

JEB:

cc:

C. Purcell
S. J. Megivern
M. Nop
S. Majors
J. W. Laaser-Webb
E. C. Wright
N. M. Miller
B. E. Azeltine
S. Anderson
K. K. Patel
E. Engle
D. Bishop
B. Dolan
D. Schultz
L. Sievers

M. J. Kennerly
J. S. Nelson
M. A. Swenson
K. Brink
W. A. Sorenson
M. E. Ross
C. C. Poole
T. D. Crouch
D. Stokes
S. Godbold
M. Hobbs
V. Brewer
T. Huju
M. K. Solberg

K. D. Nicholson
B. Walls
R. A. Younie
D. L. Newell
D. E. Sprengeler
A. A. Welch
B. Hofer
S. J. Gent
J. Selmer
J. Vortherms

M. Carlson
K. Mulvihill
S. Tymkowicz

REVISED FINAL PROJECT CONCEPT STATEMENT

Near 1st Ave NE in Le Mars

Plymouth County
NHSN-003-1(102)--2R-75
PIN: 20-75-003-010-00

Highway Division
Design Bureau

John Bartholomew, P.E.
515-239-1540

October 5, 2020

I. STUDY AREA

A. Project Description

This project involves the addition of a raised median, including updates made to business entrances, sidewalks, and pavement markings to improve the safety adjacent to the existing RR crossing on IA 3 in Le Mars.

The two alternatives considered are:

1. Update all sidewalks, remove the center turn lane with left turn only turning lanes before and after the RR crossing and replace with a raised median, remove and relocate the Fareway Foods entrance off of IA 3 onto the side street, and closing the entrance on the south side of IA 3 closest to the RR crossing. Estimated cost: **\$172,550**
2. Similar to Alternative 1, however, using a painted median rather than a raised median with curb.

Alternative 1 is preferred by design due to the Railroad requirements for their truss stop arms, and to prevent traffic from queuing on or around the tracks.

B. Need for Project

This project will address the concerns of the safety hazards of vehicles queuing on or near the RR tracks to make turns to the north (Fareway parking lot) and to the south (Bank parking lot). Currently, the Railroad crossing through IA 3 does not meet existing standards. There used to be two tracks running across IA 3, which placed the sign truss further to the East than it should be now that there is one track in place. Due to the general upgrades being made to the RR crossing, the surrounding pavement, curb, and sidewalk surrounding the crossing is in need of repairs and updates to meet ADA, and MUTCD Railroad standards.

C. Present Facility

IA 3 in the project area is 58 ft. wide PCC pavement, including a 14 ft. dual direction center turn lane, with curb and gutter and adjacent 8 ft. sidewalk on both North and South sides of IA 3.

D. Traffic Estimates

The 2022 construction year and 2042 design year average daily traffic estimates are 6800 ADT with 5 % trucks and 7800 ADT with 6 % trucks, respectively.

F. Access Control

Access rights will be acquired for this project.

G. Crash History

During the five-year study period from January 1, 2015 through December 31, 2020, there were 4 crashes including 8 total vehicles and 2 possible injuries.

II. PROJECT CONCEPT

A. Feasible Alternatives

Alternative #1 Replace the dual center turn lane with a raised median (6" curb):

The existing 58 ft. PCC pavement with 14 ft. dual center turn lane will be redesigned to include a raised 6" curbed median, and eastbound/westbound left turn lanes. The new raised median will be doweled on to the existing PCC pavement. The Railroad truss signs will be relocated to a proper distance away from the tracks to meet standards.

Due to updates to the RR passing through IA 3, the surrounding roadway and sidewalks will need to be updated in accordance with standards. This includes the removal of the dual center turn lane adjacent to the RR and replacing it with a raised median with westbound and eastbound left turn lanes. This will allow for proper coverage of the lanes from the RR stop arm, preventing vehicles from stopping on the tracks or potentially weaving between the arms.

Currently, the Fareway store on the north side of IA 3 has delivery trucks making turns into the parking lot from IA 3. If these trucks have to wait to turn into the parking lot, they may be forced to wait on the RR tracks, which is a safety hazard. Due to this, the entrance into Fareway on IA 3 will be closed, and relocated to 1st Ave. NE. The portion of the new sidewalk on the NE side of the RR will need to be tapered out to narrow the roadway to approximately 17.5 ft. including the curb and gutter. This will allow for the removal of the cantilever RR sign, replacing it with a single post and gate arm.

Similarly, on the south side of IA 3, there are parking entrances that currently sit too close to the RR tracks (one to the east, and one to the west of the tracks), which can cause potential queueing on the tracks. On the west side of the tracks, along with the new raised median, the portion of this entrance closest to the tracks will be closed, leaving the entrance to this parking lot that is furthest from the RR tracks. On the east side of the RR tracks, there is currently a makeshift gravel entrance that is being used. To ensure safety in this area, this entrance will be also be closed with full 6" curb.

In addition to the improvements to IA 3, the Fareway parking lot will have to be redesigned to help improve their internal circulation pattern with the new entrances on 1st Ave NE. The existing 56 parking stalls on the west end of the parking lot will be repainted into 52 stalls that match the new entrances. This redesign will also include the removal and replacement of 4 light poles in the parking lot.

Roadway Items

Entrance Driveway Pavement	\$9,750
Entrance Removal	\$1,250
Sidewalk	\$22,000
Pavement removal	\$1,250
Raised Median	\$26,300
Luminaires	\$29,350
Intakes	\$9,500
Curb and gutter	\$17,500
Pavement Markings	\$2,500
Right of Way	\$5,000
Traffic Control - 5%	\$6,200
Mobilization - 5%	\$6,200
M & C - 30%	<u>\$ 37,000</u>
Roadway costs	\$ 174,300

Project Total **\$174,300**

Alternative #2 – Painted Median

This Alternative is similar to Alternative 1, however, instead of a raised median, there would only be a painted median as a way to minimize construction time, traffic control, and future maintenance on a raised median. This alternative has been dismissed due to the requirements from the RR for their truss crossing gate arms, and to better control the location of vehicles around the RR tracks.

B. Detour Analysis

There will be no off-site detour. Traffic will be maintained at all times on IA 3 during construction.

C. Recommendations

It is recommended that the present structure be reconstructed, as described in Alternative No. 1.

D. Construction Sequence

It is anticipated that all work on this project will be awarded to one prime contractor. The Design Bureau will coordinate the plan preparation.

E. ADA Accommodations

Both north and south sides of IA 3 have existing and proposed sidewalk. This new sidewalk will need to conform to all ADA standards.

F. Special Considerations

This will not be a traffic critical project.

Sidewalk will be required as part of this project. New sidewalk must conform to all ADA standards.

Right of Way appears to be required for this project.

There will be a Railroad project that will need to be coordinated with this project that will include the updates for all the RR items. Further information including a cost estimate for this tied project will be available at a later date following design development.

The project area adjoins the Le Mars Downtown Commercial Historic District [75-00740]. It is noted that the District is located on the west side of 1st Street. We recommend that we work to avoid any effects to this Historic District.

The Office of Location and Environment has not reviewed this project at this time.

F. Program Status

Site data has been developed by the Office of Design. This project is not currently listed in the 2021-2025 Iowa Transportation Improvement Program. A schedule of events will be developed following approval of the Project Concept.

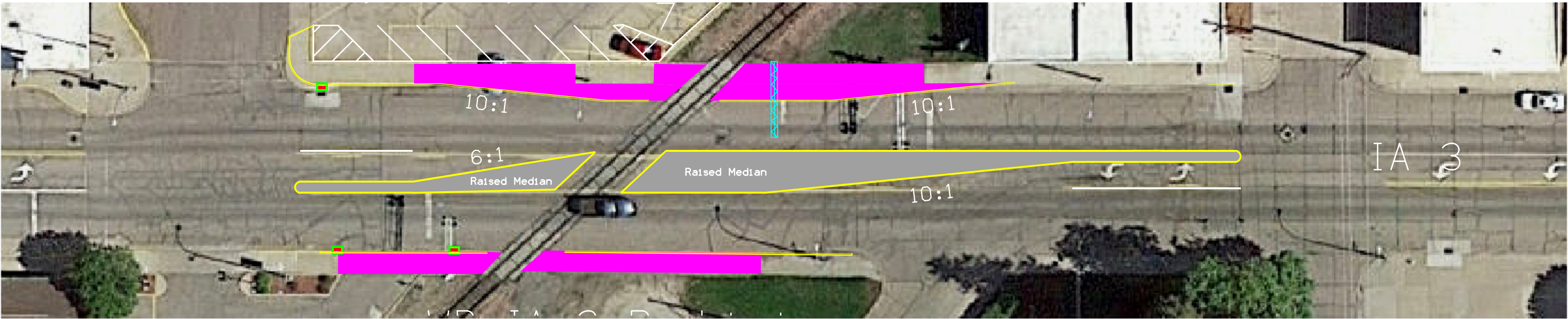
JEB

1st Ave NE



WB IA 3 Right turn in re-align parking

IA 3



10:1

10:1

6:1

Raised Median

Raised Median

10:1

IA 3

PLYMOUTH CO.

PCC CURB AND GUTTER
NHSN-003-1(102)--2R-75

LETTING DATE
11-16-2021



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
PLYMOUTH COUNTY
PCC CURB AND GUTTER

Near 1st Ave. NE in Le Mars

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

PROJECT IDENTIFICATION NUMBER

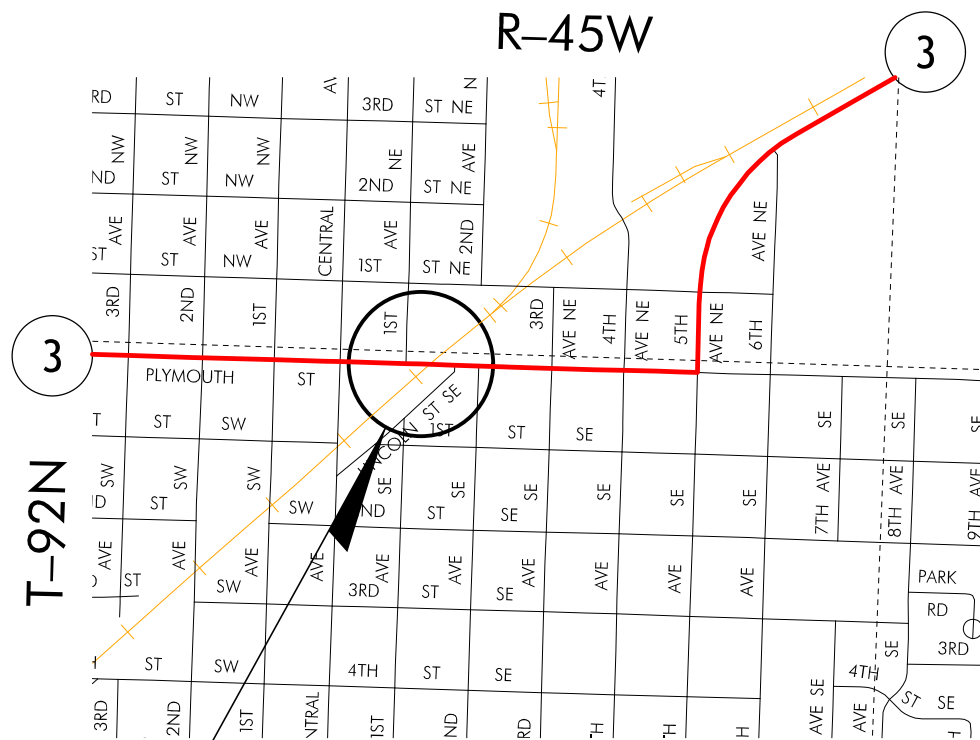
20-75-003-010-00

PROJECT NUMBER

NHSN-003-1(102)--2R-75

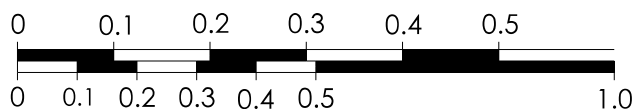
R.O.W. PROJECT NUMBER

NHSN-003-1(103)--2R-75



Part of Town of Le Mars
Project Location

SCALE IN MILES



SCALE IN KILOMETERS

DESIGN DATA URBAN

2022	AADT	6800	V.P.D.
2042	AADT	7800	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	6	%
Total			
Design	ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
	X	X

PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN - Date: 12-04-2020

FILE NO.

ENGLISH

DESIGN TEAM **J1a \ Fullarton**

PLYMOUTH COUNTY

PROJECT NUMBER

NHSN-003-1(102)--2R-75

SHEET NUMBER

A.1

IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE: District 3 **DATE:** October 5, 2020
ATTENTION: Tony Lazarowicz **PROJECT:** Plymouth
 NHSN-003-1(102)--2R-75
FROM: John E. Bartholomew 20-75-003-010-00
BUREAU: Design
SUBJECT: Project Concept Statement; (REVISED FINAL, D0)

JEB:
cc:

- | | | |
|-------------------|----------------|------------------|
| C. Purcell | M. J. Kennerly | K. D. Nicholson |
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A concept review Skype meeting was held on March 11, 2020.

The two alternatives considered were:

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Alternative 1 is preferred by design due to the Railroad requirements for their truss stop arms, and to prevent traffic from queuing on or around the tracks.

The Draft Project Concept Statement was sent out for review and comment with concerns to be resolved by Tuesday, September 1, 2020. Comments received during the review period have been considered and resolved.

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Plymouth County
NHSN-003-1(102)--2R-75
PIN: 20-75-003-010-00

Highway Division
Design Bureau

John Bartholomew, P.E.
515-239-1540

October 5, 2020

Plymouth County
NHSN-003-1(102)--2R-75
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C. Recommendations

It is recommended that the present structure be reconstructed, as described in Alternative No. 1.

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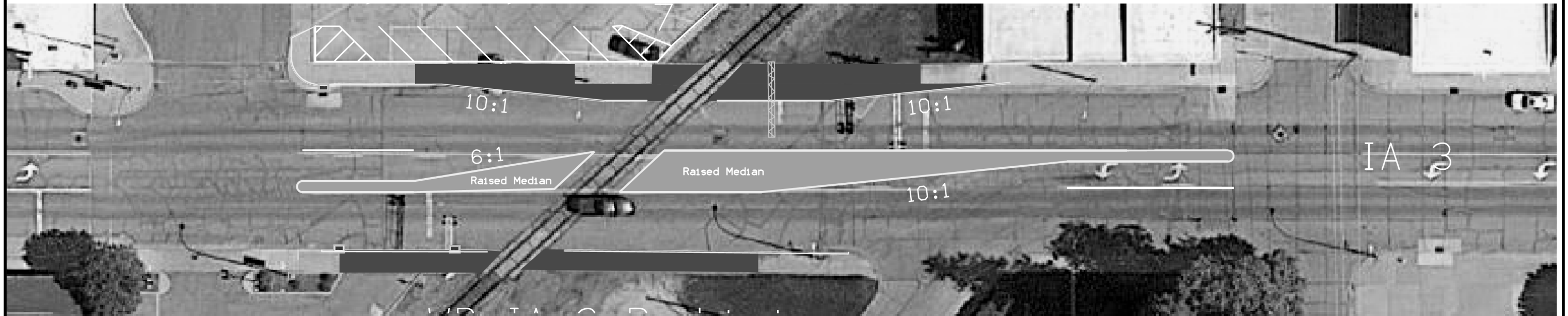
The Office of Location and Environment has not reviewed this project at this time.

F. Program Status

Site data has been developed by the Office of Design. This project is not currently listed in the 2021-2025 Iowa Transportation Improvement Program. A schedule of events will be developed following approval of the Project Concept.

JEB





D2 QUESTIONS

1. Ped. Ramp in NE corner of intersection?
2. Island Width?
3. Turning lane and island widths?
4. Sidewalk widths?
5. Remove poles in sidewalk?
6. How much to remove of SW parking lot pavement?
7. WB lane width face-to-face.
- 8.

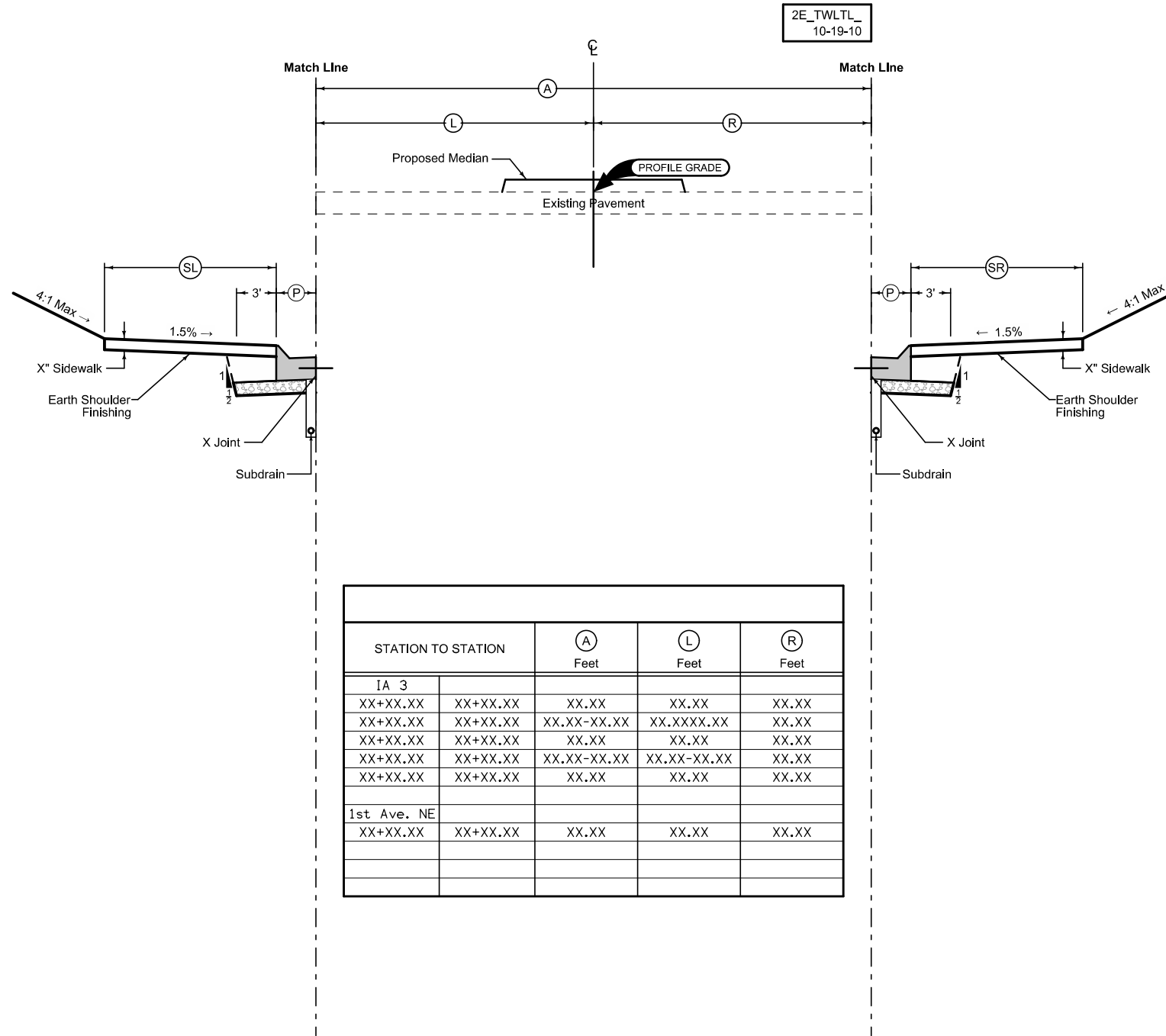
2E_TWLT_10-19-10

Curbed Shoulder

Shoulder Jointing:
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2
 Staged : KT-2
 Transverse: C at 17' spacing

2_Curb_04-21-20			
STATION TO STATION	(SL) Feet	Curb Type See PV-102	
IA 3			
XX+XX.XX	XX+XX.XX	XX.XX	6" Std.
XX+XX.XX	XX+XX.XX	XX.XX-XX.XX	6" Std.
XX+XX.XX	XX+XX.XX	XX.XX	6" Std.
XX+XX.XX	XX+XX.XX	XX.XX-XX.XX	6" Std.
XX+XX.XX	XX+XX.XX	XX.XX	6" Std.



Curbed Shoulder

Shoulder Jointing:
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2
 Staged : KT-2
 Transverse: C at 17' spacing

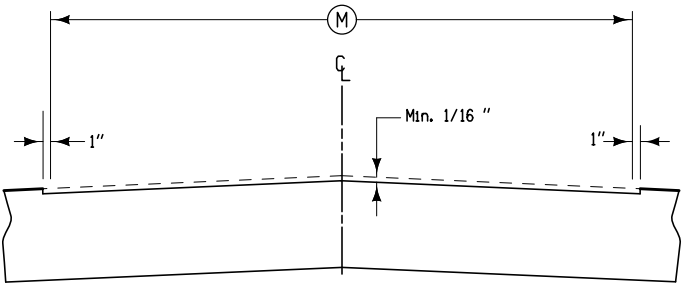
2_Curb_04-21-20			
STATION TO STATION	(SR) Feet	Curb Type See PV-102	
IA 3			
XX+XX.XX	XX+XX.XX	XX.XX	6" Std.
1st Ave. NE			
XX+XX.XX	XX+XX.XX	XX.XX	6" Std.

STATION TO STATION	(A) Feet	(L) Feet	(R) Feet
IA 3			
XX+XX.XX	XX+XX.XX	XX.XX	XX.XX
XX+XX.XX	XX+XX.XX	XX.XX-XX.XX	XX.XX-XX.XX
XX+XX.XX	XX+XX.XX	XX.XX	XX.XX
XX+XX.XX	XX+XX.XX	XX.XX-XX.XX	XX.XX-XX.XX
XX+XX.XX	XX+XX.XX	XX.XX	XX.XX
1st Ave. NE			
XX+XX.XX	XX+XX.XX	XX.XX	XX.XX

See Tab 100-24 or 100-25 for pavement quantities.
 See Tab 112-9 for shoulder quantities.

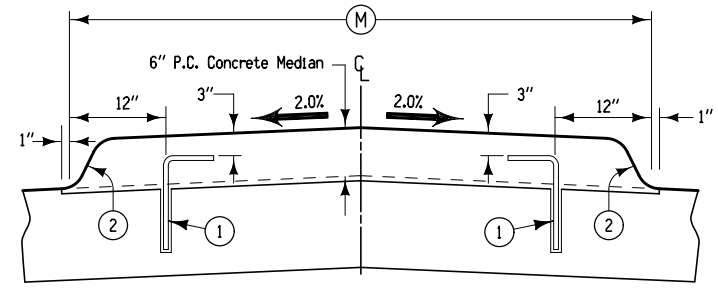
ROADWAY IDENTIFICATION

6149
04-17-07

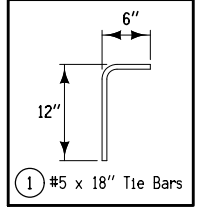


Details of Milling

Notes:
This section may be appropriately modified in areas specifically designated by the Engineer.
Use 'C' joints in the doveled median and match the location of all transverse and longitudinal joints to the joints in the existing pavement.
Place tie bars at 24" C-C longitudinal spacing between joints in existing pavement. Drill 3/4" holes for tie bars and epoxy to new pavement. See Tabulation 112-5 for additional details. Epoxy material shall be as specified in Materials IM491.11, appendix C.



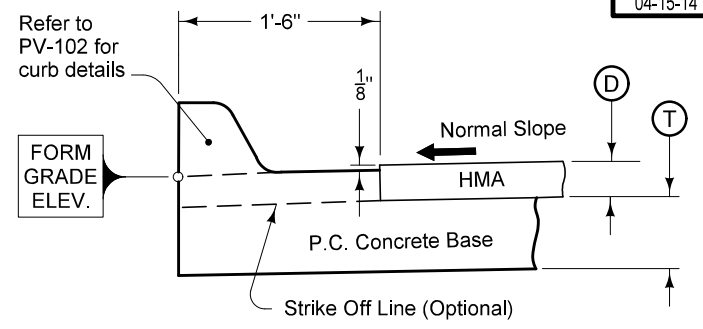
Details of Median Placement



② 6" Standard Curb

DOWELED MEDIAN WITH STANDARD CURB

6133
04-15-14



ⓓ Depth of HMA
Ⓣ Thickness specified for P.C. Concrete Base

P.C. CONCRETE BASE WITH STANDARD CURB

100-1D 10-18-05
PROJECT DESCRIPTION
This project involves the addition of a raised median, including updates made to business entrances, sidewalks, and pavement markings to improve the safety adjacent to the existing RR crossing on IA 3 in Le Mars.

105-4 10-18-11		
STANDARD ROAD PLANS		
The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
DR-303	10-17-17	Subdrains (Longitudinal)
EC-201	04-20-21	Silt Fence
EC-602	04-21-20	Open-Throat Curb Intake Sediment Filter
EW-103	10-20-15	Embankment Subgrade Treatment, Moisture Density Control and Special Compaction
MI-210	10-20-15	PCC Driveways and Alleys
MI-220	10-20-15	Detectable Warnings and Pedestrian Ramp
PM-110	04-21-20	Line Types
PM-111	04-21-20	Symbols and Legends
PM-240	04-20-21	Railroad Crossing on Two-Lane Roadway
PM-522	04-16-19	Two-Lane Roadway with Left Turn Lanes
PV-101	04-21-20	Joints
PV-102	04-21-20	PCC Curb Details
PV-104	04-21-20	Ramped Median Nose
PV-121	04-21-15	Jointing PCC Pavement Widening
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-211	10-15-19	Lane Closure on Low Volume Roadway
TC-213	10-15-19	Lane Closure with Flaggers
TC-228	10-16-18	Lane Closure Involving TWLTL
TC-601	10-15-19	Pedestrian Detour