

30% Design
Mount Gilead Road
Reconstruction

Oct. 17, 2023

City Council Work Session Meeting



Kimley »Horn

Overview

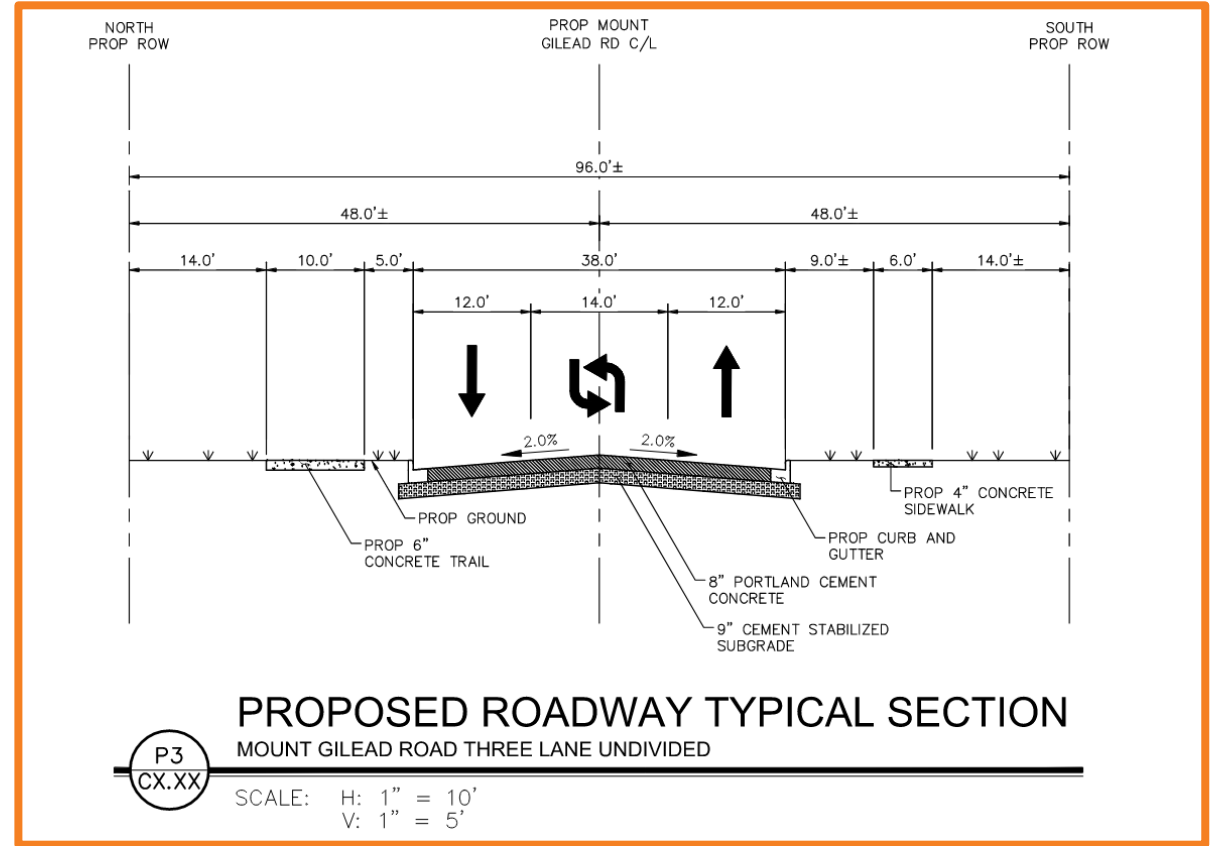
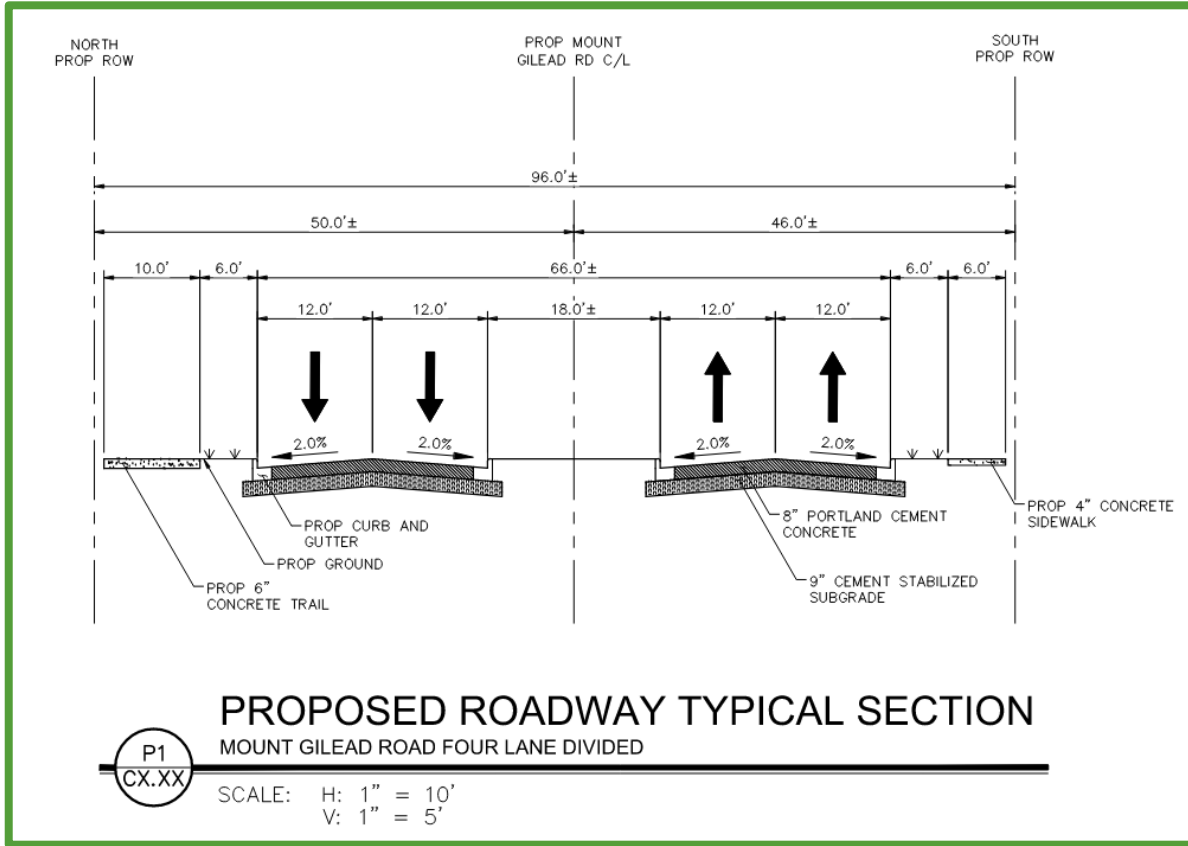
- Update on Current Project Status
- Design Element Overview
 - Bourland Road Roundabout
 - 5 lane undivided to 3 lane undivided between Oak and Bourland
 - Detention Pond
 - Conservation Easement
- Updated Project Costs
- Next Steps

Project Scope

US 377 to Bourland Road



Typical Sections

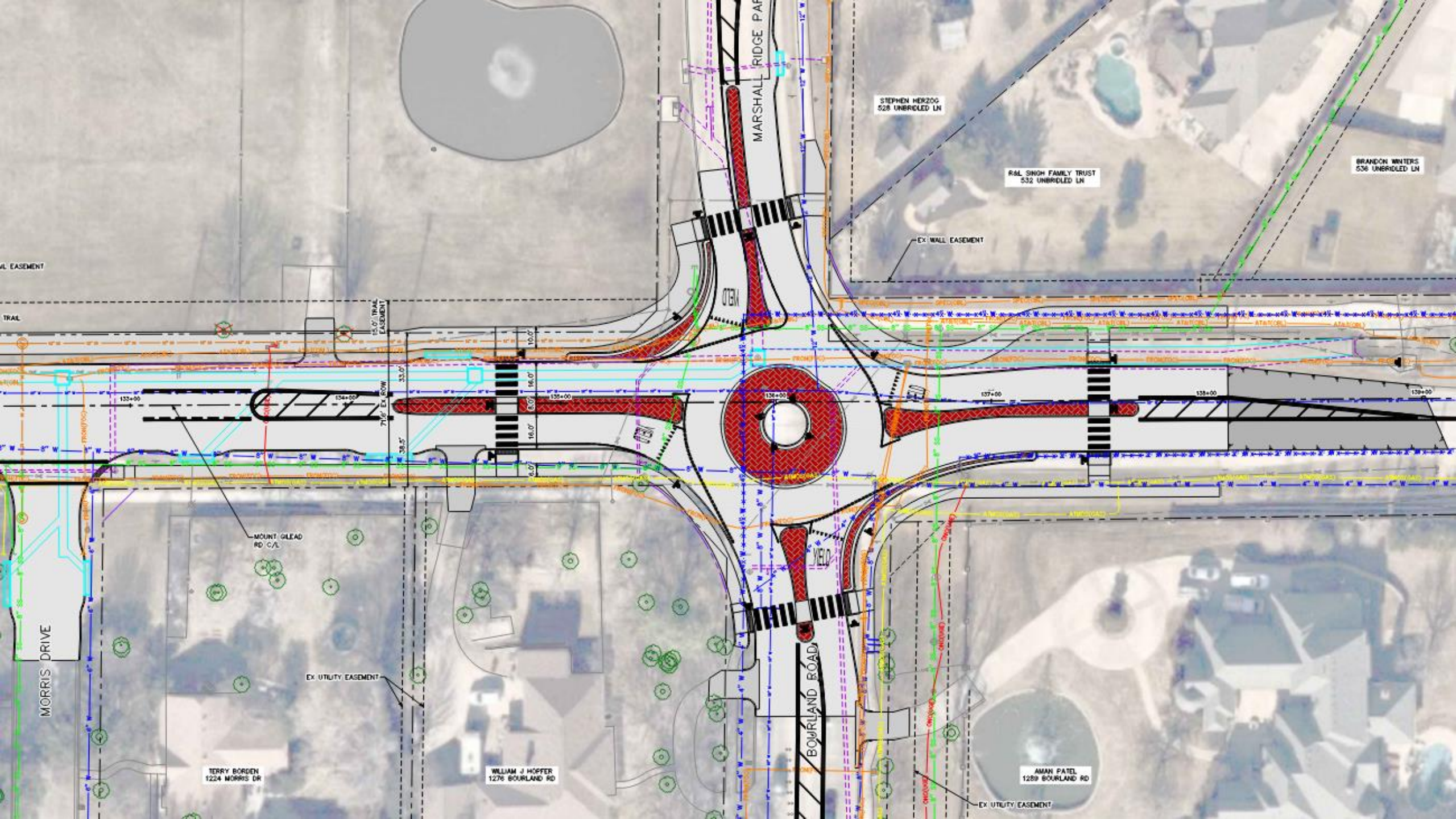


Existing and Projected Traffic Volumes (vpd)

| | 2020 | 2030 |
|----------|-------|--------|
| West End | 3,400 | 12,250 |
| East End | 3,200 | 10,500 |

Components

- 4 lane divided – US 377 to Oak Drive
- 3 lane undivided – Mount Gilead Private Drive to Bourland Road
 - A change from 5 lane undivided
- 10-foot-wide trail (north side)
- 6-foot-wide sidewalk (south side)
- Rectangular Rapid Flashing Beacon (RRFB) Trail Crossing at Oak Drive
- 12” sewer line
- Internalized Storm Drain
- Major Culvert Crossing with Detention Pond
- Single-lane Roundabout at Bourland Road



MARSHALL RIDGE PARK

STEPHEN HERZOG
528 UNBRIDLED LN

R&L SINGH FAMILY TRUST
532 UNBRIDLED LN

BRANDON WINTERS
536 UNBRIDLED LN

EX WALL EASEMENT

EX EASEMENT

TRAIL

EX TRAIL EASEMENT

71.6' EX ROW

33.5'

16.0'

8.0'

16.0'

10.0'

YIELD

BOURLAND ROAD

MORRIS DRIVE

MOUNT GLEAD
RD C/A

EX UTILITY EASEMENT

TERRY BORDEN
1224 MORRIS DR

WILLIAM J HOFFER
1276 BOURLAND RD

AMAN PATEL
1289 BOURLAND RD

EX UTILITY EASEMENT

133+00

134+00

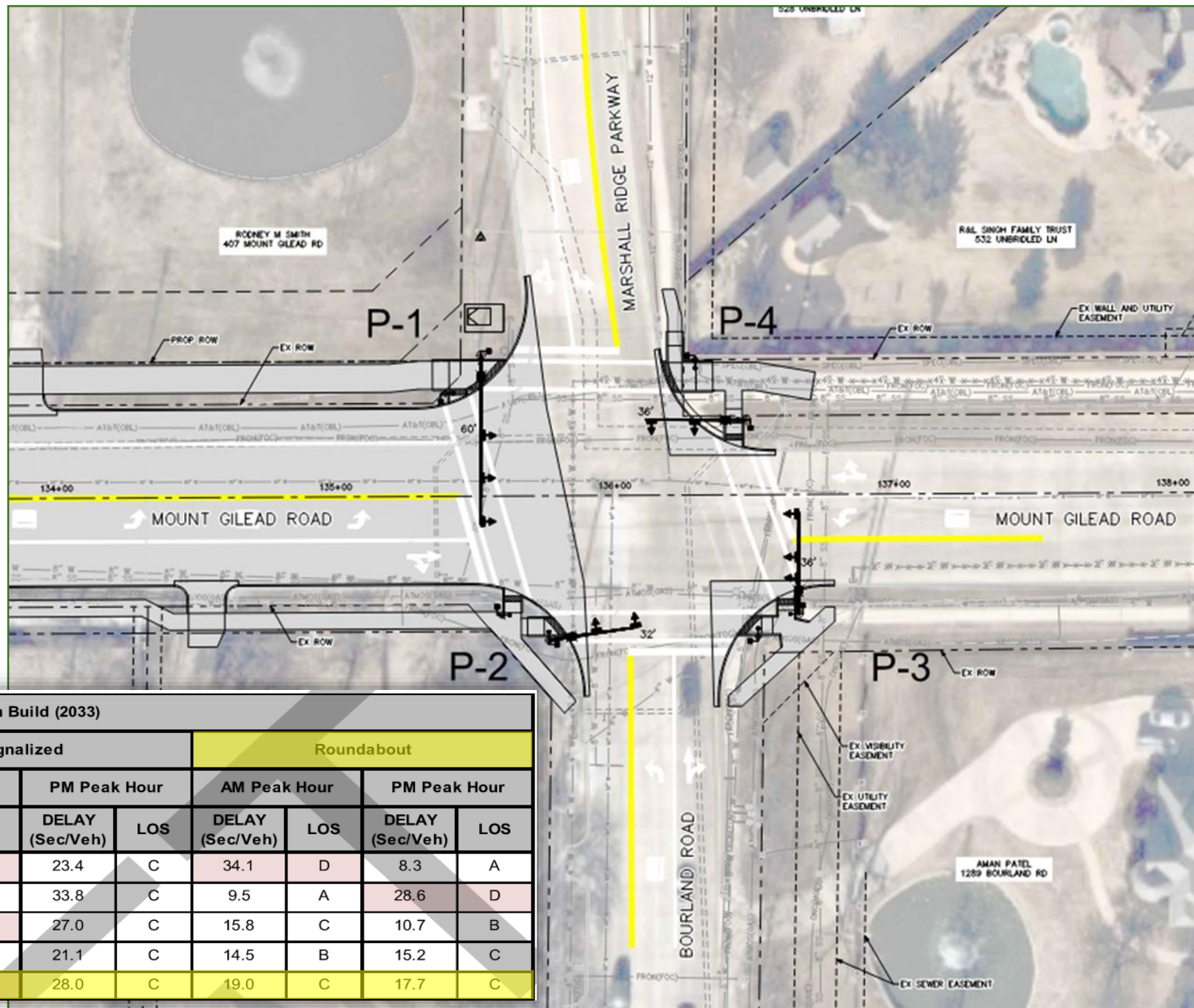
135+00

136+00

137+00

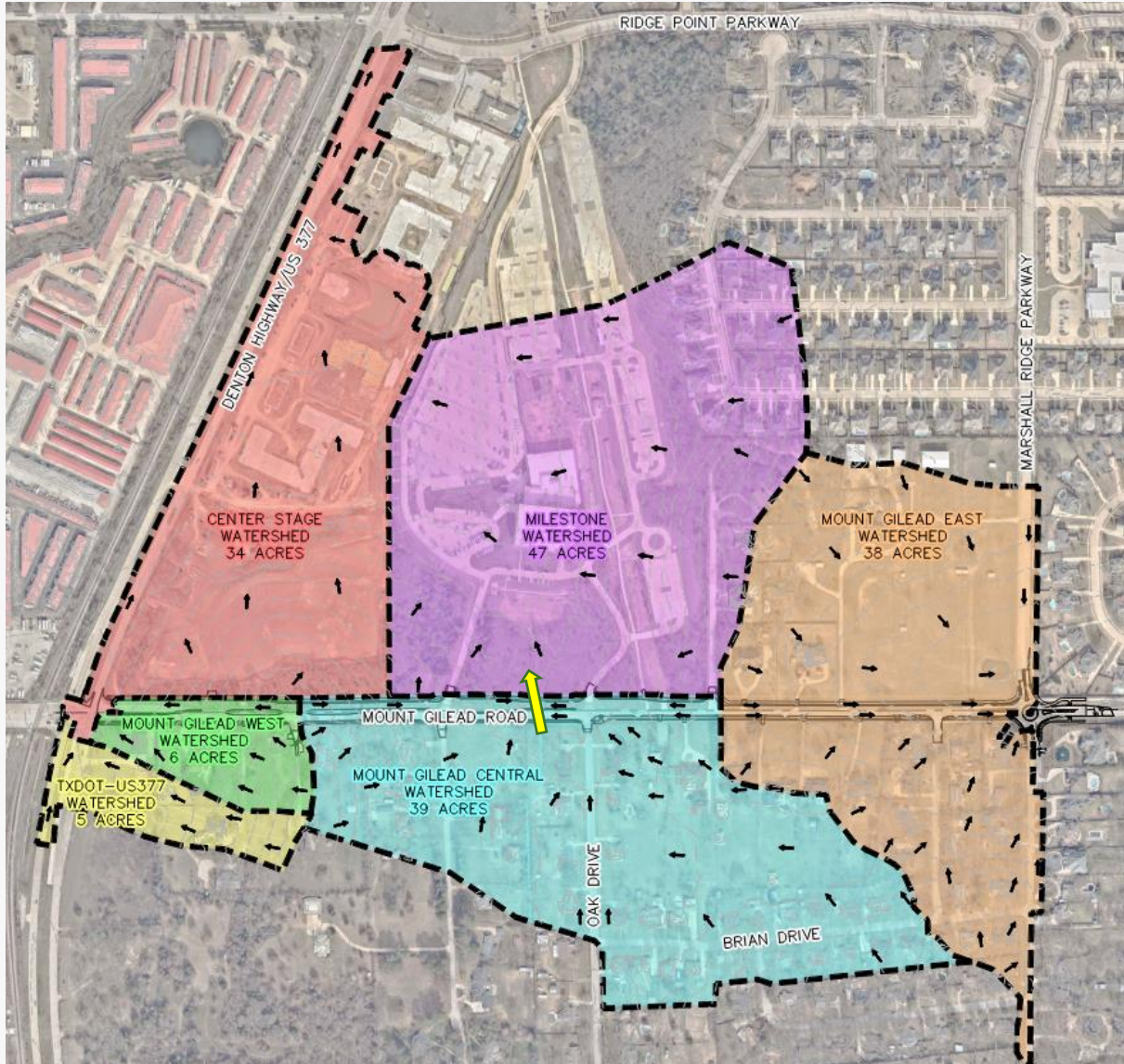
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| Intersection | Approach | Horizon Build (2033) | | | | | | | |
|-----------------------------------|----------|----------------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|
| | | Signalized | | | | Roundabout | | | |
| | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | DELAY (Sec/Veh) | LOS | DELAY (Sec/Veh) | LOS | DELAY (Sec/Veh) | LOS | DELAY (Sec/Veh) | LOS |
| Mount Gilead Road & Bourland Road | EB | 48.8 | D | 23.4 | C | 34.1 | D | 8.3 | A |
| | WB | 25.2 | C | 33.8 | C | 9.5 | A | 28.6 | D |
| | NB | 37.9 | D | 27.0 | C | 15.8 | C | 10.7 | B |
| | SB | 30.6 | C | 21.1 | C | 14.5 | B | 15.2 | C |
| | Overall | 36.1 | D | 28.0 | C | 19.0 | C | 17.7 | C |

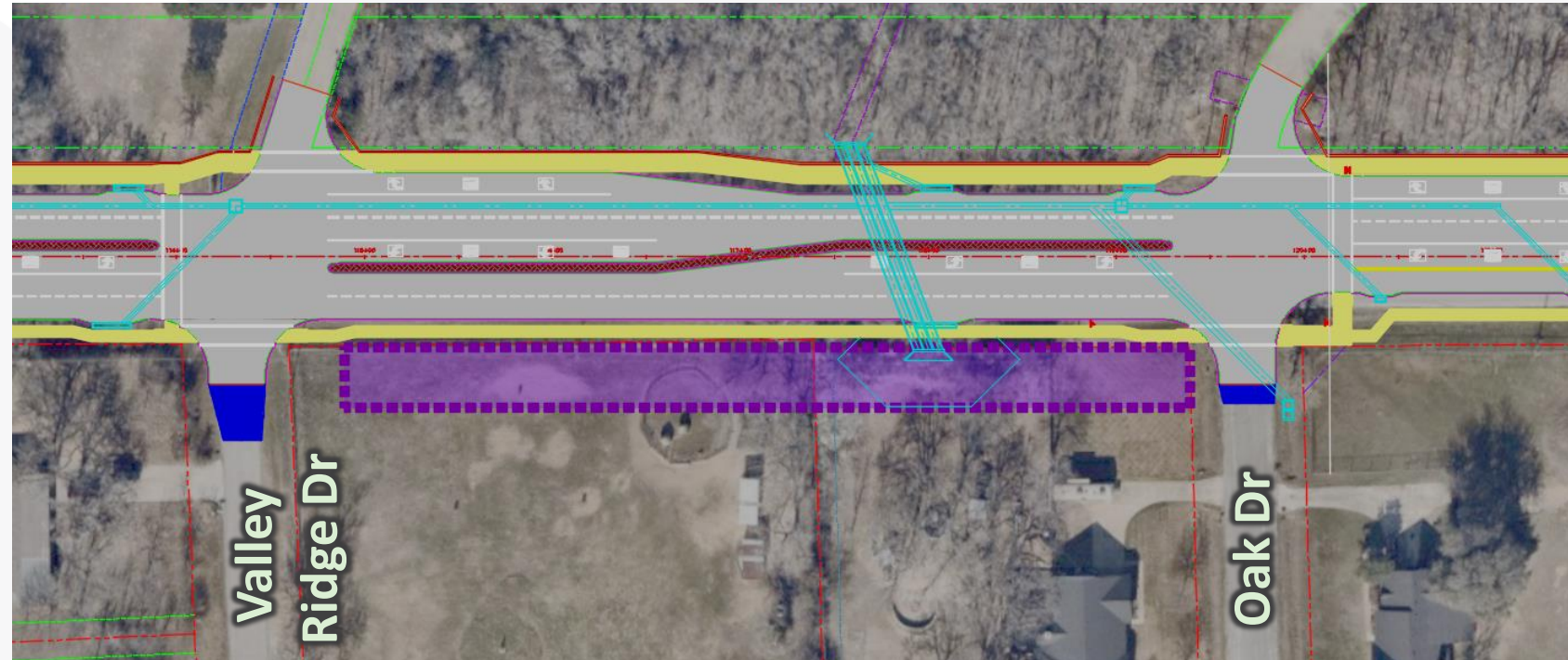
Drainage

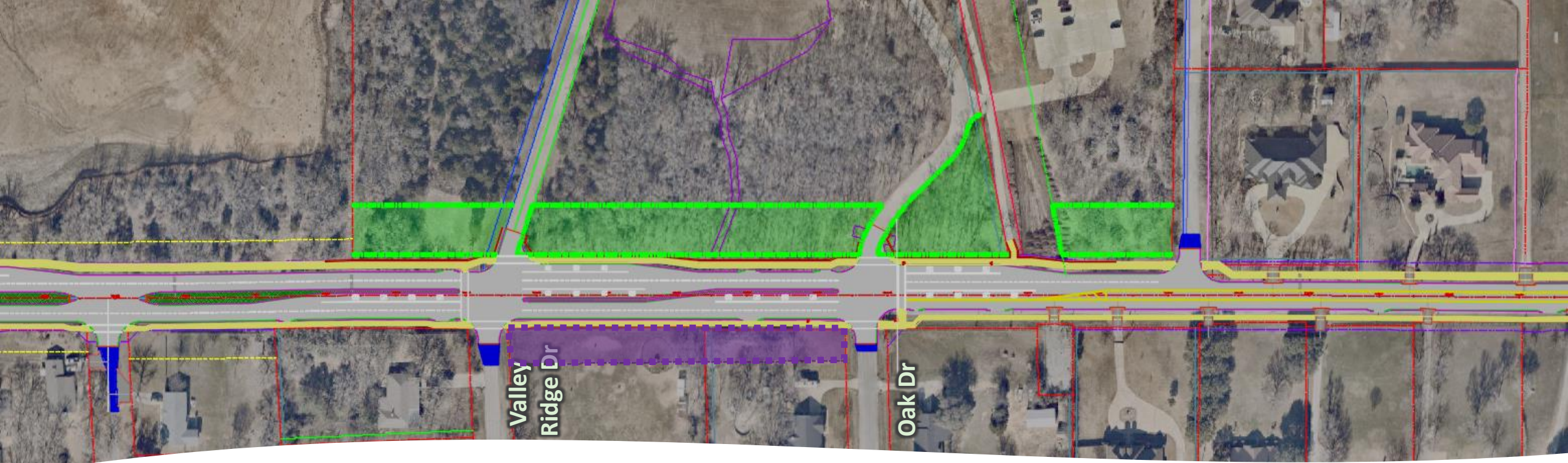


- Watershed Map
- 3 Storm Systems
- Mount Gilead Central Watershed
 - Keller UDC
 - Detention Pond Needed for Fully Developed Conditions

Detention Pond

- Sized for future development



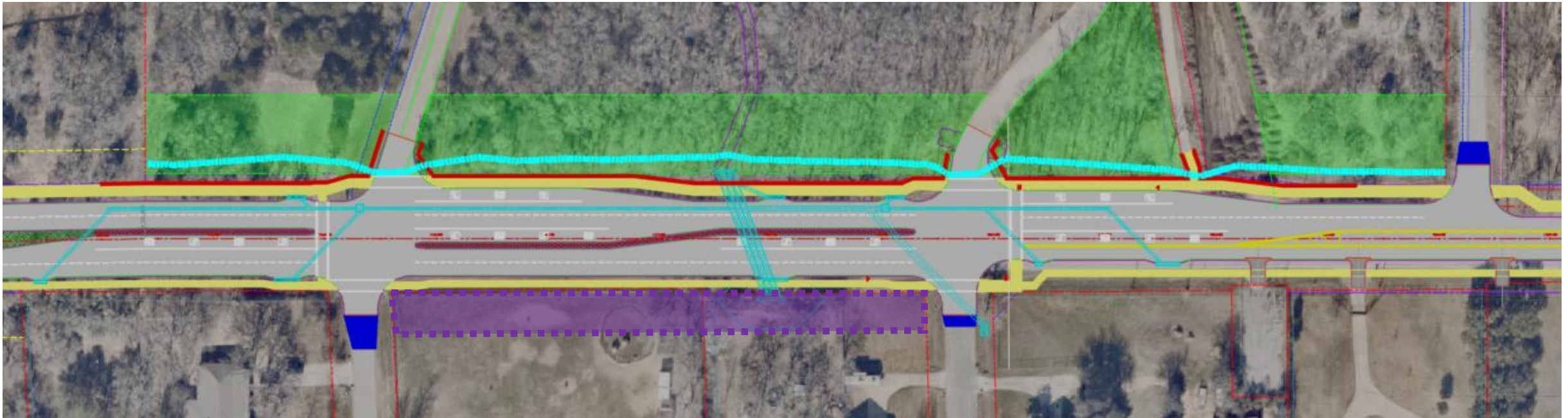


Conservation Easement

- Location
- Constraints (no grading, no tree removals)
- Retaining Walls

Grading Limits

Retaining Walls vs 4:1 Slope



Estimated Project Cost

| Major Component | Opinion of Cost |
|---|---------------------|
| Total Construction Cost w/o Contingency | \$11,030,000 |
| Contingency (25%) | \$2,757,500 |
| TOTAL PROJECT COST | \$13,800,000 |

*Does not include ROW costs

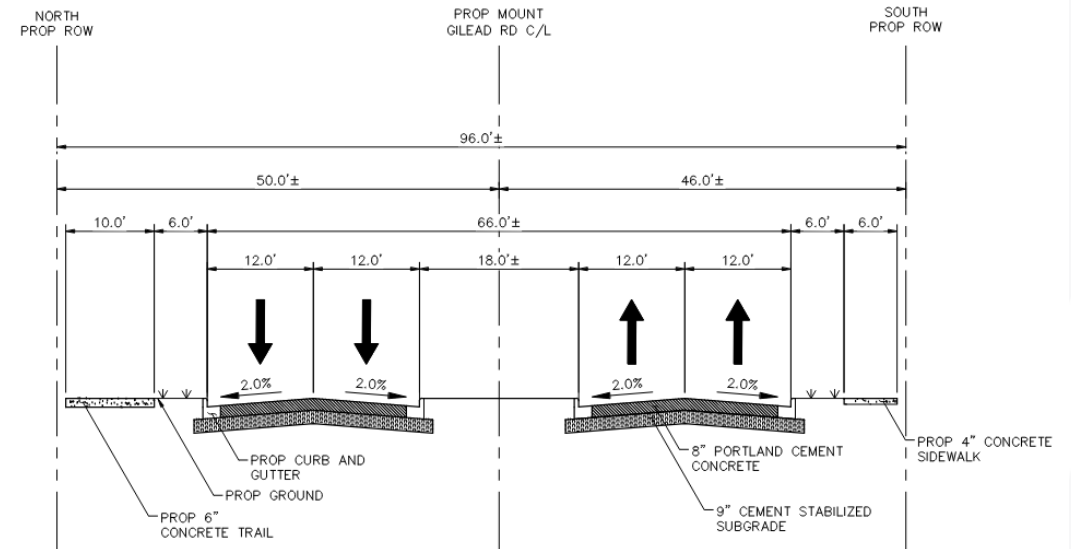
Phase 1

US 377 to Mount Gilead Private



Components and Typical Section

- 4 lane divided – US 377 to Oak Drive
- Asphalt transition to existing two-lane roadway
- 10-foot-wide trail (north side)
- 6-foot-wide sidewalk (south side)
- Rectangular Rapid Flashing Beacon (RRFB) Trail Crossing at Oak Drive
- 12" sewer line
- Internalized Storm Drain



PROPOSED ROADWAY TYPICAL SECTION

MOUNT GILEAD ROAD FOUR LANE DIVIDED

P1
CX.XX

SCALE: H: 1" = 10'
V: 1" = 5'

Estimated Project Cost

| Major Component | Opinion of Cost |
|---|--------------------|
| Total Construction Cost w/o Contingency | \$7,370,00 |
| Contingency (25%) | \$1,842,500 |
| TOTAL PROJECT COST | \$9,300,000 |

*Does not include ROW costs

*As of October 2023, \$1.1M in Impact Fees has been collected from Center Stage (\$1.02M) & Milestone Church (\$82k)

Recommendations

- Bourland Road Single-lane Roundabout
- Eastern part reduce 5 lane to 3 lane section
- Detention Pond
 - Detention Recommended for Fully Developed Flows
- Preserve Conservation Easement
- ROW Acquisition
 - Full ROW Acquisition Recommended

Next Steps

- Mount Gilead Public Meeting:
6 p.m. Wednesday, Oct. 25 at Keller Town Hall
- Move Forward with 60% Design on Phase 1



Questions?