

LETTING DATE 05-18-2021
 MISCELLANEOUS
 NHSN-067-1(149)--2R-82

SCOTT CO.



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM SCOTT COUNTY MISCELLANEOUS

East River St to Forest Rd in Davenport

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



REVISIONS

TOTAL

9

PROJECT IDENTIFICATION NUMBER

17-82-067-030

PROJECT NUMBER

NHSN-067-1(149)--2R-82

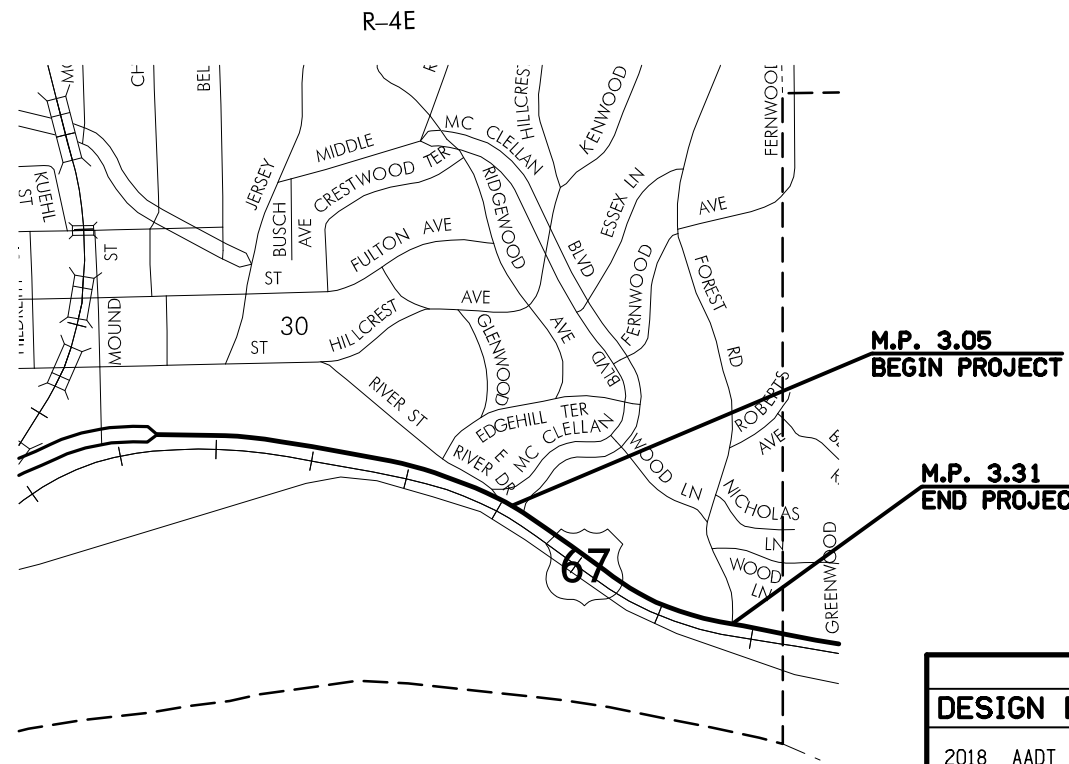
R.O.W. PROJECT NUMBER

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
C Sheets	Quantities and General Information
C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.1	Standard Road Plans
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
Q Sheets	Soils Sheets
Q.1 - 6	Soils Sheets US 67
	* Color Plan Sheets



T-78N



DESIGN DATA URBAN

2018	AADT	21900	V.P.D.
20--	AADT	--	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	--	%
	Total		
	Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Jason R. Strum	Primary Signature Block
Q.1	Stephen J. Megivern	Geotechnical Design

ROADWAY DESIGN



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: *Jason R. Strum* Date: 12-31-2021

Printed or Typed Name: Jason R. Strum

My license renewal date is December 31, 2021

Pages or sheets covered by this seal: A.1, C.1, J.1

100-0A
10-28-97

**ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)**

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2310-8300550	PAVEMENT INTERLAYER GEOTEXTILE	SY	40.0	
2	2424-6772250	SHOTCRETE	SF	103	
3	2528-8445110	TRAFFIC CONTROL	LS	1.00	
4	2533-4980005	MOBILIZATION	LS	1.00	
5	2595-0005125	RAILROAD PROTECTIVE LIABILITY INSURANCE FOR DAKOTA, MINNESOTA, AND EASTERN RAILROAD CORP.	LS	1.00	
6	2599-9999003	('CUBIC YARDS' ITEM) EXCAVATE AND WASTE LOOSE ROCK AND SOIL	CY	16.0	

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2310-8300550	PAVEMENT INTERLAYER GEOTEXTILE Refer to Q sheets and "Developmental Specifications for Pavement Layer Geotextile for PCC Overlays" for details
-	-	-
2	2424-6772250	SHOTCRETE Refer to Q sheets for details
-	-	-
3	2528-8445110	TRAFFIC CONTROL Refer to Q sheets and Traffic Control Plan on sheet J.1 for details
-	-	-
4	2533-4980005	MOBILIZATION -
-	-	-
5	2595-0005125	RAILROAD PROTECTIVE LIABILITY INSURANCE FOR DAKOTA, MINNESOTA, AND EASTERN RAILROAD CORP. Refer to Q sheets and "Developmental Specifications for Construction or Maintenance Work on Railroad Right-of-Way (Dakota, Minnesota, and Eastern Railroad Corporation dba Canadian Pacific)" for details.
-	-	-
6	2599-9999003	('CUBIC YARDS' ITEM) EXCAVATE AND WASTE LOOSE ROCK AND SOIL Refer to Q sheets for details
-	-	-
		Method of Measurement and Basis of Payment per Section 2102 of the Standard Specifications
-	-	-

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-402	04-21-15	Work Within 15 ft of Traveled Way
TC-419	10-16-18	Lane Closure on Undivided Highway

262-6
10-18-05

**UTILITIES
(NOT A POINT 25 PROJECT)**

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

108-23A
08-01-08

TRAFFIC CONTROL PLAN

U.S. 67

Maintain two WB lanes and at least one EB lane of traffic at all times
Lane closures on U.S. 67 will not be allowed from 7:00 AM - 9:00 AM and from 4:00 PM to 6:00 PM, Monday through Friday
Lane closure per Standard Road Plan TC-419

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided	

108-23B
10-17-17

* This is to only be used in conjunction with Tabulation 108-23A
Shaded area indicates times that lane closures are not allowed


TRAFFIC CONTROL CLOSURE TABLE(S)

	AM														Noon	PM																																								
	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30								
SUN																																																								
MON																																																								
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WED																																																								
THU																																																								
FRI																																																								
SAT																																																								

108-25
10-21-14

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No Travel Restrictions Expected									

GEOTECHNICAL DESIGN	
	<p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p>
	<p>Signature: <u>Stephen J. Megivern</u> Date: <u>3-2-2021</u></p>
	<p>Printed or Typed Name: <u>Stephen J. Megivern</u></p>
	<p>My license renewal date is December 31, 2022</p>
<p>Pages or sheets covered by this seal: <u>Q.1-6</u></p>	

Project Purpose and Location

The purpose of this project is to repair small under-pavement voids by filling with pneumatically projected concrete (shotcrete) at four (4) locations along US 67 (River Drive) in Davenport. The repair sites are east of the Lindsay Park Yacht Club marina and near the intersection of US 67 with McClellan Blvd. The void locations are at the following approximate River Drive and US 67 stations and are shown in profile and aerial photos shown on Sheets Q.4 through Q.6.

<u>Site</u>	<u>City of Davenport (River Dr.) Stationing</u>	<u>Iowa DOT US 67 Stationing</u>
1	114+86	20+14
2	121+50	26+78
3	122+85	28+13
4	124+90	30+18

The four work repair sites are in a segment of US 67 that has a decorative vehicle barrier wall along the right shoulder that is vertically separated from the adjacent (lower) Canadian Pacific Railroad grade to the south. The voids in need of repair are under the vehicle barrier wall (shoulder) pavement.

The grade separation between US 67 and the railroad consists of limestone rock outcrop with intermittent laid-and-mortared rock wall. The amount of grade separation at the four repair locations varies, ranging from approximately 2.5 feet at Site 1 near the west end, to 13 to 17 feet at Sites 2, 3, and 4.

The property line separating the Iowa DOT right-of-way from the Canadian Pacific Railroad (CPRR) right-of-way varies in distance from the rock face but is very close to the base of the vertical separation at Sites 2, 3, and 4, generally following the line of wood power (light) poles.

Railroad Requirements

Access to perform the work will involve encroaching on CPRR right-of-way at Sites 2, 3, and 4. For this reason, the Contractor shall closely review and shall follow Iowa DOT Developmental Specification DS-15047.

All work operations and equipment that is present on, or extends into, the railroad right-of-way, either from highway level or from the ground at track level shall be subject to the movement of train traffic, and the coordination and approval of the CPRR representative onsite. The CPRR has indicated that motorized vehicles shall not be used on their right-of-way. Train traffic through the work area is relatively frequent.

Anticipated Access and Procedures

Before submitting a bid, the Contractor shall complete a site visit to become familiar with the four work areas. Access to view the railroad track side of the work areas can be made from the city bike/pedestrian sidewalk east of the Lindsay Park Yacht Club marina. Parking for sidewalk access is available at the marina parking lot on Mound St. south of River Drive. For reference, River Drive stationing has been spray painted on the vertical, track-facing highway pavement edge and/or rock face at intermittent locations.

The Contractor needs to be aware that there is an energized MidAmerican overhead power line for the street lighting along the track side of the barrier wall. Contact with MidAmerican can be made at:

➤ Nick Benhart / 563-333-8718 / ncbenhart@midamerican.com

• Work Access

- At Site 1, the pavement void is near ground level and the right-of-way line is a significant distance from the barrier wall. The Iowa DOT anticipates the Contractor can access the area for shotcreting by going around the west end of the barrier wall.
- At Sites 2, 3, and 4, the Iowa DOT anticipates the Contractor can access the three void locations from above by using an articulated lift from the highway side of the barrier wall, and/or by ladder from below. As indicated above, both access methods will be subject to CPRR coordination and approval because they both involve encroachment on railroad right-of-way. A discussion of proposed work means and methods should occur between the Contractor and the CPRR at the project pre-construction meeting.

• Void Preparation

- At Sites 1 and 2 respectively, the voids extend approximately 5.5 feet and 7 feet horizontally in from the pavement edge. At Sites 3 and 4, the existing voids have been measured to extend approximately 1.5 to 2 feet back in from the pavement edge.
- The void interior bases and void openings at the pavement edge shall be prepared for geotextile placement and shotcreting. At all repair locations loose rock and soil shall first be removed/excavated from the area to be shotcreted. The base of the excavated area shall be made reasonably flat and horizontal before installation of the geotextile. Loose rock and soil at the side and back edges of the void can be allowed to slope to their natural angle of repose.
- At Site 1 minimal excavation preparation is anticipated before placement of the geotextile.
- At Sites 2, 3, and 4, remove loose rock and soil up to a maximum of 2 vertical feet below bottom of pavement. However, if an existing solid bedrock base is encountered before 2 feet of material is removed, vertical excavation may stop. The Contractor shall attempt to achieve a minimum 2-foot front to back dimension of bottom of the excavation at Sites 3 and 4. Excavated material shall be contained and wasted off-site. At Sites 2, 3, and 4, this will require lifting waste material up and over the barrier wall.
- The bottom of all four voids shall have geotextile fabric meeting Iowa DOT Developmental Specification DS-15052 laid (unrolled) as flatly as possible and as far inward as possible on the base of the void for purposes of maintaining sub-pavement water drainage after shotcrete placement. Once in place, the geotextile shall be weighted or suitably pinned down (if possible) to the base of the voids to minimize the geotextile moving or floating during shotcrete placement. Use of steel rebar to act as weights from the back to the front of the voids may be appropriate. Inserting the geotextile into a narrow void on a rod, initially rolled like a scroll and then unrolled may be an appropriate technique where needed. Geotextile inserted into voids in segments shall be side lapped by at least 8 inches to better assure geotextile coverage of the void base. Material used to install, weight, or pin the geotextile shall be considered incidental.
- The placed geotextile shall extend approximately 2 feet outside the void and final shotcrete face to permit pavement subgrade water drainage, to be later trimmed to the shotcrete face after curing.

- Shotcrete Placement and Completion

- Shotcrete shall meet Standard Specification 2424 with the exception 2424.02, Article F. Concrete anchors are not anticipated.
- At Sites 1 and 2 respectively, where the voids extend approximately 5.5 feet and 7 feet horizontally in from the pavement edge, the Contractor shall employ suitable means and methods to ensure that shotcrete is placed the full extent of the void from the back to front.
- As shotcreting progresses, wire mesh as described in Standard Specification 2424.02 E, shall be oriented horizontally and placed within the front 2 feet (back-to-front) of each of the four void openings. A layer of wire mesh shall be placed horizontally every 6 inches of final excavated void opening height. Each layer of wire mesh shall extend the full length (in the stationing direction) of the void opening at that elevation, except where existing obstacles might prevent the placement, in which case shortened segments of mesh may be placed around the obstacle at that elevation. Wire mesh placed in segments shall be overlapped by at least two full units of the wire mesh opening (3 or 4 inches) used.
- Preferable to the Iowa DOT, the exterior final face of the shotcrete shall approximate the existing vertical edge of the pavement slab.
- When the shotcrete has sufficiently cured, cut any exposed wire mesh to the face of the finished shotcrete. Trim the geotextile to the face of the shotcrete.

