

**2017 Los Angeles River Trash TMDL Annual Report  
for the City of Signal Hill**

Prepared for the Los Angeles Regional Water Quality Control Board  
Submitted as part of the 2016-2017 Individual MS4 NPDES Annual Report

December 15, 2017

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City of Signal Hill Trash TMDL Annual Report

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**1. Background**

The City of Signal Hill (City) is complying with the Los Angeles River Trash TMDL (Trash TMDL) through an alternative compliance option, as allowed by the June 11, 2015, Los Angeles Regional Water Quality Control Board (Regional Board) Amendment to the Trash TMDL. The City is employing a combination of full capture systems, partial capture systems, and institutional controls—all properly sized, operated, and maintained—to achieve a reduction in trash discharge of 99% or greater from the baseline load. The percent reduction is determined through a mass balance approach, based on a daily generation rate (DGR) study as described in the Regional Board's August 9, 2007, Trash TMDL Staff Report for the Los Angeles River Watershed.

**2. Compliance Status**

The Regional Board's mass balance worksheets (Reporting Forms) were used to calculate the percent reduction in trash discharge for reporting year 2016-2017. They are discussed in Section 5 and included in Section 6 of this report.

The City will continue to properly maintain its trash capture devices and institutional controls and anticipates loading reductions above 99% in future reportings years. The City requests the Executive Officer's concurrence to reduce the frequency of DGR studies from annually to once every five years. The City will report annually on the continued implementation at the same level of capture devices and institutional controls and any drastic land use changes that occur.

**3. Full Capture Systems, Partial Capture Systems, and Institutional Controls**

A complete list of trash capture devices is included in Section 6. Institutional controls include littering ordinances, annual catch basin cleaning, weekly street sweeping, public education and stormwater pollution prevention outreach, residential curbside recycling, hazardous and electronic waste roundups, and bulky item collection.

**4. Daily Generation Rate (DGR) Study**

The City's trash discharge for the reporting year was estimated using a mass balance approach based on a trash DGR calculated for land use areas within the City. The representative land use areas studied were residential and industrial areas. All catch basins within commercial, public/educational, and open space areas are retrofitted with full-capture devices, so these areas were not studied. The DGR was calculated by weighing trash collected over a 30-day period in the summer along representative street sweeping collection routes within the study areas, then extrapolating that weight across the City. See Figures 1-2 for the designated routes. The results of the DGR study are included as part of the Regional Board Reporting Forms in Section 6.

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#### 4.1 Study method

Trash<sup>1</sup> was manually picked up with a reaching tool along the collection routes. (See Figure 3.) The manual pickup was conducted one day prior to street sweeping for each route. Catch basins along the study routes were covered to prevent trash from being swept into them. (See Figure 4.) Only trash a quarter of an inch or larger was collected. Collected trash in each area was weighed using a calibrated digital scale. (See Figure 5.) Five gallon buckets were used to estimate the volume. The trash was then separated and quantified by material type. A standard health and safety plan was followed at all times. The health and safety plan is available upon request.

#### 4.2 Collection routes

Figures 1-2 show the collection routes for the DGR Study. Each figure includes a brief description.



Figure 1. Residential Area Route. Collection occurred Monday. Route includes the side of the street swept Tuesday only.

<sup>1</sup> Following the Los Angeles River Trash TMDL, "trash" is defined in California Government Code Section 68055.1(g) as "...all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling or manufacturing."

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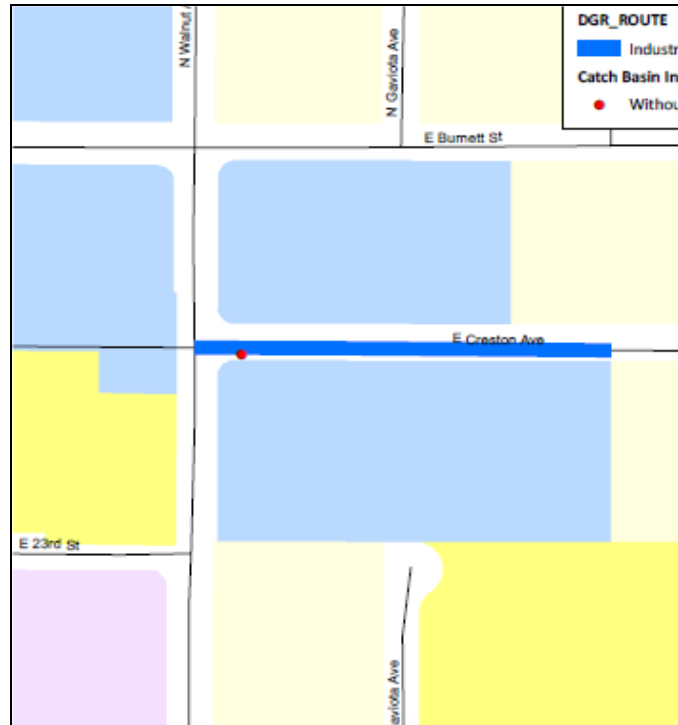


Figure 2. Industrial Area Route. Collection occurred Monday. Route includes the side of the street swept Friday only.

#### 4.3 Field pictures

Figures 3-6 were taken during the 2017 DGR study. Each picture includes a brief description.



Figure 3. DGR crew member collecting trash using a reaching tool.



Figure 4. Catch basins along the study routes were covered to prevent trash from being swept into them.



Figure 5. DGR crew member weighing collected trash using a digital scale.

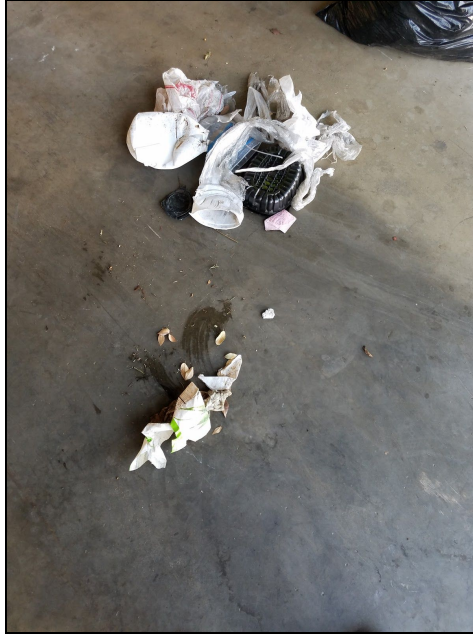


Figure 6. Sorted trash pile from the Industrial Area route on 7-28-17.

## 5. Mass Balance Approach

The mass balance Reporting Forms provided by the Regional Board were used to calculate total trash discharge. (See Section 6.) Deviations from the Reporting Forms are noted and explained in the comments sections. This includes the following:

- The City's streets are not swept in one day. Approximately equal parts are swept Monday through Friday. Accounting for this effect results in fractional days of trash accumulation for a given storm event.

## 6. Trash TMDL Reporting Forms

The 2017 Trash TMDL Reporting Forms are included on the following pages.

Trash Collection for Calculation of Daily Generation Rate, DGR										
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11
Land Use Category	Total Area within Jurisdiction	Representative Area for DGR Calculation	Date of Last Street Sweeping	Date of DGR Sampling	Length of Collection Period	Trash Collection from Representative Area (lb. or gal.)	Trash Cleaned Out from Catchbasin(s) within the Representative Area (lb. or gal.)	Total Amount of Trash Generated in Representative area	Total Trash Generated within Representative Area	Comments
Residential	17.82	0.12	07/11/17	7/17/17	6	0.25	0	0.25		Residential areas swept weekly. DGR sampling collected weekly (Monday) by hand, and prior to street sweeping activities (Tuesday). Thus a six-day period elapsed between sweeping and collection events.
			07/18/17	7/24/17	6	0.63	0	0.63		
			07/25/17	7/31/17	6	0.25	0	0.25		
			08/01/17	8/7/17	6	0.50	0	0.50		
			08/08/17	8/14/17	6	0.75	0	0.75	11.76	
			Total Days:		30					
Industrial	7.46	0.12	07/15/17	7/21/17	4	1.06	0	1.06		Industrial areas swept weekly. DGR sampling collected weekly by hand (Fridays) and prior to street sweeping (Mondays), thus a four-day period elapsed between sweeping and collection events.  * Although the total collection period is less than 30 days, it is important to note that if three additional four-day collection events resulted in the highest recorded weekly weight in the 20-day period (which was 1.125 lbs), the total baseline trash reduction for the year would just lower to 99.14% (from the current value of 99.20%). As such, it is highly unlikely that an increased collection period would result in a reduction value below 99%.
			07/22/17	7/28/17	4	0.38	0	0.38		
			07/29/17	8/4/17	4	1.13	0	1.13		
			08/05/17	8/11/17	4	0.75	0	0.75		
			08/12/17	8/18/17	4	0.63	0	0.63	12.24	
			Total Days:		20 *					
Commercial	3.98									All catch basins within this land-use area are retrofitted with full capture devices, so trash was not collected from this area.
			Total Days:		0					
Public Facilities / Educational Institutions	1.26									All catch basins within this land-use area are retrofitted with full capture devices, so trash was not collected from this area.
			Total Days:		0					
Open Space / Recreation	8.17									All catch basins within this land-use area are retrofitted with full capture devices, so trash was not collected from this area.
			Total Days:		0					
<b>Total Area</b>	<b>38.69</b>	<b>0.2</b>					<b>Total Trash (lbs)</b>	<b>6.3</b>		
							<b>DGR (lbs/day)</b>		<b>23.99</b>	
<b>Notes:</b>	* Total collection period must equal 30 days for each representative land use area.									
Col. 1	Land Use Category - Categories based on Baseline Monitoring Program conducted by LACDPW baseline monitoring group. Alternatively, describe land use type as designated by the City.									
Col. 2	Total area of said land use within jurisdiction (fill in once in gray-highlighted row for each land use category). Total area may be accounted for using other approved measurement units, e.g. curb miles.									
Col. 3	Representative area for DGR calculation (fill in once in gray-highlighted row for each land use category). Representative area may be accounted for using other approved measurement units, e.g. curb miles. Collectively, the areas used for DGR calculation should be representative, proportionally, of the land uses within the jurisdiction and must be approved by the EO prior to the 30-day collection period.									
Col. 4	Date of last street sweeping									
Col. 5	Date of DGR sampling (direct measurement of deposited trash) - The DGR collection period(s) must fall between June 22nd and September 22nd									
Col. 6	Length of Collection Period in days - The DGR collection period must be 30 days, total, for each representative land use area									
Col. 7	Trash collection from representative area through street sweeping or other method, lb. or gal.									
Col. 8	Trash cleaned out from catchbasins within the representative area (lb. or gal.). Trash accumulated in the CBs during the DGR collection period must be included in the total trash generated. Where CBs are closed off such that no trash can enter them for the purpose of DGR sampling, this value will be zero (0).									
Col. 9	Total amount of trash generated in representative area (sum of Col. 7 and Col. 8), lb. or gal.									
Col. 10	Total Trash Generated within Representative Area (estimated in 30 day period)									
Col. 11	Provide comments, if necessary									
Note: Sampling must be conducted during any 30-day period, starting June 22nd through September 22nd of each year.										



Rainfall Station: LONG BEACH DAUGHERTY AIRPORT, CA US							
Total Trash Discharged by Storm Event							
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
DGR	Date of Last Street Sweeping	Date of Storm Event	Precipitation Depth *	Days **	Amount of Trash Recovered from Catchbasins	Storm Event Trash Discharge	Comments
23.99	10/13/16	10/17/2016	0.29	3.5		83.97	* Rainfall data was collected from the closest rainfall station.  ** The entire City of Signal Hill is not swept in one day. Approximately equal parts of the City are swept Monday through Friday. As such during any given rain event, different parts of the City were swept between 1 to 7 days previously. Accounting for this effect results in fractional days of trash accumulation for a given storm event.
23.99	11/16/16	11/20/2016	0.42	4.3		101.97	
23.99	11/20/16	11/21/2016	0.38	0.9		20.99	
23.99	11/22/16	11/26/2016	0.35	3.6		86.97	
23.99	12/12/16	12/15/2016	0.3	3.0		71.98	
23.99	12/15/16	12/16/2016	0.48	0.9		20.99	
23.99	12/19/16	12/21/2016	0.59	2.4		56.98	
23.99	12/21/16	12/22/2016	0.64	0.9		20.99	
23.99	12/22/16	12/23/2016	1.07	0.9		20.99	
23.99	12/28/17	12/30/2016	0.41	2.3		53.98	
23.99	01/02/17	1/5/2017	0.55	3.4		80.98	
23.99	01/06/17	1/9/2017	0.71	3.0		71.98	
23.99	01/10/17	1/12/2017	1.58	1.9		44.99	
23.99	01/16/17	1/19/2017	0.78	3.0		71.98	
23.99	01/19/17	1/20/2017	1.2	0.9		20.99	
23.99	01/20/17	1/22/2017	3.97	2.0		47.99	
23.99	02/02/17	2/6/2017	1.11	3.5		83.97	
23.99	02/15/17	2/17/2017	2.77	2.3		53.98	
23.99	05/03/17	5/7/2017	0.39	4.3		101.97	
<b>Total Storm Year Trash Discharge</b>						<b>1,118.66</b>	

Rainfall Station		LONG BEACH DAUGHERTY AIRPORT, CA US							
<b>Total Trash Discharged by Storm Event</b>									
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8		
DGR	Date of Last Street Sweeping	Date of Storm Event	Precipitation Depth *	Days **	Amount of Trash Recovered from Catchbasins	Storm Event Trash Discharge	Comments		
<b>Notations:</b>									
<b>Form</b>									
Add additional rows for storm events, if necessary									
Rainfall Station Name of rainfall station used, indicate only the L.A. County station number									
Total Storm Year Trash Discharge = Sum of individual storm event discharges for reporting period (October 1 - September 30).									
Col. 1	DGR for Jurisdiction from DGR Sampling Data worksheet								
Col. 2	Date of last street sweeping								
Col. 3	Date of storm event with 0.25 inch or more of rainfall								
Col. 4	Depth of rainfall taken from nearest rainfall station (in.)								
Col. 5	Number of days between date of last street sweeping and storm event. For each day of a storm event that generates precipitation greater than 0.25 inch, the Permittee shall calculate a storm event discharge. When more than one storm event occurs prior to the next street sweeping the discharge shall be calculated from the date of the last storm event discharge calculation.								
Col. 6	Amount of trash recovered from catchbasins, if any (lb. or gal.)								
Col. 7	Storm Event Discharge = Col. 1 x Col. 5 - Col. 7 [trash discharged by the storm event], lbs. or gal.								
Col. 8	Provide comments, if necessary								

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
Reporting Period	Institutional Control Measure			Structural Control		Required Trash Abatement (%)	Total Combined Compliance	Compliance	Comments
	Total Trash Discharged (lbs.)	Effluent Limitation	Equivalent Compliance	Total # CBs served by FCDs and PCDs	% of CBs served by FCDs / PCDs				
31-Oct-11									
31-Oct-12									
31-Oct-13									
31-Oct-14									
31-Oct-15									
31-Oct-16									
31-Oct-17	1,119	142	92.1%	149	89.9%	99.0%	99.2%	Yes	

**Notations:**

- Form** Structural Control Measure: Report compliance using land area served by FCD/PCDs or number of catchbasins served by FCD/PCDs.
- Column 1: Reporting Period: Part 7.1.(C)(1) of Order No. 01-182 as amended by Order No. R4-2009-0130
- Column 2: As calculated pursuant to Part 7.1.(B)(1)(b)(2) of Order No. 01-182 as amended by Order No. R4-2009-0130  
 Alternative approaches per Part 7.1.(B)(1)(b)(3) must be approved in advance by the Executive Officer
- Column 3: Effluent Limitation per Part 7.1, Appendix 7-1, Table 1a or 1b, of Order No. 01-182 as amended by Order No. R4-2009-0130
- Column 4: Compliance = 1-(Col. 2 / Baseline Waste Load Allocation)
- Column 5: Total number of catchbasins, total number of (CBs) served by FCD/PCDs within jurisdiction
- Column 6: Percentage of CBs served by FCD/PCDs within jurisdiction
- Column 7: Required Trash Abatement: Part 7.1, Appendix 7-1 of Order No. 01-182 as amended by Order No. R4-2009-0130
- Column 8: Total Combined Compliance = (Col. 6) + (1.0-Col.6)\*(Col.4)
- Column 9: FCD Compliance: Yes, if Col. 8 is greater than Col. 7
- Column 10: Provide comments, if necessary

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11
Certified FCD(s) Installed	FCD Location	Nearest Cross Street	FCD Owner	FCD Maintained By	FCD Installation Date	CB ID No. Served by FCD	CB Type	CB Owner	CB Maintained By	Frequency of FCD Maintenance and other O&M comments
ARS & CPS	28TH	WALNUT	CITY	CITY	7/18/2011	1871	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	28TH	CITY	CITY	7/14/2011	1871	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	28TH	CITY	CITY	7/14/2011	1871	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	25TH	WEST END	CITY	CITY	7/14/2011	1871	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	25TH	WEST END	CITY	CITY	7/14/2011	1871	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	NEVADA	WEST END	CITY	CITY	7/11/2011	1871	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	HILL/ALAMITOS	CITY	CITY	8/1/2011	1872	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CRESCENT	SOUTH END	CITY	CITY	6/8/2011	1926	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CRESCENT	SOUTH END	CITY	CITY	7/20/2011	1926	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	COLUMBIA	ATLANTIC	CITY	CITY	8/12/2011	C1-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CALIFORNIA	BURNETT/BRIDGE E	CITY	CITY	6/8/2011	E1-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season

CPS	CALIFORNIA	BURNETT/BRIDGE E	CITY	CITY	6/8/2011	E1-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	SKYLINE	OCEAN VIEW/DAWS	CITY	CITY	7/19/2011	E3-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	SKYLINE	DAWSON	CITY	CITY	7/15/2011	E3-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CHERRY	HILL	CITY	CITY	6/9/2011	F2-	GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
CPS	21ST	CHERRY	CITY	CITY	6/9/1999	F3-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	GUNDRY	CITY	CITY	7/14/2011	G2-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	21ST/20TH	CITY	CITY	6/9/2011	G2-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	20TH/WESLEY	CITY	CITY	6/9/2011	G2-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CHERRY	20TH	CITY	CITY	6/9/2011	G2-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	JUNIPERO	CITY	CITY	6/9/2011	G3-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
NONE	21ST	TERRANCE/OHIO	CITY	CITY	6/9/2011	G3-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
NONE	19TH	CHERRY	CITY	CITY	7/18/2011	H2-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
NONE	PCH	SHERMAN/JUNIPER	CITY	CITY	6/9/2011	H3-	GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season

ARS	JUNIPERO	PCH	CITY	CITY	6/9/2011	H3-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	JUNIPERO	PCH	CITY	CITY	7/11/2011	H3-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS	JUNIPERO	PCH	CITY	CITY	8/24/2011	H3-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS	JUNIPERO	PCH	CITY	CITY	8/24/2011	H3-	CURB OPENING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	TEMPLE	PCH	CITY	CITY	8/24/2011	H3-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
CPS	ORIZABA	PCH	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
CPS	ORIZABA	PCH	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
CPS	PCH	ORIAZBA	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
CPS	FREEMAN	PCH	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
NONE	FREEMAN	PCH	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
CPS	PCH	FREEMAN	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
CPS	OBISPO	PCH	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	OBISPO	PCH	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season

ARS & CPS	PCH	OBISPO	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
NONE	PCH	CORONADO/REDON	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	REDONDO	PCH	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	PCH	REDONDO/NEWPOF	CITY	CITY	7/14/2011	H4-	CURB OPENING GRATING	CITY	CITY	Rainy Season: Monthly & 1x/dry season
ARS	ORANGE	SPRING	COUNTY	COUNTY	7/14/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	ORANGE	SPRING	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	SPRING	ORANGE	COUNTY	COUNTY	8/26/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	SPRING	ORANGE/WALNUT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	SPRING	ORANGE/WALNUT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	SPRING	ORANGE/WALNUT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	SPRING	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	WALNUT	SPRING	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	29TH	WALNUT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season

ARS & CPS	29TH	WALNUT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	29TH	WALNUT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	29TH	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	29TH	WALNUT	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	29TH	WALNUT	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	WILLOW	ORANGE	COUNTY	COUNTY	8/11/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	25TH	COUNTY	COUNTY	8/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	25TH	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	NEVADA	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	BURNETT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	BURNETT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	BURNETT	ORANGE	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	BURNETT	ORANGE	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season



ARS & CPS	BURNETT	ORANGE	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	WALNUT	BURNETT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	BURNETT	COUNTY	COUNTY	8/10/2011	1871	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	CRESTON	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CRESTON	WALNUT	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	CRESTON	WALNUT	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	WALNUT	CRESTON	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	LEMON	23RD	COUNTY	COUNTY	7/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	LEMON	23RD	COUNTY	COUNTY	7/11/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	23RD	COUNTY	COUNTY	7/11/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	23RD	COUNTY	COUNTY	7/11/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	23RD	COUNTY	COUNTY	8/18/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	23RD	ORANGE	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season

ARS & CPS	WALNUT	23RD	COUNTY	COUNTY	8/8/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	WALNUT	29TH	COUNTY	COUNTY	7/19/2011	1871	GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CRESTON	WALNUT EAST END	COUNTY	COUNTY	7/19/2011	1871	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	ALLIANCE	ORANGE	COUNTY	COUNTY	7/19/2011	1872	GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	ALLIANCE	ORANGE	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORANGE	HILL/23RD	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	HILL	ORANGE	COUNTY	COUNTY	8/18/2011	1872	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	HILL	ORANGE	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	WALNUT	HILL	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	HILL	WALNUT	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	WALNUT	HILL	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	WALNUT	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	WALNUT	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season

ARS & CPS	GAVIOTA	ALAMITOS	COUNTY	COUNTY	7/12/2011	1872	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ALAMITOS	SAVIOTA	COUNTY	COUNTY	7/12/2011	1872	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	20TH	ALAMITOS	COUNTY	COUNTY	7/12/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	20TH	ALAMITOS	COUNTY	COUNTY	7/12/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	ALAMITOS	21ST	COUNTY	COUNTY	7/19/2011	1872	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	BURNETT	CHERRY	COUNTY	COUNTY	7/19/2011	1925	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	BURNETT	CHERRY	COUNTY	COUNTY	7/19/2011	1925	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CHERRY	BURNETT	COUNTY	COUNTY	7/19/2011	1925	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CHERRY	21ST	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	CHERRY	21ST	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	CHERRY	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	21ST	CHERRY	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	21ST	ST. LOUIS	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season

ARS & CPS	21ST	ST. LOUIS	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	21ST	ST. LOUIS/RAYMON	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	RAYMOND	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	21ST	RAYMOND	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	21ST	RAYMOND/JUNIPER	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	JUNIPERO	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	21ST	JUNIPERO	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	21ST	STANLEY	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	STANLEY	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	TERRACE	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	TERRACE/TEMPLE	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	21ST	STANLEY/OHIO	COUNTY	COUNTY	6/8/2011	1926	GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	21ST	STANLEY/OHIO	COUNTY	COUNTY	6/8/2011	1926	GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season

ARS & CPS	OHIO	21ST	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	OHIO	21ST	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	21ST	OHIO/TEMPLE	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	TEMPLE	21ST	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	TEMPLE	21ST	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	CRESCENT	SIGNAL	COUNTY	COUNTY	6/8/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
NONE	CRESCENT	20TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	CRESCENT	20TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	SIGNAL	END OF CUL-DE-SA	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ORIZABAN	20TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	20TH	ORIZABAN	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	20TH	ORIZABAN	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CHERRY	19TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season

ARS & CPS	ST. LOUIS	19TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	ST. LOUIS	19TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	19TH	ST. LOUIS	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	19TH	ST. LOUIS	COUNTY	COUNTY	6/9/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	DAWSON	19TH	COUNTY	COUNTY	6/9/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	DAWSON	19TH	COUNTY	COUNTY	6/9/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	19TH	DAWSON	COUNTY	COUNTY	6/9/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	19TH	DAWSON	COUNTY	COUNTY	6/9/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	RAYMOND	19TH	COUNTY	COUNTY	6/9/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	RAYMOND	19TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	19TH	RAYMOND	COUNTY	COUNTY	6/9/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	19TH	RAYMOND	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	JUNIPERO	19TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season

NONE	JUNIPERO	19TH	COUNTY	COUNTY	6/10/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	19TH	JUNIPERO	COUNTY	COUNTY	7/14/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	19TH	JUNIPERO	COUNTY	COUNTY	7/14/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	STANLEY	19TH	COUNTY	COUNTY	7/11/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS	STANLEY	19TH	COUNTY	COUNTY	7/11/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	19TH	STANLEY	COUNTY	COUNTY	7/27/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	19TH	STANLEY	COUNTY	COUNTY	7/18/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	MOLINO	19TH	COUNTY	COUNTY	7/18/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	MOLINO	19TH	COUNTY	COUNTY	7/18/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	MOLINO	19TH	COUNTY	COUNTY	7/18/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	19TH	MOLINO	COUNTY	COUNTY	7/18/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	19TH	MOLINO	COUNTY	COUNTY	7/18/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	20TH	OBISPO	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season

CPS	CHERRY	HILL	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	HILL	CHERRY	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	HILL	CHERRY	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CHERRY	HILL	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	CHERRY	HILL	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING GRATING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	19TH	CHERRY	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	19TH	CHERRY	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CHERRY	19TH	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
CPS	CHERRY	19TH	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	20TH	CHERRY	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	20TH	CHERRY	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season
ARS & CPS	CHERRY	20TH	COUNTY	COUNTY	7/19/2011	1926	CURB OPENING	COUNTY	COUNTY	Rainy Season: Monthly & 1x/dry season



102	ARS & CPS
36	CPS
13	ARS
15	NONE
166	Total