

31st Street Extension:

Haskell Avenue to Franklin Road

JRS Engineers

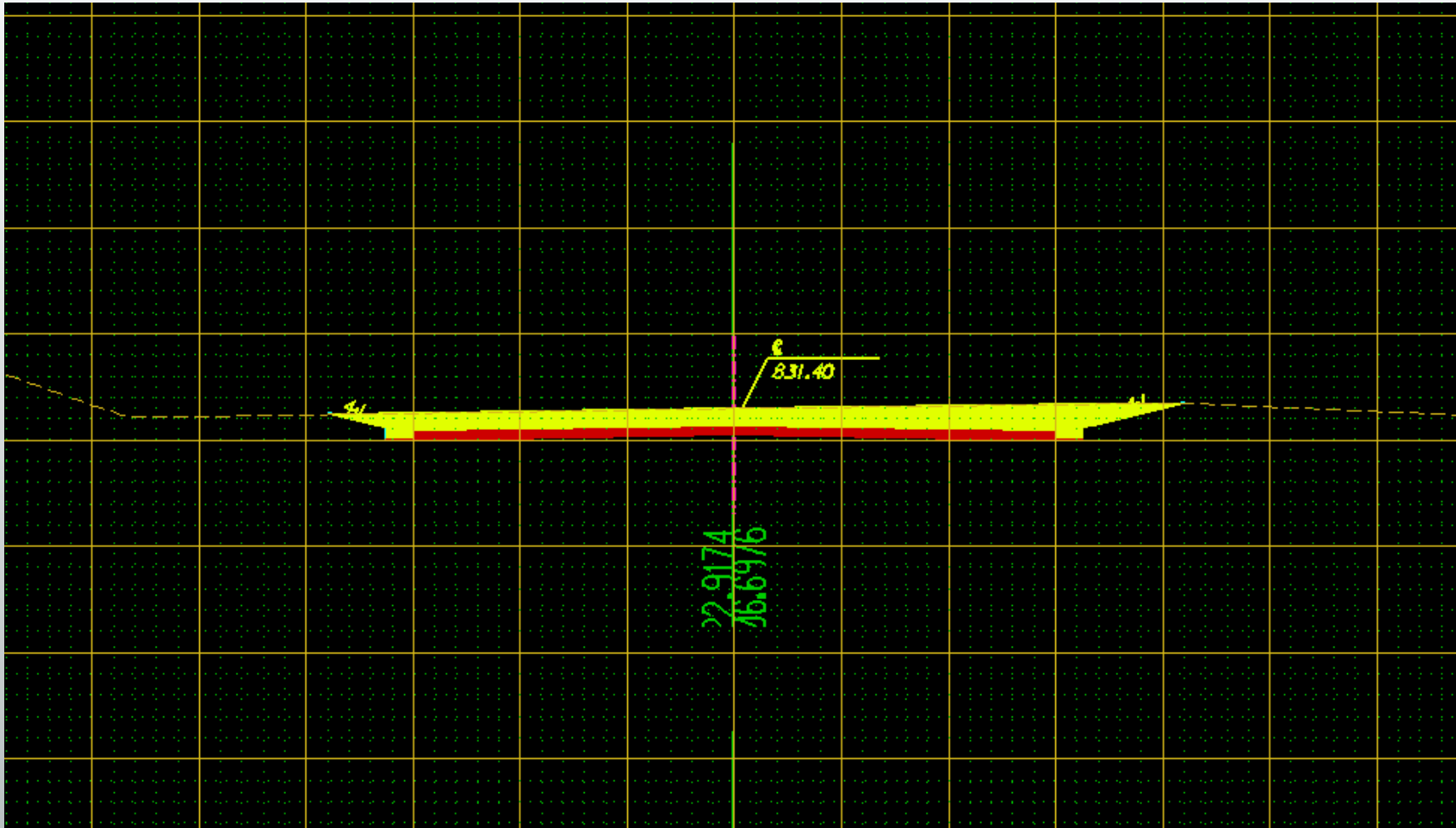
Overview of Project Area

- Function: Urban Minor Arterial
- Design Speed: 50 MPH
- No. of Lanes: Four
- Lane width: 12 Feet
- Undivided

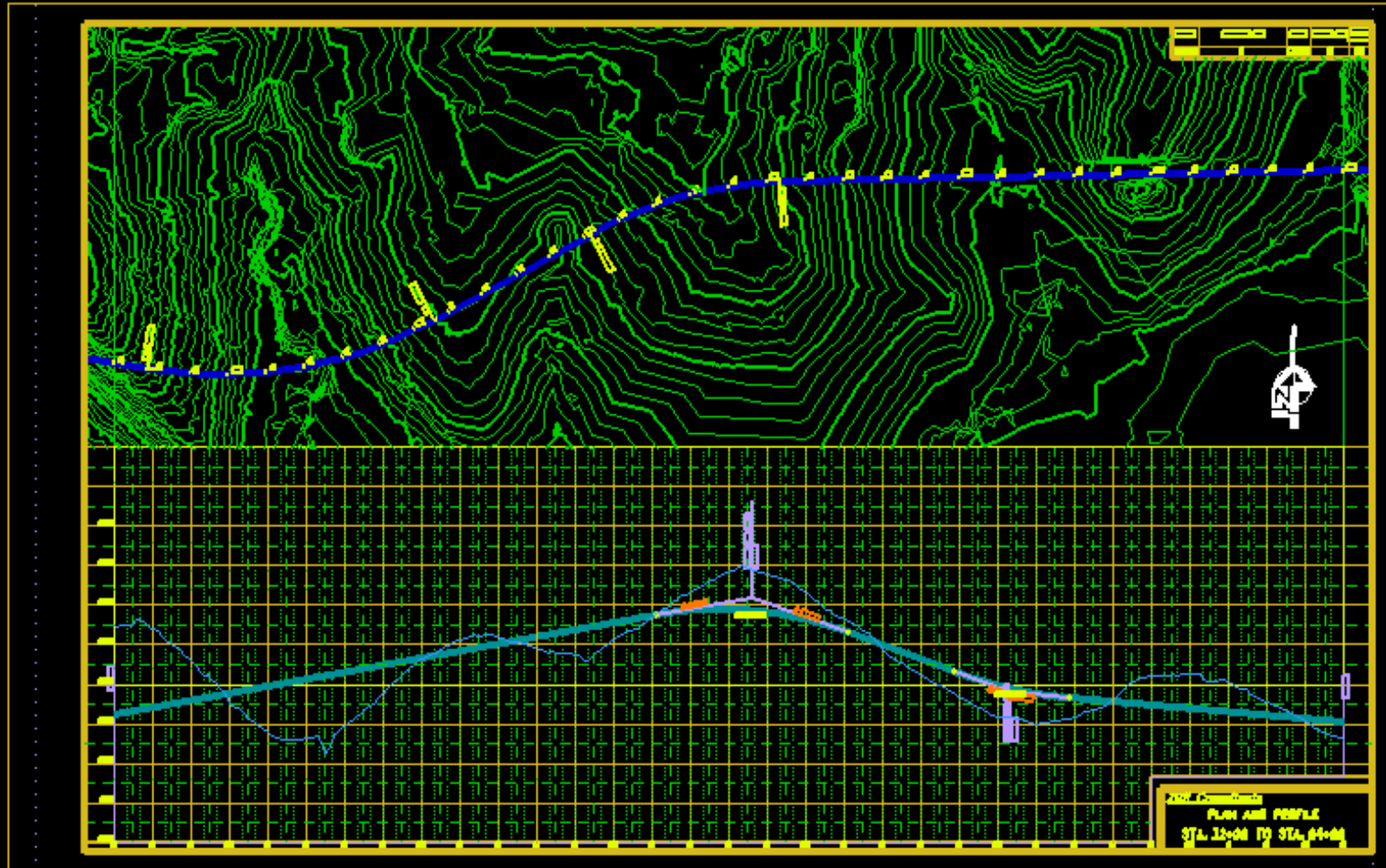
Level Of Service

- **Existing**
 - Two Lane: LOS D
 - Four Lane: LOS B
- **Projected 2025 with SLT**
 - LOS C
- **Projected 2025 without SLT**
 - LOS D

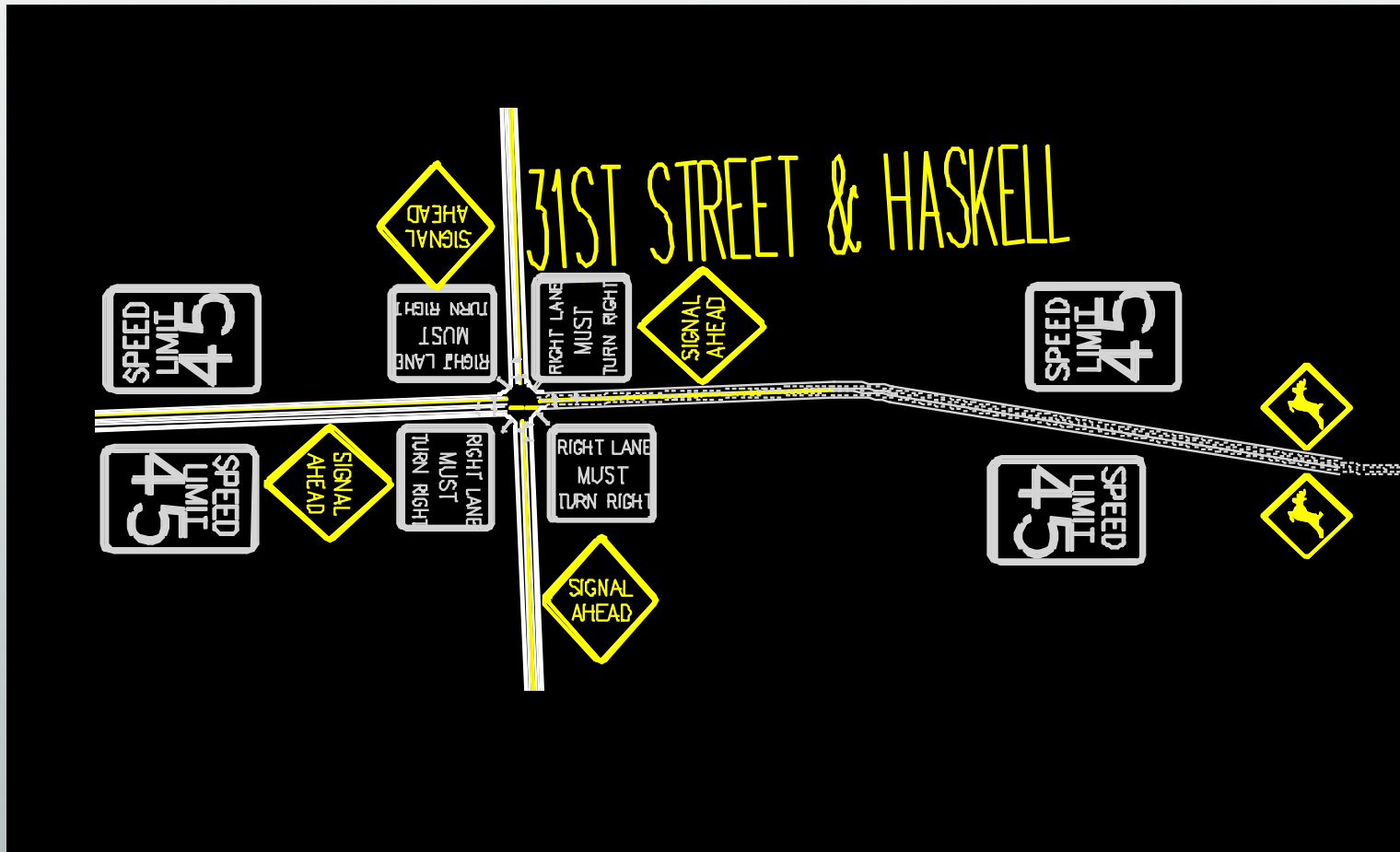
Typical sections



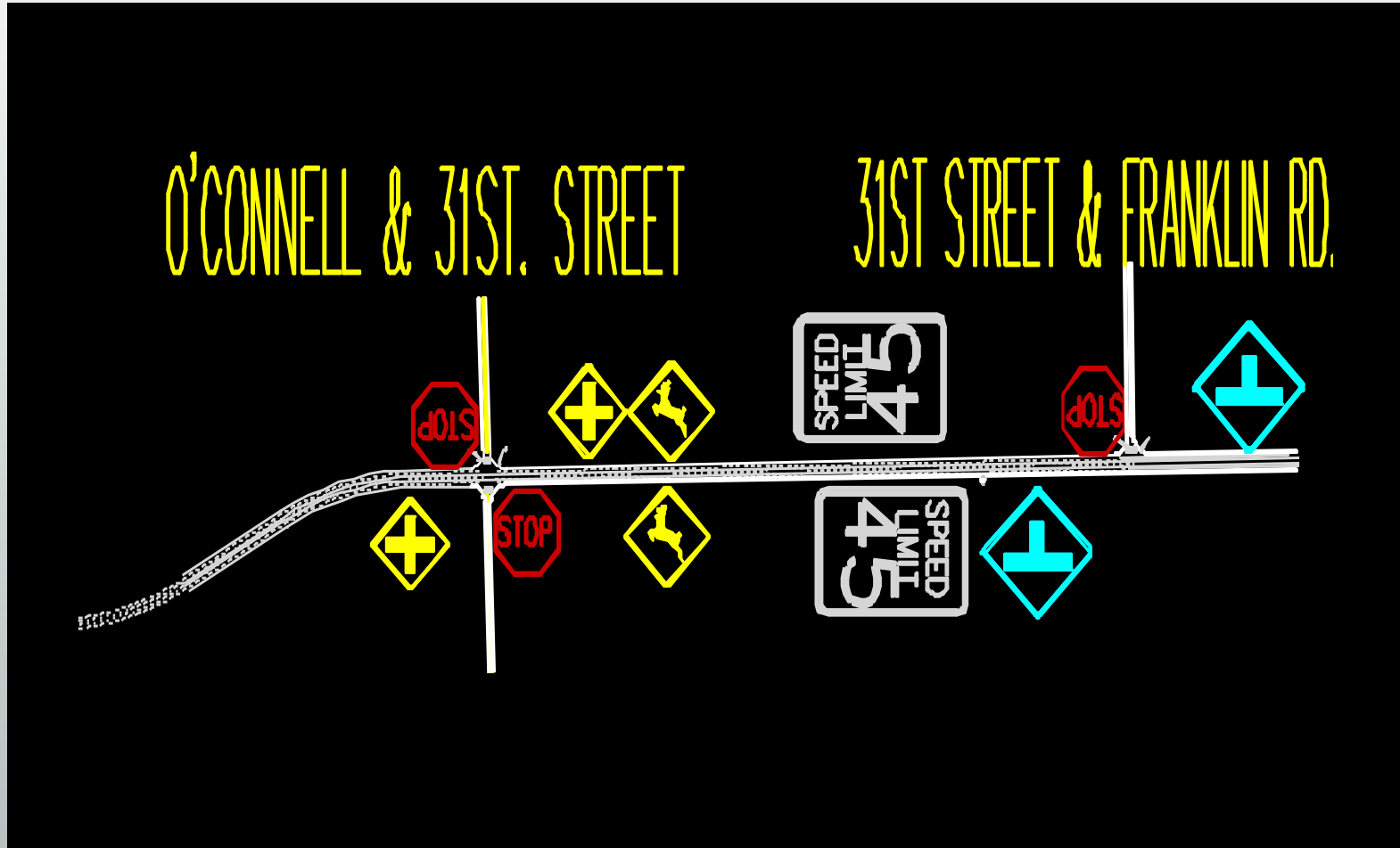
Plan and Profile



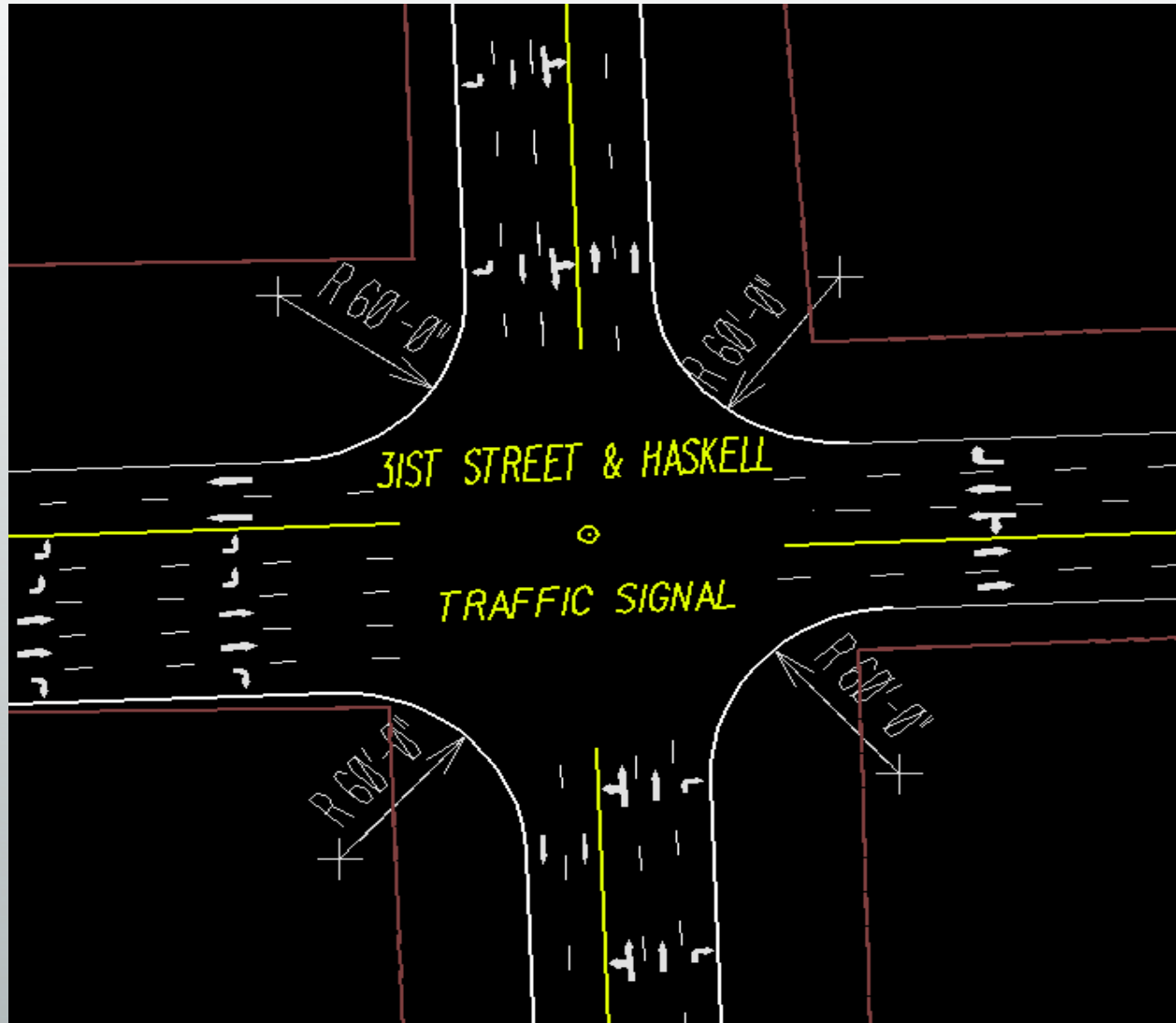
Signing



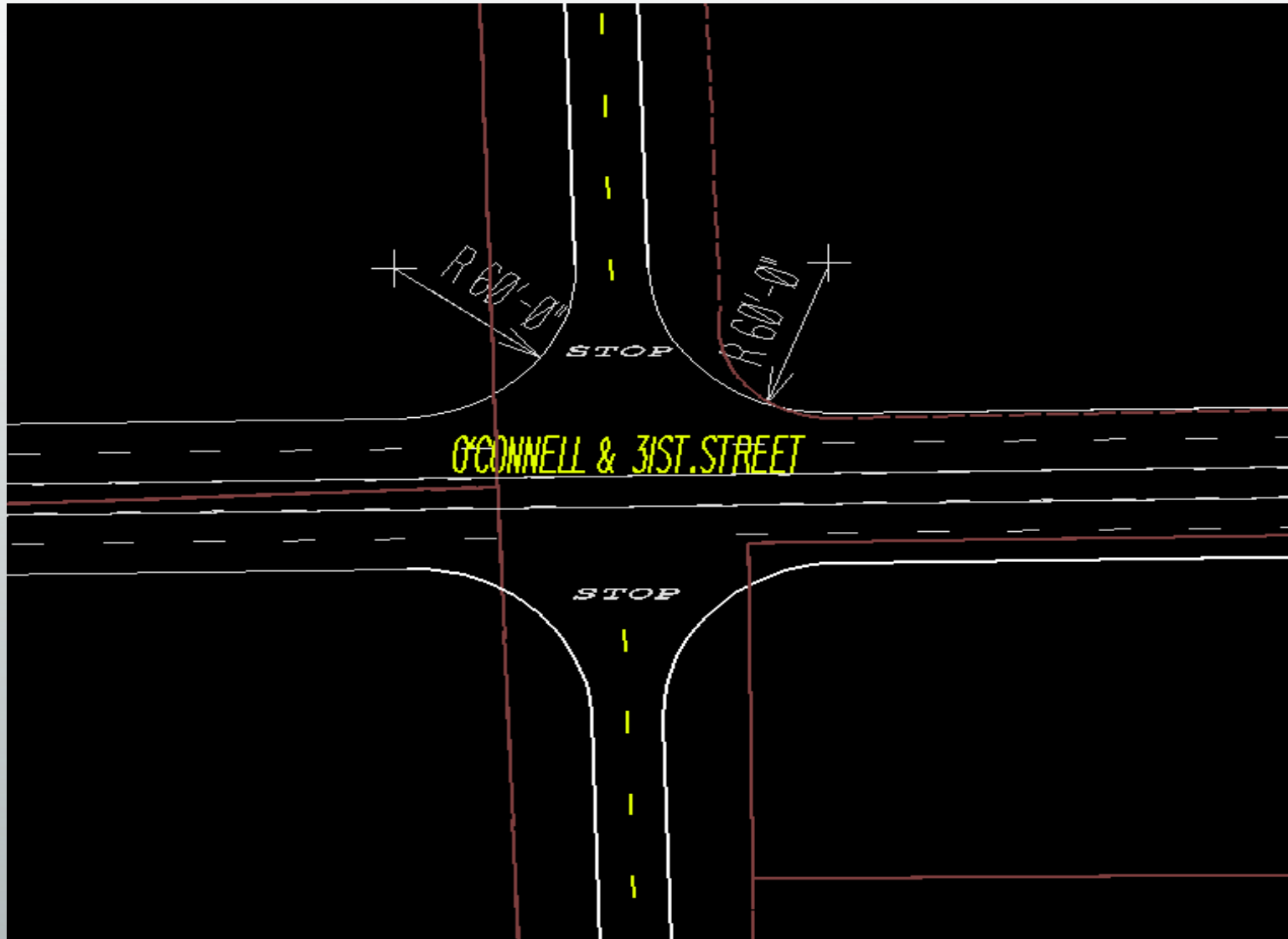
Signing



Intersection Details



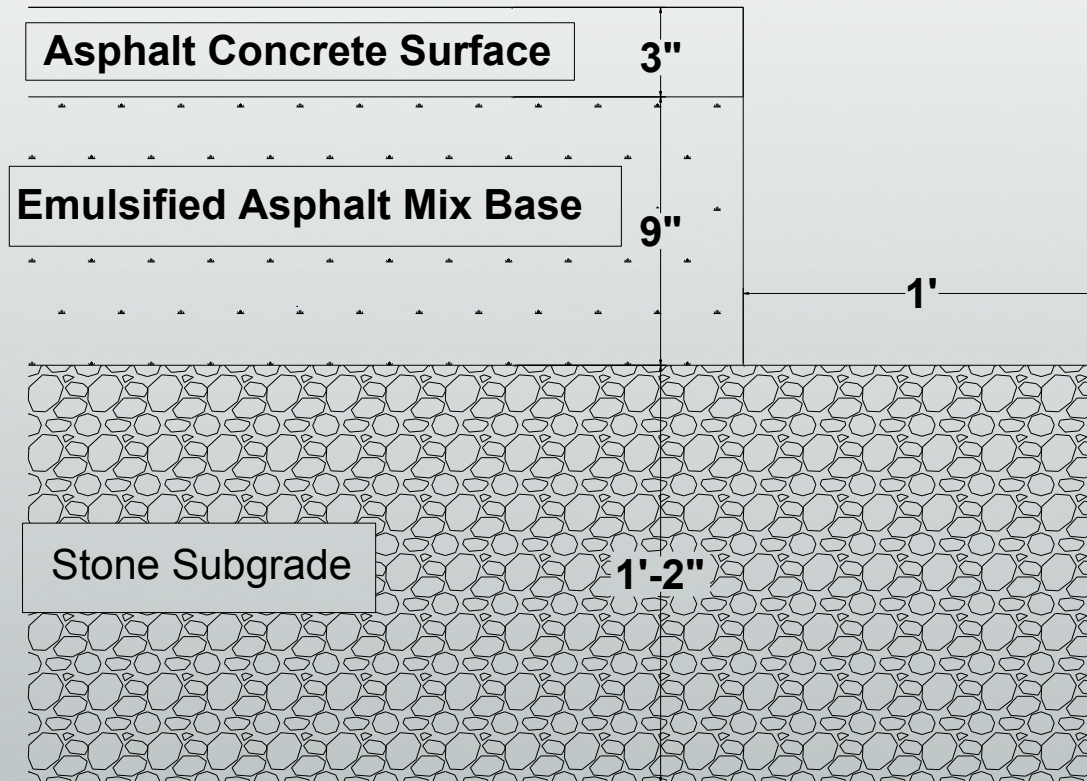
Intersection Details



Intersection Details



Pavement Design



Typical Pavement Section

- Flexible
- Asphalt Institute Design Method
 - ESAL: $\sim 5 \times 10^6$
 - M_r : ~ 18000 psi
 - MAAT 60°F

Cost Analysis

- Right of Way (appraisal value): \$6490
- Safety
 - Signage
 - Lighting
- Material: ~\$700,000
 - HMA
 - Sub-grade Material
 - Curb and Gutter
- Excavation Total: \$1,769,614.50
 - Cut: \$1,739,505.00
 - Fill: \$30,109.50
- Total Estimated Cost: \$2.5 million

Additional Expenditures

- Stream Culvert (2)
- Street Lighting
- Landscaping



Culvert Example



Wakarusa Wetlands