



## TRAFFIC INVESTIGATION RECORD

<b>SUBJECT: REQUEST FOR SIGHT DISTANCE REMEDIATION</b>	
<b>ROAD NAME: SANTINA STREET</b>	<b>LOCATION: SNOWDROP ROAD</b>

### PURPOSE

Two requests were received from residents at two locations in the upper Rancho Cucamonga area regarding sight distance problems. They are:

- Location #1: Resident at 4571 Archibald Avenue, reports that, when entering onto Archibald Ave/Santina Street she cannot see vehicles coming from the east leg driving south due to a crest just east of Archibald Ave and she is concerned about speeding motorists.
- Location #2: Resident at 9922 Santina Street, reports that, when entering from Santina Street at Snowdrop Road, there exists a wall from both directions making it difficult to see approaching vehicles from either direction, especially if motorists are speeding.

Also, Susan claims the horizontal curve radius is not large enough to make a safe turn onto the uphill portion of Santina Street. This, it is also claimed, is compounded by a vertical crest that may prevent motorists seeing the centerline when driving over the hill, possibly evidenced by skid marks located over the painted centerline for eastbound traffic.

### FINDINGS

#### Site Description:

Santina Street (no road number) is an undesignated mountain local street not listed in the County Master Plan of Roads and Highways. This non-County-maintained road has one lane of travel in each direction. The estimated roadway width of Santina Street is 28 feet.

Snowdrop Road (no road number) is an undesignated mountain local street not listed in the County Master Plan of Roads and Highways. This non-County-maintained road has one lane of travel in each direction. The estimated roadway width of Snowdrop Road is 28 feet.

See Figure 1 below for road locations.

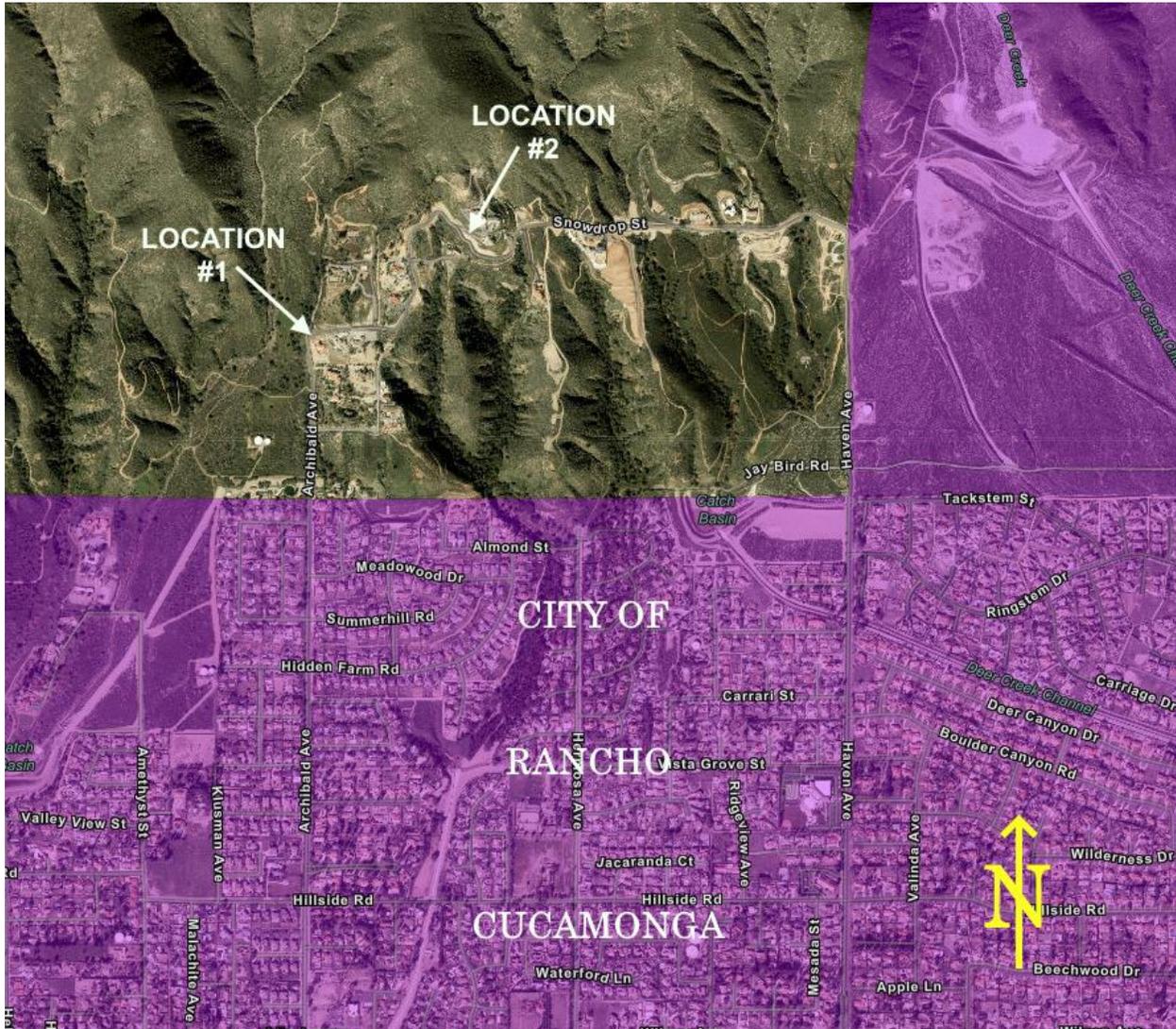


Figure 1: Location map.

**Existing Traffic Control Devices:**

Existing traffic control devices on Snowdrop Road and Santina Street are as shown in Figures 2 & 3.



Figure 2: Existing traffic control devices at Location #1.



Figure 3: Existing Traffic control devices at Location #2.

### Accident Data:

There is no recorded accident for the last five years for the subject section of roadway.

### On-Site observations:

Per the on-site review and evaluation, current roadway conditions are listed below in Figures 4 through 10.



Figure 4: (Location #1) Santina Street looking north from 4571 Archibald Avenue driveway. Vertical and horizontal curves limiting sight distance are noted.

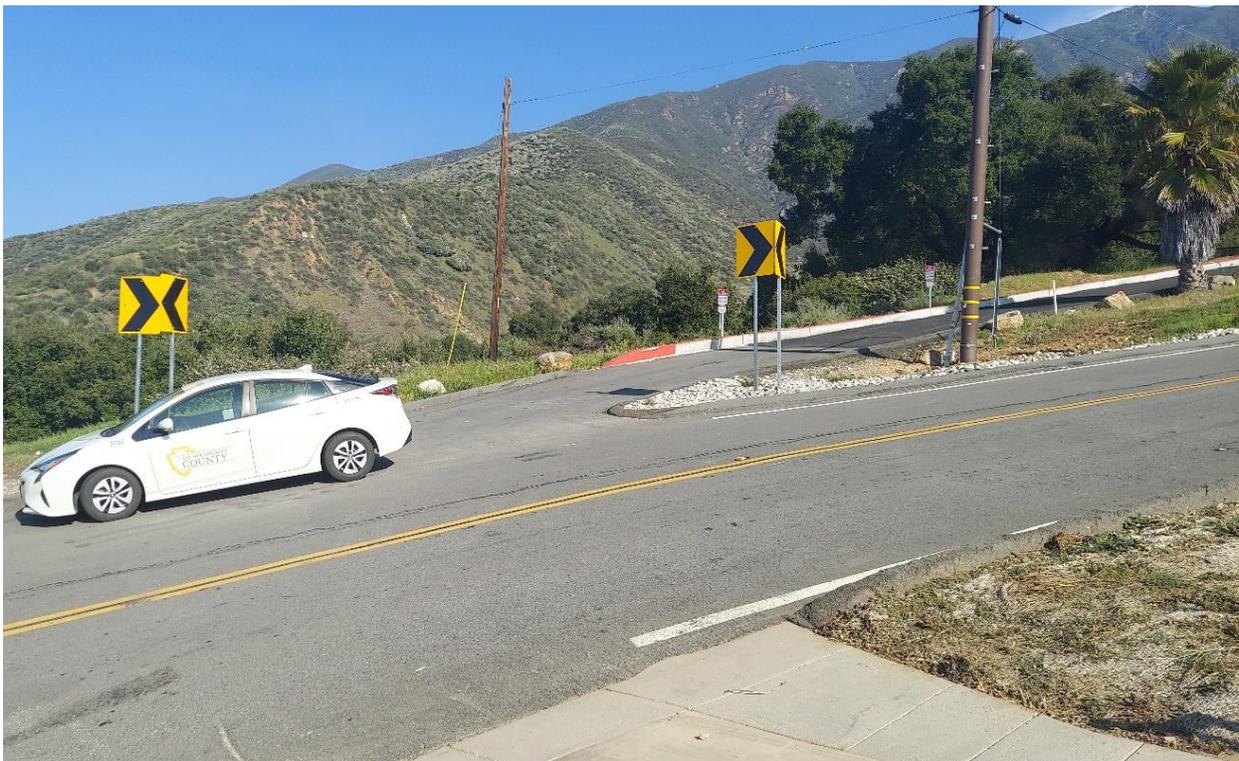


Figure 5: (Location #1) Santina Street at Archibald Avenue looking north at 4571 Archibald Avenue driveway, at turning curve.



Figure 6: (Location #1) Santina Street looking west at 4571 Archibald Avenue driveway, at turning curve.



Figure 7: (Location #2) Snowdrop Road looking east from 9922 Santina Street driveway (Santina Street). Wall limiting sight distance is noted.

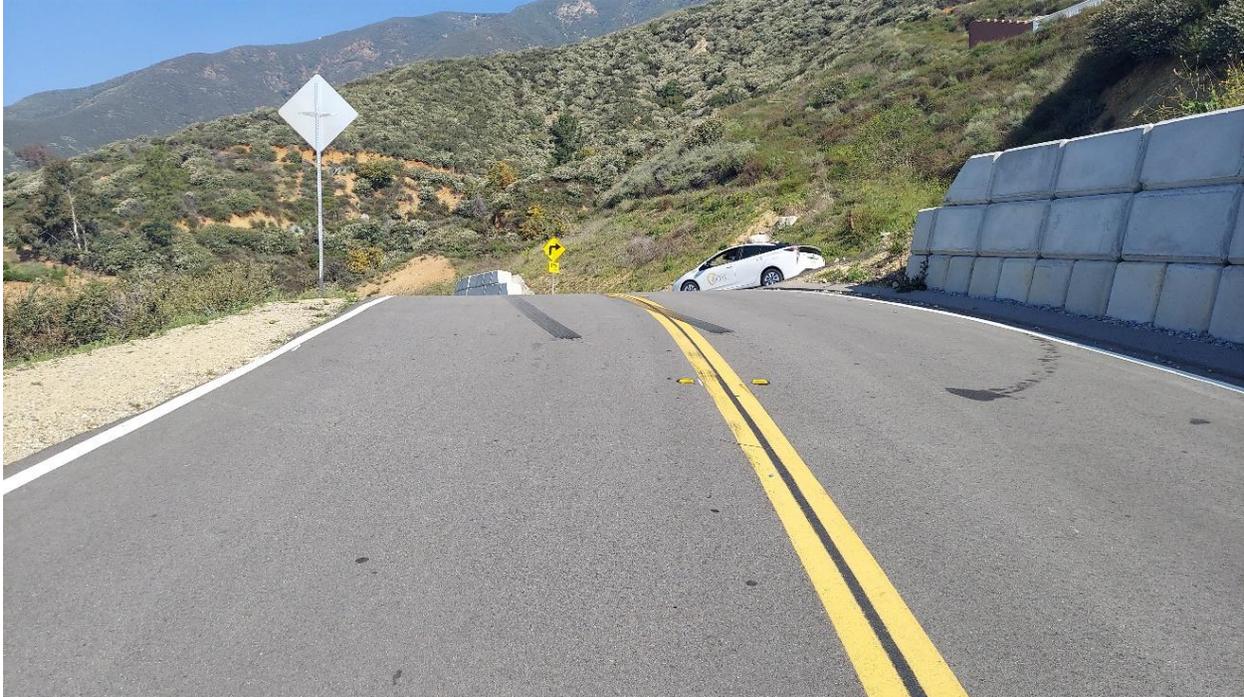


Figure 8: Snowdrop Road looking west from 9922 Santina Street driveway (Santina Street). Vertical curve limiting sight distance and skid marks are noted.



Figure 9: (Location #2) Santina Street driveway looking east at Snowdrop Road. Block wall and horizontal curve limiting sight distance are noted.



Figure 10: Santina Street driveway looking west at Snowdrop Road. Block wall and horizontal curve limiting sight distance are noted.

## Previous Investigations & Resolutions:

### Investigations:

There is no investigation found on record for the subject two locations.

### Resolutions:

There is no resolution found on record for the subject two locations.

## Analysis:

From the field visit, there are existing speed limit signs (R2-1) on Snowdrop Road and Santina Street already, and warning signs are placed at the curve area (W13-1P and W1-8). However, given the unique roadway geometric and spatial conditions on the mountain site, there is an opportunity to further enhance public safety at the two intersections (Archibald Ave at Santina St, Santina St at Snowdrop Rd) by further addressing potential view obstructions pursuant to certain engineering guidelines and standards. To improve the traffic safety at these locations, additional combination horizontal alignment/intersection warning signs (W1-10), along with rumble strip and traffic mirror could be considered. CA MUTCD Section 2C. 11 and Table 2C-5 provide guideline and standard for the W1-10 sign; and Section 3J.02 provides standard for the use of traversable rumble strip:

**Section 2C.11 Combination Horizontal Alignment/Intersection Signs (W1-10 Series)**

**Option:**

01 The Turn (W1-1) sign or the Curve (W1-2) sign may be combined with the Cross Road (W2-1) sign or the Side Road (W2-2 or W2-3) sign to create a combination Horizontal Alignment/Intersection (W1-10 series) sign (see Figure 2C-1) that depicts the condition where an intersection occurs within or immediately adjacent to a turn or curve.

**Guidance:**

02 Elements of the combination Horizontal Alignment/Intersection sign related to horizontal alignment should comply with the provisions of Section 2C.07, and elements related to intersection configuration should comply with the provisions of Section 2C.46. The symbol design should approximate the configuration of the intersecting roadway(s). No more than one Cross Road or two Side Road symbols should be displayed on any one combination Horizontal Alignment/Intersection sign.

**Standard:**

03 The use of the combination Horizontal Alignment/Intersection sign shall be in accordance with the appropriate Turn or Curve sign information shown in Table 2C-5.

**Table 2C-5. Horizontal Alignment Sign Selection**

Type of Horizontal Alignment Sign	Difference Between Speed Limit and Advisory Speed (See Section 2C.06)				
	5 mph	10 mph	15 mph	20 mph	25 mph or more
Turn (W1-1), Curve (W1-2), Reverse Turn (W1-3), Reverse Curve (W1-4), Winding Road (W1-5), and Combination Horizontal Alignment/Intersection (W1-10) (see Section 2C.07 to determine which sign to use)	Recommended	Required	Required	Required	Required
Advisory Speed Plaque (W13-1P)	Recommended	Required	Required	Required	Required
Chevrons (W1-8) and/or One Direction Large Arrow (W1-6)	Optional	Recommended	Required	Required	Required
Exit Speed (W13-2) and Ramp Speed (W13-3) on exit ramp	Optional	Optional	Recommended	Required	Required

**Section 3J.02 Transverse Rumble Strip Markings**

**Support:**

01 Transverse rumble strips consist of intermittent narrow, transverse areas of rough-textured or slightly raised or depressed road surface that extend across the travel lanes to alert drivers to unusual vehicular traffic conditions. Through noise and vibration, they attract the attention of road users to features such as unexpected changes in alignment and conditions requiring a reduction in speed or a stop.

02 This Manual contains no provisions regarding the design and placement of transverse rumble strips that approximate the color of the pavement. The provisions in this Manual address the use of markings in combination with a transverse rumble strip.

**Standard:**

03 Except as otherwise provided in Section 6F.87 for TTC zones, if the color of a transverse rumble strip used within a travel lane is not the color of the pavement, the color of the transverse rumble strip shall be either black or white.

**Guidance:**

04 White transverse rumble strips used in a travel lane should not be placed in locations where they could be confused with other transverse markings such as stop lines or crosswalks.

## CONCLUSION

Requests were received to address sight distance concerns along Santina Street and Snowdrop Road north of Rancho Cucamonga. These concerns, related to vertical/horizontal curves and a block wall, were observed during an on-site inspection. Adequate traffic control devices are already in place for these conditions (Figures 2 & 3). However, based on engineering judgment, guidelines, and standards, safety can be further enhanced by installing additional traffic control devices as detailed within the Recommendations section of this Traffic Investigation and Engineering Report.

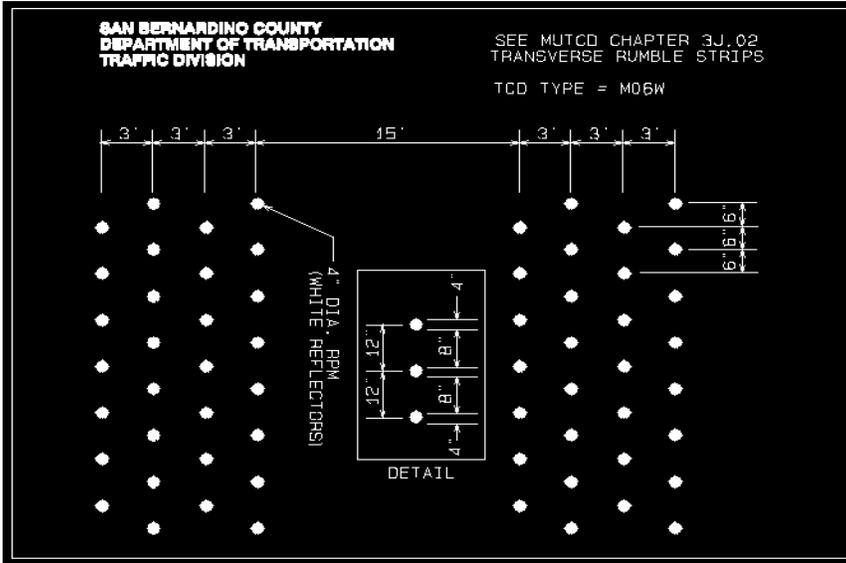
## RECOMMENDATIONS

- Location #1:
  - Place rumble strips in advance of crest to warn motorists of the approaching curve, place the rumble strips at 4 locations as shown in Figure 11 below;
  - Remove the existing W1-1 sign and W13-1P (15-mph) signs;
  - Install W1-10 signs and W13-1P (15-mph) signs near said proposed rumble strips, approximately 350 feet from the curve and intersection, as shown in Figure 11.



Figure 11: Proposed TCD devices for Location #1.

**Rumble Strip Detail:**



- Location #2: Install two traffic mirrors to improve view of oncoming vehicles. See Figure



**Figure 12: Proposed TCD devices for location #2.**



Based on professional engineering judgment, the following possible future improvements were considered and determined to be unnecessary at this time. However, the conditions will continue to be monitored, and these additional enhancements may be considered for implementation at a later date, should conditions warrant or change:

1. Install a "Hill Blocks View" sign on Santina Street for eastbound traffic.
2. Install an intersection warning sign on Snowdrop Road just east of the approach to Santina Street for westbound traffic.
3. Place street name signs to identify both Santina Street and Snowdrop Road.
4. Remove a portion of the centerline at the subject intersection (centerline break down).

### **Attachments**

Investigation request, photos

PREPARED BY: Mike DeBenedet, Lei Li DATE: 5/22/2024 REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_