

Burleigh County Hwy 10 & 66th Street Intersection

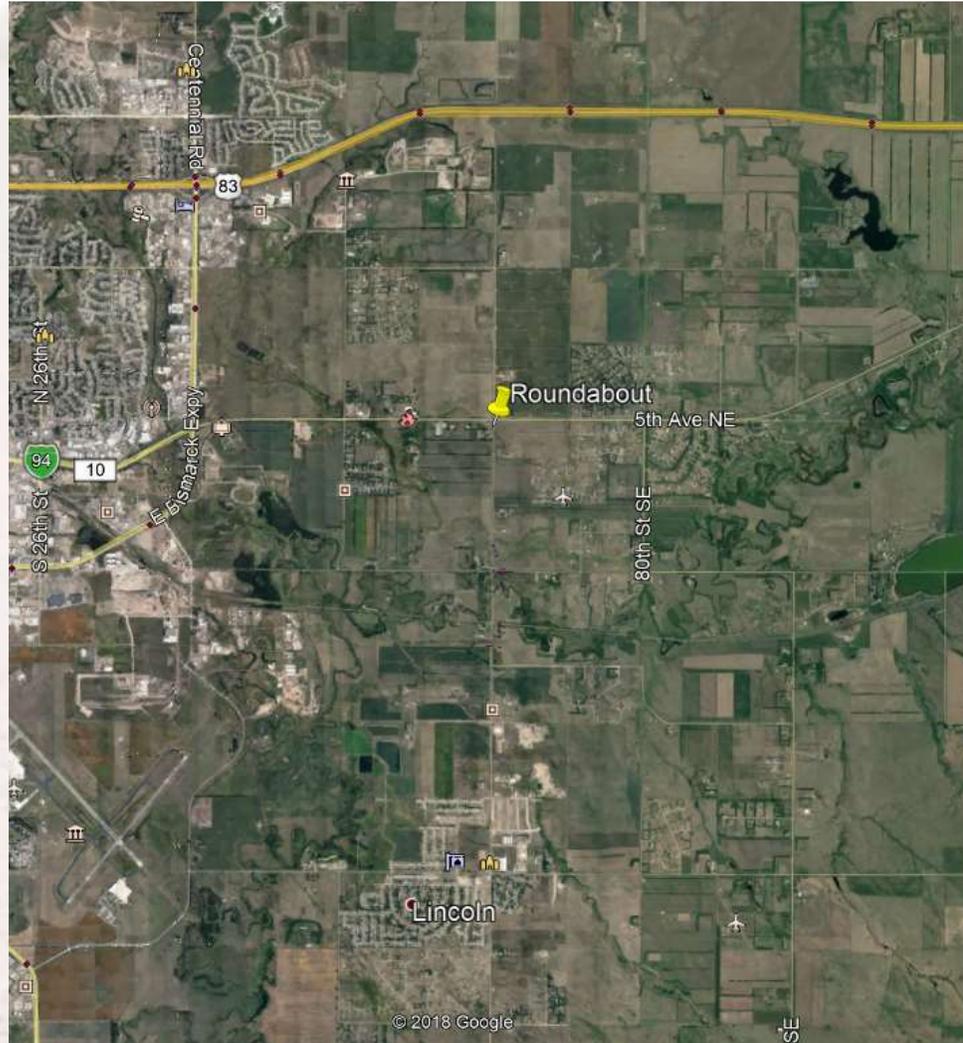
Mark Kvas, PE

Bartlett & West



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

Location



2015 Traffic Conditions



Projected Traffic Counts

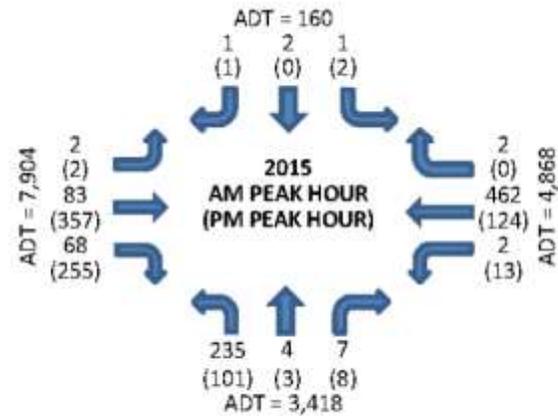


Figure 1: Existing Traffic Volumes
16,350

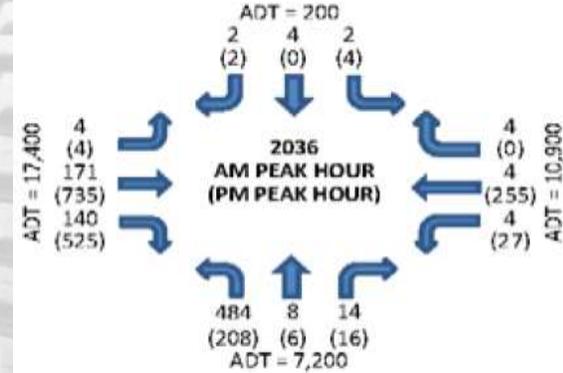


Figure 4: 2036 volumes at existing traffic patterns
35,700

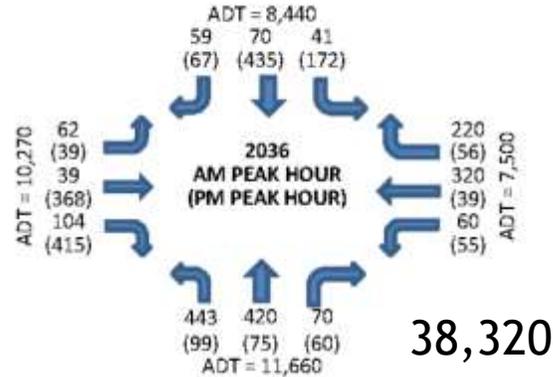
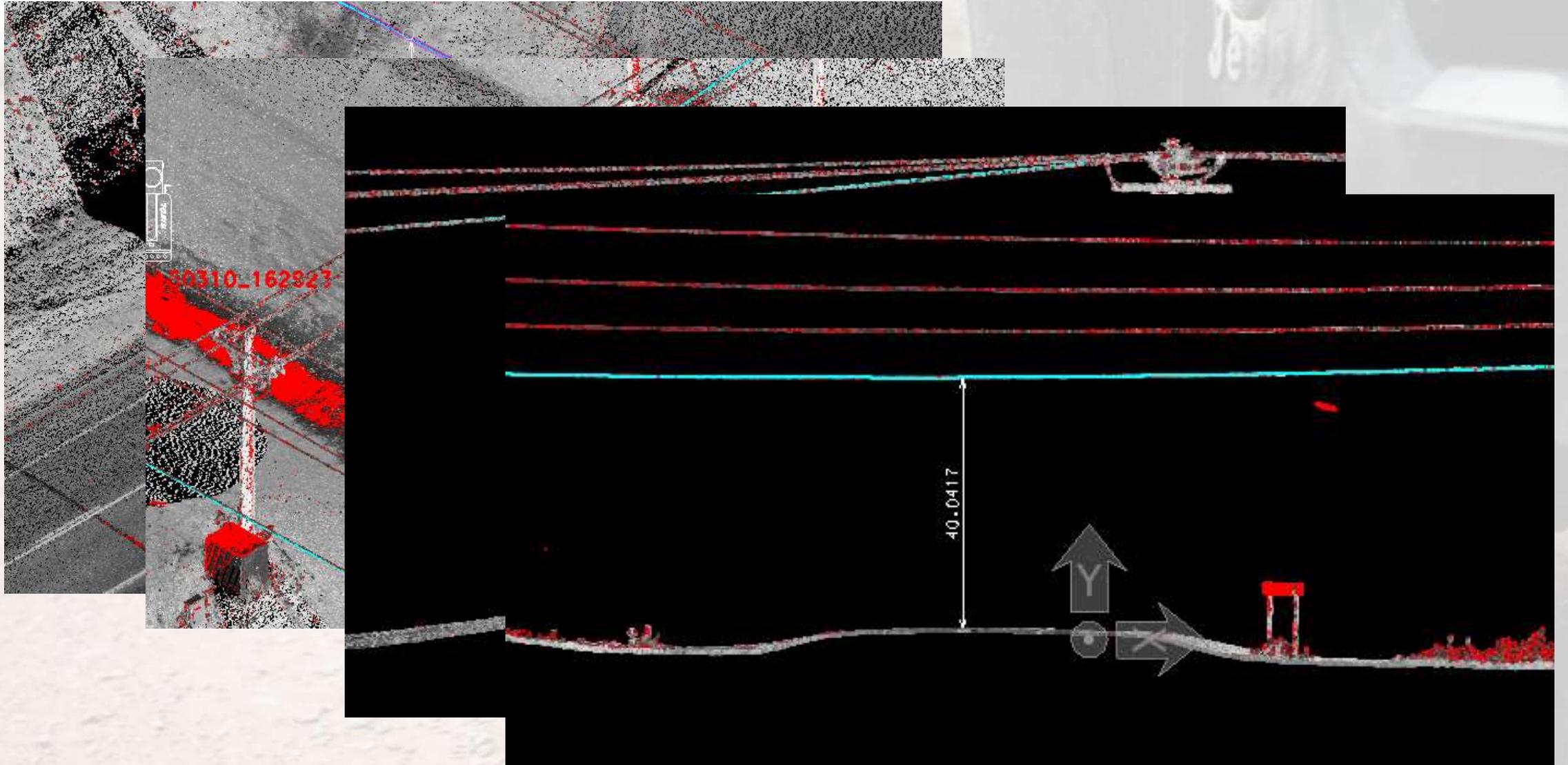
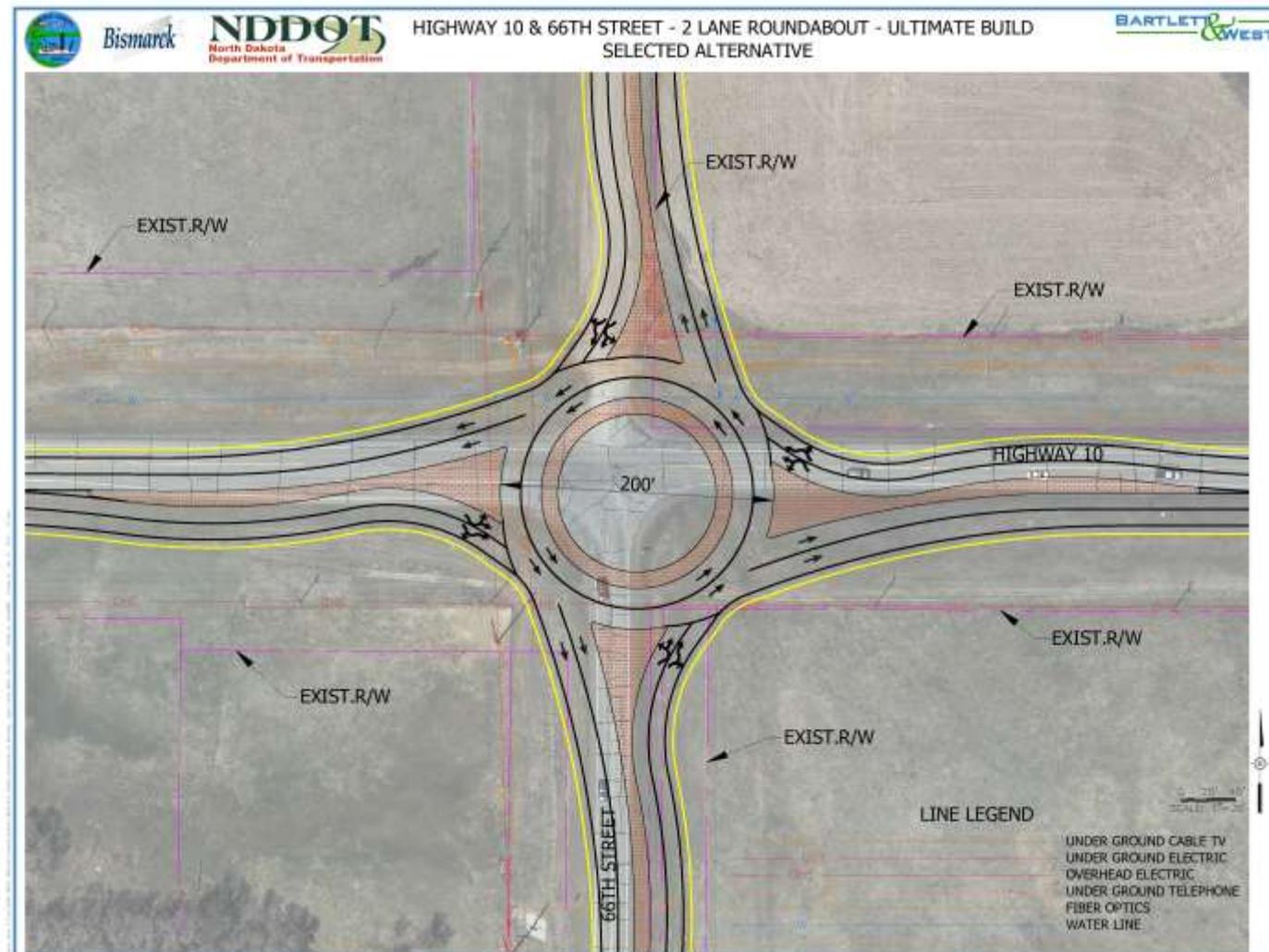


Figure 6: 2036 volumes with 66th Street interchange at I-94
38,320

LiDAR - Survey



Proposed Options

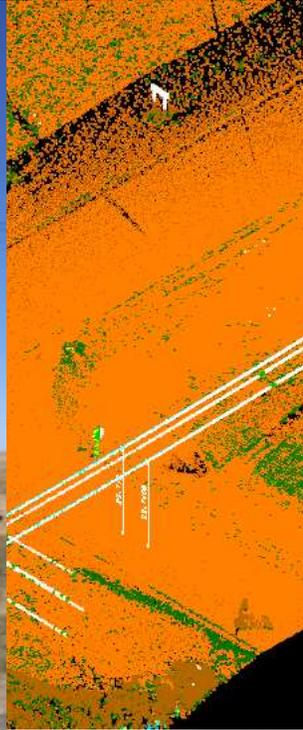


ROW Process

The background of the slide is a faded, low-angle photograph of a large truck tire on a paved road. The tire is in the foreground, and the road extends into the distance under a bright, hazy sky. The overall tone is light and professional.

- 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

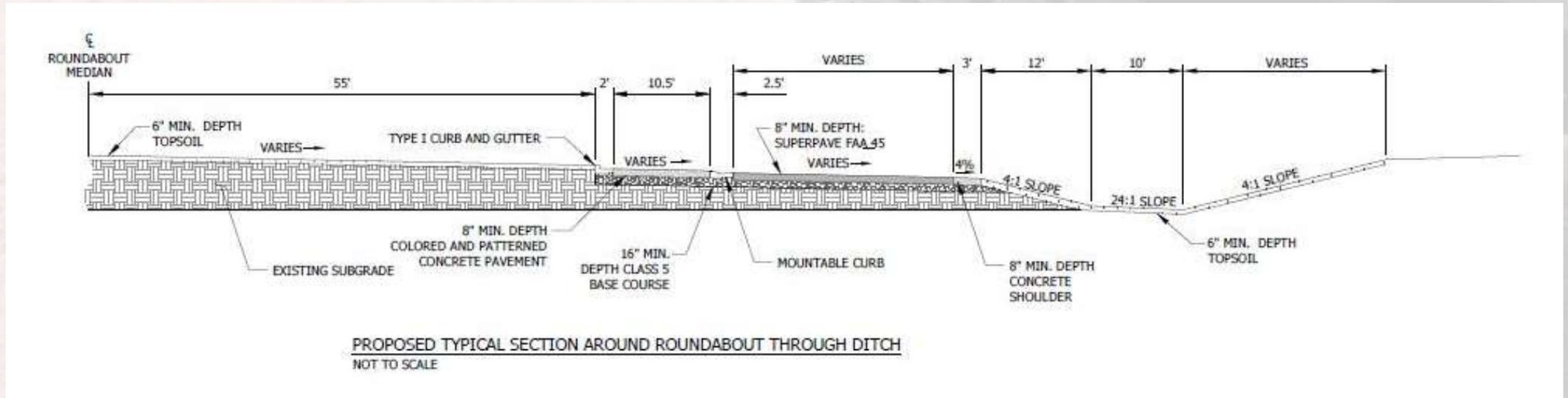


Design Details

- 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)

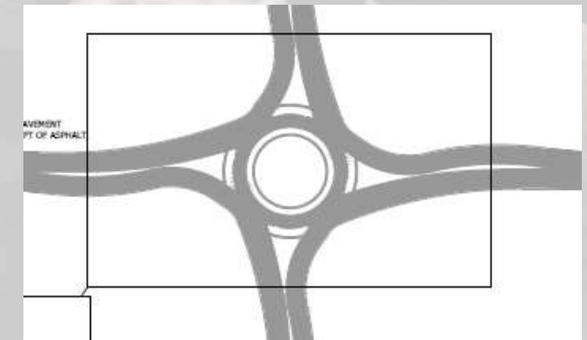
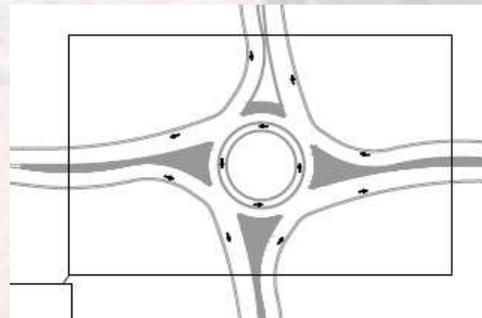
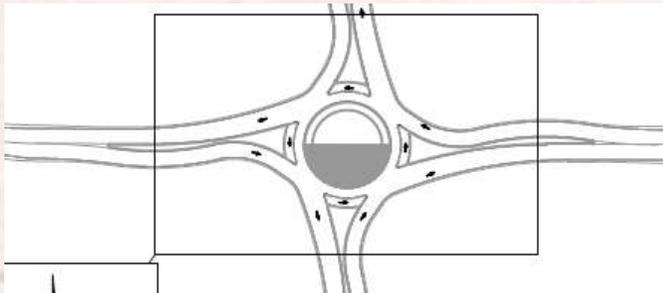
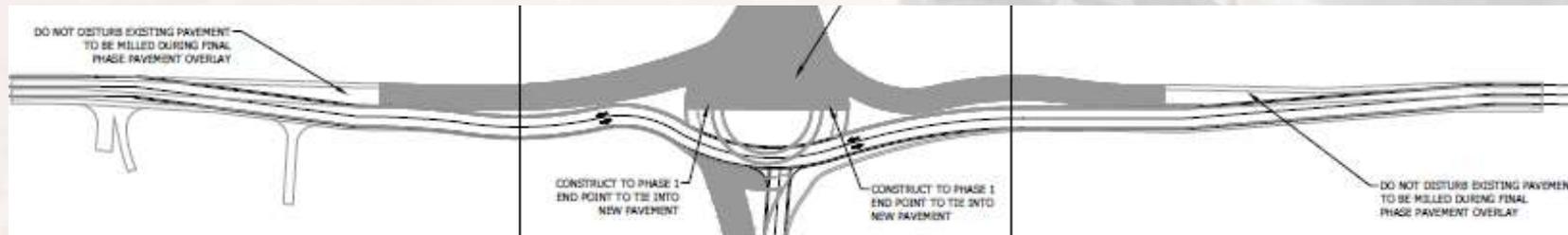
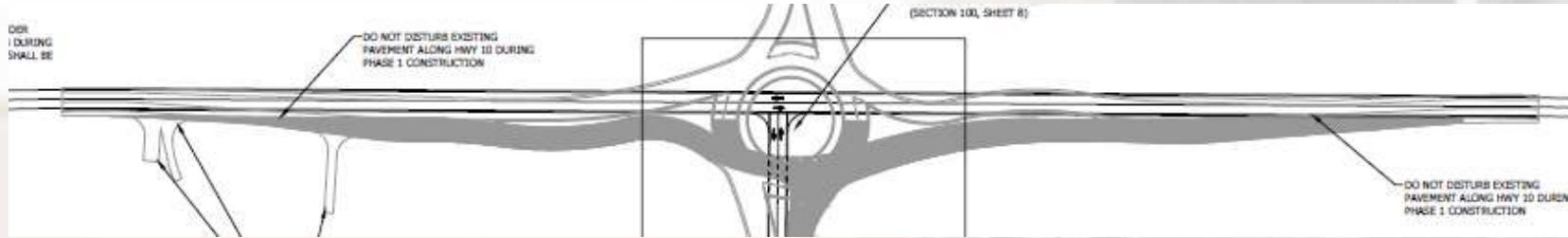
* Assumes 90 degree angles between entries and no more than four legs.



Sequencing Options - Shoofly



Phased Construction



Concrete Shoulder



Drain Tile & Inner Circle Curb



Initial Paving



Lighting



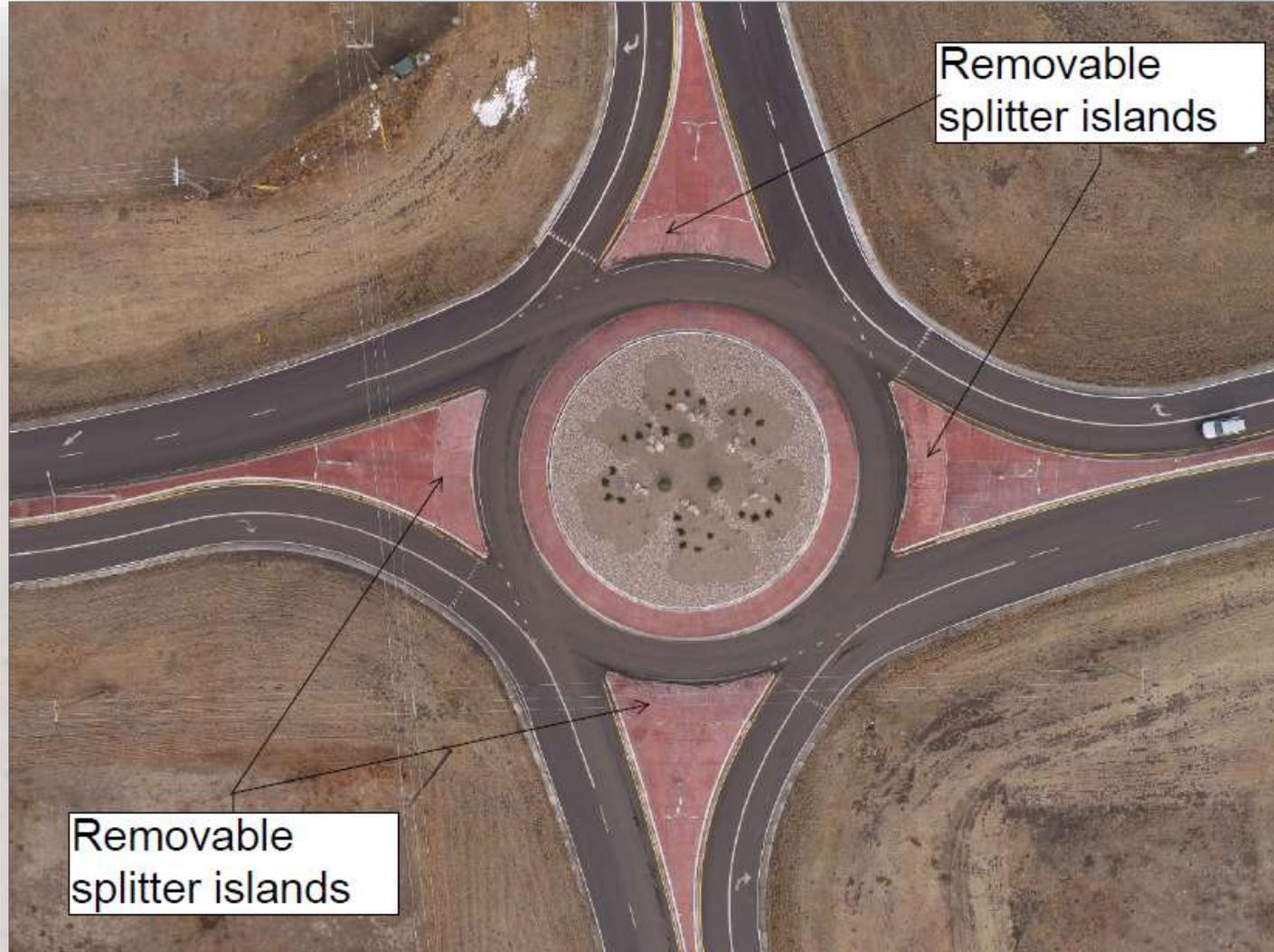
Pigmented Concrete & Removable Splitter Island



Phase 3 Sequencing



Finished Product





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