, signed by the receiving facility, shall be returned to the Engineer before any scrap steel is removed from the project.

The cost of handling and disposal of any painted steel or removed paint is incidental to the Removal of Existing Bridge bid item.

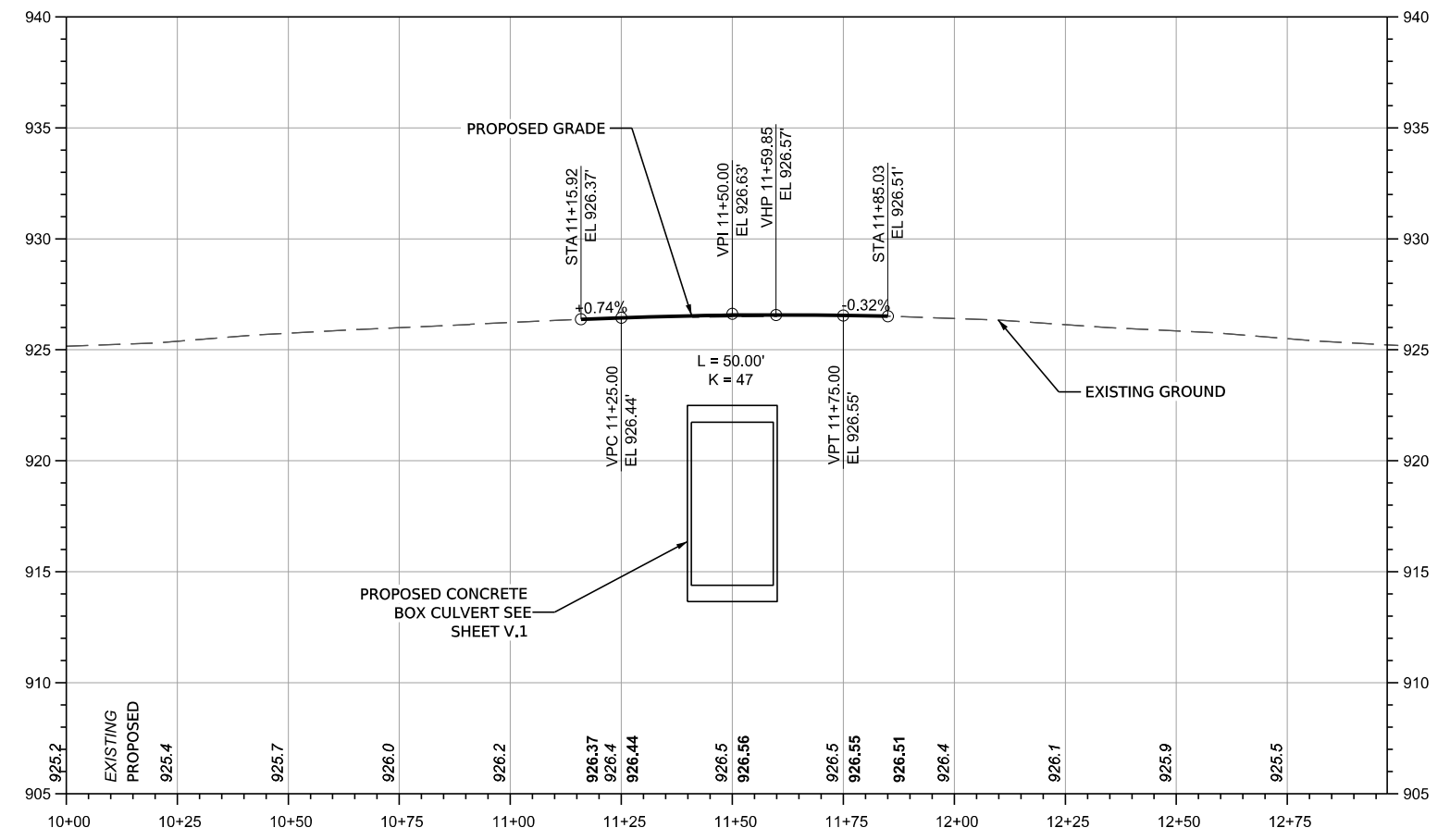
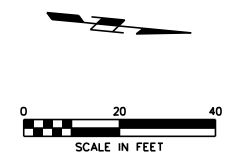
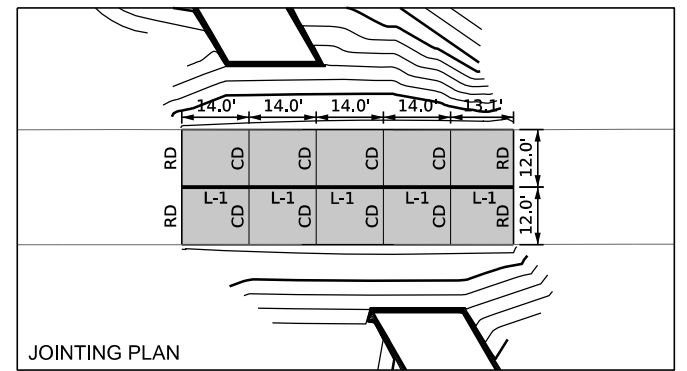
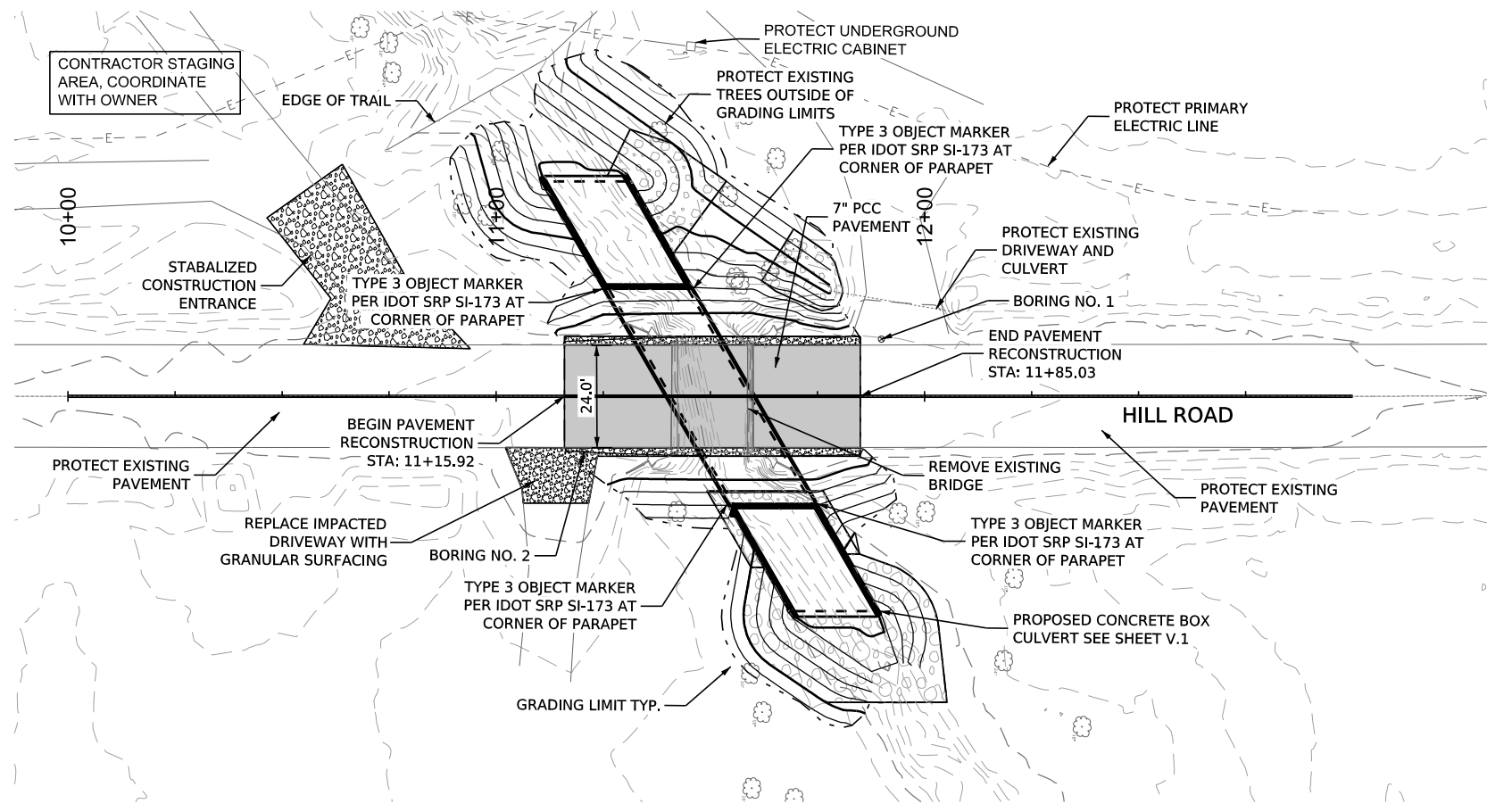
GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE DNR AND SHIVE-HATTERY (515) 223-8104, TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST TWO WEEKS PRIOR TO COMMENCING CONSTRUCTION.
2. THE CONTRACTOR SHALL PREPARE A DETAILED SCHEDULE OF THE WORK WHICH SHALL BE SUBMITTED AT THE PRE-CONSTRUCTION MEETING. SCHEDULE SHALL SHOW ANTICIPATED MATERIAL DELIVERIES AND COMPLETION OF MAJOR TASKS FOR THE PROJECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN ALL SUPPLIERS AND SUBCONTRACTORS INVOLVED IN THE PROJECT, INCLUDING STAGING OF CONSTRUCTION DETAILS.
4. THE CONTRACTOR SHALL CONFINE THEIR WORK TO AS SMALL OF A AREA AS FEASIBLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OUTSIDE THE CONSTRUCTION LIMITS RESULTING FROM THEIR NEGLIGENCE. THE CONTRACTOR SHALL PROTECT ALL TREES LOCATED OUTSIDE OF THE GRADING LIMITS. THE CONTRACTOR SHALL PROTECT EXISTING PAVEMENT NOT CALLED TO BE REMOVED. THE ENGINEER MAY LIMIT THE CONTRACTOR'S OPERATIONS IN ACCORDANCE WITH THE SPECIFICATIONS.
5. THE CONTRACTOR MAY USE THE AREA IDENTIFIED ON THE D SHEET FOR STORAGE AND PARKING. THE CONTRACTOR SHALL COORDINATE WITH THE DNR ON THE LIMITS AVAILABLE IN THIS AREA. THE CONTRACTOR MAY ALSO STORE MATERIALS AND PARK ON THE EXISTING PAVEMENT
6. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK. THE CONTRACTOR SHALL REPAIR TO SATISFACTION OF THE UTILITY OWNER ANY DAMAGED UTILITIES. UTILITY CONFLICTS DISCOVERED DURING CONSTRUCTION WILL BE ADDRESSED AT THE TIME OF DISCOVERY.
7. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT (800) 292-8989 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL WHICH IS NOT DESIRABLE TO BE INCORPORATED IN THE WORK INVOLVED ON THIS PROJECT (EXCAVATION, METAL POSTS, BROKEN CONCRETE, ETC.). NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.
9. FIELD SURVEYS FOR THESE PLANS WERE PERFORMED BY CRAWFORD ENGINEERING AND SURVEYING, INC.
10. IN ORDER TO AVOID ANY UNNECESSARY SURFACE BREAKS OR PREMATURE SPALLING THE CONTRACTOR IS CAUTIONED TO EXERCISE EXTREME CARE WHEN PERFORMING NECESSARY SAW CUTTING OPERATIONS FOR PAVEMENT AND/OR SIDEWALK REMOVAL.
11. ANY SAW CUT, REINFORCING, AND LOAD TRANSFER DOWELS NOTED ON THE PLANS SHALL BE CONSIDERED INCIDENTAL TO OTHER CONTRACT
12. THE CONTRACTOR SHALL ADEQUATELY BARRICADE FRESH P.C.C. TO PREVENT DAMAGE AND OR BLEMISHES. DAMAGE TO CONCRETE SURFACES SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
13. ALL HOLES RESULTING FROM OPERATIONS OF THE CONTRACTOR, INCLUDING REMOVAL OF FENCE POSTS, UTILITY POLES, OR STRUCTURES SHALL BE FILLED AND CONSOLIDATED TO FINISHED GRADE AS DIRECTED BY THE ENGINEER TO PREVENT FUTURE SETTLEMENT. THE VOIDS SHALL BE PROTECTED UNTIL FILLED. THIS OPERATION SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS IN PROJECT.
14. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE TO THE CONSTRUCTION AREA TO PREVENT THE SPREAD OF DUST. REFER TO ARTICLE 1107.07 OF THE CURRENT IDOT STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
15. THE TOP SIX (6) INCHES OF DISTURBED (TOP SOIL) AREAS SHALL BE FREE OF ROCK AND DEBRIS AND SHALL BE SUITABLE FOR ESTABLISHMENT OF VEGETATION, SUBJECT TO THE APPROVAL OF THE ENGINEER.
16. DISPOSE OF ALL WOOD MATERIAL GENERATED AS A RESULT OF CLEARING AND/OR GRUBBING ACCORDING TO THE IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP'S EMERALD ASH BORER (EAB) QUARANTINE ORDER. FOR MORE INFORMATION REFER TO: [HTTP://WWW.IOWATREEPESTS.COM/EAB_REGULATIONS.HTML](http://www.iowatreepests.com/EAB_REGULATIONS.HTML)
17. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING, AT NO COST TO THE DNR, ANY AREAS OF PAVEMENT NOT TO BE REMOVED THAT IS DAMAGED DUE TO OPERATING EQUIPMENT ON THE PAVEMENT OR SIDEWALK. THE CONTRACTOR IS ENCOURAGED TO USE RUBBER WHEELED CONSTRUCTION EQUIPMENT WHEN WORKING ON THESE AREAS.

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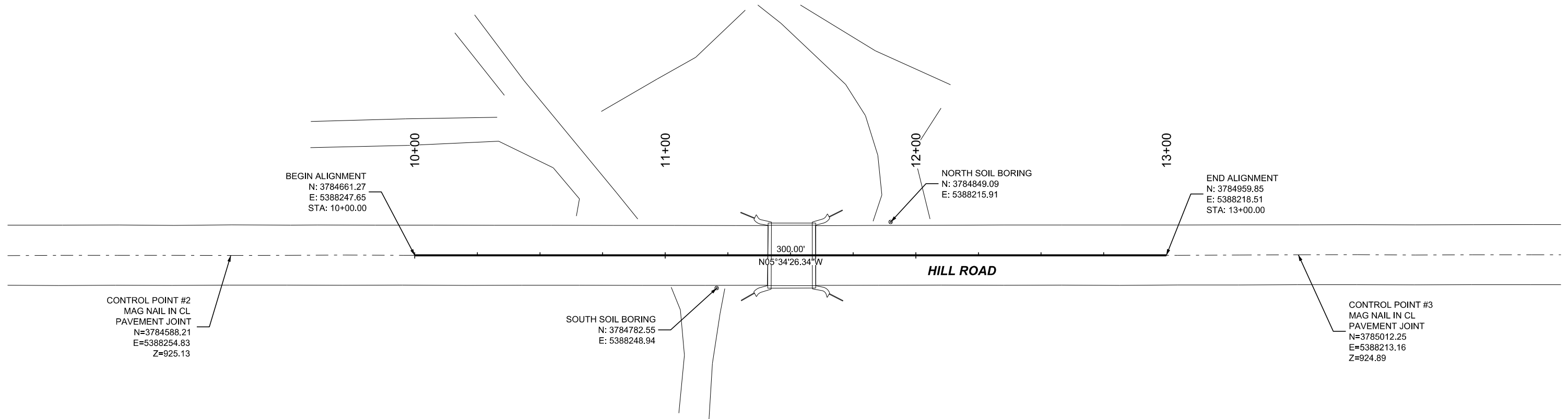
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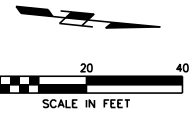


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MEASUREMENT UNITS: US SURVEY FEET
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 VERTICAL: NAVD88

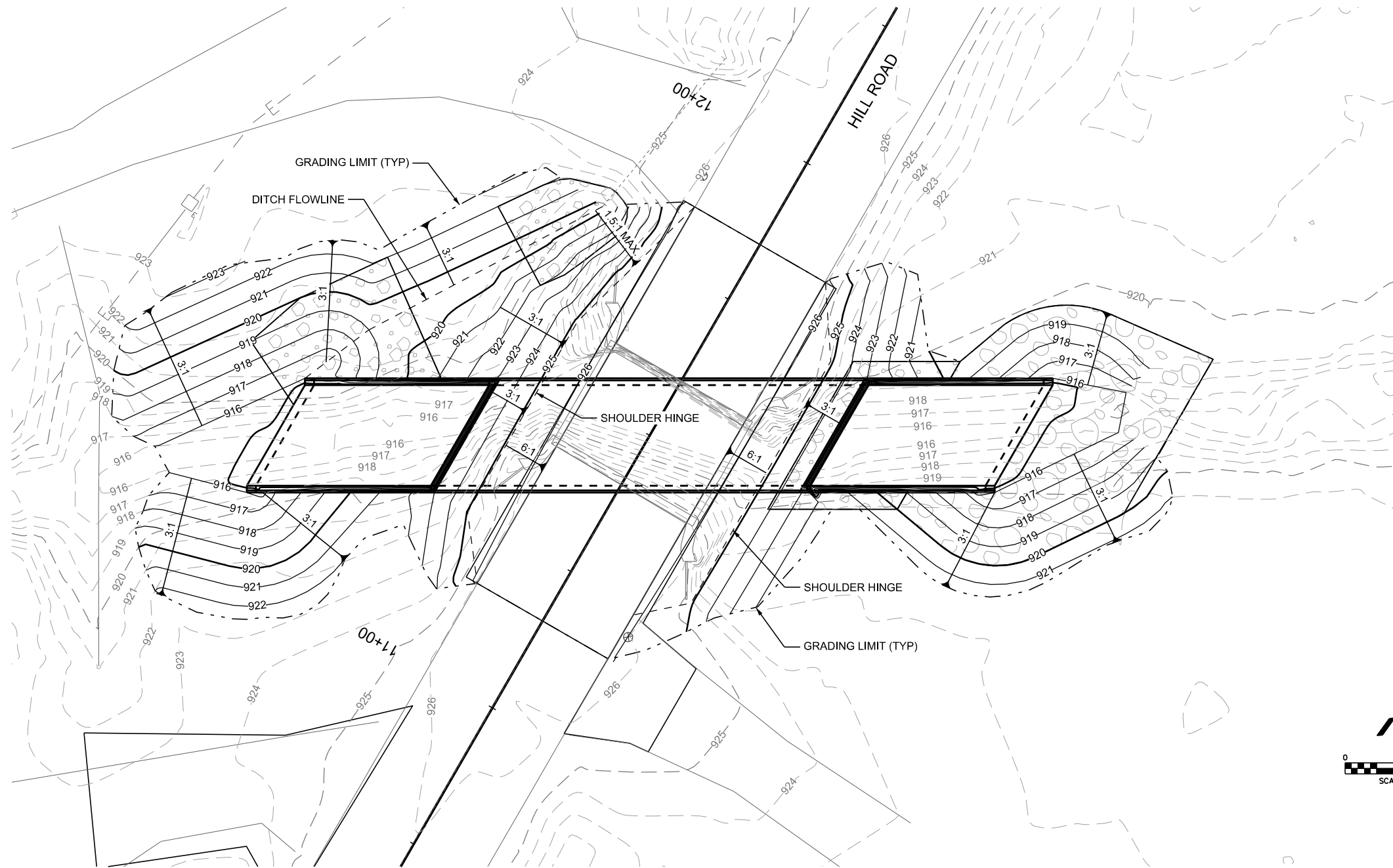


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NO.	REVISION DESCRIPTION	APPROVED	DATE

STATE OF IOWA
STATE HIGHWAY COMMISSION
DESIGN FOR

BRIDGE

SECONDARY ROAD SYSTEM S.N. - PROJECT NO. 2751

FAYETTE COUNTY

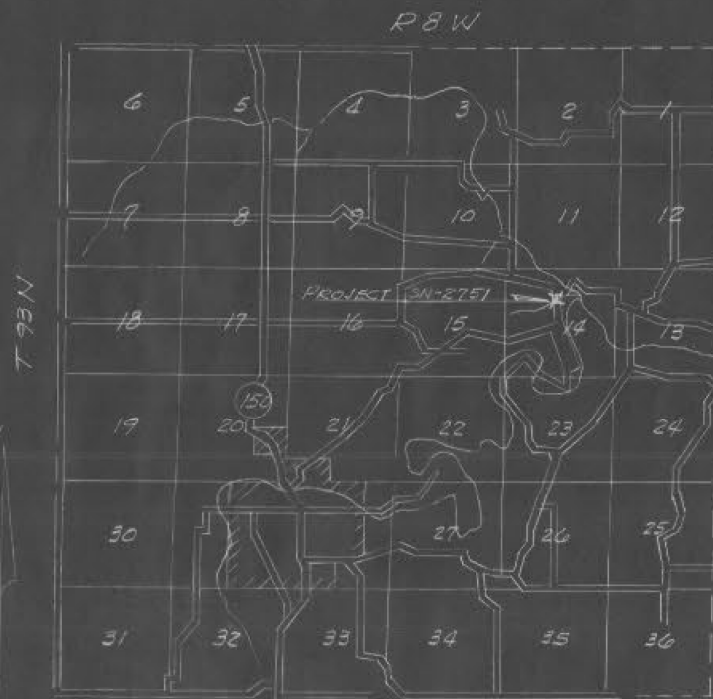
JUNE 1957

INDEX OF SHEETS:
No. 1 Title sheet - Estimated Quantities
2 Situation Plan & Abutment Details

SPECIFICATIONS:
Iowa State Highway Commission Series 1956
plus current special provisions.

MILEAGE SUMMARY:
Bridge at Sta. 8178
Out to Out concrete 20.00' = 0.0038 miles

Notes:
Fayette County Will Furnish Bridge Sign Assemblies
Specified in S & T Instruction No. 11, Revised March 11, 1956



In letting of June 25, 1957

DESIGN No.	PROJ. No.	DESCRIPTION	CONCRETE	ESTIMATED QUANTITIES												
				STEEL		CREOSOTED WP. PILING 2 @ 28" 4 @ 25"	STEEL PILING		PRECAST		CREOSOTED LUMBER	HARDWARE	EXCAVATION			REMOVAL
				REINFORC.	STRUCTR.		PIPELINE	WELDED	DECK UNITS	INT. CURB			CL 10	CL 20	CL 21	
2457	SN-2751	18' x 24' PRECAST CONC BRIDGE, STEEL RAIL CONC & TMBR. ABUTS.	24.2 C.Y.	1866 LBS.	3201 LBS.	158 L.F.	308 L.F.	308 L.F.	6	2	3600 B.F.	122 LBS.	110 C.Y.	205 C.Y.	22 C.Y.	LUMP SUM

PLANS BY:
Berl B. Hanson
Consulting Engineer
West Union, Iowa

APPROVED [Signature Box] DATE []
CHIEF ENGINEER
IOWA HIGHWAY COMM.

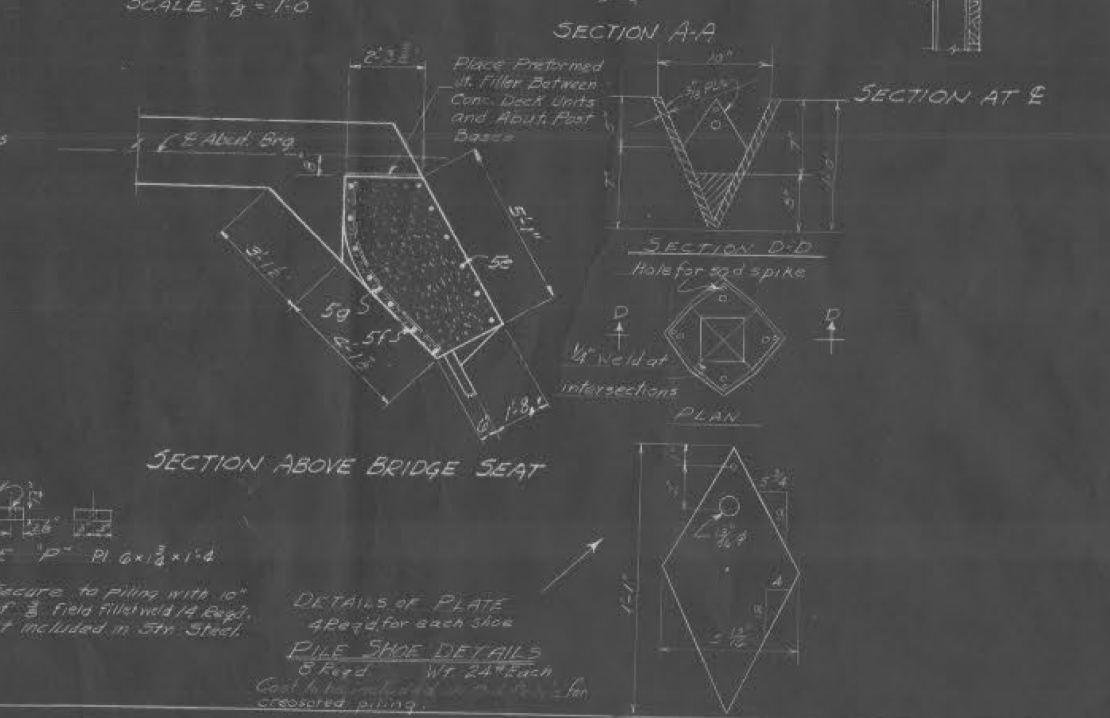
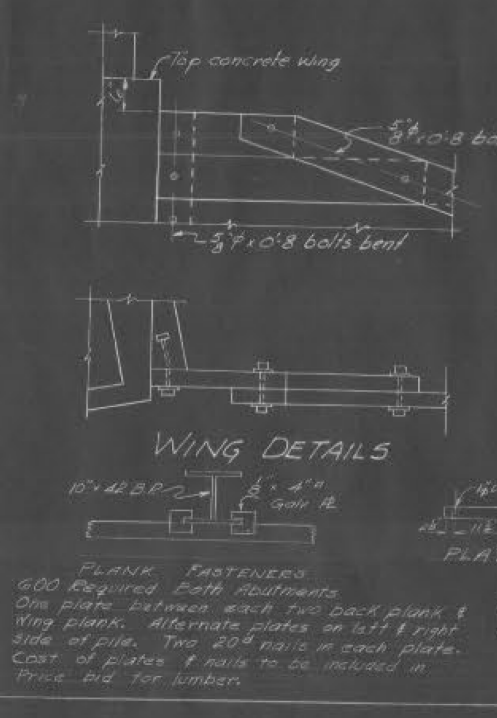
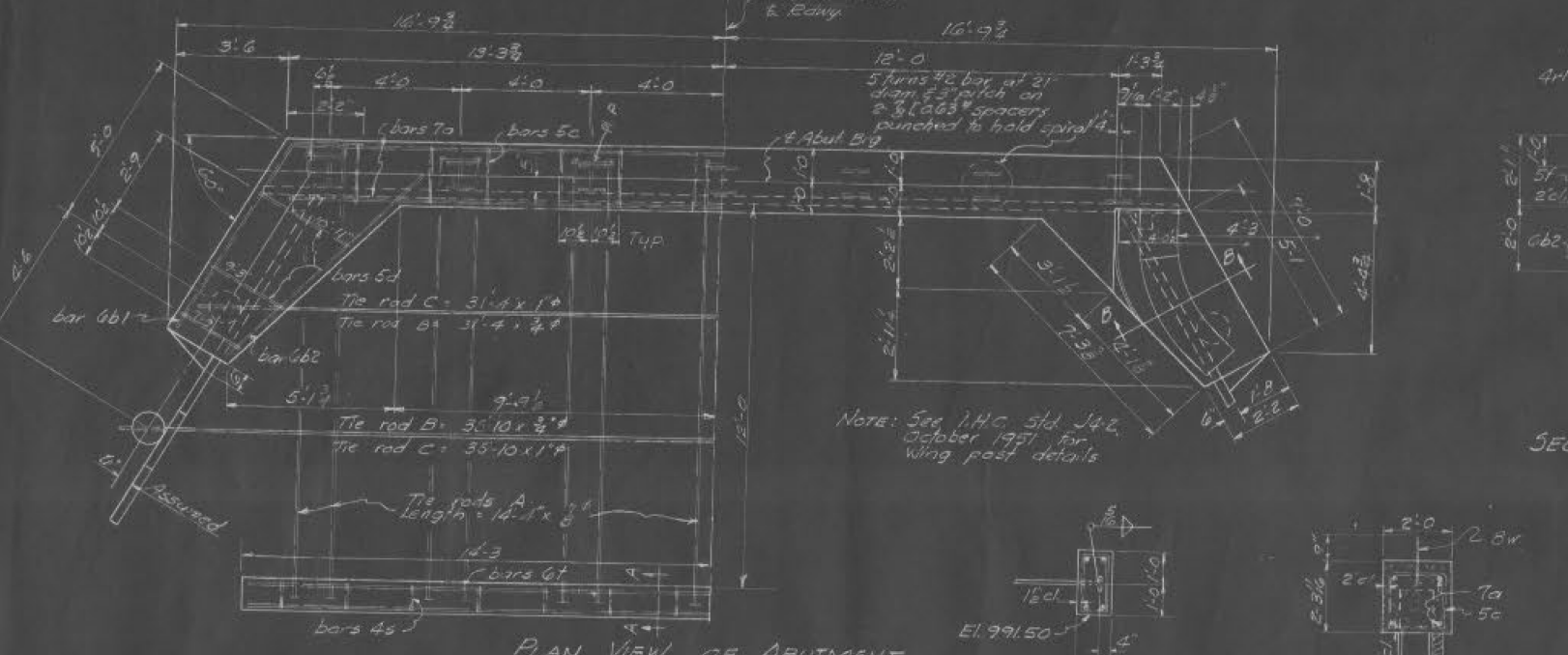
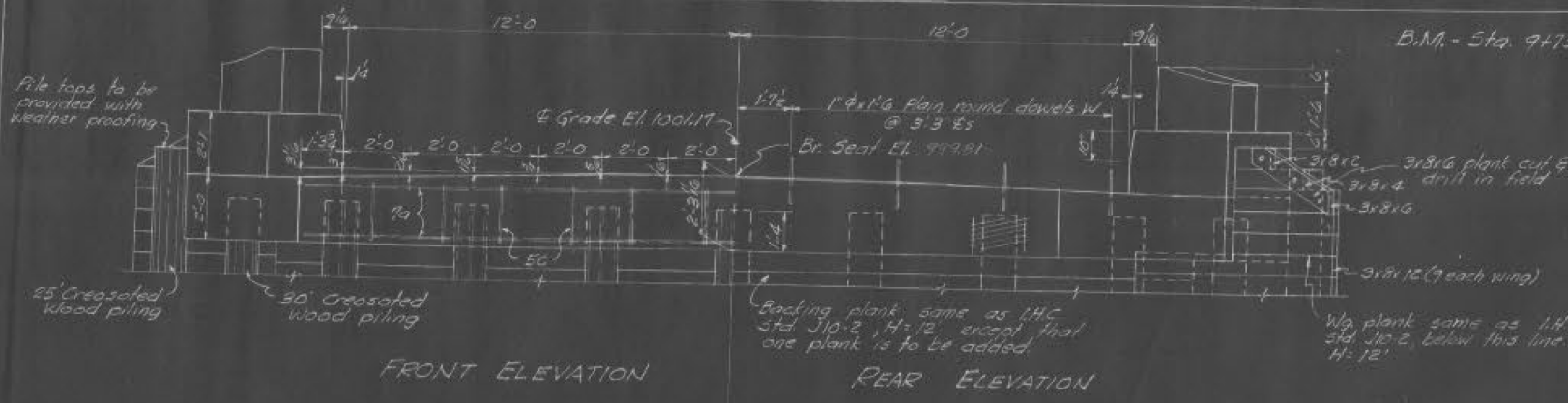
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DISTRICT ENGR.

DEPART. OF COMMERCE
BUREAU OF PUBLIC ROADS

BOARD OF SUPERVISORS

47 IT June 25/57

Sheet 1 of 2



REINFORCING STEEL - ONE ABUT.

Bar	Location	Shape	Unbr	Length	Weight
1a	Br seat longitudinal	—	4	26'-4"	215
6b1	Wg footing FF	—	4	8'-8"	50
6b2	" " BF	—	4	7'-6"	57
5c	Bridge seat hoops	□	12	7'-9"	70
5d	Wg footing "	□	4	Var	48
5e	Wg wall dowels FF	—	12	2'-6"	31
5f	" " vertical BF	—	12	3'-4"	49
5g	" " horiz BF	—	4	4'-0"	25
4p	" post vert	—	24	2'-4"	37
4r1	" " horiz LS	—	4	5'-1"	13
4r2	" " " " " "	—	4	1'-8"	12
4s	Deadman hoops	□	14	5'-8"	53
6b	" " longit	—	4	28'-0"	168
8w	Cap dowels (Plain)	—	8	1'-6"	32
	Pile spirals	∅∅∅	9	27'-6"	43
TOTAL					933 ^W

ESTIMATED QUANTITIES - ONE ABUT.

CONCRETE CLASS 'A'	12,161 CY
HARDWARE	21,185
REINF. STEEL	933 LBS
STRUCT. STEEL	1032 "
CREOSOTED LUMBER	1800 BF
CREOSOTED PILING	44 LF
STEEL PILING 10" x 42" BR - T.C. 25'	134 LF



LOCATION:
Section 14
T93N-R8W
Westfield Twp.
Fayette County

PLANS BY:
Bert B. Hanson
Consulting Engr
West Union, Iowa

NOTE: For General Notes and Details not shown see Iowa Highway Comm. Stds. J10-1 & J10-2 dated Oct. 1954.

18' x 24' ROWY. PRECAST CONG. BRIDGE

Steel Rail ~ Creosoted Timber Abutments with concrete caps

ABUTMENT DETAILS

Sta. 8178 Proj. 31-2751

FAYETTE COUNTY

May 1957 Sheet 2 of 2

Boring Log No. 1

Model Layer	Graphic Log	Location: See Exploration Plan	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Water Content (%)	Organic Content (%)
		Latitude: 42.8698° Longitude: -91.7579°							
		Depth (Ft.) Elevation.: 99.5 (Ft.)							
1	[Red Hatched]	0.3 FILL - TOPSOIL	99.2						
		FILL - CRUSHED STONE , with fines							
		2.0	97.5						
		FILL - SANDY LEAN CLAY , trace gravel, with gravel layers, dark brown and brown							
5	[Red Hatched]								
7	[Red Hatched]								
9.0	[Red Hatched]								
10	[Green Dotted]	CLAYEY SAND (SC) , trace gravel, fine to coarse grained, gray brown, loose	90.5						
2	[Green Dotted]	SAND (SP-SC) , with clay, trace gravel, fine to coarse grained, brown, loose	89						
13.0	[Green Dotted]								
15	[Green Dotted]	LEAN TO FAT CLAY (CL/CH) , with sand, trace gravel, gray, stiff, (residual soil)	86.5						
18	[Green Dotted]								
19.0	[Green Dotted]								
4	[Green Dotted]	LIMESTONE , highly weathered and broken, with clay layers, light brown	80.5						
		Practical Auger Refusal at 20.2 Feet	79.3						

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 12.5' observed while sampling
 9' observed after drilling
 Cave-in at 13' after drilling

Drill Rig
 589

Hammer Type
 Automatic

Driller
 CL

Notes

Advancement Method
 Hollow Stem Auger

Abandonment Method
 Boring backfilled with soil cuttings upon completion.

Logged by
 WE

Boring Started
 06-04-2024

Boring Completed
 06-04-2024

Boring Log No. 2

Model Layer	Graphic Log	Location: See Exploration Plan	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Water Content (%)	Organic Content (%)
		Latitude: 42.8697° Longitude: -91.7578°							
		Depth (Ft.) Elevation.: 99.5 (Ft.)							
1	[Red Hatched]	FILL - CRUSHED STONE , with fines	98						
5	[Red Hatched]	FILL - SANDY LEAN CLAY , trace gravel and organics, dark brown	95						
6.0	[Red Hatched]	FILL - CLAYEY SAND , trace gravel and organics, fine to medium grained, dark brown	93.5						
10	[Red Hatched]	FILL - LEAN CLAY , with sand, trace organics, dark brown	89.5						
11.5	[Red Hatched]	FILL - SAND , with gravel, trace clay, fine to coarse grained	88						
2	[Yellow Dotted]	SAND (SP) , with gravel, fine to coarse grained, brown, loose	82.5						
4	[Yellow Dotted]	LIMESTONE , highly weathered, with shale and clay layers, light brown and gray	79.7						
		Practical Auger Refusal at 19.8 Feet							

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 12.5' observed while sampling
 None observed after drilling
 Cave-in at 13' after drilling

Drill Rig
 589

Hammer Type
 Automatic

Driller
 CL

Notes

Advancement Method
 Hollow Stem Auger

Abandonment Method
 Boring backfilled with soil cuttings upon completion.

Logged by
 WE

Boring Started
 06-04-2024

Boring Completed
 06-04-2024

NO.	REVISION DESCRIPTION	APPROVED	DATE