



St. George Office

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July 12, 2021

Dale Bedow, Mayor  
1777 North Meadowlark Drive  
Apple Valley, UT 84737

Subject: Sight Distance, Rome Way

Dear Mayor Bedow,

We have reviewed the issue of sight distance at the intersection of Rome Way and Juniper Circle and the beginning of North Rome Avenue and offer the following comments.

Following the recommendations in Guidelines for Geometric Design of Low-Volume Roads (LVR), 2019 the section of Rome way in question in its existing condition would require a posted speed of 15 mph with a stop sign installed at the intersection of Rome Way and Juniper Circle. Increasing the 15 mph posted speed would require tree removal and the reconfiguration of the curve at the beginning of North Rome Avenue. See the attached outline explaining the criteria of the LVR guidance.

Please call me at (435) 652-8450 with any questions or comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Marv Wilson", with a long horizontal flourish extending to the right.

Marv Wilson, PE

## Design References and Assumptions

- Guidelines for Geometric Design of Low-Volume Roads, 2019
  - (AASHTO) American Association of State Highway and Transportation Officials
  - 2<sup>nd</sup> Edition
  - Can use because <2000 vpd and it's a local road
- Assumptions/Exist. Site conditions
  - Classification: Unpaved, two-way single lane road
    - Typ. 10'-14' Wide
  - Surface Classification: Loose gravel
  - ADT: <250 veh per day
  - Risk Category: 'higher risk'

## Analysis

### Horizontal Curve Geometry

- Eq. 4-9
  - Design speed based off minimum radius and surface friction
- Minimum centerline radius of 85'
- Traction Coefficient of 0.36
  - Corresponds to a loose gravel in wet conditions

### Sight Distance

- Table 4-7
  - Design speed based off stopping sight distance, ADT, and risk category
- Minimum Existing SD Analysis
  - Looked at existing roadway geometry and roadside obstructions
  - Obtained minimum sight distance of 125' due to roadside trees
  - Max Sight Distance decreased to 62.5' for analysis
    - LVR recommends SSD for two-way single-lane roads be 2x the SSD for two-lane roads

## Results

### Horizontal Curve Geometry

- Design speed of **15 mph**
- However, LVR recommends that:  
*"For improvement projects on existing low-volume roads, the existing horizontal curve geometry should generally be considered acceptable unless there is evidence of a site-specific crash pattern related to horizontal curvature."*

### Sight Distance

- Design Speed
  - Table 4-7 in Green Book: LVR
  - **15 mph**
- However, LVR recommends that:  
*"Because sight distance improvements are unlikely to be cost-effective under most circumstances, the existing sight distance on a low-volume road may be allowed to remain in*

*place unless there is evidence of site-specific crash pattern attributable to inadequate sight distance”*

## Recommendations

- Place a 15 mph speed limit
- Place stop sign at intersection
- Keep road 10-14' wide
  - Recommended to keep single lane roads between 10-14' wide
  - If more space is needed, build out to full two-lane road