

CAR13**2007**

Site ID	Site Name	Thomas Guide	Latitude °N	Longitude °W
CAR13	Outlet to Lake San Marcos @ End of San Marino Drive	1128, C3	33.12012	-117.20997
Location Description				
Located on a storm drain outlet at the end of San Marino Drive, discharging to the west side of Lake San Marcos.				
Primary Land Use	Secondary Land Use	Conveyance Type	Watercourse	
Residential	Parks	Outlet	None	

SITE SUMMARY



Figure 1. CAR13 site photo (2005)

This site was located on a storm drain outlet at the end of San Marino Drive, discharging to the west side of Lake San Marcos. This outlet received water runoff from portions of the residential area around Lake San Marcos and the City of San Marcos. This concrete outlet discharged directly into Lake San Marcos.

In 2007, the site was monitored on July 18, August 30, September 13 and October 3. The site had flowing water on all visits. The action level for indicator bacteria was exceeded on June 18 and August 30. Follow up bacteria samples collected on October 3, showed bacteria concentrations below the action levels and therefore, the IC/ID was resolved and the investigation discontinued.

In the previous three years (2004-2006), indicator bacteria exceeded the action level three out of three years. During the investigations, bacteria were identified in two tributaries, but no specific sources were located. No other action levels were exceeded.

MONITORING EVENTS AT SITE CAR13 IN 2007

Site ID	Location	Date	Field	Analytical	IC/ID	Parameter Investigated	Latitude °N	Longitude °W
CAR13	Storm Drain Outfall to Lake San Marcos @ End of San Marino Drive	7/18/2007	X	X			33.12012	-117.20997
CAR13	Storm Drain Outfall to Lake San Marcos @ End of San Marino Drive	8/30/2007	X	X	X	Bacteria	33.12012	-117.20997
CAR13E	Storm Drain (Manhole) @ Panorama Drive (100 feet north of Camino Aguar	8/30/2007	X	X	X	Bacteria	33.11972	-117.21086
CAR13B	Storm Drain Channel (south fork) @ La Casa Drive	8/30/2007	X	X	X	Bacteria	33.12223	-117.21342
CAR13C	Storm Drain Channel (north fork) @ La Casa Drive	8/30/2007	X	X	X	Bacteria	33.12247	-117.21346
CAR13D	Storm Drain Channel (center fork) @ La Casa Drive	8/30/2007	X	X	X	Bacteria	33.12238	-117.21352
CAR13G	Storm Drain (Manhole) @ La Casa Drive (Next to Rancho Santa Fe Road)	8/30/2007	X	X	X	Bacteria	33.12486	-117.21527
CAR13H	Curb @ Bluesage Drive & Pastoral Way	8/30/2007	X	X	X	Bacteria	33.12614	-117.21562
CAR13	Storm Drain Outfall to Lake San Marcos @ End of San Marino Drive	9/13/2007	X				33.12012	-117.20997
CAR13	Storm Drain Outfall to Lake San Marcos @ End of San Marino	10/3/2007	X	X	X	Bacteria	33.12012	-117.20997

Site ID	Location	Date	Field	Analytical	IC/ID	Parameter Investigated	Latitude °N	Longitude °W
	Drive							
CAR13E	Storm Drain (Manhole) @ Panorama Drive (100 feet north of Camino Aguar	10/3/2007	X	X	X	Bacteria	33.11972	-117.21086
CAR13A	Storm Drain Channel @ La Casa Drive	10/3/2007	X	X	X	Bacteria	33.12224	-117.21311
CAR13I	Catch Basin @ Hermosita Drive (across from golf course)	10/3/2007	X	X	X	Bacteria	33.12189	-117.21284
CAR13J	Curb drain @ San Marino Drive	10/3/2007	X	X	X	Bacteria	33.12230	-117.21234

FIELD SCREENING AND ANALYTICAL MONITORING

This site was monitored on July 18, August 30, September 13 and October 3, 2007. Water flow and/or physicochemical properties were measured in situ. Grab samples were collected for field measurement of ammonia, nitrate, and orthophosphate and for laboratory analysis of constituents required by the Permit or deemed valuable to the Program.

Field Screening Results

The site had flowing water on both visits. No field parameters measured exceeded action levels.

Analytical Monitoring Results

The action levels for total coliform, fecal coliform and Enterococcus were exceeded as summarized in Table 2. All other analytical parameters measured in the laboratory did not exceed action levels.

IC/ID Investigation – Bacteria

On July 18, 2007, County staff collected samples for analysis of indicator bacteria. Total coliform, Fecal coliform and Enterococcus concentrations exceeded the action level as summarized in Table 2. Staff conducted an IC/ID investigation for indicator bacteria on August 30, 2007. Six CAR13 IC/ID sites were sampled (see Figure 1). CAR13E was ponded and CAR13D was dry therefore no samples were taken. CAR13B and CAR13C bacteria concentrations were below action levels. CAR13H and CAR13G bacteria concentrations exceeded action levels; however no bacteria source was identified.

On October 3, 2007, staff collected a bacteria sample at the CAR13 site and bacteria concentrations were below the action level therefore, the IC/ID was resolved (see Figure 2 for a topographical map of the drainage). Four IC/ID sites were sampled upstream (CAR13E, CAR13A, CAR13I and CAR13J). Two of the four sites exceeded action levels but no bacteria source was identified.

Table 2. CAR13 Bacterial Concentrations (MPN/100 mL)

Sample Site	Sample Date	Estimated Flow (cfs)	Total Coliform	Fecal Coliform	Enterococcus
CAR13	7/18/2007	0.0576	300000	90000	160000
CAR13	8/30/2007	0.0408	300000	16000	90000
CAR13E	8/30/2007	Ponded			
CAR13B	8/30/2007	0.000808	16000	500	1700
CAR13C	8/30/2007	0.00072	9000	3000	9000
CAR13D	8/30/2007	Dry			
CAR13G	8/30/2007	0.05	30000	24000	30000
CAR13H	8/30/2007	0.0018	90000	24000	16000
CAR13	10/3/2007	0.018	16000	800	1300
CAR13E	10/3/2007	0.003	24000	1700	16000
CAR13A	10/3/2007	0.0226	50000	50000	1300
CAR13I	10/3/2007	0.0005	300000	300000	90000
CAR13J	10/3/2007	0.00099	16000	170	500
Action Level			50,000	20,000	10,000

Figure 1: CAR13 IC/ID Site Locations and Land Use.

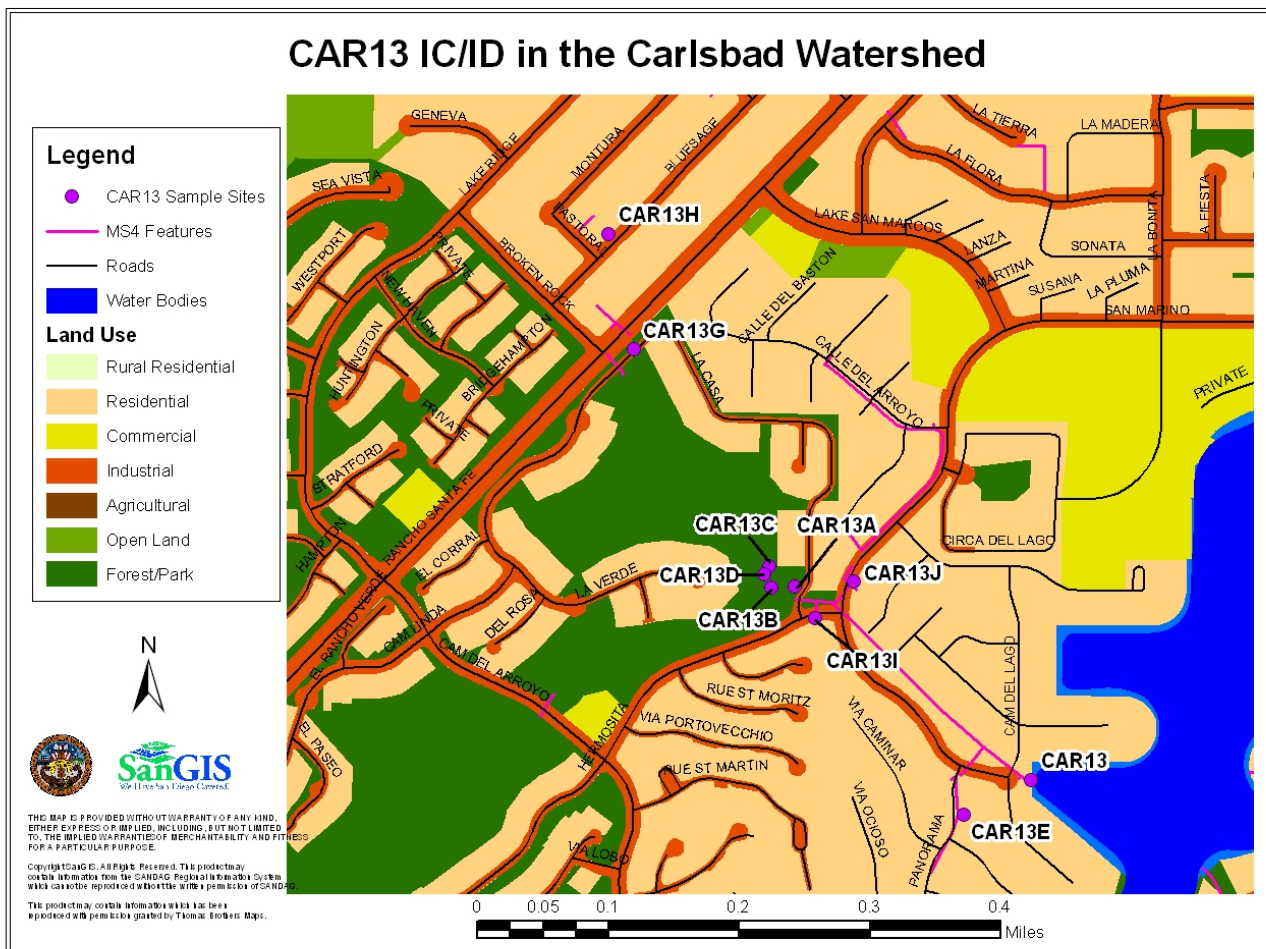


Figure 2: Topographical map of the CAR13 drainage.

