

Design Team: Carlos Jaquez, Paul Surbeck, Adrian Sanford

Faculty Advisors: Fritz Fiedler, Ph.D., P.E., Erik Arnson, P.E.

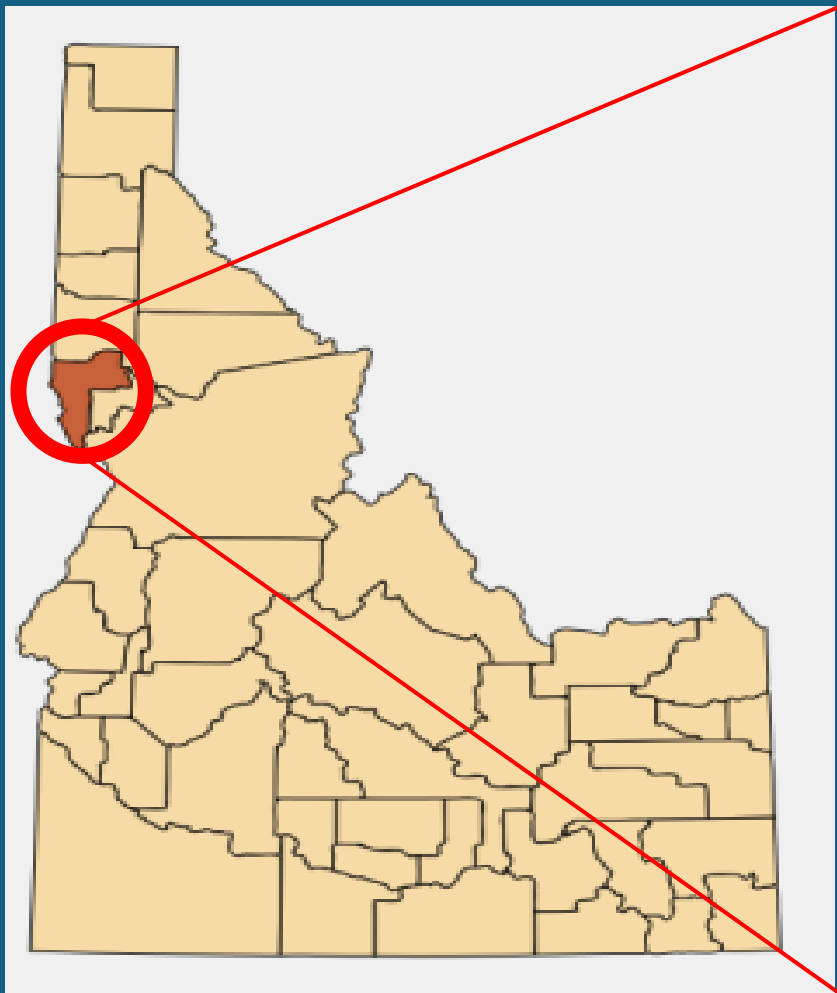
Project Sponsor Contacts: Melissa Cleveland, P.E., Cody Hodgson, P.E., Ashley Williams, P.E.

Special Thanks To:

Ahmed Abdel-Rahim, Ph.D., P.E.

Kevin Chang, Ph.D., P.E.

Background



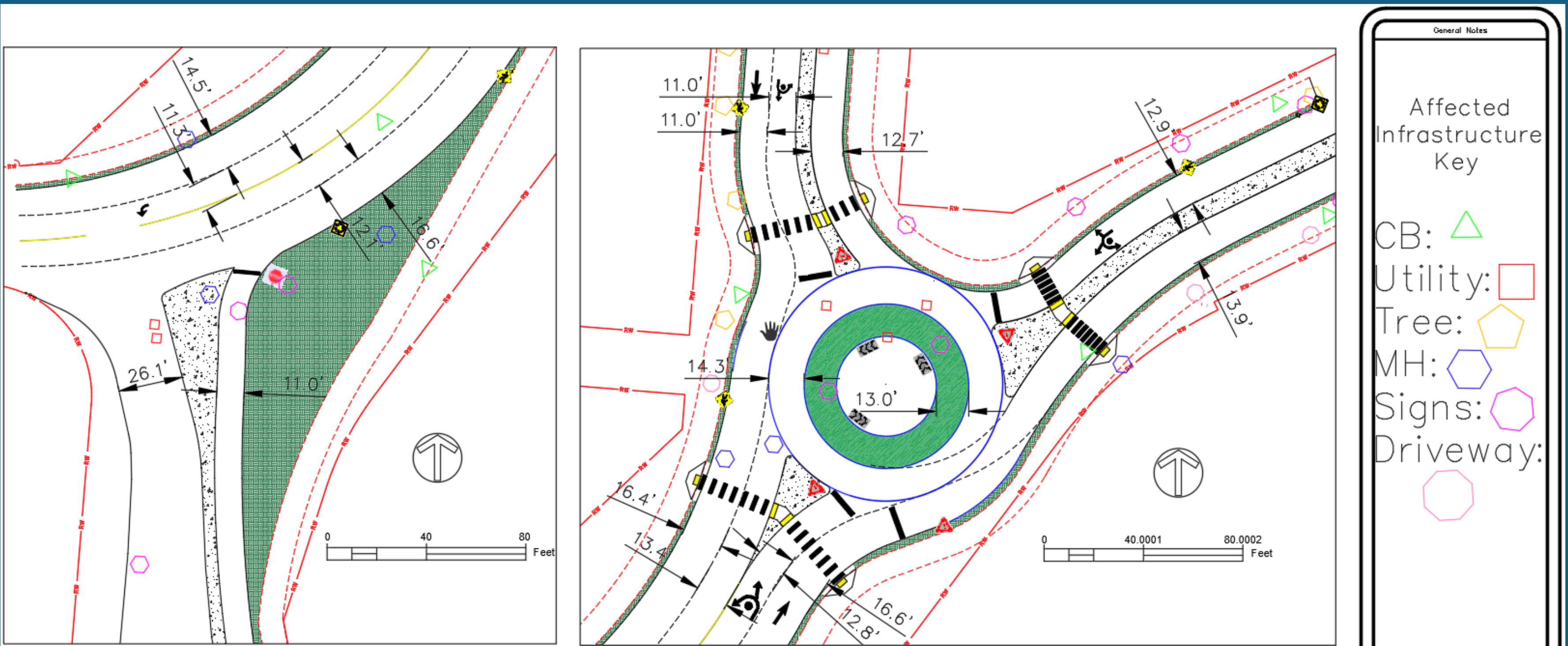
- Located in Lewiston, Idaho
- Between Intersections of 1st St. & Main St. & US HWY-12 and Main St. & 5th St.
- Existing infrastructure lacks vehicle connectivity and pedestrian considerations

Objectives

- Redesign Main Street cross section
- Conduct alternative analysis on three intersections
- Redesign intersections if necessary
- Provide alignments and slopes for utility pipes
- Provide bypass plan for potable water line

Roundabout Design:

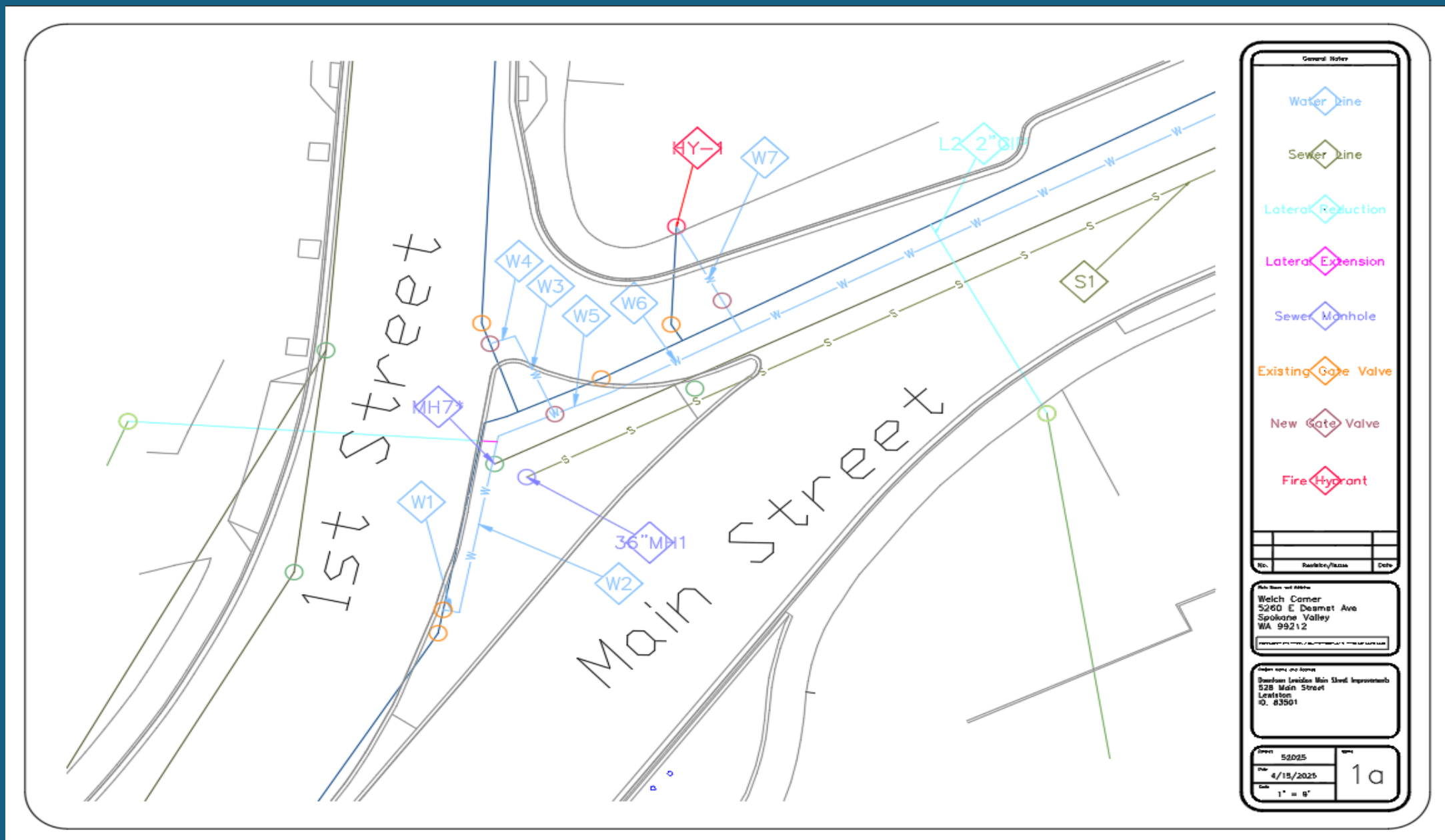
- 13-ft Truck Apron
- 14.3-ft Circulatory lane
- 10-ft Multi-use path
- Designed in accordance with the NCHRP



Material Cost Estimate

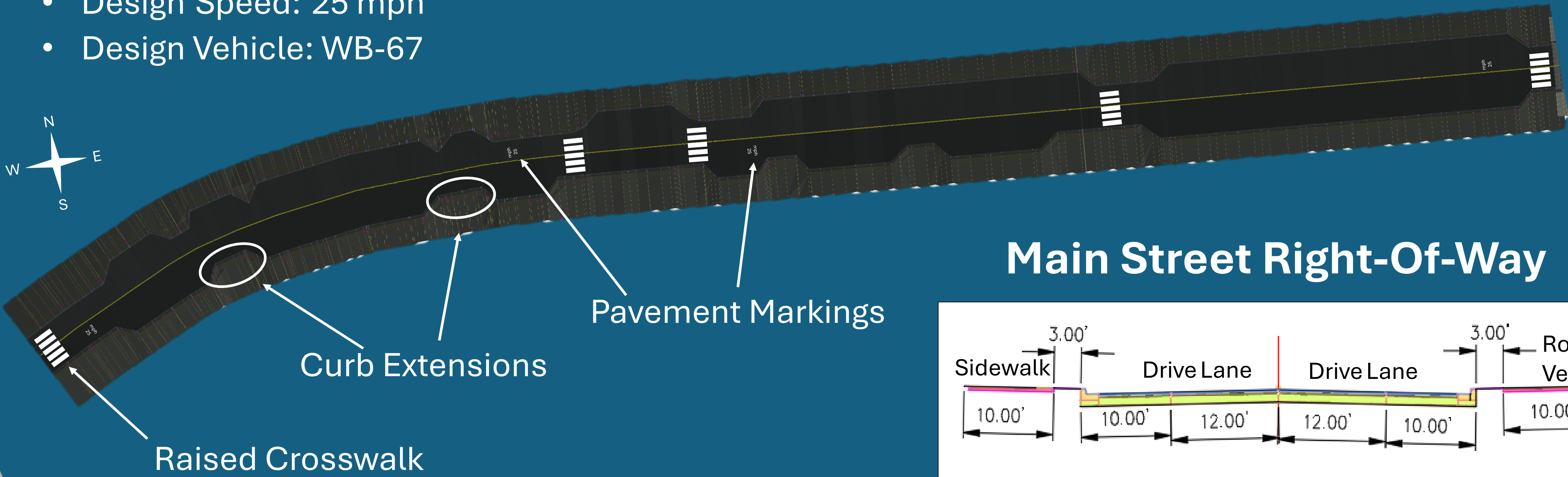
Striping	\$760
Concrete	\$44,000
Landscaping	\$6,900
Asphalt	\$10,350
Utilities Upgrades	\$1,415,000
Total Cost	\$1,477,010

Main Street Utility Alignments

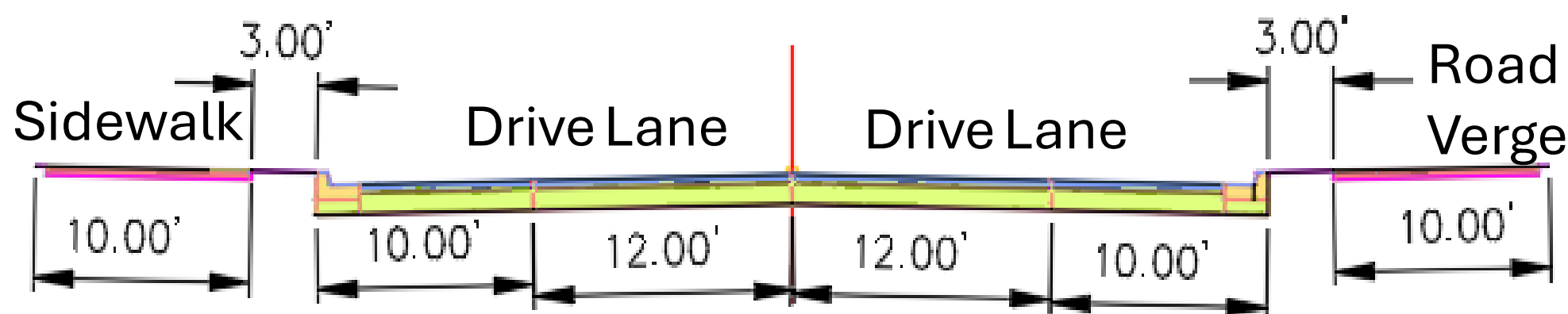


Main Street Corridor

- Design Speed: 25 mph
- Design Vehicle: WB-67



Main Street Right-Of-Way



- The existing water mains date back to approximately 1910, while the sewer lines were originally installed during the 1930s
- Upgrades followed with new 12-in water mains, 36-in sewer lines, and 16-in storm water pipes
- Modern standards require 10-ft horizontal and 18-in vertical separation between potable and non-potable water