I-80 at 1st Ave DDI in Coralville

General Project Overview
Goal: have all public utility relocations completed by project letting date on August 16th, 2022
Public utilities will relocate into the City of Coralville new public utility easement located outside of 1st Avenue project limits.
I-80 at 1st Ave DDI in Coralville

Utility Coordination

Designated I-80 Public Utility Crossing Location

PRELIMINARY SUBJECT TO CHANGE
I-80 at 1st Ave DDI in Coralville

Utility Coordination

Magellan petroleum pipeline to remain in place (6” line within 10” casing)
Magellan petroleum pipeline to remain in place (8” line within 12” casing)
Utility Coordination

Magellan petroleum pipeline to remain in place (12” line within 16” casing)
6” abandoned pipeline located between the 8” and 12” Magellan lines has a Verizon fiber line located inside.
I-80 at 1st Ave DDI in Coralville

Utility Coordination

**Magellan Requirements**

- Magellan will require inspector to be on site at all times when construction is taking place within 25’ of any of the three pipelines. Cost associated with this will be paid through the IADOT utility relocation agreement.

- Magellan will need to provide approval for the heaviest piece of equipment that will be driving over the pipelines.

- Iowa One Call requirements of hand digging within 2 ft of the pipelines.
I-80 at 1st Ave DDI in Coralville

What is a DDI?

- Diverging Diamond Interchange
- Minor road traffic crosses to the left side of the road at a signalized intersection
- First one in US opened in 2009
- Now over 100 in use and dozens more in planning or construction

Why use a DDI?

- Decreases vehicle conflict points by nearly half, and removes left turns across oncoming traffic
- Increases capacity and efficiency
- With extra signage, barriers, and pavement markings, drivers will adjust quickly

Image credit: Wisconsin DOT
I-80 at 1st Ave DDI in Coralville

General Project Overview
I-80 at 1st Ave DDI in Coralville

Aerial View Looking Southwest
I-80 at 1st Ave DDI in Coralville

Project Overview – Signals

LEGEND
- PROPOSED PAVEMENT
- PROPOSED GRANULAR SURFACE
- PROPOSED PAINTED MEDIAN
- PROPOSED RAISED MEDIAN
- PROPOSED SIDEWALK OR BIKEWAY
- PROPOSED RETAINING WALL
- PROPOSED BRIDGES AND BOX CULVERTS
- PROPOSED TRAFFIC SIGNAL LAYOUT
- PROPOSED TRAFFIC SIGNAL WIRING

PRELIMINARY SUBJECT TO CHANGE
I-80 at 1st Ave DDI in Coralville

Project Overview – Drainage
I-80 at 1st Ave DDI in Coralville

Project Overview – Signs along I-80 and Ramps
I-80 at 1st Ave DDI in Coralville

Area of Greatest Fill, Ramp A (NE)
I-80 at 1st Ave DDI in Coralville

Areas of Greatest Fill, Ramps

Greatest Fill (X) at Ramp Baseline

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>A</td>
<td>12’</td>
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<tr>
<td>B</td>
<td>19’</td>
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<tr>
<td>C</td>
<td>12’</td>
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<td>D (shown)</td>
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I-80 at 1st Ave DDI in Coralville

**Staging Overview**

**2022 Fall**
- August 16th letting
- Temporary pavement, grading, MSE wall, and other construction is required before winter in order to allow bridge construction to continue through winter months.

**2023 Construction Season**
- Two-way traffic maintained in the two existing west lanes of 1st Avenue
- Removal of existing east bridge and construction of two new east bridges
- Construction concentrated on east side of interchange

**2024 Construction Season**
- Two-way traffic maintained on the newly constructed east side of 1st Avenue
- Removal of existing two west bridges and construction of one new west bridge
- Construction concentrated on west side of interchange

**2025 Spring**
- The only remaining work consists of landscaping, erosion control, and other tasks that have little impact on traffic in the interchange.

*Preliminary subject to change*
### Staging Plan Breakdown

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<th>TASK</th>
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*Anticipated to take around one month total, allowing for needed fill and MSE walls to be constructed before winter in order for bridge construction to take place during the winter months.

**Work remaining after Phase 4 Stages 2 will likely end early in 2025 and should have little to no impact on traffic in the interchange. It may include: landscaping, erosion control, and other related work.
Possible Constructability Challenges

- 1\textsuperscript{st} Avenue Bridge Removal & Construction
- Magellan Pipeline Lightweight Fill
- Constrained Areas with Temporary Shoring
- I-80 Median Pier Construction
- South abutment construction for west traffic bridge
1st Avenue Bridge Removal & Construction

Existing Cross Section

Phase 2

Phase 3

All Sections Looking North

PRELIMINARY SUBJECT TO CHANGE
Magellan Pipeline Fill – Plan & Profile

PRELIMINARY SUBJECT TO CHANGE
Magellan Pipeline Fill – Staged Cross Sections

PHASE 2 STAGE 1

PHASE 3 STAGE 2 (BEGINNING)

PHASE (END) 3 STAGE 2

PRELIMINARY SUBJECT TO CHANGE
Constrained Areas with Temporary Shoring

Phase 2 Stage 1
1st Avenue, north of I-80
I-80 at 1st Ave DDI in Coralville

Constrained Areas with Temporary Shoring

Phase 2 Stage 1
Iowa River Landing Place

Phase 2 Stage 1
IRL Place Staged Culvert Shoring
Sta 15+95

PRELIMINARY SUBJECT TO CHANGE
Constrained Areas with Temporary Shoring

Phase 2 Stage 4
1st Avenue, south of I-80

PRELIMINARY SUBJECT TO CHANGE
Constrained Areas with Temporary Shoring

Phase 3 Stage 3
Existing Ramp C

Phase 3 Stage 2
Ramp C Shoring
Sta 3050+00

PRELIMINARY SUBJECT TO CHANGE
I-80 at 1st Ave DDI in Coralville

I-80 Median Pier Construction

Phase 2 Stage 1 and Phase 3 Stage 2 (shown)

I-80 shift away from pier construction
Phase 2 Stage 1
Sta 850+10.00 to Sta 850+92.00
Sta 852+98.00 to Sta 853+37.00

Phase 3 Stage 2
Sta 849+40.00 to Sta 850+10.00

PRELIMINARY SUBJECT TO CHANGE
I-80 at 1st Ave DDI in Coralville

Southwest Abutment Construction

Phase 3 Stage 2
Bridge Staging
Area Constraints

PRELIMINARY SUBJECT TO CHANGE
I-80 at 1st Ave DDI in Coralville

DOT-ICN Fiber – Placed prior to interchange construction

PROPOSED ACCESS CONTROL FENCE TO BE LOCATED 1 FOOT INSIDE R/W LINE (TYP.)

PROPOSED FENCE LOCATION

EXISTING FIBER VAULT – FIBER TRUNK LINES
SPILIER/RECONNECTION LOCATION

EXTENSION OF CULVERT WILL IMPACT EXISTING FIBER TRUNK LINE
SET FIBER VAULT AND INTERCEPT EXISTING FIBER TRUNK AT THIS LOCATION

PRELIMINARY SUBJECT TO CHANGE
THANK YOU FOR YOUR TIME AND ATTENTION