



LOWER LOS ANGELES RIVER  
WATERSHED COMMITTEE

September 12, 2017

Mr. Samuel Unger, P.E.  
Executive Officer  
California Regional Water Quality Control Board – Los Angeles Region  
320 West 4<sup>th</sup> Street, Suite 200  
Los Angeles, CA 90013

Attention: Ms. Renee Purdy

**SUBJECT: Implementation of Lower Los Angeles River CIMP: Request to Move One Monitoring Site from the Cerritos Pump Station to the Hill Street Pump Station for Technical Reasons**

### **Summary**

In accordance with the Lower Los Angeles River Coordinated Integrated Monitoring Program (CIMP), as approved by the Los Angeles Regional Water Quality Control Board on July 28, 2015, the Lower Los Angeles River Watershed Group is requesting your approval to modify the location of one Los Angeles River monitoring station for technical reasons. This station is one of two additional stations representative of flows to the Lower Los Angeles River that were scheduled to be installed for monitoring discharges (Lynwood Pump Station and Cerritos Pump Station). The Lower Los Angeles River Watershed Group includes the following participants: Downey, Lakewood, Long Beach, Lynwood, Pico Rivera, Signal Hill, South Gate, Paramount, and the Los Angeles County Flood Control District.

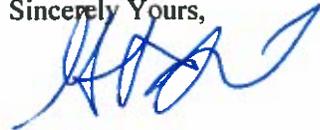
Monitoring equipment was permitted and installed at the Lynwood Pump Station but problems were encountered regarding delineation of the drainage basin for the Cerritos Pump Station. The discharge from the Cerritos Pump Station was intended to be representative of discharges from the eastern part of Long Beach and from Signal Hill above. Further investigations of the drainages to this pump station showed that the defined drainage area for the Cerritos Pump Station was not correct, but consisted of the discharge mostly from a Hamilton Bowl low flow pump station through a legacy line that is not connected to the other drainages below in Long Beach. The Hamilton Bowl watershed is above the Bowl in Signal Hill. The Bowl is also equipped with another pump station that discharges wet weather flow elsewhere to the south.

A search was conducted for an alternative monitoring site to the Cerritos Pump Station that would still be representative of drainage from the eastern area of the City of Long Beach using examination of drainage maps and field investigations. Details of this investigation are attached. Based upon land use and ability to instrument and monitor safely, the alternative site selected is that of the Hill Street Pump Station located upstream from the location of the Cerritos Pump Station, but below Willow Street thus still discharging to estuarine waters of the Lower Los Angeles River.

Upon approval by the Regional Board, automatic sample equipment will be installed at the Hill Street Pump Station to best fulfill the monitoring requirements of the approved Lower Los Angeles River CIMP.

If you have any questions please contact me at 323-563-9576, [gderas@sogate.org](mailto:gderas@sogate.org)

Sincerely Yours,



Interim Chair  
Lower Los Angeles River Watershed Management Group

ENC. Attachment: Cerritos Pump Station and Consideration of an Alternative Monitoring Site.

cc: Patrick Kinney, Kinnetic Laboratories, Inc.  
Marty Stevenson, Kinnetic Laboratories, Inc.  
John Hunter, John L. Hunter & Associates  
cc: Downey, Lakewood, Long Beach, Lynwood, Pico Rivera, Signal Hill, South Gate, Paramount,  
and the Los Angeles County Flood Control District

## **CERRITOS PUMP STATION AND CONSIDERATIONS OF AN ALTERNATIVE MONITORING SITE**

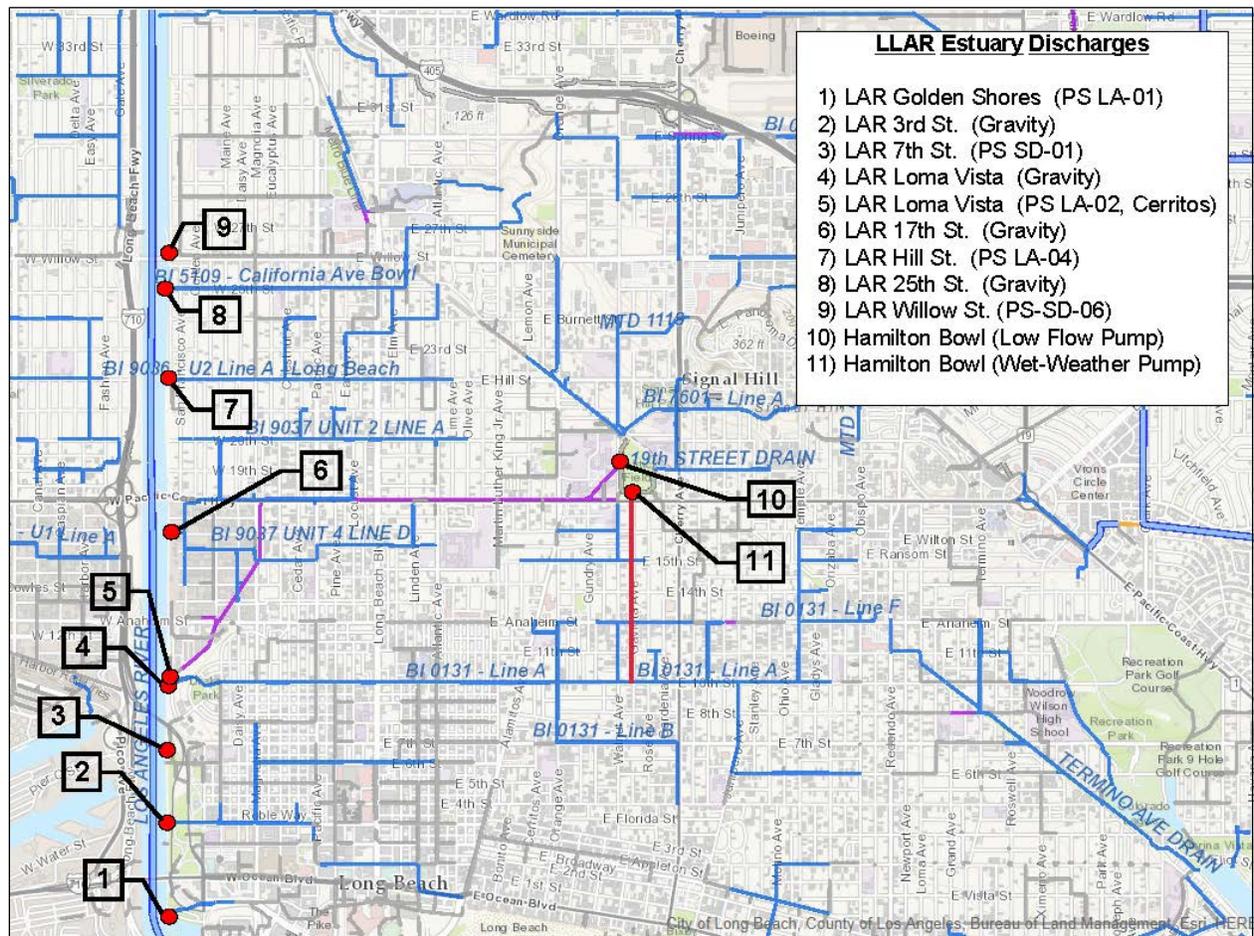
### **1.0 Cerritos Pump Station (PS-LA-02)**

The discharge from the Cerritos Pump Station was intended to be representative of discharges from the western part of Long Beach and from Signal Hill above. A careful examination of the Cerritos Pump Station and of drainage lines to the station clearly identified a problem with the initial selection of this monitoring site for the CIMP. It was found that the feed line to the Cerritos Pump Station that originated in Hamilton Bowl and served a sub-watershed in Signal Hill only receives flow from a small pump on the west side of Hamilton Bowl, and not the sub-watersheds below that were identified in the CIMP. Importantly, careful tracing of the line to the Cerritos Pump Station found that this was a legacy line not connected to the other drainages below in Long Beach, even paralleling some of these lines in some places. A second larger pump station at Hamilton Bowl discharges to the large gravity drains just below the Cerritos Pump Station. Thus, the highly residential watersheds on the western side of Long Beach would not be represented by monitoring the Cerritos Pump Station discharge to the Lower Los Angeles River Estuary.

An overview of the Cerritos Pump Station is shown in Figure 1 below. Though aligned with four large outfalls to the river, the pump station actually discharges from the Hamilton Bowl through an outfall just above these large gravity outfalls. The large outfalls just to the south are gravity outfalls originating from the City of Long Beach area on the bluff above, but with a 78-inch connection to the Hamilton Bowl (Figure 2).



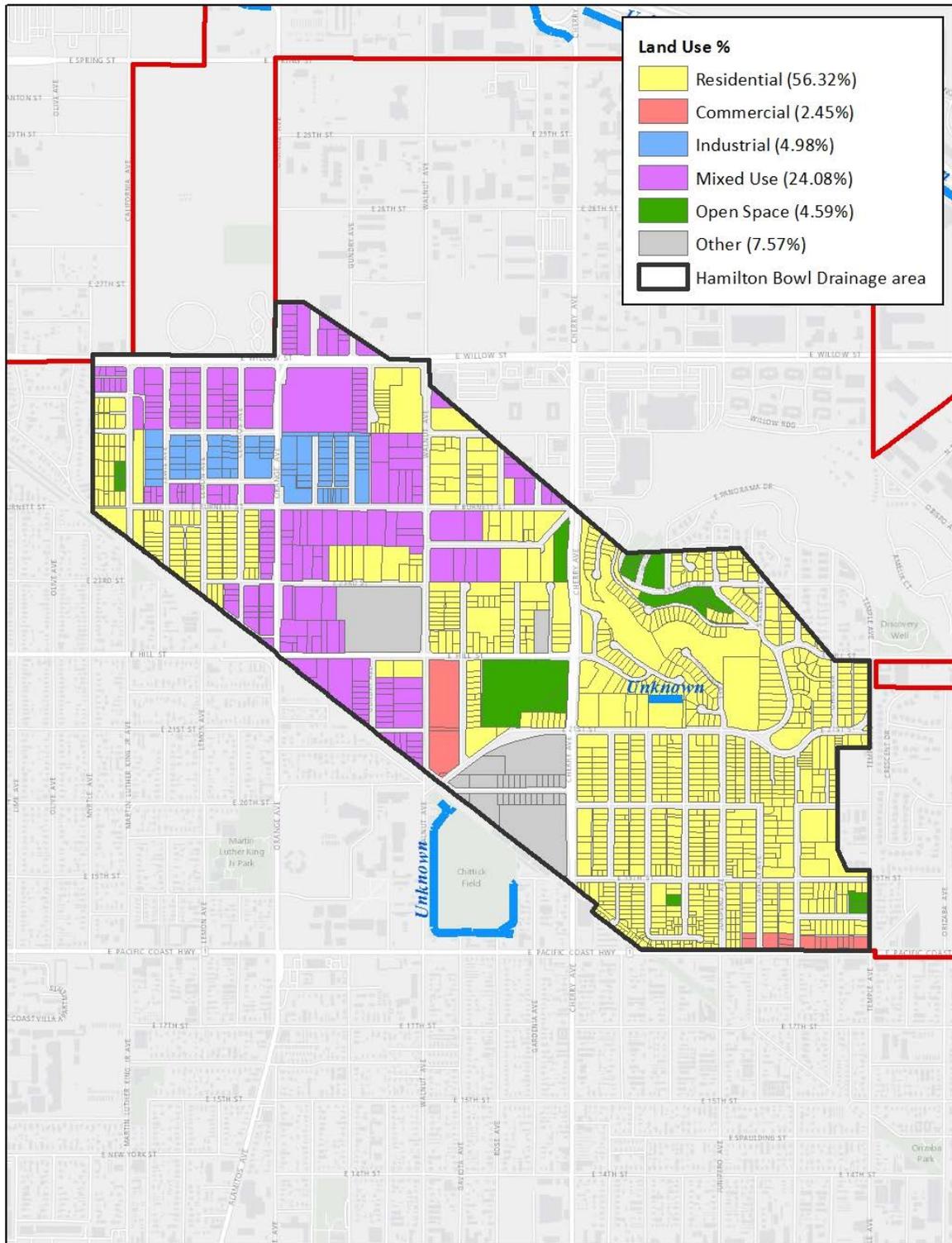
**Figure 1. Cerritos Pump Station and Large Gravity Outfalls Just to the South**



**Figure 2. Overview of Eastern Drainages to the Lower Los Angeles River Estuary**

The line from the Hamilton Bowl low flow pump that discharges to the Cerritos Pump Station is shown above in Figure 2. The second line from the main Hamilton Bowl discharge pumps for wet weather goes to the south through a 78 inch line to Line A, which discharges at the gravity drain to the river located just below the Cerritos Pump Station (Figure 2). The Hamilton Bowl collects water from above in Signal Hill (Figure 3).

Also shown in Figure 2 are drainages to the Lower Los Angeles River estuarine area that were investigated to find an alternative monitoring site for the Lower Los Angeles River CIMP.



**Figure 3. Land Use Map for Cerritos Pump Station Dry Weather Flow**

## **2.0 Large Gravity Drain Next to Cerritos Pump Station (LAR Loma Vista Gravity Discharge)**

The first consideration of an alternative monitoring site was the large nearby gravity drain that flows to the river at the site of the Cerritos Pump Station (Figures 1 and 2). This drain consists of four, 78-inch outflow pipes that discharge to the Los Angeles River and drains a large area of Long Beach east as far as Redondo Blvd and below the Pacific Coast Highway, though intermingled with the City drainages. It also includes a 78-inch drain that flows south from the Hamilton Bowl underneath Gaviota Avenue down to this drain line in Long Beach. However, at the River this large gravity drain has an elevation equal to the invert of the Los Angeles River channel in this estuarine area of the River and thus is subject to significant estuarine water intrusion far up these conveyances. The outfall pipes pass under the old rail tracks and converge to a large underground dome drainage channel that persists way under (35 feet below ground level) the land and bluff to the east. Sampling access to this large underground conveyance was found in Drake Park immediately above on the bluff, but instrumentation of this large, deep underground drain is not feasible given its depth, salt water intrusion problems, and crew safety issues.

## **3.0 Other Discharges South of the Cerritos Pump Station**

**LAR 7<sup>th</sup> Street Pump Station (PS-SD-01).** This 7<sup>th</sup> Street Pump Station drains a very small area under the freeway interchange (Figure 2). It has two intakes flowing separately into the sump which would require instrumentation of all pumps or of each drain. Since the land use in this drainage area is not being targeted and because of the increased difficulty of instrumenting this station, the 7<sup>th</sup> Street Pump Station was rejected as a CIMP monitoring site.

**LAR 3<sup>rd</sup> Street Gravity Drain.** This gravity discharge from the west bank to the Los Angeles River Estuary is from a drainage in the City of Long Beach west of Atlantic possibly intermingled with City lines (Figure 2). The invert at the River allows saline water to intrude up the discharge pipe, and the conduit up on the bluff is deep. For these reasons, this gravity drain was not chosen for a CIMP monitoring site.

**Golden Shores Pump Station (PS-LA-01).** This pump station is located at the very end of the Los Angeles River where it enters the Port (Figure 2). This pump station drains an area below the Ocean Boulevard bluff. Previous investigations carried out at this pump station and in the upstream drainage as part of possible diversion studies showed the discharges to be highly saline (~19 ppt) due to ground water and dewatering sources. Thus, this pump station was rejected as a CIMP monitoring site.

## **4.0 Discharges North of the Cerritos Pump Station**

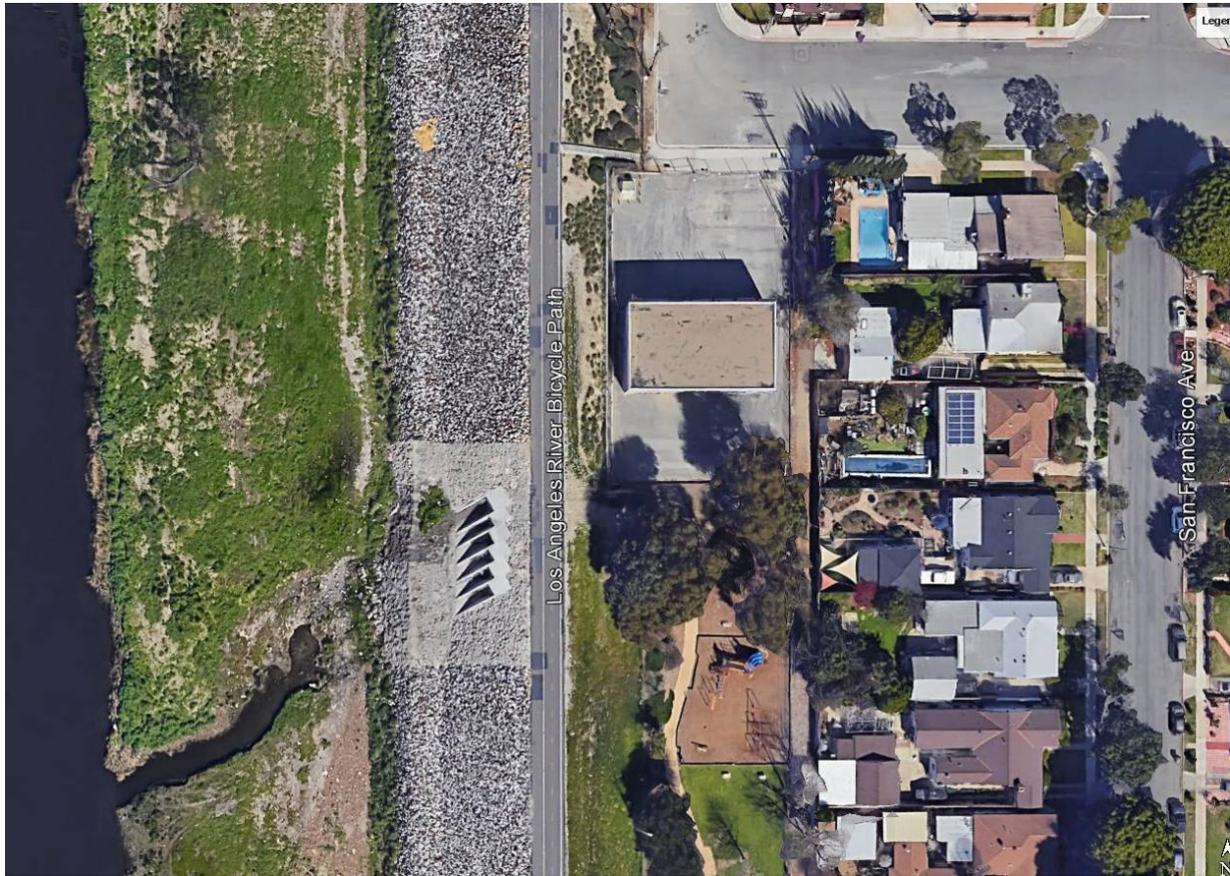
**LAR 17<sup>th</sup> Street Pump Station.** This pump station discharges to the Los Angeles River and is the next discharge located upriver from the Cerritos Pump Station (Figures 2 and 4). This pump station has two feed lines that come from the north and the south respectively. Inspections showed that the only place the total flow to the Pump Station could be measured and monitored was a manhole located inside an operations yard subject to substantial work vehicle traffic. In plant installation, such as done at the Dominguez Gap Pump Station, would be complicated as it would involve instrumenting six pumps plus a summer pump. Thus, this pump station was not selected as a CIMP monitoring site.



**Figure 4. 17<sup>th</sup> Street Pump Station**

**25th Street Gravity (California Bowl) Discharge.** This discharge to the Lower Los Angeles River is limited to that of the drainage pump located in the California Bowl (Figure )2. This line is a pressure line with the manholes welded shut. Willow Street to the north is at somewhat higher elevations, so drainages are generally to the south to the Hill Street Pump Station but are not connected to the 25<sup>th</sup> Street gravity discharge. This gravity drain was not selected to be monitored as part of the CIMP program.

**Hill Street Pump Station.** The Hill Street Pump Station has one large underground intake conduit located under a quiet side street and accessible through a drop inlet. The instrumentation box can be placed curbside. Thus, this site was selected for further examination. This pump station has four large diesel pumps, two electric pumps, plus a summer pump.



**Figure 5. Hill Street Pump Station**

The Hill Street Pump Station discharges at the east bank of the Lower Los Angeles River from a drainage area on the west side of Long Beach (Figures 2 and 5). Drainage is from the area south of Willow Street, west of Lime Avenue, and north of Hill Street. The Hill Street Pump Station has a drainage area (Figure 6) of 366 acres.





### **Willow Street Pump Station.**

This pump station discharges at Willow Street, just above the 25th Gravity Discharge (California Bowl) and in the upper part of the Los Angeles River Estuary. The Willow Street Pump Station drains the area north of Willow Street up to Wardlow Street, and to the west to California Avenue (Figure 2).



**Figure 7. Willow Street Pump Station**

However, two differing size drains feed into the fore bay of the pump station (Figure 7). These would be difficult to instrument to measure total flow necessary to control a CIMP sampling station that requires precision flow composited sampling. The alternative would be to instrument the individual pumps inside the pump station which is complicated, more expensive, and requires access to the Pump Station. Thus, this pump station is not ideal for this CIMP monitoring project for the Lower Los Angeles River.

## **5.0 Selection of Hill Street Pump Station as Alternate to the Cerritos Pump Station for LLAR CIMP Monitoring**

Land use in this drainage area is shown on Figure 6 and is summarized by categories in Table 1. Land uses in the Hill Street Pump Station drainage area is dominated by Residential and Mixed land use categories. Comparison of land uses within this drainage area are comparable to land use composition within City of Long Beach along the Los Angeles River Estuary. This is demonstrated by similarities to the land uses within the City of Long Beach that were previously thought to be captured by the LLAR 1 Cerritos Pump Station. In addition, land uses within this new drainage area are generally comparable to those identified for the entire LLAR watershed. In addition, of all the alternatives considered above, the Hill Street Pump is the only one that can be instrumented for monitoring without complications.

**Table 1. Land Use for the outfall monitoring sites for the Lower Los Angeles River Watershed.**

<b>Drainage Area</b>	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Mixed Use</b>	<b>Open Space</b>	<b>Other</b>
<b>LLAR 1A Hill Street (1)</b>	81.97	2.66	0.00	13.02	0.07	2.29
<b>LLAR 1 Cerritos PS (2)</b>	<del>75.30</del>	<del>2.94</del>	<del>0.65</del>	<del>14.72</del>	<del>1.95</del>	<del>4.43</del>
	56.32	2.45	4.98	24.08	4.59	7.37
<b>LLAR 2 Dominguez Gap</b>	75.49	3.68	0.00	2.78	10.88	7.17
<b>LLAR 3 Lynwood</b>	73.36	7.59	3.62	9.35	0.00	6.08
<b>LLAR 4 Firestone</b>	66.50	5.37	5.51	5.65	11.95	5.02
<b>Total LLAR Watershed provided for comparison</b>	63.18	2.86	3.03	20.94	4.81	4.87
<b>Average of 4 outfalls</b>	74.33	4.83	2.28	7.70	5.73	5.14

1. Land Use is shown for the drainage basins for each monitoring site including the area previously thought to drain to the Cerritos Pump Station. The Hill Street Pump Station is designated as LLAR 1A to differentiate it from the previous site. The average for the four outfalls reflects land uses with the LLAR 1A, LLAR 2, LLAR 3 and LLAR 4 outfall monitoring sites..
2. LLAR-1 not suitable for monitoring as it does not represent wet weather flows. Corrected Land Use shown