

# Burleigh County Hwy 10 & 66<sup>th</sup> Street Intersection

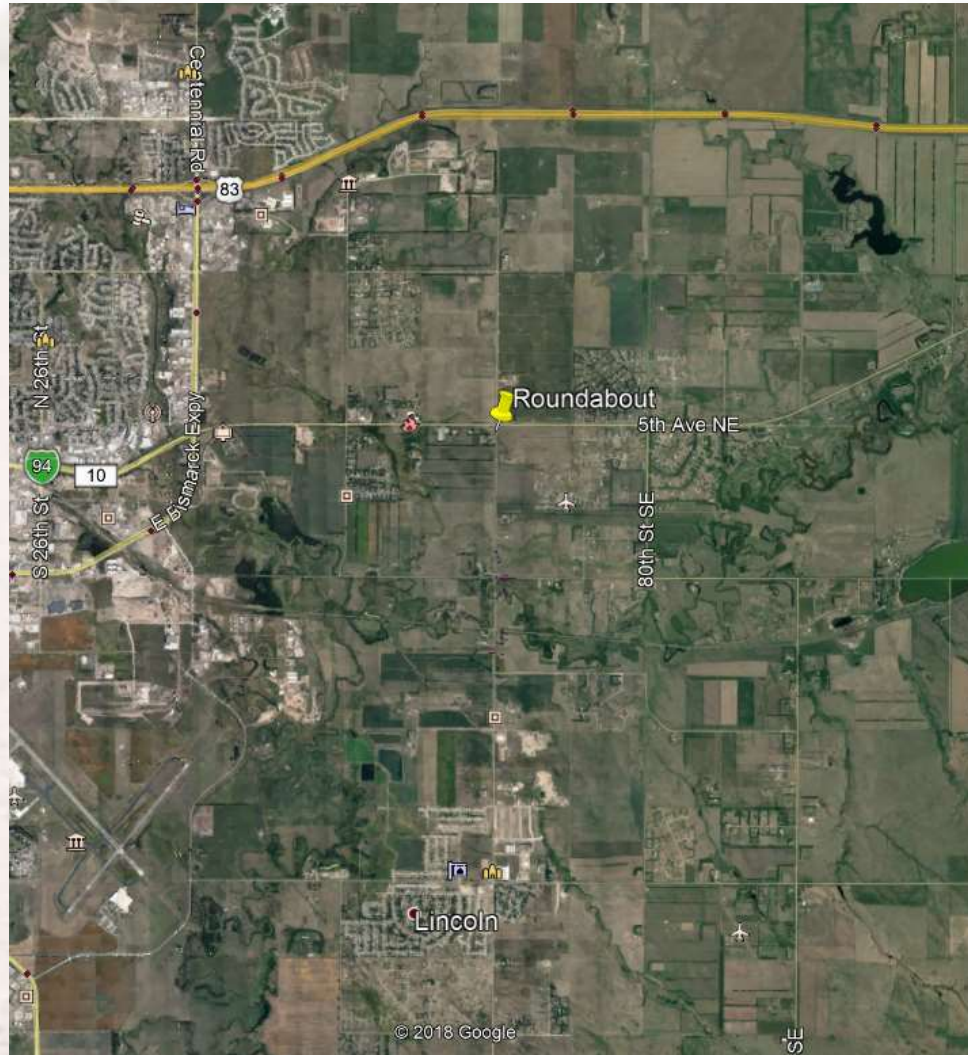
Mark Kvas, PE

**Bartlett & West**



33<sup>rd</sup> Annual North Central Local Roads Conference  
Rapid City, SD - October 17-18, 2018

# Location





# 2015 Traffic Conditions



# Projected Traffic Counts

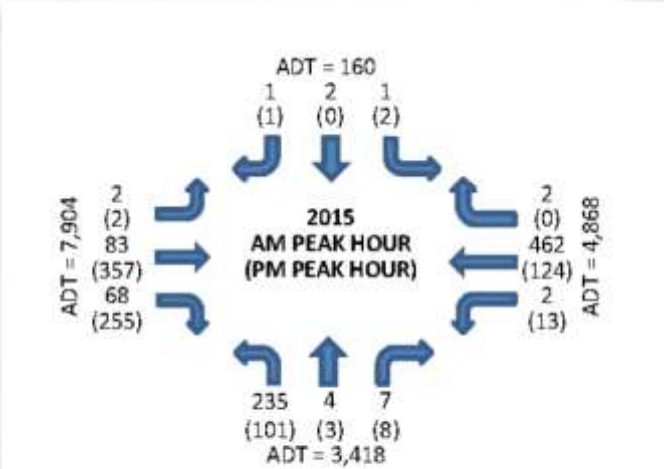


Figure 1: Existing Traffic Volumes  
16,350

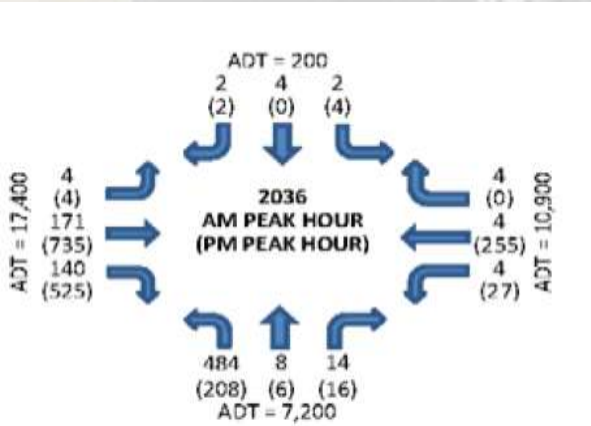


Figure 4: 2036 volumes at existing traffic patterns  
35,700

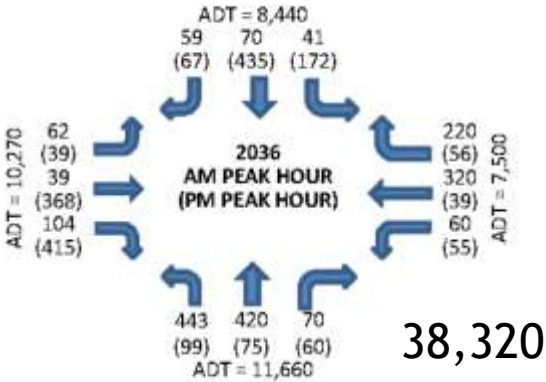
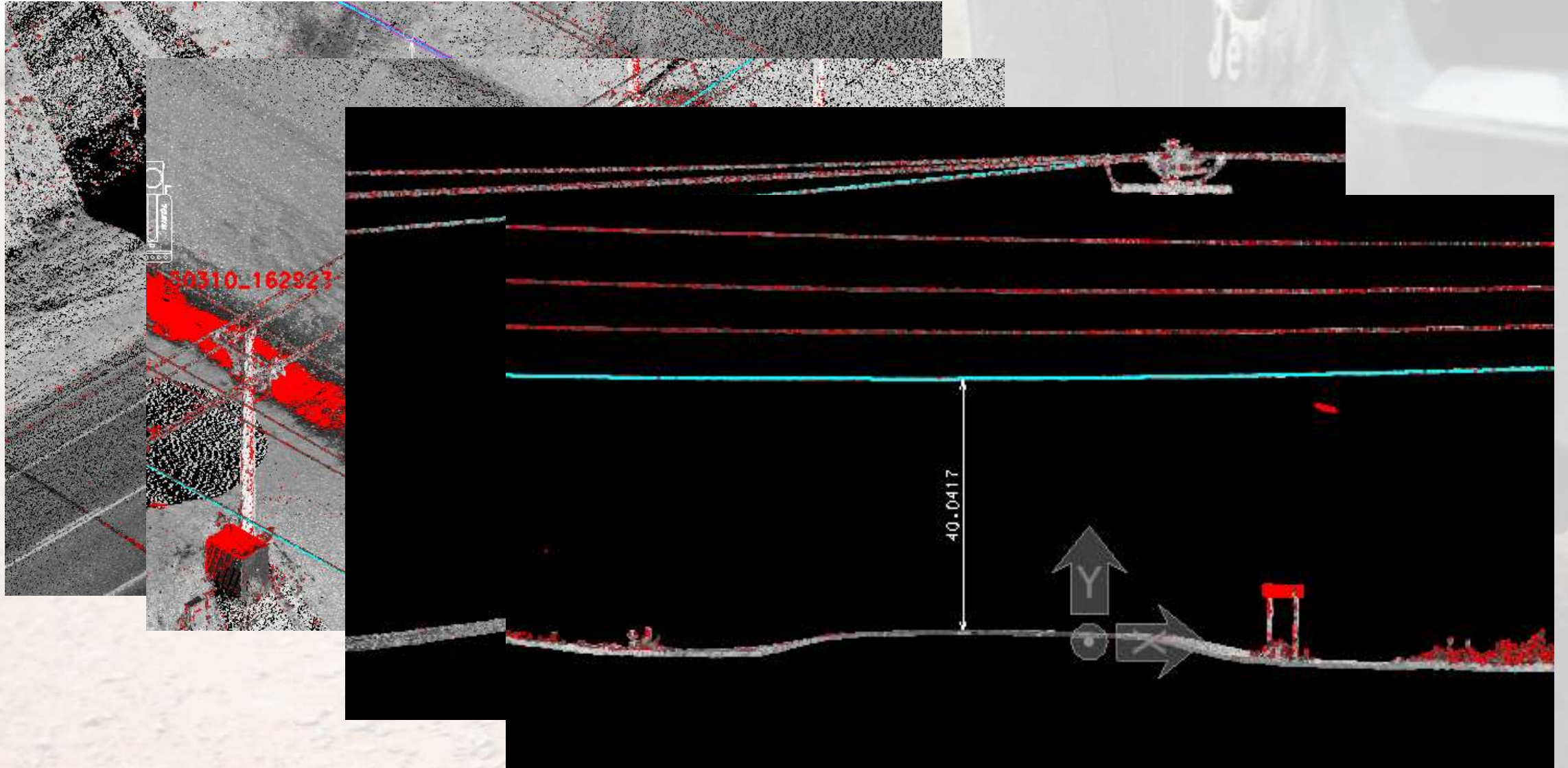


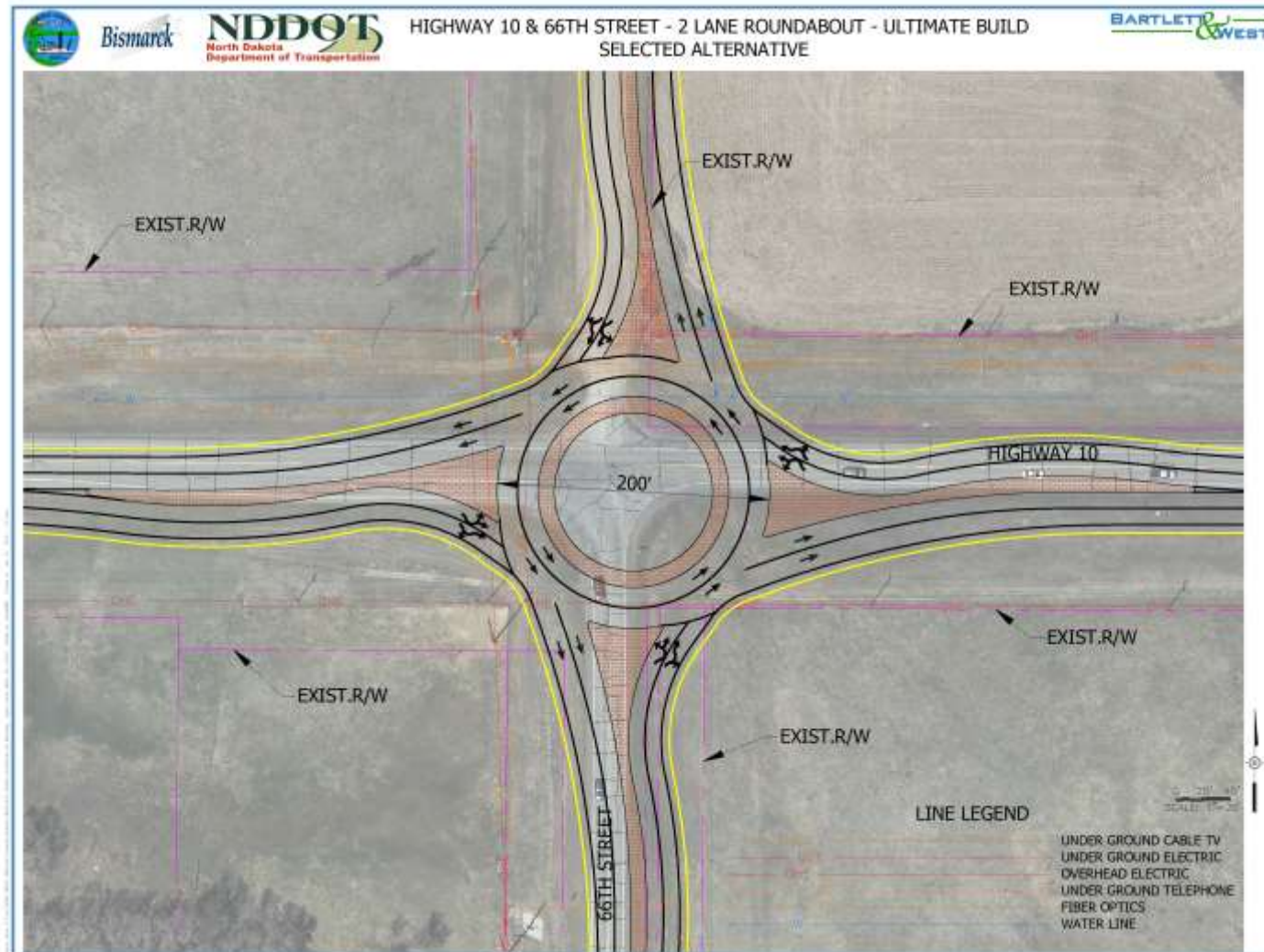
Figure 6: 2036 volumes with 66<sup>th</sup> Street interchange at I-94  
38,320



# LiDAR - Survey



# Proposed Options



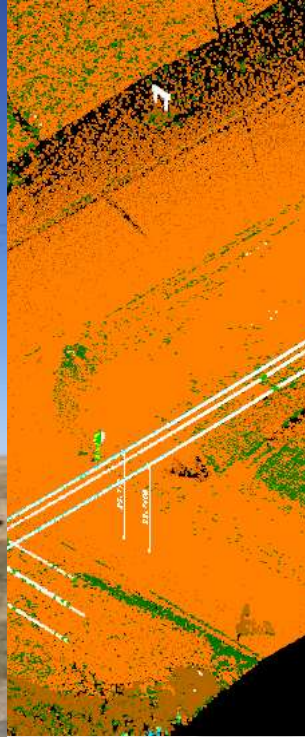


# ROW Process

The background of the slide is a faded, high-angle photograph of a large vehicle, likely a truck or heavy machinery, parked on a paved road. The focus is on the large, treaded tire in the foreground, with the rest of the vehicle and the road stretching into the distance.

- Existing ROW between 33' to 100'
- Additional ROW needed from 5 landowners
  - Landowners all wanted something done at the intersection due to safety concerns.

# Utility Conflicts



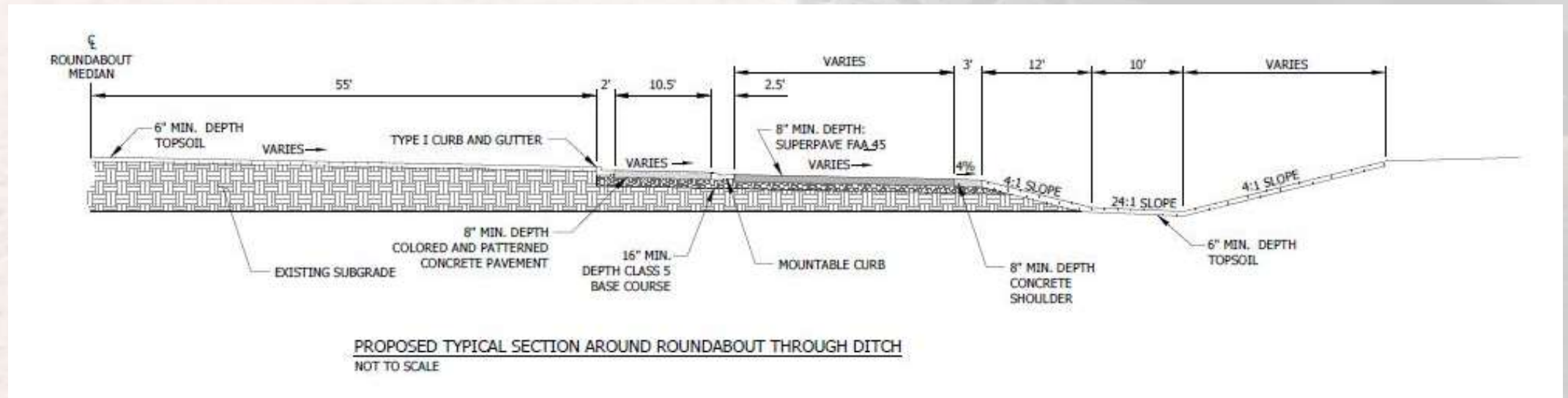


# Design Details

- WB-67 Design Vehicle
- Only Type I curb inside truck apron
- Mountable curbs on splitter islands
- Outside concrete shoulder flush

Site Category	Typical Design Vehicle	Inscribed Circle Diameter Range*
Mini-Roundabout	Single-Unit Truck	13–25m (45–80 ft)
Urban Compact	Single-Unit Truck/Bus	25–30m (80–100 ft)
Urban Single Lane	WB-15 (WB-50)	30–40m (100–130 ft)
Urban Double Lane	WB-15 (WB-50)	45–55m (150–180 ft)
Rural Single Lane	WB-20 (WB-67)	35–40m (115–130 ft)
Rural Double Lane	WB-20 (WB-67)	55–60m (180–200 ft)

\* Assumes 90 degree angles between entries and no more than four legs.

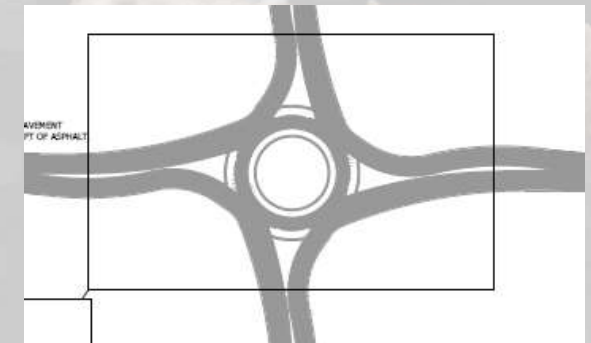
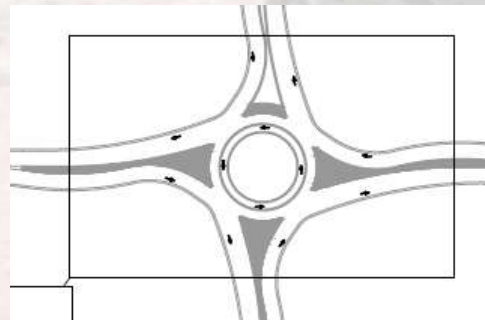
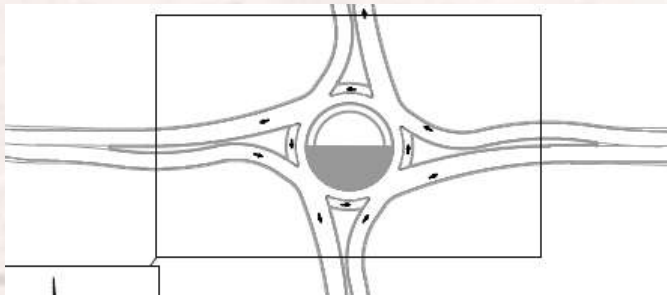
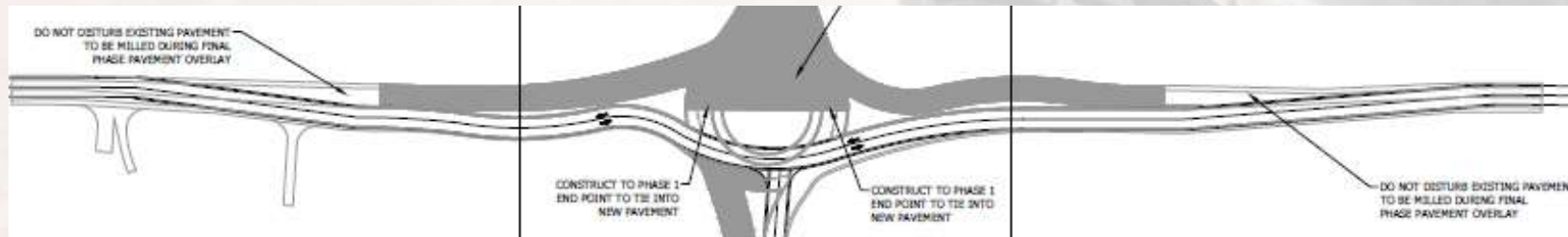
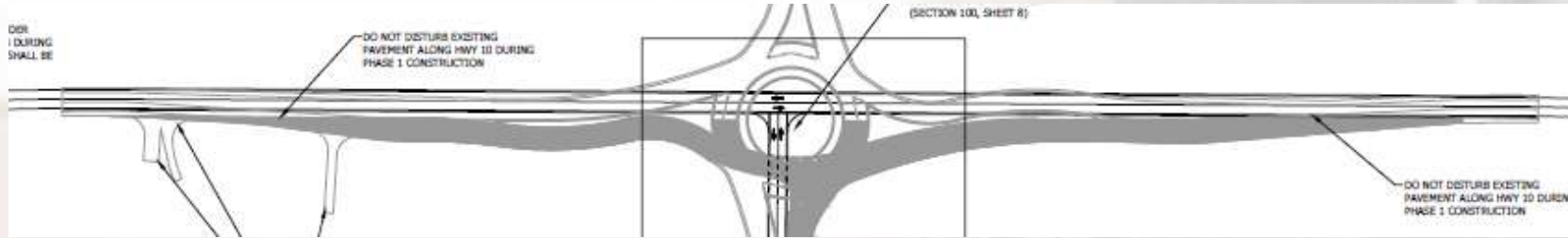


# Sequencing Options - Shoofly





# Phased Construction



# Concrete Shoulder





# Drain Tile & Inner Circle Curb





# Initial Paving





# Lighting





# Pigmented Concrete & Removable Splitter Island

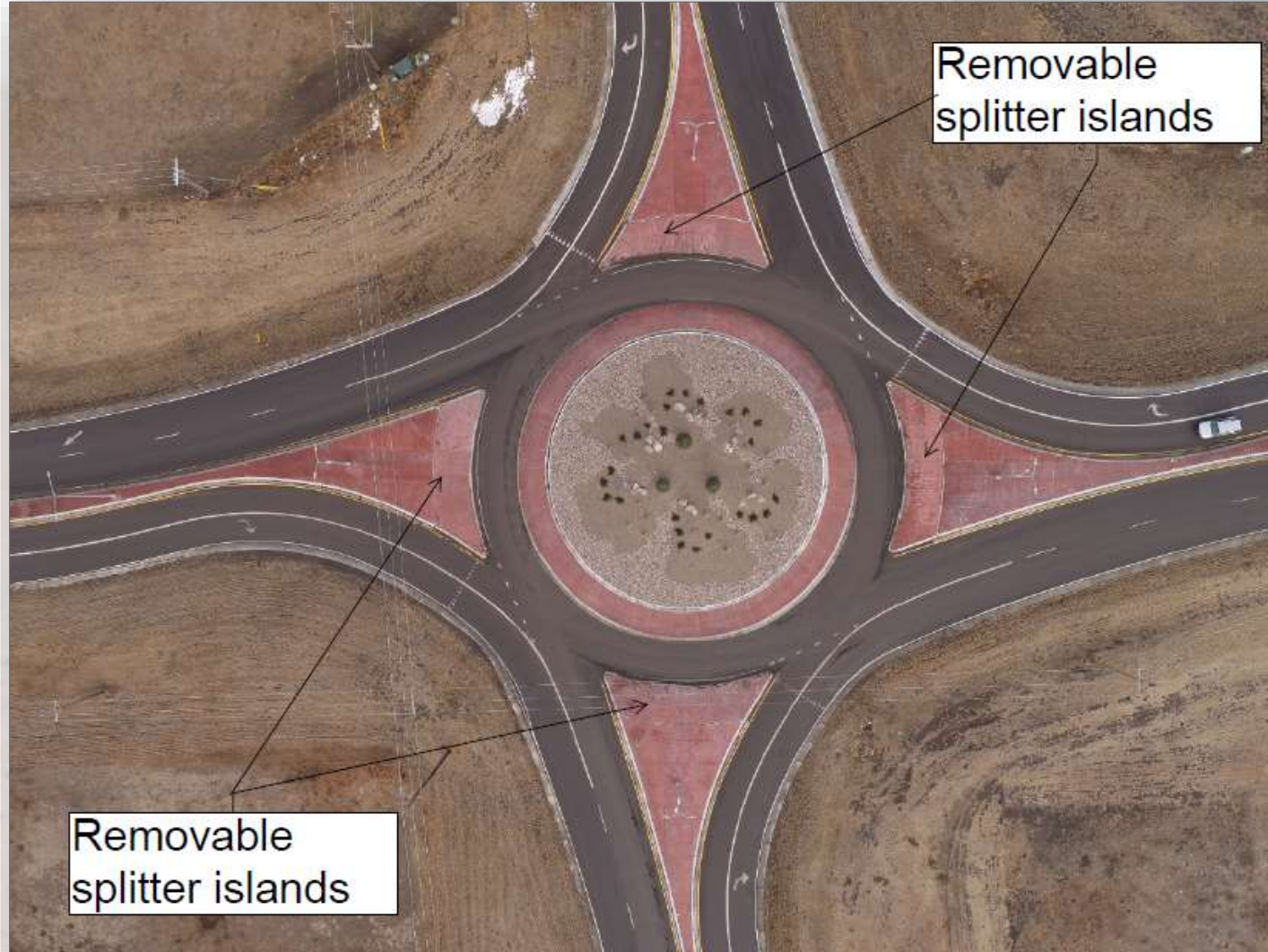




# Phase 3 Sequencing



# Finished Product







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