

# HOLWAY DRIVE TRUCK RESTRICTION STUDY

**SUBJECT: Weight restriction for Holway Drive between Camino Diablo and Byron Highway, based on roadway geometries and collision history.**

## BACKGROUND

The Contra Costa County Public Works Department has received numerous complaints from local residents about trucks encroaching upon opposing traffic and straying off the pavement, which has prompted the County Traffic Engineer to investigate the geometric roadway conditions. This study analyzes if trucks are able to safely maneuver turns at intersections, and to check mid-block roadway dimensions for conformance with accepted roadway design criteria. Collision history is included for informational purposes.

### Holway Drive - Road No. 8845A

Holway Drive in the Byron/Brentwood area extends southerly from the intersection of Byron Highway (Junction 4) to Camino Diablo, a distance of 0.26 miles. This road is a rural arterial with an average daily traffic volume of 4401 vehicles per day. The average daily traffic volumes on Holway Drive were taken between Byron Highway and Camino Diablo on February 5, 2013 at approximately 200 feet south of Main Street. Tractor trailers comprise approximately 2.3 percent of the total daily traffic on Holway Drive. Holway Drive is a two-lane road that generally varies between 32 and 50 ft in width and is flat and straight from Camino Diablo to Byron Highway.

## TRUCK TURNING AT INTERSECTIONS

The intersection studied is Holway Drive at Camino Diablo. The investigation began by obtaining aerial photos of the subject intersection. A Caltrans-approved truck turning template for California Legal Trucks, which delineates the tracking wheel path of a truck, was superimposed on the aerial photo to determine the ability of the intersections to accommodate the various truck turning movements.

**Results:** **Camino Diablo at Holway Drive:** In its present condition, this intersection is unable to accommodate truck turning movements without encroaching upon the right of way of opposing vehicles, or without off-tracking onto unpaved shoulders. Unpaved shoulders do not have the structural capacity to withstand off-tracking by heavy vehicles, which results in rutting and depressing of the shoulders. Off-tracking by heavy vehicles may over time result in damage to the cross-culvert drainage inlets and outlets that cross the roadway.

California Legal Truck Turning Templates superimposed on aerial photos are included in the Appendix.

## **EXISTING MID-BLOCK ROADWAY DESIGN**

This investigation documented an inventory of existing lane widths, shoulder conditions, and average daily traffic (ADT) volumes for Holway Drive between Camino Diablo and Byron Highway to determine if they meet the minimum County roadway design criteria provided under County Standard Plan CA53i.

**Results:** Holway Drive is generally a two-lane roadway with a paved width of 32 to 50 feet, paved shoulders, and ADT volume of 4401 vehicles per day. The 12-foot wide lanes, combined with 4-foot paved shoulders and 4-foot shoulder backing meets or exceeds the minimum County roadway design criteria provided under County Standard Plan CA53i.

## **COLLISION HISTORY**

From 2009 to present, there were three recorded collisions at the intersection of Holway Drive at Camino Diablo. Two of the collisions were for failure to stop at the stop sign on Holway Drive and a Driving Under the Influence (DUI) violation, which resulted in five injuries. There were two midblock collisions between Holway Drive and Byron Highway that involved speeding and an encroachment onto oncoming traffic (crossing over the double yellow line). No injuries were recorded for the midblock collisions.

## **RECOMMENDATION**

Holway Drive is unable to accommodate truck turning movements without encroaching onto opposing traffic or damaging unpaved shoulders and existing facilities within the roadway right of way. This findings, as supported by California Vehicle Code Section 35717 (included in Appendix), are the basis for recommending restriction of trucks exceeding a maximum gross weight of 14,000 pounds (7 tons) on Holway Drive from Camino Diablo to Byron Highway.

## **APPENDIX**

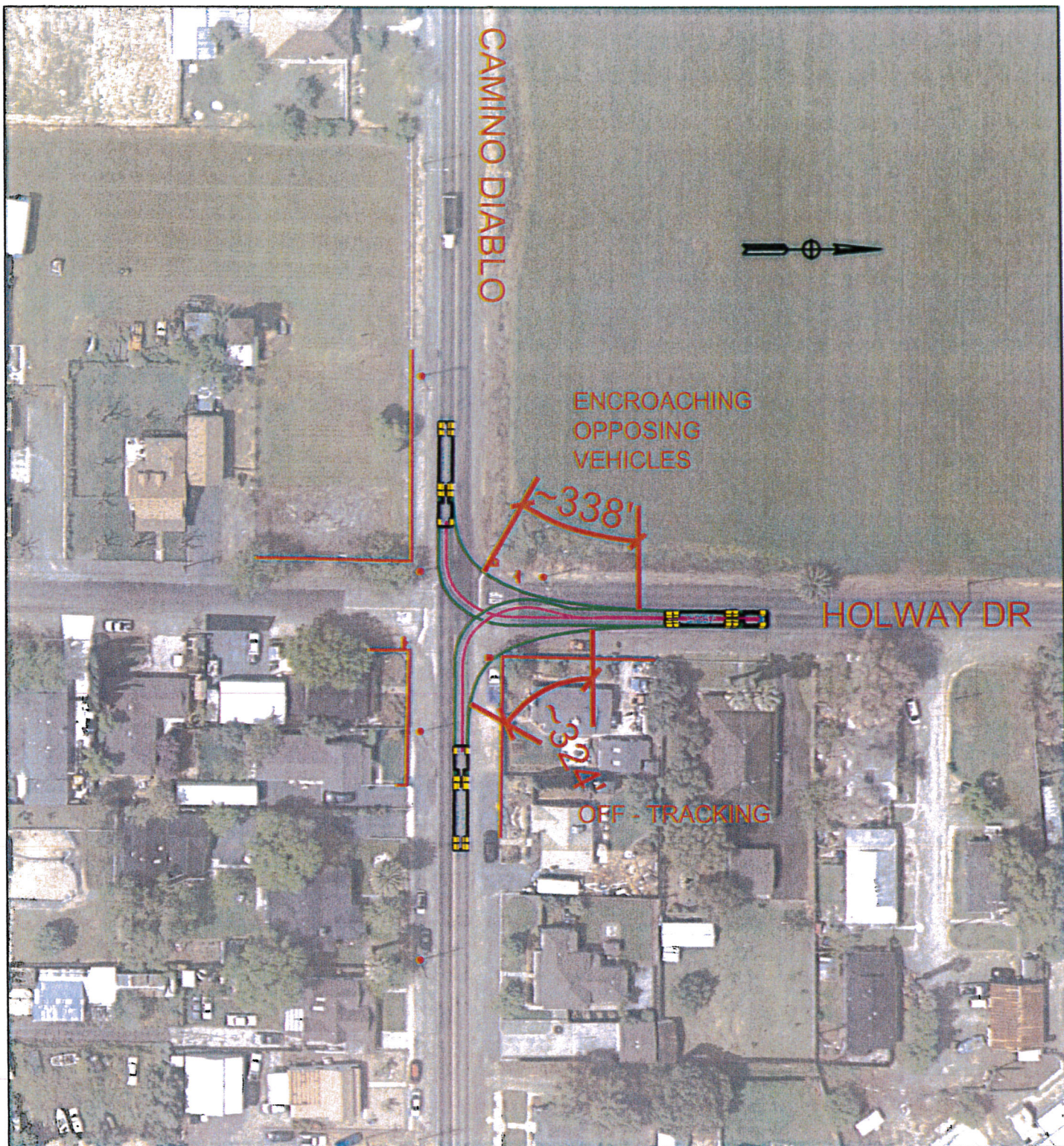
Exhibits: California Legal Truck Turning Template Superimposed on Aerial Photos

Collision Report Database – 2009 to Present

Contra Costa County Public Works Department Standard Plan CA53i

California Vehicle Code Section 35717





TURNING MOVEMENTS FROM CAMINO DIABLO  
ONTO HOLWAY DRIVE





TURNING MOVEMENTS FROM HOLWAY DRIVE  
ONTO CAMINO DIABLO

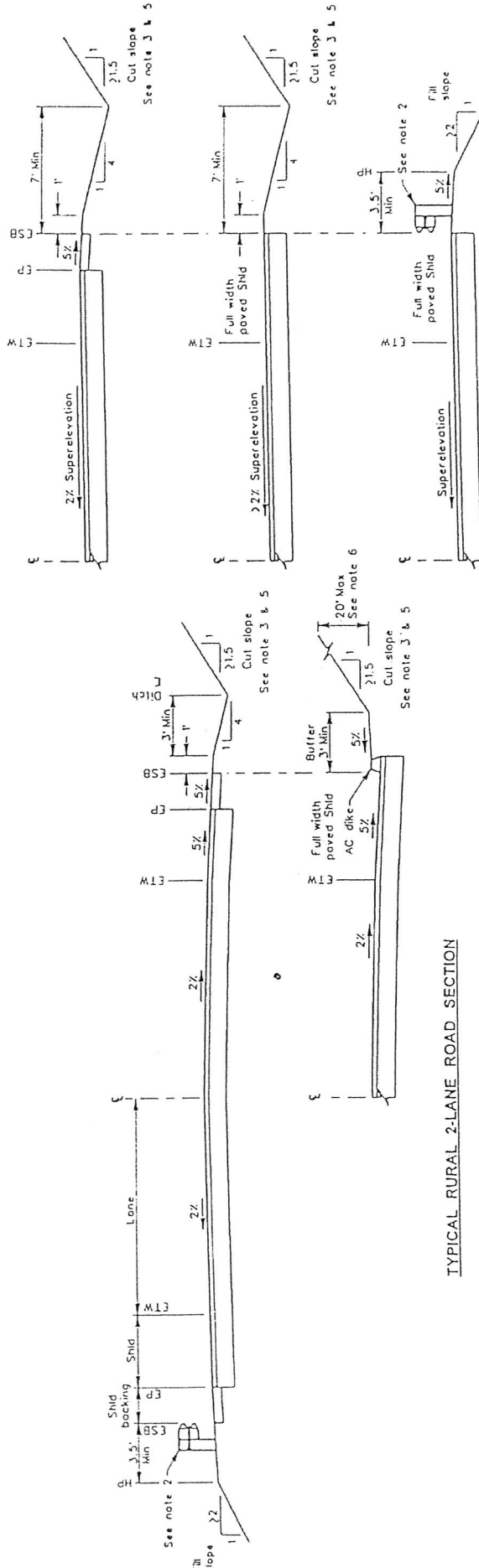


2009-Present Collision Report Database														Categorized by: W Bailey			
Report #	Date	Time	Primary Road	Location	Dir.	Secondary Road	V.C. #	P.C.F.	Special Conditions	TYPE OF COLLISION	Dark	Dusk	Hit &				
													Dawn	Inj.	Run	Solo	O.A.F.
8-242	08/30/12	1015	Holland Tract Rd	1.6 mile	E	Tranquility Bay Rd	21107	Unsafe Turning Movement									
1-258	01/31/09	0011	Holway Dr	400'	S	Byron Hwy	21460(A)	Crossing over Double Yellow			X		1			23123.5	
9-136	09/21/12	1624	Holway Dr	20'	W	Byron Hwy	22350	Unsafe Speed									
8-046	08/08/14	0515	Holway Dr		@	Camino Diablo	21802(A)	Fail To Stop at STOP sign		BROAD SIDE	X		2				
10-109	10/15/11	2148	Holway Dr		@	Camino Diablo	23152(A)	DUI			X		1			22450	
1-107	01/14/12	0615	Holway Dr		@	Camino Diablo	22450(A)	stop at required stop signs			X		2				
10-005	10/01/14	0840	Huston Rd	1'	N	Denise Ln	22107	Unsafe Turning Movement	County Property	HIT SIGN/CURB/CARS						22350	

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TWO LANE RURAL SHOULDER/LANE WIDTHS

ADT < 250	< 400	< 1000	< 3000	< 6000	> 6000
MINIMUM (Shld. backing/Shld./Lane)	1.5' / 0' / 11"	2' / 1' / 11"	2' / 2' / 12"	3' / 4' / 12"	3' / 5' / 12"
DESIRABLE * (Shld. backing*/Shld./Lane)	0' / 1' / 11"	2' / 1' / 11"	2' / 5' / 12"	2' / 6' / 12"	0' / 8' / 12"



TYPICAL RURAL 2-LANE ROAD  
SUPERELEVATED SECTION

4. Use desirable if it does not significantly increase R/W or
7. Design ADT shall be approved by the Public Works Department.

## NOTES:

1. These guidelines do not override County Ordinance Code requirements for development projects.
2. Guardrail may be required, depending on embankment height and slope. (See Colltrons Guidelines)
3. Distance to cut slope from ETW may be increased for sight distance in curves. (See Colltrons Design Manual)
4. Use desirable if it does not significantly increase R/W or construction costs, especially where there is high percentage of trucks.
5. A wider swale and/or buffer between toe of slope and roadway should be considered where there is potential rock fall, the slope is highly erosive or there is significant longitudinal surface flows.
6. If cut slope is  $\geq 20^\circ$  to bench or top of cut, buffer width shall be increased.

COUNTY OF CONTRA COSTA  
PUBLIC WORKS DEPARTMENT

# TWO LANE RURAL ROAD GUIDELINES

NO.	DATE	REVISION DESCRIPTION	BY
①	2-02	Supersedes Standard Plan CAS3 dated 11-99	P.W.

-02

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**VEHICLE CODE - VEH**

**DIVISION 15. SIZE, WEIGHT, AND LOAD [35000 - 35796]** (*Division 15 enacted by Stats. 1959, Ch. 3.*)

**CHAPTER 5. Weight [35550 - 35796]** (*Chapter 5 enacted by Stats. 1959, Ch. 3.*)

**ARTICLE 4. Local Authorities [35700 - 35722]** (*Article 4 enacted by Stats. 1959, Ch. 3.*)

<sup>35717</sup>. Notwithstanding any provision to the contrary, any county may by ordinance prohibit the use of any street, road or highway by any commercial vehicle exceeding a maximum gross weight of 14,000 pounds if, by accepted engineering standards, the street, road or highway cannot support such vehicle.

(*Added by Stats. 1959, Ch. 1732.*)