



Robert Bein, William Frost & Associates

PROFESSIONAL ENGINEERS, PLANNERS & SURVEYORS

***BI-WEEKLY CONFERENCE CALL
DRAFT AGENDA***

DATE: August 5, 1999, Thursday

TIME: 10:00 am – 12 noon

PLACE: RBF, Irvine or via phone (916-657-4102)

ATTENDEES: Rich Horner/Chris May, Jeremy Johnstone, Rick Graff, Bob Wu, Marcelo Peinado, Steve Borroum, Brian Currier, Cid Tesoro, Pete Van Riper, Dean Messer, Brown and Caldwell, Montgomery Watson/Law, KLI, RBF

COPIES TO: File

SUBJECT: BMP Pilot Study Status

AGENDA ITEMS

1. Specific Device Issues:
 - a. Lakewood MCTT stagnant water drainplug or cover
 - b. Escondido SF issue
2. D7 Design Status: Metro MS, Paxton MS, CDS designs
3. District 7 Operation/Maintenance Status (Recent activities/schedule for sites to equip)
4. District 11 Operation/Maintenance Status (Recent activities/schedule for sites to equip)
5. Database Update and Reporting
6. Saltgrass Report (D7 biofilters current coverage, seed mix)
7. Vector Issues



BMP Pilot Studies

Bi-Weekly Status Report

BMP Pilot Projects in District 7 and District 11

August 2, 1999

Robert Bein, William Frost & Associates

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QUARTERLY STATUS SUMMARY

Location	BMP Type	Site ID	Monitoring Consultant	Design Phase	Construction Phase	OMM Phase
DISTRICT 7						
I-605/SR-91	IB	73101	MW/Law			X
I-210 East of Orcas	CDS	73102	MW/Law	X ¹		
I-210 East of Filmore	CDS	73103	MW/Law	X ¹		
I-5/I-605	EDB	74101	BC			X ²
I-605/SR-91	EDB	74102	BC			X ²
Paxton Park & Ride	MF	74103	BC	X ¹		
Metro MS	MCTT	74104	BC	X ¹		
Alameda MS	OWS	74201	BC			X
Eastern MS	MF	74202	BC			X ²
Foothill MS	MF	74203	BC			X ²
Termination Park & Ride	MF	74204	BC			X ²
Via Verde Park & Ride	MCTT	74206	BC			X ²
Lakewood Park & Ride	MCTT	74208	BC			X ²
Altadena	Bio Strip/TT	73211a,b	MW/Law			X
Foothill	DII	73216	MW/Law			X
LasFlores	DII	73217	MW/Law			X
Rosemead	DII	73218	MW/Law			X
I-605/SR-91	Bio Strip/Swale	73222a,b	MW/Law			X
Cerritos MS	BioSwale	73223	MW/Law			X
I-5/I-605	BioSwale	73224	MW/Law			X
I-605/ Del Amo	BioSwale	73225	MW/Law			X
DISTRICT 11						
I-5/SR-56	EDB	111101	KLI			X ²
I-15/SR-78	EDB	111102	KLI			X ²
I-5/La Costa (West)	IB	111103	KLI			
I-5/La Costa (East)	WB	111104	KLI			X
I-5/Manchester (East)	EDB	111105	KLI			X
Kearney Mesa MS	StormFilter (Perlite/Zeolite)	112201	KLI			X
Escondido MS	MF	112202	KLI			X
La Costa Park & Ride	MF	112203	KLI			X
SR-78/I-5 Park & Ride	MF	112204	KLI			X
Melrose Ave/SR-78	Bio Swale	112205	KLI			X
I-5 Palomar Airport Road	Bio Swale	112206	KLI			X
Carlsbad MS	Bio Strip/TT	112207a,b	KLI			X

- 1 Being prepared for bid
- 2 Sites with Area Velocity Bubblers (AVBs) – monitoring equipment

THIS TABLE WILL NO LONGER BE INCLUDED IN THE NEXT BIWEEKLY REPORTS.

District 7 BMP Pilot Sites

I-605/SR-91 Interchange Infiltration Basin (Site ID 73101) MW/Law

Monitoring/Sampling Activities

None this period.

Operations and Maintenance

On June 22, the following activities were performed: trash and debris (1 bag) were removed, and two tributary drain inlets were stenciled. On July 14, the site was inspected by the field crew and visited by potential subcontracted landscapers.

Vector Activities

On June 22, animal burrows were observed in the infiltration basin. Abatement and repair will be performed.

On July 1, the site was treated for mosquito larvae with Vectolex™. Mosquito breeding was observed in the inlet box; the site was treated for mosquito larvae with Vectobac™ on July 8. Mosquito breeding is suspected again, but sampling could not be conducted during the most recent monitoring effort (July 27-28) due to the weight of the existing grate which is currently being replaced.

Issues / Solutions

There are concerns of burrowing animals at the BMP site and surrounding areas (an apparent problem at the quadrant of the interchange). Abatement and repair will be performed.

Vegetation coverage of the infiltration basin floor and slopes is minimal and does not meet the maintenance indicator document requirements. Per the maintenance indicator document, the infiltration basin will be hydroseeded in November.

Plans were made to remove woody vegetation from the infiltration basin; however, the presence of a nesting mourning dove at the site has caused woody vegetation removal to be postponed.

Greater LA Vector Control District has requested replacement of the grate at the infiltration basin with a lighter grate to facilitate removal for dipping purposes; a lighter grate is currently being installed.

Weekly visits to inspect for non-stormwater discharges are currently being performed. The site was inspected for non-stormwater discharges on July 15, 22, and 29.

I-210/East Orcas Avenue Continuous Deflection Separators (Site ID 73102)

MW/Law

I-210/East of Filmore Street Continuous Deflection Separators (Site ID 73103)

MW/Law

Status

Plans and specifications have been submitted to Caltrans and are currently in the clearance review process with the District. Caltrans HQ is currently in the review process. See schedule.

Activities

On July 27, staff from Law Crandall, Montgomery Watson, and Caltrans toured the sites to verify that tributary drain inlets were properly stenciled.

Schedule

Preliminary Design/Construction Schedule for CDS Units – PS&E Process

Activity	Schedule Dates	Actual Dates	Duration (calendar weeks)
Obtain EA	06/01/99	06/04/99	
Begin Clearance	06/21/99	06/28/99	
Obtain District Clearances/to HQ	07/26/99		4
HQ complete review/Ready to List (Advertise)	09/20/99		8
Bid Opening	10/18/99		4
Award Contract	11/15/99		4
Begin Construction	12/13/99		4
Complete Construction	01/24/00		6
Fully Operational	02/07/00		2

I-5/I-605 Extended Detention Basin Lined (Site ID 74101) BC

Monitoring/Sampling Activities

Installation of upgraded flow meters and batteries occurred the week of July 26. Performance tests for flow meters and other minor equipment are scheduled to occur the weeks of August 2nd and 9th. Initial performance testing data will be reviewed the weeks of August 9th and August 16th. Any necessary changes and/or adjustments will be made the week of August 16. Final calibration verification testing is scheduled for the weeks of August 30th and September 6th.

Installation of an H-flume (for more accurate measurement of the BMP effluent) is scheduled for the week of August 2. Monitoring equipment (flow meters) are scheduled for servicing upgrades by American Sigma in mid-to-late August.

Operations and Maintenance

Vegetation was mowed on June 8. The site was inspected within the period of June 30 and July 14. During the last two weeks of July, sediment staff gauges were installed. The next maintenance inspection is scheduled for early August.

Vector Activities

The most recent monitoring effort took place on July 27-28.

Issues / Solutions

None this period.

I-605/SR-91 Extended Detention Basin – Unlined (Site ID 74102) BC

Monitoring/Sampling Activities

Installation of upgraded flow meters and batteries occurred the week of July 26. Performance tests for flow meters and other minor equipment are scheduled to occur the weeks of August 2nd and 9th. Initial performance testing data will be reviewed the weeks of August 9th and August 16th. Any necessary changes and/or adjustments will be made the week of August 16. Final calibration verification testing is scheduled for the weeks of August 30th and September 6th.

Monitoring equipment (flow meters) are scheduled for servicing upgrades by American Sigma in mid-to-late August.

Operations and Maintenance

Vegetation was mowed on June 8. During the month of June, outlet riser drain holes (0.5 inch) were tapped and plugged, and new 3/8 inch holes were installed, to increase the pond detention time. The site was inspected within the period of June 30 and July 14. During the last two weeks of July, sediment staff gauges were installed. The next maintenance inspection is scheduled for early August.

Vector Activities

The most recent monitoring effort took place on July 27-28.

Issues / Solutions

During inspection, it was noted that a new gate is needed; work is being done to facilitate installation of a new fence gate.

Paxton Maintenance Station Media Filter (Site ID 74103) BC

Metro Maintenance Station Multi-Chamber Treatment Train (Site ID 74104) BC

Status

Plans and specifications have been submitted to Caltrans and are currently in the clearance review process with the District. Caltrans HQ is currently in the review process. See schedule.

Schedule

Design/Construction Schedule for Metro MS MCTT

<u>Activity</u>	<u>Schedule Dates</u>	<u>Actual Dates</u>	<u>Duration (calendar weeks)</u>
Obtain EA	06/01/99	06/16/99	
Begin Clearance	06/28/99	07/02/99	
Obtain District Clearances/to HQ	07/30/99		4
HQ complete review/Ready to List (Advertise)	12/17/99		20
Bid Opening	01/14/99		4
Award Contract	02/11/99		4
Begin Construction	03/10/00		4
Complete Construction	06/30/00		16
Fully Operational	07/14/00		2

Design/Construction Schedule for Paxton PR Media Filter

<u>Activity</u>	<u>Schedule Dates</u>	<u>Actual Dates</u>	<u>Duration (calendar weeks)</u>
Obtain EA	06/01/99	07/15/99	
Begin Clearance	06/28/99	07/16/99	
Obtain District Clearances/to HQ	08/13/99		4
HQ complete review/Ready to List (Advertise)	12/31/99		20
Bid Opening	01/28/99		4
Award Contract	02/25/99		4
Begin Construction	03/24/00		4
Complete Construction	07/14/00		16
Fully Operational	07/28/00		2

Alameda Maintenance Station Oil/Water Separator (Site ID 74201) BC

Monitoring/Sampling Activities

Installation of upgraded flow meters and batteries occurred the week of July 26. Performance tests for flow meters and other minor equipment are scheduled to occur the weeks of August 2nd and 9th. Initial performance testing data will be reviewed the weeks of August 9th and August 16th. Any necessary changes and/or adjustments will be made

the week of August 16. Final calibration verification testing is scheduled for the weeks of August 30th and September 6th.

Operations and Maintenance

The site was inspected within the period of June 30 and July 14. Water puddles were noted at the site. The next maintenance inspection is scheduled for early August.

Vector Activities

The most recent monitoring effort took place on July 27-28. No activities noted.

Issues / Solutions

None this period.

Eastern Maintenance Station Media Filter (Site ID 74202) BC

Monitoring/Sampling Activities

Installation of upgraded flow meters and batteries occurred the week of July 26. Performance tests for flow meters and other minor equipment are scheduled to occur the weeks of August 2nd and 9th. Initial performance testing data will be reviewed the weeks of August 9th and August 16th. Any necessary changes and/or adjustments will be made the week of August 16. Final calibration verification testing is scheduled for the weeks of August 30th and September 6th.

During the last two weeks of July, water depth measurement gauges (to monitor storm water depth during events) were placed. Monitoring equipment (flow meters) are scheduled for servicing upgrades by American Sigma in mid-to-late August.

Operations and Maintenance

The site was inspected within the period of June 30 and July 14. Sediment staff gauges are scheduled to be installed the first week of August. The next maintenance inspection is scheduled for early August.

Vector Activities

The most recent monitoring effort took place on July 27-28.

Issues / Solutions

Contractor bids have been received for access ladder installation. Ladders are planned for installation in early September.

Foothill Maintenance Station Media Filter (Site ID 74203) BC

Monitoring/Sampling Activities

Installation of upgraded flow meters and batteries occurred the week of July 26. Performance tests for flow meters and other minor equipment are scheduled to occur the weeks of August 2nd and 9th. Initial performance testing data will be reviewed the weeks of August 9th and August 16th. Any necessary changes and/or adjustments will be made the week of August 16. Final calibration verification testing is scheduled for the weeks of August 30th and September 6th.

During the last two weeks of July, water depth measurement gauges (to monitor storm water depth during events) were placed. Monitoring equipment (flow meters) are scheduled for servicing upgrades by American Sigma in mid-to-late August.

Operations and Maintenance

The site was inspected within the period of June 30 and July 14. Non-stormwater was noted at the site; Caltrans was informed. During the last two weeks of July, sediment staff gauges were installed. The next maintenance inspection is scheduled for early August.

Vector Activities

San Gabriel Valley Vector Control District staff suspect that breeding is occurring. Conditions in the BMP appear suitable for breeding (standing water with algal growth). Sampling has not taken place due to the lack of safe ladder access to the sediment vault; however, vector breeding will be confirmed when ladder access is available and sampling can be performed.

Issues / Solutions

Contractor bids have been received for access ladder installation. Ladders are planned for installation in early September.

Termination Park and Ride Media Filter (Site ID 74204) BC

Monitoring/Sampling Activities

Installation of upgraded flow meters and batteries occurred the week of July 26. Performance tests for flow meters and other minor equipment are scheduled to occur the weeks of August 2nd and 9th. Initial performance testing data will be reviewed the weeks of August 9th and August 16th. Any necessary changes and/or adjustments will be made the week of August 16. Final calibration verification testing is scheduled for the weeks of August 30th and September 6th.

During the last two weeks of July, water depth measurement gauges (to monitor storm water depth

during events) were placed. Monitoring equipment (flow meters) are scheduled for servicing upgrades by American Sigma in mid-to-late August.

Operations and Maintenance

The site was inspected within the period of June 30 and July 14. During the last two weeks of July, sediment staff gauges were installed. The next maintenance inspection is scheduled for early August.

Vector Activities

During July, the breeding was observed at the site, but water levels were low enough that abatement was not deemed necessary.

Issues / Solutions

Contractor bids have been received for access ladder installation. Ladders are planned for installation in early September.

Via Verde Park and Ride Multi-Chamber Treatment Train (Site ID 74206) BC

Monitoring/Sampling Activities

Installation of upgraded flow meters and batteries occurred the week of July 26. Performance tests for flow meters and other minor equipment are scheduled to occur the weeks of August 2nd and 9th. Initial performance testing data will be reviewed the weeks of August 9th and August 16th. Any necessary changes and/or adjustments will be made the week of August 16. Final calibration verification testing is scheduled for the weeks of August 30th and September 6th.

During the last two weeks of July, water depth measurement gauges (to monitor storm water depth during events) were placed. Monitoring equipment (flow meters) are scheduled for servicing upgrades by American Sigma in mid-to-late August. Installation and testing of the effluent meter is scheduled for the week of August 23 (effluent meter requires factory servicing and will not be available until the week of August 23).

Operations and Maintenance

The site was inspected within the period of June 30 and July 14. The next maintenance inspection is scheduled for early August.

Vector Activities

San Gabriel Valley Vector Control District staff suspect that breeding may be taking place. Vector breeding will be confirmed when ladder access is available and sampling can be performed.

Issues / Solutions

Contractor bids have been received for access ladder installation. Ladders are planned for installation in early September.

A drainage alternative has been planned for the tube settler chamber; the alternative will allow for draining the water in the chamber and minimize vector activities.

Lakewood Park and Ride Multi-Chamber Treatment Train (Site ID 74208) BC

Monitoring/Sampling Activities

Installation of upgraded flow meters and batteries occurred the week of July 26. Performance tests for flow meters and other minor equipment are scheduled to occur the weeks of August 2nd and 9th. Initial performance testing data will be reviewed the weeks of August 9th and August 16th. Any necessary changes and/or adjustments will be made the week of August 16. Final calibration verification testing is scheduled for the weeks of August 30th and September 6th.

During the last two weeks of July, water depth measurement gauges (to monitor storm water depth during events) were placed. Monitoring equipment (flow meters) are scheduled for servicing upgrades by American Sigma in mid-to-late August.

Operations and Maintenance

The site was inspected within the period of June 30 and July 14. The next maintenance inspection is scheduled for early August.

Vector Activities

On June 17 and 22, the site was treated for mosquito larvae with Vectolex™. The site showed breeding in individual sedimentation tubes during the most recent monitoring efforts (July 14-15 and July 27-28). This appears to be a recurring problem as sampling for larvae in these tubes is difficult.

Issues / Solutions

During inspection, it was noted that pumps are not working. Work is being done to remedy power supply problems.

A drainage alternative has been planned for the tube settler chamber; the alternative will allow for draining the water in the chamber and minimize vector activities.

Contractor bids have been received for access ladder installation. Ladders are planned for installation in early September.

Altadena Maintenance Station Bio Strip and Infiltration Trench (Site ID 73211 a, b) MW/Law

Monitoring/Sampling Activities

On June 8, sediment samples were taken and sent to the lab for analysis. Analytical results are pending.

Operations and Maintenance

On June 8, the site was inspected, and sediment from the biofiltration spreader ditch, flume and approach concrete swale was removed and drummed (two 55-gallon drums). The waste will be properly disposed. On July 15, the site was inspected, and weeds were manually removed from the strip.

Vector Activities

On June 8, the spreader ditch and the area surrounding the strip was cleaned to prevent the accumulation of water. Mosquito breeding was observed in the spreader ditch; the site was treated for mosquito larvae with Vectobac™ on July 8. As of July 15, the water in the spreader ditch was no longer breeding. On July 29, the site was treated with Golden Bear™ for the presence of mosquito pupae. The shallow water at the site appears to be conducive to rapid mosquito development.

Issues / Solutions

Site will be operational on October 1.

It was suggested that the area around the BMP be cleaned to enable the use of the drain plug and prevent the accumulation of water. However, much sediment is being discharged into the spreader ditch from vehicle washing activities. The sediment clogs the drain hole and creates pockets of standing water in the spreader ditch. There is a concern with leaving the drain hole open, because water containing high levels of TSS is short-circuited directly into the trench. Every precaution is being taken to prevent sediment from entering the trench since its performance is directly impacted by sediment deposition. It appears that the spreader ditch may not drain completely even if the drain plug was removed because of the reasons stated above. Other solutions are being discussed.

Weekly visits to inspect for non-stormwater discharges are currently being performed. The site was inspected for non-stormwater discharges on July 15, 22, and 29. On July 15 and 22, non-stormwater runoff was observed discharging into the biofiltration spreader ditch; Caltrans was notified.

Biofilter vegetation will not be mowed until week of October 17, as recommended by Martha Blane, to enhance vegetation establishment.

Foothill Maintenance Station Drain Inlet Insert (StreamGuard and Fossil Filter Inserts) (Site ID 73216 a, b) MW/Law

Monitoring/Sampling Activities

Used inserts from June 8 were sent to the laboratory for analysis. On July 15, rubber seals around the monitoring vaults were replaced.

Operations and Maintenance

On June 8, StreamGuard and Fossil Filter Inserts were replaced, and two drain inlet structures were stenciled. On July 15, leaves were removed from the StreamGuard Insert, and a 1/8" layer of sediment was removed from the Fossil Filter Insert.

Vector Activities

The flume housing was observed to be retaining some water, but no breeding was observed.

Issues / Solutions

A technical memo on the Drain Inlet Evaluation was sent via e-mail on July 27, 1999, to the Plaintiffs for the selection of the alternative drain inlet inserts.

Weekly visits to inspect for non-stormwater discharges are currently being performed. The site was inspected once during the week of July 19th and on July 29 for non-stormwater discharges.

Las Flores Maintenance Station Drain Inlet Insert (StreamGuard and Fossil Filter Inserts) (Site ID 73217 a, b) MW/Law

Monitoring/Sampling Activities

Used inserts from June 11 were sent to the laboratory for analysis. On July 15, the rubber seals around the monitoring vaults were replaced.

Operations and Maintenance

On June 11, StreamGuard and Fossil Filter Inserts were replaced, and two drain inlet structures were stenciled. On July 15, both the StreamGuard and Fossil Filter Inserts were inspected; a 2" layer of accumulated sediment was removed from the Fossil Filter Insert.

Vector Activities

A service agreement with Los Angeles County West Vector Control District for monitoring and abatement services has not been signed.

Issues / Solutions

A technical memo on the Drain Inlet Evaluation was sent via e-mail on July 27, 1999, to the Plaintiffs for the selection of the alternative drain inlet inserts.

Weekly visits to inspect for non-stormwater discharges are currently being performed. The site was inspected for non-stormwater discharges on July 15, 22, and 29.

Rosemead Maintenance Station Drain Inlet Insert (StreamGuard and Fossil Filter Inserts) (Site ID 73218 a, b) MW/Law

Monitoring/Sampling Activities

Used inserts from June 8 were sent to the laboratory for analysis. On July 15, rubber seals around the monitoring vaults were replaced.

Operations and Maintenance

On June 8, StreamGuard and Fossil Filter Inserts were replaced, and two drain inlet structures were stenciled. On July 15, both the StreamGuard and Fossil Filter Inserts were inspected; a 3" layer of accumulated sediment/debris was removed from the Fossil Filter Insert.

Vector Activities

The flume housing was observed to be retaining some water, and breeding was observed; it was treated with one Altosid briquette.

Issues / Solutions

A technical memo on the Drain Inlet Evaluation was sent via e-mail on July 27, 1999, to the Plaintiffs for the selection of the alternative drain inlet inserts.

Weekly visits to inspect for non-stormwater discharges are currently being performed. The site was inspected for non-stormwater discharges on July 15, 22, and 29.

I-605/SR-91 Interchange Bio Strip & Swale (Site ID 73222 a, b) MW/Law

Monitoring/Sampling Activities

None this period.

Operations and Maintenance

Strip: On June 22, trash and debris (1 bag) were removed from the strip, and weeds were manually removed from the strip. On June 24, erosion control vegetation around the strip perimeter was mowed to an approximate height of 6 inches. On July 14, trash and debris (1/4 bag) were

removed, weeds were manually removed from the strip, and the site was visited by potential subcontracted landscapers.

Swale: On June 22, trash and debris (1/4 bag) were removed from the swale, weeds were manually removed from the swale invert, and one tributary drain inlet was stenciled. On June 24, erosion control vegetation around the swale perimeter was mowed to an approximate height of 6 inches. On July 14, weeds were manually removed from the swale invert, and the site was visited by potential subcontracted landscapers.

On July 27, staff from LAW Crandall, Montgomery Watson, and Caltrans toured the swale to verify that tributary drain inlets were properly stenciled.

Vector Activities

On June 16, the swale was treated for mosquito larvae with Vectolex™. The swale was treated with Vectolex™ again on June 24.

On June 22 and July 14, animal burrows were observed in the swale. Abatement and repair will be performed.

LAW Crandall toured the site with a vector control specialist and a wildlife consultant to identify species causing animal burrows and to develop an appropriate abatement program. The vector control specialist and wildlife consultant determined that gophers, and not ground squirrels, were burrowing in the biofilters. Abatement of gophers, using box traps, will begin the week of August 8.

Issues / Solutions

A small section of salt grass from this site was transplanted to the Del Amo site to help the site achieve required coverage. Areas where salt grass was removed has been reseeded. Details will be documented in a separate salt grass report. This site will be considered operational by October 1.

On June 22 and July 14, seeps were observed in the swale (likely caused by burrowing animals). Seeps will be repaired once the burrowing animals have been abated.

Biofilter vegetation will not be mowed until week of October 17, as recommended by Martha Blane, to enhance vegetation establishment.

A vehicular accident occurred at the Bio Strip sometime between July 15 and July 27, causing a car to drive across the strip. No structural damage occurred to the Strip's collector ditch, and little to no damage was done to the vegetation.

Cerritos Maintenance Station Bio Swale (Site ID 73223) MW/Law

Monitoring/Sampling Activities

None this period.

Operations and Maintenance

On June 22, the following activities were performed: erosion control vegetation around the perimeter of the swale (to a distance of approximately 4 feet beyond the swale) was mowed to an average height of 6 inches, trash and debris (1/4 bag) were removed, weeds were manually removed from the swale invert, a dead bird was removed from the energy dissipator, and two tributary drain inlets were stenciled. On July 15, weeds were manually removed from the swale invert, and the site was visited by potential subcontracted landscapers.

On July 27, staff from Law Crandall, Montgomery Watson, and Caltrans toured the site to verify that tributary drain inlets were properly stenciled.

Vector Activities

On June 16, the site was treated for mosquito larvae with Vectolex™.

On June 22 and July 15, animal burrows were observed in the swale. Abatement and repair will be performed.

LAW Crandall toured the site with a vector control specialist and a wildlife consultant to identify species causing animal burrows and to develop an appropriate abatement program. The vector control specialist and wildlife consultant determined that gophers, and not ground squirrels, were burrowing in the biofilter. Abatement of gophers, using box traps, will begin the week of August 8.

Issues / Solutions

Site will be operational on October 1.

Biofilter vegetation will not be mowed until week of October 17, as recommended by Martha Blane, to enhance vegetation establishment.

I-5/I-605 Bio Swale (Site ID 73224) MW/Law

Monitoring/Sampling Activities

None this period.

Operations and Maintenance

On June 16, the following activities were performed: erosion control vegetation around

the perimeter of the swale (to a distance of approximately 10 feet beyond the swale) was mowed to an average height of 6 inches, a fallen tree (approximately 2-1/2 inches in diameter) was removed from the site, trash and debris (1/4 bag) were removed, and weeds were manually removed from the swale invert. On July 14, trash and debris (1/4 bag) were removed, weeds were manually removed from the swale invert, and a small eroded area of the swale slope was repaired.

Vector Activities

On June 16, June 24, and July 1, the site was treated for mosquito larvae with Vectolex™. The week of July 12, it was reported that the dissipator was breeding; the site was treated for mosquito larvae with Vectobac™ on July 15.

LAW Crandall toured the site with a vector control specialist and a wildlife consultant to identify species causing animal burrows and to develop an appropriate abatement program. The vector control specialist and wildlife consultant determined that gophers, and not ground squirrels, were burrowing in the biofilter. Abatement of gophers, using box traps, will begin the week of August 8.

Issues / Solutions

Site will be operational on October 1. Details will be documented in a separate salt grass report.

No non-storm water discharges were observed on July 14; however, about 1.5" of standing water was observed in the energy dissipator.

Standing water reported on July 19 by the Biologist.

Biofilter vegetation will not be mowed until week of October 17, as recommended by Martha Blane, to enhance vegetation establishment.

I-605/Carson & Del Amo Bio Swale (Site ID 73225) MW/Law

Monitoring/Sampling Activities

None this period

Operations and Maintenance

On June 22, trash and debris (2 bags) were removed, and weeds were manually removed from the swale invert. On July 14, trash and debris (1 bag) were removed, weeds were manually removed from the swale invert, and the site was visited by potential subcontracted landscapers.

Vector Activities

On June 16, the site was treated for mosquito larvae with Vectolex™. The week of July 12, it was reported that the dissipator was breeding; the site was treated for mosquito larvae with

Vectobac™ on July 15.

Issues / Solutions

Site will be operational on October 1. Additional salt grass has been placed to reach required coverage. Details will be documented in a separate salt grass report.

No non-storm water discharges were observed on July 14; however, about 1” of standing water was observed in the energy dissipator.

Biofilter vegetation will not be mowed until week of October 17, as recommended by Martha Blane, to enhance vegetation establishment.

District 11 BMP Pilot Sites

Maintenance Activities Applicable to all sites

Monthly site inspections occurred in the first week of June and the second week of July. Minor maintenance and trash pickup is being performed during each monthly inspection.

Monitoring Activities Applicable to all sites

The equipment at all of the sampling stations was powered off and the sample bottles were removed. The flow meters were removed from the stations and brought to the laboratory to install new Doppler processing boards and to modify the power system on the meters. A revised version of the Doppler board was supplied by American Sigma. The new boards improve the performance of the Doppler processing under low flow and clean water conditions. Retrofit of the new boards into the meters has begun. The retrofit will be complete by the first week of August.

All of the flow meters have been flow tested in a flow tank at KLI. Five flow meters have been sent back to American Sigma, Inc. for LCD display problems. Functioning flow meters are being re-installed at BMP sites.

I-5/SR-56 Extended Detention Basin (Site ID 111101) KLI

Monitoring/Sampling Activities

No monitoring activities occurred during the months of June or July. During the June and July monthly site inspection, standing water was observed. Vector Control inspections have also observed standing water problems.

Operations and Maintenance

A rabbit fence was installed to the existing fence around the basin. The site is scheduled to be weeded in mid-August.

Vector Activities

On June 1, a small amount of water was observed in the first catch basin; however, no mosquito breeding was observed. On June 7, standing water was observed in the first riprap-retaining basin, and larvae and egg rafts of *Culex tarsalis* were observed. The second larger riprap-retaining basin had standing water, but no mosquito breeding was observed. On June 15, the first basin was damp with no standing water; the second basin had standing water along the north and northwest edges with 1st through 4th instar larvae and egg rafts of *Culex tarsalis* present. On June 22, all areas were dry. On June 28, standing water was observed in the first basin, and 1st and 2nd instar *Culex pipiens* larvae were present at 0.5 larvae per dip. On July 5, the first riprap-retaining basin contained standing water supporting the larvae of *Culex tarsalis* (1st, 2nd, and 3rd instars) and *Culex pipiens* (3rd instars) at about 7 larvae per dip.

On July 15, the site was toured by California Department of Health Services staff. On July 19, both the first riprap-retaining basin and the second riprap-retaining basin were breeding *Culex tarsalis* (2nd, 3rd, & 4th instars at 20 larvae/dip). On July 26, the first riprap-retaining basin was breeding *Culex tarsalis* (2nd & 3rd instars at five larvae/dip), and the second riprap-retaining basin was dry.

Issues / Solutions

No non-storm flows were observed during the week of July 19.

Standing water and wetland vegetation growing in and around the site was reported by the Biologist on July 19.

SR-78/I-15 Extended Detention Basin (Site ID 111102) KLI

Monitoring/Sampling Activities

The effluent Palmer-Bowlus flume has been temporarily removed in order to test for optimum flow measuring devices.

Operations and Maintenance

The site is scheduled to be weeded in mid-August.

Vector Activities

Inspections were performed on June 1, 7 and 15. During each inspection, no standing water or vertebrate problem was observed. The basin has been consistently dry, so inspections have been suspended; however, inspection will resume with a rainfall event. On July 15, California Department of Health Services staff toured the site.

Even though no rainfall event occurred, the site was inspected on July 19 and 26.

Issues / Solutions

No non-storm flows were observed during the week of July 19.

I-5/La Costa Avenue Infiltration Basin (Site ID 111103) KLI

Monitoring/Sampling Activities

Groundwater elevation monitoring continues. The log with recent readings is provided as an attachment to the biweekly report.

Monitoring equipment has been removed.

Operations and Maintenance

During site inspections, KLI observed emergent wetland vegetation (*Typha latifolia*). No action has been taken.

Vector Activities

On June 1, ponding due to water retention was observed; one mosquito larva, third instar *Culex stigmatosoma*, was found (0.1 larvae/dip). On June 7, 15, and 22, it was noted that the pond water level had decreased; the surface was covered with algae (40%), and emergent cattails were noted around pond perimeter. No mosquito breeding was observed. As of June 15, the site still had significant standing water, i.e. a pond about 18 feet in diameter and about 1 foot deep. On June 28, the pond depth was less than 12 inches; it was noted that cattails and surface algae continue to grow; no mosquito breeding was observed. On July 5, standing water was less than 8 inches deep, and about 60% of the surface was covered with algae; emergent cattails were noted around the perimeter; no mosquito breeding was found. The week of July 12, the site showed signs of midge breeding, but no treatment was recommended. On July 15, California Department of Health Services staff toured the site. The site was inspected on July 19 and 26. Standing water as of July 19 was less than 6 inches deep; as of July 26, it was less than 4 inches deep. The water was covered with algae, and emergent cattails were noted around the perimeter. No mosquito breeding was found. This site has been previously stocked with mosquito fish.

Issues / Solutions

Wetland vegetation growing in around the site, reported by biologist on July 19.

County of San Diego Vector Surveillance and Control has recommended that the site be modified to prevent water impoundment in order to prevent an on-going health hazard.

I-5/La Costa Wet Basin (Site ID 111104) KLI

Monitoring/Sampling Activities

Site deemed operational on June 29. Security enclosures have been placed at the site. The site is scheduled to be equipped with flow monitoring equipment by late July. The site will be fully equipped with monitoring equipment by late August/early September and completely ready for monitoring before October 1.

Operations and Maintenance

KLI assumed plant establishment responsibilities for site on July 12. Upon taking plant establishment responsibilities on July 12, KLI performed a thorough species count at the Wet Basin with a botanist and Martha Blane associate, Julie Greene. KLI is currently negotiating the 90-day plant establishment contract with Native Landscape, Inc. Native Landscape has verbally agreed to maintain plant establishment until a written contract is established early during the week of July 18th.

Vector Activities

The site was inspected for the first time since completion on June 15. On June 17, mosquito-eating fish *Gambusia affinis* were introduced into the pond. Significant mosquito breeding was observed at the north end of the pond; samples were identified as 1st through 4th instar *Culex tarsalis* larvae. A chironomid midge larvae was also collected. On June 18, additional *G. affinis* were introduced into the pond, and the pond was treated with Bactimos pellets, a *Bacillus thuringiensis israelensis* (BTI) mosquito larvicide. On June 22, *Culex tarsalis*, 1st and 2nd instars at 2 per dip, were observed; these were treated with Vectobac Granules (BTI). On June 28, *Culex tarsalis*, 1st through 4th instars at 1-10 per dip, were observed. On July 5, the site was found to be breeding *Culex tarsalis* (1st, 2nd, and 3rd instars at 10-15 larvae/dip). Mosquito egg rafts were also noted. These were treated with 20 pounds of Bactimos pellets. On July 15, DHS observed both midge and mosquito larvae. On July 19, the site was breeding *Culex tarsalis* (1st, 2nd, 3rd, & 4th instars at 5-10 larvae/dip); the site was treated with 20 pounds of Bactimos pellets (BTI) the same day. On July 26, the site was again found to be breeding *Culex tarsalis* (1st, 2nd, & 3rd instars at 0.5 larvae/dip). Vector Control staff did not treat the site on July 26, because the breeding was considered minor. Many mosquito-eating fish (*Gambusia affinis*) were noted on both July 19 and 26. The site will continue to receive treatment with BTI or methoprene products as necessary.

Issues / Solutions

On June 15, County of San Diego Vector Surveillance and Control observed that cattails, bulrushes and willows have been planted in and around the standing water at the site. According to CSDVSC, these can be expected to eventually fill and choke off the site, limiting the effectiveness of mosquito-eating fish.

Native Landscape has brought to KLI's attention a weed problem with nut grass. Unfortunately nut grass cannot be mitigated through mechanical means, so the use of an herbicide is being considered. Native Landscape suggested using the herbicide "Manage." Careful application will be done in a manner so as not to impact water quality.

KLI toured the site with Martha Blane and was advised that the 150 wetland species planted on July 10 appear to be thriving. There is little if any new growth from the stock that was originally planted; therefore, an additional planting is advised.

Irrigation problems reported on July 19 (appears to be attributed to the valves remaining partially open).

I-5/Manchester Avenue Extended Detention Basin (Site ID 111105) KLI

Monitoring/Sampling Activities

Site deemed operational on June 29. No monitoring to date. Security enclosures have been placed at the site. The site is scheduled to be equipped with flow monitoring equipment by late July. Rain gauge poles and solar panels have installed; KLI will continue to instrument

the site. The site will be fully equipped with monitoring equipment by late August/early September and completely ready for monitoring before October 1.

Operations and Maintenance

Kinnetic Laboratories assumed plant establishment responsibilities for the site on July 1. The 90-day plant establishment at the site includes inspections for proper irrigation of the newly planted trees on the northbound off-ramp and on-ramp. A site inspection on July 16, revealed that two trees appear to be dead or dying. KLI will investigate to determine if there is an irrigation problem or if the trees must be replaced with new trees.

After the 90-day plant establishment period, the maintenance borders from the BMP will be reduced to encompass the access road, the concrete swale, the overflow structure, and the basin.

The basin is scheduled to be weeded in mid-August.

Vector Activities

Inspections were performed on June 1, 7, 15, 22, and 28. During each inspection, no standing water or vetebate problem was observed. The site was inspected again on July 5, 19, and 26. On July 15, California Department of Health Services staff toured the site.

Issues/Solutions

Plant establishment is approximately 60 working days.

Kearney Mesa Maintenance Station StormFilter - Perlite/Zeolite (Site ID 112201) KLI

Monitoring/Sampling Activites

KLI moved cellular phone antennas out of the security enclosures and to the tops of the rain gauge poles for better reception.

Operations and Maintenance

No site-specific maintenance activities have occurred.

Vector Activities

On June 1, 7, 15, 22, and 28, the site was inspected. During each inspection, two feet of standing water was observed in the first vault, two feet of standing water was observed before the baffle in the first chamber, and standing water was observed in the 3rd and 4th chambers in the troughs below the entrance ports; no mosquito breeding was observed. On July 5, it was noted that the site continued to have approximately 2 feet of standing water in the first chamber. The second vault had about 2 feet of water before the baffle; the third and fourth vaults had standing water in the troughs below the entrance ports. No mosquito breeding was

noted; however, Psychodid (Diptera: Psychodidae) larvae were collected. On July 15, California Department of Health Services staff toured the site. The site was inspected on July 19 and 26. The site continued to have approximately 22 inches of water in the first chamber. The second vault had about 2 feet of water before the baffle. The third and fourth vaults had standing water in the troughs below the entrance ports. On July 19, no mosquito breeding was noted; but on July 26, two *Culex pipiens* pupae (0.15 immatures/dip) were found in the first chamber.

Issues / Solutions

No non-storm flows were observed during the week of July 19.

Escondido Maintenance Station Media Filter - Sand (Site ID 112202) KLI

Monitoring/Sampling Activities

KLI moved cellular phone antennas out of the security enclosures and to the tops of the rain gauge poles for better reception.

Operations and Maintenance

No site-specific maintenance activities have occurred. The solution to fix the leaking canal gate at the pre-sedimentation chamber shall be completed no later than the last week of August.

Vector Activities

On June 1, 7, and 15, the west side of BMP contained 12 inches of water; no evidence of mosquito or midge breeding was observed, and no vertebrate problems were noted. On June 22 and 28, the BMP contained about 10 inches of standing water; no evidence of mosquito or midge breeding was observed, and no vertebrate problems were noted. On July 5, it was noted that the west side of the BMP continued to hold approximately 10 inches of standing water. There was no evidence of mosquito breeding, but larval and pupal psychodids (Diptera: Psychodidae) were collected. On July 15, California Department of Health Services staff toured the site. The site was inspected again on July 19 and 26. The west side of the BMP continued to hold approximately 10 inches of standing water. There was no evidence of mosquito breeding but larval and pupal psychodids (Diptera: Psychodidae) were collected.

Issues / Solutions

No non-storm flows were observed during the week of July 19.

La Costa Park and Ride Media Filter - Sand (Site ID 112203) KLI

Monitoring/Sampling Activities

KLI moved cellular phone antennas out of the security enclosures and to the top of the rain gauge pole for better reception.

Operations and Maintenance

No site-specific maintenance activities have occurred.

Vector Activities

On June 1, the BMP was dry. On June 7, about $\frac{3}{4}$ of inch standing water was observed in the primary basin, but there was no evidence of mosquito breeding. On June 15, the basin was dry, and there was only a very small amount of water in the three depressions under pipes in the primary basin; no evidence of mosquito or midge breeding was observed. On June 22 and 28, the BMP was dry. The site was inspected again on July 5. The week of July 12, the site showed signs of midge breeding activity, but no treatment was recommended. On July 15, California Department of Health Services staff toured the site. On July 19, Vector Control staff found mosquito breeding (*Culex tarsalis*) in the three small depressions previously described. On July 26, only the center small depression held water, and it was not breeding mosquitoes on that date.

Issues / Solutions

None this period.

SR-78/I-5 Park and Ride Media Filter - Sand (Site ID 112204) KLI

Monitoring/Sampling Activities

KLI moved cellular phone antennas out of the security enclosures and to the tops of the rain gauge poles for better reception.

Operations and Maintenance

Non-storm flow was observed during site inspections in July.

Vector Activities

On June 1, less than 1 gallon of water, standing in the depression below one pipe in the second chamber trough, was observed; one mosquito larva of *Culex pipiens* was present in the water. On June 7, the influent basin contained 1 inch of standing water; *Culex pipiens* larvae and pupae were present at 0.5 per dip. About $\frac{1}{2}$ inch of standing water was present in the second basin with *Culex pipiens* larvae present. On June 15, a small depression in the second basin with standing water contained *Culex pipiens* larvae and one chironomid midge larva. On June 22, in standing water in a small depression in the second basin, a few early instar larvae of

Culex pipiens and *Culex tarsalis* were present, as well as one chironomid midge larva. On June 28, the BMP was dry. The site was inspected again on July 5. The week of July 12, the site showed signs of midge breeding activity, but no treatment was recommended. On July 15, California Department of Health Services staff toured the site. The site was inspected on July 19 and 26; on July 19, Vector Control staff found mosquito breeding (*Culex tarsalis*) in the center small depression in the second basin.

When the site has significant standing water with mosquito breeding, County of San Diego Vector Surveillance and Control will treat the site methoprene pellets, unless otherwise noted.

Issues / Solutions

There is a nut grass problem present on the hillside near the outlet. However, the area directly outside the BMP fence line is clear of any nut grass. Careful weed management is being monitored.

No non-storm flows were observed during the week of July 19.

Melrose Ave/SR-78 Bio Swale (Site ID 112205) KLI

Monitoring/Sampling Activities

None this period. Site deemed operational on June 26.

Operations and Maintenance

KLI assumed plant establishment responsibilities for the site on June 28. KLI watered the site everyday from June 28 through July 2. Watering was then reduced to twice a week on the following week (July 4 – 10). Watering occurred on July 6 and 9. Watering occurred twice during the week of July 11 – 17. The sod appears healthy, so watering has recently been decreased to once a week. Watering will be decreased to once every three weeks when proper root establishment has occurred.

Vector Activities

On June 1, an active ground squirrel population was noted, as evidenced by 4-5 active burrows; no population reduction was deemed necessary at the time. On June 7, 15, 22, and 28, signs of gopher activity were noted, as well as squirrel activity. The site was inspected again on July 5, 19, and 26. On July 15, California Department of Health Services staff toured the site.

Issues / Solutions

None this period.

I-5 Palomar Airport Biofiltration Swale (Site ID 112206) KLI

Monitoring/Sampling Activities

Site was deemed operational on June 29, 1999. Security enclosures have been placed at the site. In addition, rain gauge poles and solar panels have been installed. Flow equipment installation is scheduled to occur in late July; KLI will continue to instrument this site.

Operation and Maintenance

KLI assumed plant establishment responsibilities for the site on June 28. As part of the Cannon Road Plant Establishment, an irrigation system has been installed and KLI has a working relationship with the Landscape Contractor, Marina Landscape. Watering the site consists of KLI inspecting the site for proper irrigation and working with Marina Landscape to properly irrigate the site.

Since June 28, the site has been watered twice a day, once at 2 a.m. and once at 12 p.m. The sod appears healthy, so watering has recently been decreased to once a week.

Vector Activities

On June 1 and 7, the BMP was dry, and no vertebrate problem was observed. On June 15, standing water was present; however, there was no evidence of mosquito breeding. On June 22 and 28, the BMP was dry. The site was inspected again on July 5, 19, and 26. On July 15, California Department of Health Services staff toured the site.

Issues / Solutions

None this period.

Carlsbad Maintenance Station Bio Strip Infiltration Trench (Site ID 112207) KLI

Monitoring/Sampling Activities

Site was deemed operational on June 26, 1999.

KLI moved cellular phone antennas out of the security enclosures and to the tops of poles for better reception.

The infiltration trench site had well measurements for groundwater depth taken on July 12.

Operations and Maintenance

A rabbit fence was installed around both the eastern and western strips of salt grass.

A concrete block structure was constructed as a permanent fix for the bypass on the western strip. The concrete block includes a ½" ID PVC weep hole so that the site will not hold standing water.

KLI assumed plant establishment responsibilities for the biostrip on June 26. Watering the site consists of simply opening a valve at the Maintenance Station.

KLI watered the site everyday for the week of June 28 - July 2. Watering was cut back to twice a week on the following week (July 4 – 10). Watering occurred on July 6 and 9. Watering occurred twice during the week of July 11 – 17. The sod appears healthy, so watering has recently been reduced to once a week. Watering will be reduced to once every three weeks when proper root establishment has occurred. The site is scheduled to be weeded in mid-August.

Vector Activities

Inspections were performed on June 1, 7, 15, 22, and 28. During each inspection, the BMP was dry, and no vertebrate problem was observed. The site was inspected again on July 5, 19, and 26. On July 15, California Department of Health Services staff toured the site.

Issues / Solutions

None this period.

BMP OPERATIONS STATUS

Location	BMP Type	Monitor Consultant	Site "On-line" ^{1,2}	Begin Instrument Install	Complete Instrument Install	Operational ³ (start empirical and maintain)	Ready for Water Quality Monitoring ⁴
DISTRICT 7							
I-605/SR-91	IB	MW/Law	4/9/99	2/15/99	3/26/99	4/9/99	4/9/99
I-210 East of Orcas	CDS	MW/Law	2/7/00	2/7/00	2/28/00	2/28/00	2/28/00
I-210 East of Filmore	CDS	MW/Law	2/7/00	2/7/00	2/28/00	2/28/00	2/28/00
I-5/I-605	EDB	BC	2/8/99	2/15/99	2/26/99	2/26/99	2/26/99
I-605/SR-91	EDB	BC	2/8/99	2/8/99	2/19/99	2/22/99	2/22/99
Paxton Park & Ride	MF	BC	7/28/00	7/28/00	8/14/00	8/14/00	8/14/00
Metro MS	MCTT	BC	7/14/00	7/14/00	8/3/00	8/3/00	8/3/00
Alameda MS	OWS	BC	4/19/99	4/20/99	5/7/99	5/17/99	5/17/99
Eastern MS	MF	BC	2/1/99	2/1/99	2/12/99	2/15/99	2/15/99
Foothill MS	MF	BC	2/22/99	2/22/99	3/5/99	3/8/99	3/8/99
Termination Park & Ride	MF	BC	3/26/99	4/5/99	5/7/99	5/17/99	5/17/99
Via Verde Park & Ride	MCTT	BC	4/15/99	4/19/99	5/7/99	5/17/99	5/17/99
Lakewood Park & Ride	MCTT	BC	4/30/99	4/30/99	5/7/99	5/17/99	5/17/99
Altadena	Bio Strip/TT	MW/Law	2/26/99	2/18/99	2/19/99	10/1/99	10/1/99
Foothill	DII	MW/Law	1/15/99	1/18/99	1/22/99	1/22/99	1/22/99
LasFlores	DII	MW/Law	1/15/99	1/18/99	1/21/99	1/22/99	1/22/99
Rosemead	DII	MW/Law	1/15/99	1/18/99	1/21/99	1/22/99	1/22/99
I-605/SR-91	Bio Strip/Swale	MW/Law	2/25/99	2/25/99	3/26/99	10/1/99	10/1/99
Cerritos MS	BioSwale	MW/Law	2/17/99	2/18/99	9/15/99	10/1/99	10/1/99
I-5/I-605	BioSwale	MW/Law	2/17/99	2/18/99	9/15/99	10/1/99	10/1/99
I-605/ Del Amo	BioSwale	MW/Law	2/23/99	2/22/99	9/15/99	10/1/99	10/1/99
DISTRICT 11							
I-5/SR-56	EDB	KLI	1/8/99	1/11/99	1/24/99	1/24/99	1/24/99
I-15/SR-78	EDB	KLI	1/8/99	1/11/99	1/24/99	1/24/99	1/24/99
I-5/La Costa (West)	IB	KLI	1/8/99	1/11/99	1/28/99	Suspended	Suspended
I-5/La Costa (East)	WB	KLI	6/15/99	7/24/99 ⁵	9/15/99 ⁵	6/29/99	10/1/99
I-5/Manchester (East)	EDB	KLI	6/15/99	7/24/99 ⁵	9/15/99 ⁵	6/29/99	10/1/99
Kearney Mesa MS	StormFilter (Perlite/Zeolite)	KLI	2/12/99	2/12/99	2/12/99	2/16/99	2/16/99
Escondido MS	MF	KLI	2/12/99	2/12/99	2/12/99	2/16/99	2/16/99
La Costa Park & Ride	MF	KLI	2/19/99	2/19/99	2/26/99	2/26/99	2/26/99
SR-78/I-5 Park & Ride	MF	KLI	2/19/99	2/19/99	3/1/99	3/1/99	3/1/99
Melrose Ave/SR-78	Bio Swale	KLI	2/19/99	2/19/99	2/26/99	6/26/99	10/1/99
I-5 Palomar Airport Road	Bio Swale	KLI	6/30/99	7/24/99	9/15/99 ⁵	6/29/99	10/1/99
Carlsbad MS	Bio Strip/TT	KLI	2/19/99	2/19/99	2/26/99	6/26/99	10/1/99

¹ Equipment installation schedule is dependent upon construction schedule.

² Site on-line means BMP will receive stormwater runoff, not necessarily ready for monitoring or operations.

³ Site operational means BMP meets completion criteria and BMP is turned over to monitoring/maintenance teams to begin empirical observations and maintenance. Biofilters are dependent on plant establishment criteria of 90% coverage

⁴ Ready for water quality monitoring means BMP has a full equipment installation and the equipment is ready to draw samples.

⁵ The inlet and outlet will be instrumented with flow meters in late July (after construction and equipment purchase) for calibration. The CR-10s and Samplers will be instrumented 1st week of September and operational 9/15/99.

SUMMARY OF REQUIRED STORMS AND SUCCESSFULLY SAMPLED STORMS PER SITE

Location	BMP Type	Monitoring Consultant	Operational?	Total Storms Required	Successfully Sampled Storms (1)
DISTRICT 7					
I-605/SR-91	IB	MW/Law	Yes	8	
I-210 East of Orcas	CDS	MW/Law		8	
I-210 East of Filmore	CDS	MW/Law		8	
I-5/I-605	EDB	BC	Yes	10	2
I-605/SR-91	EDB	BC	Yes	10	3
Paxton Park & Ride	MF	BC		8	
Metro MS	MCTT	BC		8	
Alameda MS	OWS	BC	Yes	8	
Eastern MS	MF	BC	Yes	8	1
Foothill MS	MF	BC	Yes	8	2
Termination Park & Ride	MF	BC	Yes	8	
Via Verde Park & Ride	MCTT	BC	Yes	8	
Lakewood Park & Ride	MCTT	BC	Yes	8	
Altadena	Bio Strip	MW/Law		8	
	Infiltration Trench	MW/Law		8	
Foothill MS	DII north- Stream Guard Insert	MW/Law	Yes	8	4
	DII south- Fossil Filter Insert	MW/Law	Yes	8	4
LasFlores MS	DII north-StreamGuard Insert	MW/Law	Yes	8	5
	DII south-Fossil Filter Insert	MW/Law	Yes	8	5
Rosemead MS	DII north-Fossil Filter Insert	MW/Law	Yes	8	5
	DII south-StreamGuard Insert	MW/Law	Yes	8	5
I-605/SR-91	Bio Strip	MW/Law		8	
	Bio Swale	MW/Law		8	
Cerritos MS	BioSwale	MW/Law		8	
I-5/I-605	BioSwale	MW/Law		8	
I-605/ Del Amo	BioSwale	MW/Law		8	
DISTRICT 11					
I-5/SR-56	EDB	KLI	Yes	4	5
I-15/SR-78	EDB	KLI	Yes	10	4
I-5/La Costa (West)	IB	KLI		8	suspended
I-5/La Costa (East)	WB	KLI		4	
I-5/Manchester (East)	EDB	KLI		4	
Kearney Mesa MS	StormFilter (Perlite/Zeolite)	KLI	Yes	8	3
Escondido MS	MF	KLI	Yes	8	3
La Costa Park & Ride	MF	KLI	Yes	4	3
SR-78/I-5 Park & Ride	MF	KLI	Yes	8	2
Melrose Ave/SR-78	Bio Swale	KLI		8	
I-5 Palomar Airport Road	Bio Swale	KLI		8	
Carlsbad MS	Bio Strip	KLI		8	
	Infiltration Trench	KLI		8	

(1) Total number of successful storms for the DII sites with Fossil Filter Inserts is under review (pending results of water quality data).

OMM PLAN ACTIVITIES

VOLUME I

The OMM Volume I is currently under revision to update the report to include new BMP devices in District 7 (CDS) and District 11 (Wetbasin). A technical editor is currently reformatting and editing the report to eliminate redundancy and incorporating updates throughout the document responding to Plaintiff comments and the issues presented at the Quarterly Status Meeting (No. 5). Vol I is due to the Plaintiffs in mid August.

VOLUME II

Revisions to Volume II for CDS, Paxton, Metro (D7) and Manchester and La Costa (D11) BMP sites will be completed as a part of the ‘summer revisions’ so as to consolidate/facilitate review by the Plaintiffs. Vol II is due to the Plaintiffs in mid August.

Schedule	DATE DUE
OMM recommended changes to Plaintiffs	June 29
Plaintiff comment to changes	July 7
1 st draft to Plaintiffs	August 20
Plaintiff Comments due	Sept 3
Response to Comments	Sept 10
Final	Sept 22

MAINTENANCE INDICATOR DOCUMENT

The document will be modified for monthly inspection for burrowing rodent activity with abatement and repair immediately or annually, in September, depending on the level of activity or damage to the BMP. Abatement and repair will follow recommendations outlined in the Burrowing Rodent Management guidelines developed by RBF/Dudek/and Fred Beams.

The MID has been revised to address emergent wetland species and issued as Version 11.

OMM COST

The Maintenance Operation Cost Accounting Summary (excel workbook) is provided as an attachment to the Biweekly Report. Note that costs are provided for the months of December to June for each BMP site. The summary is provided in two formats (sorted by Districts and by device type). Detailed cost per site is provided individually in the workbook. The cost summaries are updated monthly and will continue to be included as an attachment to the Bi-Weekly Report.

VECTOR ACTIVITIES

GENERAL SUMMARY OF VECTOR ISSUES FOR 6/15/99 - 7/29/99 **SITE-SPECIFIC DETAILS ON VECTOR ACTIVITIES ARE PROVIDED IN THE** **OMM SECTION**

DISTRICT 7

San Gabriel Valley Vector Control District

Monitoring

Refer to OMM Section for site-specific monitoring efforts.

Abatement

SGVVCD has performed abatement at the Rosemead Maintenance Station; refer to OMM Section for site-specific details. Although conditions conducive to breeding are present at other sites, the SGVVCD will not abate until sampling shows that vector breeding is taking place.

Greater Los Angeles County Vector Control District

Monitoring

GLACVCD began its monitoring program the week of 5/17/99. The monitoring effort of 7/14-15/99 showed that fewer BMPs contained standing water and that only six (6) of these showed evidence of breeding. Some of these sites showed breeding activity, but were not abated as they appeared to be drying up quickly. The most recent monitoring effort (7/27-28/99) showed only one site with breeding substantial enough to require abatement. Refer to OMM Section for site-specific details.

Abatement

GLAVCCD abated five (5) sites during the last two weeks of June. All sites were treated with bacterial toxins (Vectolex™ or Vectobac™) which affect only mosquito larvae. GLAVCCD abated four (4) BMP sites during the first two weeks of July. All sites were treated with bacterial toxins. Per a request by DHS, all future larval abatements will utilize Vectobac™ because of its short residual time. Only one site was abated during the last two weeks of July. Refer to OMM Section for site-specific details.

Per a conversation with GLACVCD staff on 6/4/99, monitoring schedules were modified to increase monitoring frequency such that any mosquito breeding will be caught in the larval stage. This appears to have precluded the need to use Golden Bear™ oil as a control method except at the Altadena Maintenance Station where conditions appear to be conducive for very fast mosquito development.

Los Angeles County West Vector Control District

Monitoring

A service agreement for monitoring and abatement services has not been signed. This district contains only one BMP (Las Flores Maintenance Station), a drain inlet insert. These devices have not been problematic in other districts and it appears unlikely that they are breeding.

DISTRICT 11

County of San Diego Vector Surveillance and Control

Monitoring

CSDSVC has observed mosquitoes at five (5) sites during this period. However, only limited mosquito breeding was observed and no action beyond that already taken has been recommended. Additionally, many of the sites appeared to be drying out, making abatement unnecessary. No breeding was observed at the Infiltration Basin at La Costa, indicating that the mosquito fish have been effective in suppressing mosquito production at this site. Several sites also showed signs of midge breeding activity though no treatment was recommended. Refer to OMM Section for site-specific details.

Abatement

Thus far, CSDVSC has abated only two sites. CSDVSC has not recommended treatment of any other BMPs. Refer to OMM Section for site-specific details.

DEPARTMENT OF HEALTH SERVICES

The Department of Health Services has hired two vector biologist to coordinate and oversee the vector monitoring and abatement being carried out by the vector control districts. These biologists have visited all BMP sites and have been in contact with the vector control districts. A kickoff meeting was held on 7/16 to apprise the consultants and vector control district staff of the role to be played by DHS, and identify items requiring immediate action. Several tasks were identified and individuals were assigned to manage these tasks. Two items have been prioritized and should be available for review by mid-August:

1.) Abatement Practices Technical Memorandum

Scope: This memo should identify any detrimental effects which abatement practices may have upon water quality. The memo should examine those abatement practices/treatments currently employed (or those which may be employed in the foreseeable future) by the Vector Control Districts participating in the BMP Retrofit Pilot Program.

2.) BMP Mosquito Breeding/Production Study - Study Plan

Scope: This study plan should be as comprehensive as possible and should address all salient factors related to the research project. Special emphasis should be given to site selection criteria, sampling and data collection techniques, statistical analysis, experimental design and safeguards against adult emergence.

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UCR will continue to monitor adult mosquito population dynamics on a weekly basis. However, this kind of long-term, time series data does not readily lend itself to meaningful in-depth analysis over short intervals. So, further reports on the status of this effort will be discontinued on a biweekly basis in favor of in-depth analysis to be presented on a quarterly basis.

The sites monitored by each VCD is summarized in the following table:

Sites Monitored by Vector Control District

Location	BMP Type	Monitor Consultant	Vector Control District	Activities
DISTRICT 7				
I-605/SR-91	IB	MW/Law	GLACVCD	June 22: animal burrows observed. July 1: mosquito larvae treated with Vectolex™. July 8: mosquito larvae treated with Vectobac™. July 27/28: mosquito breeding suspected; heavy grate prevents sampling; grate is currently being replaced.
I-210 East of Orcas	CDS	MW/Law	GLACVCD	N/A
I-210 East of Filmore	CDS	MW/Law	GLACVCD	N/A
I-5/I-605	EDB	BC	GLACVCD	None noted during routine inspection.
I-605/SR-91	EDB	BC	GLACVCD	None noted during routine inspection.
Paxton Park & Ride	MF	BC	GLACVCD	N/A
Metro MS	MCTT	BC	GLACVCD	N/A
Alameda MS	OWS	BC	GLACVCD	None noted during routine inspection.
Eastern MS	MF	BC	GLACVCD	None noted during routine inspection.
Foothill MS	MF	BC	SGVVCD	Breeding suspected; access ladder needed.
Termination Park & Ride	MF	BC	GLACVCD	Breeding observed in July; no abatement necessary.
Via Verde Park & Ride	MCTT	BC	SGVVCD	Breeding suspected; access ladder needed.
Lakewood Park & Ride	MCTT	BC	GLACVCD	June 17 and 22: mosquito larvae treated with Vectolex™. July 14/15 and July 27/28: breeding observed in individual sediment tubes.
Altadena	Bio Strip/IT	MW/Law	GLACVCD	July 8: spreader ditch treated for mosquito larvae with Vectobac™. Site no longer breeding as of July 15. July 29: site treated for mosquito pupae with Golden Bear™.
Foothill	DII	MW/Law	SGVVCD	Flume housing retaining some water; no breeding observed.
LasFlores	DII	MW/Law	LA Co West	Service agreement not yet signed.
Rosemead	DII	MW/Law	SGVVCD	Flume housing retaining some water; breeding observed; treated with one Altosid briquette.
I-605/SR-91	Bio Strip/Swale	MW/Law	GLACVCD	June 22 and July 14: animal burrows observed in swale. Abatement of gophers, using box traps, will begin the week of August 8. June 16 and 24: swale treated for mosquito larvae with Vectolex™.
Cerritos MS	BioSwale	MW/Law	GLACVCD	June 22 and July 15: animal burrows observed. Abatement of gophers, using box traps, will begin the week of August 8. June 16: mosquito larvae treated with Vectolex™.
I-5/I-605	BioSwale	MW/Law	GLACVCD	Mosquito larvae treated with Vectolex™ on June 16, June 24, and July 1. Breeding observed in the dissipator; mosquito larvae treated with Vectobac™ on July 15. Abatement of gophers, using box traps, will begin the week of August 8.
I-605/ Del Amo	BioSwale	MW/Law	GLACVCD	June 16: mosquito larvae treated with Vectolex™. Breeding observed in the dissipator; mosquito larvae treated with Vectobac™ on July 15.
DISTRICT 11				
I-5/SR-56	EDB	KLI	SD Co VC	June 7: larvae and egg rafts of <i>Culex tarsalis</i> present in first riprap-retaining basin. June 15: 1 st through 4 th instar larvae and egg rafts of <i>Culex tarsalis</i> present in second basin. June 28: 1 st and 2 nd instar <i>Culex pipiens</i> larvae present at 0.5 larvae per dip in first basin. July 5: first riprap-retaining basin supporting larvae of <i>Culex tarsalis</i> (1 st , 2 nd , and 3 rd instars) and <i>Culex pipiens</i> (3 rd instars) at about 7 larvae

				per dip. July 19: breeding of <i>Culex tarsalis</i> (2 nd , 3 rd , and 4 th instars at 20 larvae/dip) observed in both the first and second riprap-retaining basins. July 26: <i>Culex tarsalis</i> breeding (2 nd and 3 rd instars at 5 larvae/dip) observed in first riprap-retaining basin; second riprap-retaining basin was dry.
I-15/SR-78	EDB	KLI	SD Co VC	Basin has been consistently dry, so inspections have been suspended; inspection will resume with a rainfall event. July 19 and 26: site inspected (even though no rainfall event occurred).
I-5/La Costa (West)	IB	KLI	SD Co VC	June 1: one mosquito larva (third instar <i>Culex stigmatosoma</i>) found (0.1 larvae/dip). Signs of midge breeding observed the week of July 12; no treatment recommended. July 19 and 26: standing water level decreasing; no mosquito breeding observed.
I-5/La Costa (East)	WB	KLI	SD Co VC	June 17: mosquito-eating fish <i>Gambusia affinis</i> introduced into the pond; significant mosquito breeding observed at north end of pond; 1 st through 4 th instar <i>Culex tarsalis</i> larvae present; single chironomid midge larva collected. June 18: additional <i>G. affinis</i> introduced into pond; pond treated with Bactimos pellets. June 22: <i>Culex tarsalis</i> , 1 st and 2 nd instars at 2 per dip, observed; treated with Vectobac Granules (BTI). June 28: <i>Culex tarsalis</i> , 1 st through 4 th instars at 1-10 per dip, observed. July 5: site breeding <i>Culex tarsalis</i> (1 st , 2 nd , and 3 rd instars at 10-15 larvae/dip); mosquito egg rafts present; treated with 20 pounds of Bactimos pellets. July 15: midge and mosquito larvae observed by DHS. July 19: site breeding <i>Culex tarsalis</i> (1 st , 2 nd , 3 rd , and 4 th instars at 5-10 larvae/dip); site treated with 20 pounds of Bactimos pellets (BTI). July 26: site breeding <i>Culex tarsalis</i> (1 st , 2 nd , and 3 rd instars at 0.5 larvae/dip); no treatment performed; breeding considered minor. July 19 and 26: many <i>G. affinis</i> noted.
I-5/Manchester (East)	EDB	KLI	SD Co VC	None noted during routine inspection.
Kearney Mesa MS	StormFilter (Perlite/Zeolite)	KLI	SD Co VC	Site continues to have approximately 22" of water in the first chamber; second vault has about 2' of water before the baffle; third and fourth vaults have standing water in the troughs below the entrance ports. Psychodid (Diptera: Psychodidae) larvae were collected on July 5; no mosquito breeding noted. July 26: two <i>Culex pipiens</i> pupae (0.15 immatures/dip) found in the first chamber.
Escondido MS	MF	KLI	SD Co VC	July 5, 19, and 26: no evidence of mosquito breeding; larval and pupal psychodids (Diptera: Psychodidae) collected. As of July 26, west side of BMP continues to hold approximately 10 inches of standing water.
La Costa Park & Ride	MF	KLI	SD Co VC	Signs of midge breeding activity observed the week of July 12; no treatment recommended. July 19: mosquito breeding (<i>Culex tarsalis</i>) found in three small depressions. July 26: standing water in one depression; no mosquito breeding observed.
SR-78/I-5 Park & Ride	MF	KLI	SD Co VC	On June 1: small amount of water present in depression below pipe in the second chamber trough; one mosquito larva of <i>Culex pipiens</i> present. June 7: 1" of water in influent basin supporting <i>Culex pipiens</i> larvae and pupae at 0.5 per dip; ½ inch of standing water present in the second basin containing <i>Culex pipiens</i> larvae. June 15: small depression in second basin containing <i>Culex pipiens</i> larvae and one chironomid midge larva. June 22: standing water in small depression in the second basin; a few early instar larvae of <i>Culex pipiens</i> and <i>Culex tarsalis</i> present; one chironomid midge larva present. June 28: site dry. Signs of midge breeding activity observed the week of July 12; no treatment recommended. July 19: mosquito breeding (<i>Culex tarsalis</i>) in a small depression in the second basin.
Melrose Ave/SR-78	Bio Swale	KLI	SD Co VC	Signs of gopher and squirrel activity noted throughout the month of June.
I-5 Palomar Airport Road	Bio Swale	KLI	SD Co VC	None noted during routine inspection.
Carlsbad MS	Bio Strip/IT	KLI	SD Co VC	None noted during routine inspection.

ENVIRONMENTAL ISSUES

Dudek continues to perform the monthly inspection of the sites. Recent observations include burrowing activities in District 7 and a nesting mourning dove found at the I-605/SR-91 Infiltration Basin site. Mourning doves are considered migratory birds. The OMM crew maintaining the site has recommended stopping operation and maintenance activities for 30 days or until the nesting activity has been completed.

A Burrowing Rodent Management plan has been developed as guidelines for abatement and repair. The plan was developed by RBF, Dudek (the biologist) and Fred Beams (the rodent expert). The abatement and repair guidelines are as follows:

1. Where ground squirrels are active, conduct a one time poisoning program. After the appropriate amount of time has passed (determined by the pesticide applicator), firmly backfill the burrows to prevent seepage, erosion and leakage.
2. Where ground squirrels are not active, confirm that no owl activity is present (a biologist may be needed if uncertain). Firmly backfill the burrows to prevent seepage erosion and leakage.
3. Where gophers are present, trap the gophers and level the mounds and firmly backfill the burrows to prevent seepage, erosion and leakage.
4. Where voles are present, firmly backfill the burrows to prevent seepage, erosion and leakage.

The MID will be modified for monthly inspection for burrowing rodent activity with abatement and repair immediately or annually, in September, depending on the level of activity or damage to the BMP.

WEATHER

Precipitation data for Los Angeles and San Diego for the months of June and July were obtained from NOAA (see Table, below).

June 1999

Los Angeles – Downtown/USC				San Diego			
Day	Precip. (Inches)	Day	Precip. (Inches)	Day	Precip. (Inches)	Day	Precip. (Inches)
1	0.0	16	0.0	1	Trace	16	0.0
2	0.58	17	0.0	2	0.02	17	0.0
3	0.21	18	0.0	3	Trace	18	0.0
4	0.0	19	0.0	4	0.02	19	0.0
5	0.0	20	0.0	5	0.0	20	0.0
6	0.0	21	0.0	6	0.0	21	0.0
7	0.0	22	0.0	7	0.0	22	0.0
8	NA	23	0.0	8	0.0	23	0.0
9	0.0	24	0.0	9	0.0	24	0.0
10	0.0	25	0.0	10	0.0	25	0.0
11	0.0	26	0.0	11	0.0	26	0.0
12	0.0	27	0.0	12	0.0	27	0.0
13	0.0	28	0.0	13	0.0	28	0.0
14	0.0	29	0.0	14	0.0	29	0.0
15	0.0	30	0.0	15	0.0	30	0.0

July 1999

Los Angeles – Downtown/USC				San Diego			
Day	Precip. (Inches)	Day	Precip. (Inches)	Day	Precip. (Inches)	Day	Precip. (Inches)
1	0.0	16	0.0	1	0.0	16	0.0
2	0.0	17	0.0	2	0.0	17	0.0
3	0.0	18	0.0	3	0.0	18	0.0
4	0.0	19	0.0	4	0.0	19	0.0
5	0.0	20	0.0	5	0.0	20	0.0
6	0.0	21	0.0	6	0.0	21	0.0
7	0.0	22	0.0	7	0.0	22	0.0
8	0.0	23	0.0	8	Trace	23	0.0
9	0.0	24	0.0	9	0.0	24	0.0
10	0.0	25	0.0	10	0.0	25	0.0
11	0.0	26	0.0	11	0.0	26	0.0
12	0.0	27	0.0	12	0.0	27	0.0
13	0.0	28	0.0	13	0.0	28	0.0
14	0.0	29	0.0	14	0.0	29	0.0
15	0.0	30	0.0	15	0.0	30	0.0
		31	0.0			31	0.0

The data presented here is as a reference only. The actual rainfall at individual BMP sites will vary from the values given in the table. The data presented above for Los Angeles is as of 4:00 p.m. for the preceding 24 hours on the date indicated. For San Diego, is as of 5:00 p.m. for the preceding 24 hours.