Robert Bein, William Frost & Associates
PROFESSIONAL ENGINEERS, PLANNERS & SURVEYORS

BI-WEEKLY CONFERENCE CALL
AGENDA

DATE:	January 19, 2000 Wednesday
TIME:	10:00 am – 12 noon
PLACE:	RBF, Irvine or via phone (916-657-4102)
ATTENDEES:	Rich Horner/Chris May, Jeremy Johnstone, Rick Graff, Bruce Reznik, Steve Fleischli, Bob Wu, Steve Borroum, Brian Currier, Cid Tesoro, Sayra Ramos, Pete Van Riper, Richard Gordon, Dean Messer, Brown and Caldwell, Montgomery Watson/Law, KLI, RBF
COPIES TO:	File
SUBJECT:	BMP Pilot Study Status

AGENDA ITEMS

1. Non-Storm Water Discharge Report - District 7 and 11 Report
2. D7 Design/Construction Status: Metro MS, Paxton MS, CDS design
3. Vector Issues
4. Environmental/Biological Survey
5. District 7 Operation/Maintenance (OMM) Status Activities
6. District 11 Operation/Maintenance (OMM) Status Activities
7. Cost Workgroup Update

>>Next Biweekly proposed for February 3, 2000 Thursday at 10AM<<

BMP Pilot Studies

Bi-weekly Status Report

BMP Pilot Projects in District 7 and District 11

January 14, 2000

Robert Bein, William Frost & Associates

(Contributing Authors: Brown and Caldwell, Montgomery Watson Chaudhary/Law Crandall, Kinnetic Laboratories, Dudek and Associates, Larry Walker and Associates, and UCR)

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NON-STORMWATER RUNOFF INSPECTIONS

Weekly inspections have been performed at the sites where non-stormwater runoff was previously noted. The following table summarizes when non-stormwater runoff was noted at the sites inspected.

Week of	Brown and Caldwell Sites – D7				Law Crandall Sites – D7					KLI Sites – D11						
	Foothill MS: SF	Alameda MS: OWS	5/605 EDB	Via Verde: MCTT	Foothill MS: DIIs	Las Flores MS: DIIs	Rosemead MS: DIIs	605/91: IB	Altadena MS: Strip/IT	15/78 EDB	Escondido MS: SF II	5/78 P&R: MF	5/56 EDB	Kearny Mesa MF	Palomar Bioswale	Carlsbad MS
July 12	N	-	-	-	N	N	N	N	Y	-	-	-	-	-	-	-
July 19	N	-	-	-	N	N	N	Y	Y	-	-	-	-	-	-	-
July 26	N	-	-	-	N	N	N	Y	Y	-	-	-	-	-	-	-
Aug 2	Y	-	-	-	Y	N	N	N	N	N	N	Y	Y	N	-	-
Aug 9	N	Y	Y	Y	N	N	N	N	Y	Y	N	Y	Y	N	-	-
Aug 16	N	N	Y	N	N	D	D	Y	Y	Y	N	N	Y	N	Y	-
Aug 23	Y	N	Y	N	Y	D	D	N	N	N	N	N	Y	N	Y	-
Aug 30	Y	N	N	N	N	D	D	N	Y	N	-	N	Y	N	Y	N
Sept 6	Y	N	Y	N	N	D	D	N	Y	N	Y	N	Y	-	Y	N
Sept 13	N	N	N	N	N	D	D	N	N	N	N	N	Y	-	Y	N
Sept 20	N	N	N	Y	N	D	D	N	N	N	N	N	Y	-	Y	N
Sept 27	N	N	N	Y	N	D	D	N	N	N	N	N	Y	-	Y	N
Oct 4	N	N	N	N	N	D	D	N	N	N	N	N	Y	N	Y	N
Oct 11	D	D	D	N	D	D	D	D	D	D	D	D	Y	N	N	D
Oct 18	D	D	D	N	D	D	D	D	D	D	D	D	Y	N	N	D
Oct 25	D	D	D	D	D	D	D	D	D	D	D	D	Y	N	Y	D
Nov 1	D	D	D	D	D	D	D	D	D	D	D	D	Y	D	Y	D
Nov 8	D	D	D	D	D	D	D	D	D	D	D	D	Y	D	Y	D
Nov 15	D	D	D	D	D	D	D	D	D	D	D	D	Y	D	Y	D
Nov 22	D	D	D	D	D	D	D	D	D	D	D	D	Y	D	Y	D
Nov 29	D	D	D	D	D	D	D	D	D	D	D	D	Y	D	Y	D
Dec 6	D	D	D	Y	D	D	D	D	D	D	D	D	Y	D	Y	D
Dec 13	D	D	D	N	D	D	D	D	D	D	D	D	Y	D	N	D
Dec 20	D	D	D	N	D	D	D	D	D	D	D	D	N	N	N	D
Dec 30	D	D	D	N	D	D	D	D	D	D	D	D	N	N	N	D
Jan 4/00	D	D	D	N	D	D	D	D	D	D	D	D	N	N	N	D
Jan 10/00	D	D	D	D	D	D	D	D	D	D	D	D	Y	N	N	D

N – No evidence of non-stormwater runoff discharged into BMP
Y – Non-stormwater runoff was observed
- – No Inspection was held during the week.
D – Discontinued Inspections (no- non-stormwater discharge observed previous 4 weeks)
o – Has not been conduc ted at the time of preparation of this report.

ACTIVITY DESCRIBED IN THIS BI-WEEKLY COVERS THE PERIOD FROM DECEMBER 15, 1999 – JANUARY 14, 2000

District 7 BMP Pilot Sites

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

Monitoring/Sampling Activities

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operations and Maintenance

1/6/2000: Conducted monthly/post-storm inspection. Observation of the overflow structure indicates that flow entered the structure and then discharged directly into the infiltration basin. The infiltration basin was dry during the post-storm inspection. An area of erosion was observed on the northern side of the infiltration basin where flow concentrates through a swale on the access road. The erosion consists of a rut 4-5 inches deep, 3-4 inches wide from the top to bottom of the side. The area of erosion was be repaired on 1/10/2000 by filling in the rut with soil. Hydroseed has begun to sprout in some areas. Ground squirrel holes were found in the infiltration basin and will be filled in on 1/10/2000.

1/10/2000: The area of erosion was repaired by backfilling and compacting the rut. Ground squirrel holes were filled in.

1/11/2000: Hydroseed was inspected by Margot Griswold.

Vector Activities

None noted during routine inspection.

Issues / Solutions

Swales on the access road channel runoff down the infiltration basin sides. Until the hydroseed is established, continued erosion can be expected. As an intermediate measure, placement of sand bags at the discharge ends of the swales is recommended.

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

12/29/99: Supervised delivery of CDS unit by Crescent Truck Lines.

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

Status

12/29/99: Supervised delivery of CDS unit by Crescent Truck Lines.

Schedule

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

Activities	Scheduled 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 Santa Ana	07/26/99	09/14/99	4
End Santa Ana Review, Advertise, and Bid Opening	12/07/99	11/16/99	12
Award Contract	12/14/99	12/14/99	4
Begin Construction	02/01/00		4
Complete Construction	03/31/00		6
Fully Operational	04/14/00		2

Processing of the contract is now complete and awaiting signature by the contracting officer. Signature expected on 1/18/00.

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

Monitoring/Sampling Activities

No sampling activities took place during December through January 11, 2000.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operation and Maintenance

December 6: Monthly site inspection was conducted for December; a small section of the barrier tape designating the BMP boundary was replaced.

January 4: Monthly site inspection was conducted for January; a small section of damaged barrier tape designating BMP boundary was replaced; standing water was pumped from the outlet structure.

Vector Activities

None noted during routine inspection.

Issues/Solutions

None this period.

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

Monitoring/Sampling Activities

No sampling activities took place during December through January 11, 2000.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operation and Maintenance

December 3: Monthly site inspection was conducted for December; a small section of the barrier tape designating BMP boundary was replaced.

January 4: Monthly site inspection was conducted for January.

Vector Activities

None noted during routine inspection.

Issues/Solutions

None this period.

Paxton Maintenance Station Media Filter (Site ID 74103) BC

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

Status

Both Paxton and Metro plans and specifications are moving forward to District clearance. Revisions and comments were provided to Brown and Caldwell and the District on 12/22/99. Revisions were made and submitted to HQ Structures and returned to the District on 1/13/00 (3 weeks late).

Schedule

Design/Construction Schedule for Paxton PR Media Filter and Metro MS MCTT

Activities	**Scheduled Dates**	**Actual Dates**	**Duration (calendar weeks)**
Obtain EA	06/01/99	07/15/99	
Begin Clearance Process	06/28/99	07/16/99	
Obtain District Clearances/to Dist OE	02/25/00		
Obtain District OE Approval/to HQ	04/07/00		
End HQ Review, Advertise & Bid Opening	05/28/00		12
Award Contract	06/19/00		4
Begin Construction	07/03/00		4
Complete Construction	10/30/00		16
Fully Operational	11/24/00		2

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

Monitoring/Sampling Activities

No sampling activities took place during December through January 11, 2000.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operation and Maintenance

December 3: Monthly site inspection was conducted for December; debris and sediment in the trench drain were removed and sediment was stockpiled in a drum on site.

January 4: Monthly site inspection was conducted for January.

Vector Activities

None noted during routine inspection.

Issues/Solutions

None this period.

Eastern Regional Maintenance Station Media Filter (Site ID 74202) BC

Monitoring/Sampling Activities

No sampling activities took place during December through January 11, 2000.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operation and Maintenance

December 6: Monthly site inspection was conducted for December; preventive maintenance was performed on the wooden cover over the sampling box (longer deck screws were used to hold the sections together).

January 4: Monthly site inspection was conducted for January.

Vector Activities

None noted during routine inspection.

Issues/Solutions

None this period.

Foothill Maintenance Station Media Filter (Site ID 74203) BC

Monitoring/Sampling Activities

No sampling activities took place during December through January 11, 2000.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operations and Maintenance

December 6: Monthly site inspection was conducted for December; preventive maintenance was performed on the wooden covers over the sampling boxes (longer deck screws were used to hold the sections together).

January 4: Monthly site inspection was conducted for January.

Vector Activities

None noted during routine inspection.

Issues / Solutions

On December 30, BC re-installed the ultrasonic level sensor in the influent pipe, after the unit was returned from American Sigma. (BC had previously sent the unit in for evaluation/repair). Level calibration was performed and the unit appears to be functioning correctly.

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

Monitoring/Sampling Activities

No sampling activities took place during December through January 11, 2000.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operation and Maintenance

December 6: Monthly site inspection was conducted for December; preventive maintenance was performed on the wooden covers over the sampling boxes (longer deck screws were used to hold the sections together), also broken glass was removed from the site.

January 4: Monthly site inspection was conducted for January.

Vector Activities

None noted during routine inspection.

Issues/Solutions

None this period.

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

Monitoring/Sampling Activities

No sampling activities took place during December through January 11, 2000.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operation and Maintenance

December 6: Monthly site inspection was conducted for December; debris and trash were collected and removed from the site.

December 30: The effluent sump pump was removed due to an apparent malfunction. Upon inspection, debris in the impeller was removed which restored proper pump operation.

January 5: Monthly site inspection was conducted for January.

Vector Activities

None noted during routine inspection.

Issues/Solutions

On December 6 a broken irrigation sprinkler was discharging water into the BMP. Caltrans was notified and weekly non-stormwater inspections were initiated. No further incidences were noted and weekly monitoring was discontinued.

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

Monitoring/Sampling Activities

No sampling activities took place during December through January 11, 2000.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Operation and Maintenance

December 6: Monthly site inspection was conducted for December; debris and trash were collected and removed from the site.

January 4: Monthly site inspection was conducted for January.

Vector Activities

The site was found breeding during this period. The site was abated with Altosid pellets on December 17, 1999 and January 11, 2000.

Issues/Solutions

None this period.

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

Monitoring/Sampling Activities

12/15/99 through 1/14/00: Data was downloaded from the monitoring equipment. During the data download, the Troll 4000 pressure transducer was not functioning properly. According to the manufacturer, an updated firmware program needs to be uploaded to the unit.

12/21/99: Attempted to upload new firmware program to pressure transducer but it did not work. After consultation with the manufacturer, it was decided to return the unit for repair. In-Situ, Inc. agreed to send a loaner unit. Subsequently, the Troll 4000 pressure transducer was removed from the monitoring well.

12/22/99: Installed, programmed, and calibrated loaner pressure transducer. Unit is functioning properly.

12/29/99: Checked functionality of the pressure transducer. No problems encountered.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

1/3/2000: Auto samplers collected samples, but because some holding times were exceeded, samples were not analyzed. Decontaminated sample bottles were placed in the samplers.

1/7/2000: Flumes were cleaned.

Operations and Maintenance

12/20/99: Watered strip in accordance with Margot Griswold's recommended schedule.

1/3/2000: Conducted monthly/post-storm inspection. Based on observations and flow measurements, flow passed through the entire strip and discharged into the infiltration trench. No channelization or ponding was observed. A maximum water depth of 1.66 inches was recorded by the pressure transducer in the infiltration trench. The infiltration trench was observed to be dry during the inspection. 677 cf of flow was recorded at the strip influent monitoring location and 321 cf of flow was recorded at the strip effluent location. The spreader ditch was full of water.

1/7/2000: The spreader ditch was de-watered in anticipation of MID modification to allow for de-watering. Some trash and debris was removed from the strip and spreader ditch.

Vector Activities

The spreader ditch of the Bio Strip was found breeding during this period. The site was abated with Altosid pellets on December 1 and 10, 1999.

Issues / Solutions

None noted during this reporting period.

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

Monitoring/Sampling Activities

12/15/99 through 1/14/00: Data was downloaded from the monitoring equipment.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

1/4/2000: Auto samplers collected samples, but because some holding times were exceeded, samples were not analyzed. Decontaminated sample bottles were placed in the samplers. Flumes were cleaned and flow meters were checked and adjusted.

Operations and Maintenance

1/4/2000: Conducted monthly/post-storm inspection.

Fossil Filter DII: Sediment accumulated in the DII blocking the filter cartridge. DII was subsequently cleaned during the post-storm inspection. 679 cf of flow was recorded discharging through the DII.

StreamGuard DII: Some sediment and leaves accumulated in the DII. No maintenance required. 273 cf of flow was recorded discharging through the DII.

Vector Activities

None noted during routine inspection.

Issues / Solutions

None noted during this reporting period.

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

Monitoring/Sampling Activities

12/15/99 through 1/14/00: Data was downloaded from the monitoring equipment.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

1/3/2000: Checked auto samplers and bottles; no samples collected. Flumes and flow meters were checked.

Operations and Maintenance

1/7/2000: Conducted monthly/post-storm inspection.

Fossil Filter DII: Sediment accumulated in the DII blocking the filter cartridge. DII was subsequently cleaned during the post-storm inspection. 0 cf of flow was recorded discharging through the DII.

StreamGuard DII: Some sediment and leaves accumulated in the DII. No maintenance required. 0 cf of flow was recorded discharging through the DII.

Vector Activities

The Los Angeles County West Vector Control District applied Altosid pellets to the monitoring vaults of the DIIs on December 7, 1999. There was no vector breeding detected during monitoring. However, there was standing water present in the monitoring vaults/flumes. This water resulted from the consultants normal pre-storm preparations which took place before the LACWVCD's initial monitoring visit on December 7. The district technician treated the monitoring vaults under the mistaken impression that "preventative" pesticide treatments were preferred. The LACWVCD has been notified that abatement should only take place after vector breeding has been verified.

Issues / Solutions

None noted during this reporting period.

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

Monitoring/Sampling Activities

12/15/99 through 1/14/00: Data was downloaded from the monitoring equipment.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

1/4/2000: The east side of the rubber berm surrounding the Fossil Filter monitoring vault was observed to be missing.

1/7/2000: The Fossil Filter monitoring vault rubber berm was repaired.

1/4/2000: Auto samplers collected samples, but because some holding times were exceeded, samples were not analyzed. Decontaminated sample bottles were placed in the samplers. Flumes were cleaned and flow meters were checked and adjusted.

Operations and Maintenance

1/4/2000: Conducted monthly/post-storm inspection.

Fossil Filter DII:	Sediment accumulated in the DII blocking the filter cartridge. DII was subsequently cleaned during the post-storm inspection. 216 cf of flow was recorded discharging through the DII.
StreamGuard DII:	Some sediment and leaves accumulated in the DII. No maintenance required. 588 cf of flow was recorded discharging through the DII.

Vector Activities

None noted during routine inspection.

Issues / Solutions

None noted during this reporting period.

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

Monitoring/Sampling Activities

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Strip:

1/11/2000: H-flumes were cleaned of trash and debris.

Swale:

1/11/2000: H-flumes were cleaned of trash and debris.

Operations and Maintenance

Strip:

12/20/99: Watered strip in accordance with Margot Griswold's recommended schedule. However, the soil did not get wet due to Santa Ana wind conditions.

12/21/99: Rewatered strip due to lack of soil moisture achieved on 12/20/99.

1/6/2000: Conducted monthly/post-storm inspection. Based on observations, flow passed through the entire strip. No channelization or ponding observed within strip. Gopher holes were observed at the site and mitigation will continue. Hydroseed has begun to sprout in some areas. Over half of the transplanted salt grass appears brown (roots may not have reached the moisture zone). Margot Griswold is in the process of preparing a memo describing the condition of the saltgrass and will provide recommendations/corrective actions.

1/11/2000: Trash and debris were removed from the collector ditch and gopher holes were flattened.

1/11/2000: Salt grass and hydroseed was inspected by Margot Griswold.

Swale:

12/20/99: Watered swale in accordance with Margot Griswold's recommended schedule.

1/6/2000:Conducted monthly/post-storm inspection. Based on observations, flow passed through the entire swale. No channelization or ponding observed within swale. Trash and debris collected within the energy dissipater; this was be removed on 1/11/2000. Gopher holes were observed at the site and mitigation will continue. Hydroseed has begun to sprout in some areas. Margot Griswold inspected the site on 1/11/2000.

1/11/2000: Trash and debris were removed from the energy dissipater and the concrete spreader/biofilter interface and gopher holes were flattened.

1/11/2000: Salt grass and hydroseed was inspected by Margot Griswold.

Vector Activities

None noted during routine inspection.

Issues / Solutions

None noted during this reporting period.

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

Monitoring/Sampling Activities

12/15/99 through 1/14/00:Data was downloaded from the monitoring equipment.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

1/3/2000: Influent monitoring station was vandalized prior to 12/31/1999 storm event. Someone snapped the connection from the bubbler tube to the H-flume. Consequently, no flow measurements were recorded. Bubbler tube connection was repaired.

1/12/2000: H-flumes were cleaned of trash and debris.

Operations and Maintenance

12/20/99: Watered swale in accordance with Margot Griswold's recommended schedule.

1/6/2000: Conducted monthly/post-storm inspection. Based on observations, flow passed through the entire swale. A 3-4" wide area of soil and minor amount of saltgrass was washed away at the interface of the concrete spreader/biofilter. This area will be monitored during the next event. Trash and debris accumulated at the concrete spreader/biofilter interface and within the energy dissipater; this was removed on 1/12/2000. Gopher holes were observed at the site and mitigation will continue. Hydroseed has begun to sprout in some areas. Margot Griswold inspected the site on 1/11/2000.

1/11/2000: Root structure of salt grass was evaluated by Margot Griswold. Results of Ms. Griswold's inspection are forthcoming.

1/12/2000: Trash and debris were removed from the energy dissipater and the concrete spreader/biofilter interface and gopher holes were flattened.

Vector Activities

None noted during routine inspection.

Issues / Solutions

Erosion occurred at the concrete spreader/biofilter interface and the first 6-8 feet of the salt grass was flattened and some areas of salt grass was washed away. Margot Griswold evaluated the root structure of the salt grass on 1/11/2000. Results of her inspection are forthcoming.

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

Monitoring/Sampling Activities

12/15/99 through 1/14/00: Data was downloaded from the monitoring equipment.

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

1/10/2000: H-flumes were cleaned of trash and debris.

Operations and Maintenance

1/6/2000: Conducted monthly/post-storm inspection. Based on observations, flow passed through the entire swale. No channelization or ponding was observed within swale. Approximately 3/4 inch of ponding water was observed in the energy dissipater. Some ice plant was observed and will be removed on 1/10/2000. Some areas of hydroseed have begun to sprout. Trash and debris collected within the energy dissipater and at the concrete spreader/biofilter interface; this was removed on 1/10/2000. Gopher holes were observed at the site and mitigation will continue. Margot Griswold inspected the site on 1/11/2000.

1/10/2000: Ice plant was removed from the site, trash and debris were removed from the energy dissipater and the concrete spreader/biofilter interface, and gopher holes were flattened.

1/11/2000: Salt grass and hydroseed was inspected by Margot Griswold.

Vector Activities

None noted during routine inspection.

Issues / Solutions

None noted during this reporting period.

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

Monitoring/Sampling Activities

12/31/99: No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

1/10/2000: H-flumes were cleaned of trash and debris.

Operations and Maintenance

12/13/99: Watered swale in accordance with Margot Griswold's recommended schedule.

12/23/99: Caltrans sprinkler system was observed to be back online but was leaking and creating a pool of water between the swale and the guard rail. Caltrans was notified.

1/6/2000: Conducted monthly/post-storm inspection. Based on observations, flow passed through the entire swale. No channelization or ponding was observed within swale. Caltrans irrigation system is still leaking and is creating a pool of water between the swale and the guard rail and within the swale; Caltrans was notified. Trash and debris collected within the energy dissipater; this was removed on 1/10/2000. Some weeds were taller than 12 inches and was cut on 1/10/2000.

1/10/2000: Weeds taller than 12 inches were cut and trash and debris were removed from the energy dissipater.

1/11/2000: Salt grass and hydroseed was inspected by Margot Griswold.

Vector Activities

None noted during routine inspection.

Issues / Solutions

None this period.

District 11 BMP Pilot Sites

Monitoring Activities Applicable to All Sites

Monitoring equipment maintenance activities during the past 4 weeks have included clearing debris from flow meter sensors and intake strainers and changing low batteries. The low angle of the sun and/or shading of solar panels at some sites resulted in frequent discharge of batteries. All of the solar panels were cleaned. Some were repositioned for better sunlight. One solar panel was damaged by a rock at the effluent of the I-5/SR-56 EDB. It was replaced. All of the rain gauges were checked for functionality. Spikes were placed around the rims of rain gauges at selected sites to deter birds from roosting.

No storms were monitored during December. Two storms passed through the area, but the Weather Bureau forecasts for both storms did not meet the criteria established by Caltrans for monitoring and both were showery in nature. One storm occurred on December 10. A second storm occurred on the evening of December 31 and the early morning of January 1st. No teams were mobilized because Caltrans deemed sampling unsafe during the holidays.

Maintenance Activities Applicable to all sites

Monthly site inspections were completed at all sites on January 3. Minor trash pick-up occurred during these inspections.

Vector Activities Applicable to all sites

All sites were inspected on December 8, 14, 20 and 27.

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operations and Maintenance

Woody wetland vegetation was pulled on January 3 from the first inlet rip-rap.

KLI investigated the proposal of grouting in the rip-rap energy dissipator at the inlet to alleviate standing water. However, the invert of the inlet pipe is below the invert of the entire basin. Therefore, grouting in the rip-rap will still create a concrete depression that will continue to hold water.

The new hydroseed at the I-5/SR-56 EDB is sprouting on the east sidewall of the basin. However, no sprouting is occurring in the basin floor.

Vector Activities

On December 8, staff noted small quantities of water in the second basin. However, no mosquito breeding was noted. The larvae and pupa collected on November 29th following treatment with methoprene pellets on November 22nd were still being monitored. The pupae had died and the larvae are still living. On December 14, staff found standing water in both basins but no mosquito breeding. All immature mosquitoes collected in the live sample on November 29, 1999 for rearing in the laboratory died as of this date, verifying efficacy of Altosid pellets applied on November 22, 1999. On December 20, standing water was noted in the first and second basins. No mosquito breeding was found. On December 27, the first basin was dry. However, the second basin had standing water that was breeding mosquitoes. Staff treated with 0.1 pounds of Altosid pellets and collected a live sample for laboratory rearing.

Issues / Solutions

None this period.

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operations and Maintenance

No maintenance activities to note during this time period.

Vector Activities

On December 8, KLI had introduced a minor quantity of water earlier in the day for flow testing. Otherwise, the site was dry. On December 14, 20 and 27, the site was dry.

Issues / Solutions

None this period.

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operations and Maintenance

No maintenance activities to note during this time period.

Vector Activities

Site was dry on all inspection dates in December.

Issues / Solutions

None this period.

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

Monitoring/Sampling Activities

A baseline monthly 48-hour time composite sample was collected on December 26th and 27th from the trapezoidal channel adjacent to the La Costa Wet Basin and submitted for chemical analysis.

Operations and Maintenance

The La Costa wet basin was weeded during the week of December 27. Generally, the plants have gone dormant for the winter.

The sandbag dam that diverts the water to the wet basin in the adjacent trapezoidal channel was blown out during the December 31 storm. It has since been rebuilt and reinforced.

Vector Activities

No mosquito breeding was noted in standing water and Gambusia were still abundant during all inspection dates in December. On December 20, the duckweed was gone.

Issues / Solutions

None this period.

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operations and Maintenance

The seed that was hydroseeded onto the basin floor at the Manchester EDB in November has sprouted due to the accumulation of water that occurred during the December 10 and 31 storms. The seed on the sidewalls of the basin has not yet sprouted.

Vector Activities

The site was dry on all inspection dates in December. Rodent droppings were noted in bottom of overflow intake pipe, probably from a ground squirrel but droppings could not be accessed for positive identification.

Issues/Solutions

None

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

Monitoring/Sampling Activities

The "seasoning" of the media vaults #2 and #3 occurred on January 11. Each vault was filled 3 times with potable water from the Maintenance Station supply and allowed to completely drain each time.

Operations and Maintenance

No maintenance activities to note during this time period.

Vector Activities

On December 8, no mosquito breeding was noted in standing water at the site. However, adult chironomids and psychodids were noted in the chambers. Psychodid larvae were noted on December 14. On December 20 and 27, no mosquito breeding was noted in the standing water. No treatment of vectors was deemed necessary during December.

Issues / Solutions

Storm water during the December 31 event passed through the media vault #1 of the BMP. District 11 was notified that the BMP was wet.

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

Monitoring/Sampling Activities

No monitoring activities to note during this period.

Operations and Maintenance

No maintenance activities to note during this period.

Vector Activities

On December 8, staff noted psychodid larvae and adults in the first chamber. On December 14, 20 and 27, no mosquito breeding was noted in the standing water in the first basin.

Issues / Solutions

None this period.

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operations and Maintenance

The weep holes in the drainpipes were cleared of debris to allow the pre-sedimentation chamber to completely drain its standing water from the December 31 storm.

Vector Activities

On December 8 and 14, the site had small quantity of standing water in the first basin and the spreader trough of the second basin from KLI flow testing. However, no mosquito breeding was noted. On December 20, standing water was noted in both basins, but no mosquito breeding was found. On December 27, staff found standing water in the depressions in the spreader trough but found no mosquito breeding.

Issues / Solutions

None this period.

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operations and Maintenance

No maintenance activities to note during this time period.

Vector Activities

On December 8, water was introduced by KLI for flow testing earlier in the day. No mosquito breeding was noted in the standing water in the first basin. On December 14, standing water was noted covering 50% of the bottom of the first basin and in the trough in the second basin. No mosquito breeding was noted. On December 20 and 27, the first basin was dry. The second basin had minor amounts of standing water, but no mosquito breeding, in the center depression of the spreader trough.

Issues / Solutions

None this period.

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operations and Maintenance

No maintenance activities to note during this time period.

Vector Activities

The site was dry on all inspection dates during December. Gopher activity was noted on the BMP banks.

Issues / Solutions

None

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operation and Maintenance

The Bio-swale was weeded and cut to a nominal height of 9" per the MID on January 8.

Vector Activities

On December 8, a small amount of standing water was found at the outflow, but it was not breeding mosquitoes. Continued gopher activity at the site was noted. On December 14, 20 and 27, the site was dry.

Issues / Solutions

None this period.

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

Monitoring/Sampling Activities

No monitoring activities to note during this time period.

Operations and Maintenance

Strip:

The site was weeded on January 8.

Trench:

No maintenance activities to note during this time period.

Vector Activities

On December 8, KLI had put water into BMP for test purposes earlier in the day and standing water was present during vector inspections. However, no mosquito breeding was noted in standing water impounded by a plastic strip that has been recently added. On December 14, 20 and 27, the site was dry.

Issues / Solutions

None this period.

BMP OPERATIONS STATUS OF REMAINING SITES TO BE CONSTRUCTED

Location	BMP Type	Monitor Consultant	Site "On-line"[2]	Begin Instrument Install[1]	Complete Instrument Install	Operational[3] (start empirical and maintain)	Ready for Water Quality Monitoring [4]
DISTRICT 7							
I-210 East of Orcas	CDS	MW/Law	3/31/00	3/31/00	4/14/00	4/14/00	4/14/00
I-210 East of Filmore	CDS	MW/Law	3/31/00	3/31/00	4/14/00	4/14/00	4/14/00
Paxton Park & Ride	MF	BC	11/10/00	11/10/00	11/24/00	11/24/00	11/24/00
Metro MS	MCTT	BC	11/10/00	11/10/00	11/24/00	11/24/00	11/24/00

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

SUMMARY OF REQUIRED AND SUCCESSFULLY SAMPLED STORMS PER SITE

Location	BMP Type	Monitoring Consultant	Operational?	Operational Date	Total Storms Required	1998-1999 Successfully Sampled Storms [1]	1999-2000 Successfully Sampled Storms
District 7							
I-605/SR-91	IB	MW/Law	Yes	4/9/99	4		
I-210 East of Orcas	CDS	MW/Law		3/7/00[3]	8		
I-210 East of Filmore	CDS	MW/Law		3/7/00[3]	8		
I-5/I-605	EDB	BC	Yes	2/26/99	10	2	
I-605/SR-91	EDB	BC	Yes	2/22/99	10	3	
Paxton Park & Ride	MF	BC		7/14/00[3]	8		
Metro MS	MCTT	BC		7/7/00[3]	8		
Alameda MS	OWS	BC	Yes	5/17/99	8		
Eastern MS	MF	BC	Yes	2/15/99	8	1	
Foothill MS	MF	BC	Yes	3/8/99	8	2	
Termination Park & Ride	MF	BC	Yes	5/17/99	8		
Via Verde Park & Ride	MCTT	BC	Yes	5/17/99	8		
Lakewood Park & Ride	MCTT	BC	Yes	5/17/99	8		
Altadena	Bio Strip	MW/Law	Yes	10/1/99	8		
	Infiltration Trench	MW/Law	Yes	10/1/99	8		
Foothill MS	DII north- StreamGuard Insert	MW/Law	Yes	1/22/99	8	3	
	DII south- Fossil Filter Insert	MW/Law	Yes	1/22/99	8	3	
LasFlores MS	DII north-StreamGuard Insert	MW/Law	Yes	1/22/99	8	5[2]	
	DII south-Fossil Filter Insert	MW/Law	Yes	1/22/99	8	2	
Rosemead MS	DII north-Fossil Filter Insert	MW/Law	Yes	1/22/99	8	3[2]	
	DII south-StreamGuard Insert	MW/Law	Yes	1/22/99	8	3	
I-605/SR-91	Bio Strip	MW/Law	Yes	1/22/99	8		
	Bio Swale	MW/Law	Yes	10/1/99	8		
Cerritos MS	BioSwale	MW/Law	Yes	10/1/99	8		
I-5/I-605	BioSwale	MW/Law	Yes	10/1/99	8		
I-605/ Del Amo	BioSwale	MW/Law	Yes	10/1/99	8		
District 11							
I-5/SR-56	EDB	KLI	Yes	1/24/99	4	5	
I-15/SR-78	EDB	KLI	Yes	1/24/99	10	4	
I-5/La Costa (West)	IB	KLI	Yes	1/24/99	4		
I-5/La Costa (East)	WB	KLI	Yes	10/1/99	4		
I-5/Manchester (East)	EDB	KLI	Yes	10/1/99	4		
Kearney Mesa MS	StormFilter (Perlite/Zeolite)	KLI	Yes	10/1/99	8	3	
Escondido MS	MF	KLI	Yes	2/16/99	8	3	
La Costa Park & Ride	MF	KLI	Yes	2/16/99	4	3	
SR-78/I-5 Park & Ride	MF	KLI	Yes	2/26/99	8	2	
Melrose Ave/SR-78	Bio Swale	KLI	Yes	3/1/99	8		
I-5 Palomar Airport Road	Bio Swale	KLI	Yes	10/1/99	8		
Carlsbad MS	Bio Strip	KLI	Yes	10/1/99	4		
	Infiltration Trench	KLI	Yes	10/1/99	4		

(1)All DII data in question. A criteria for acceptance will be established
(2) Pending result of inlet analysis
(3) Subject to Schedule Update

OMM PLAN ACTIVITIES

Volume I

No activity this period.

Volume II

No activity this period.

Maintenance Indicator Document

Minor revisions to several BMPs are being made. A draft revised MID is forthcoming.

Database

The OMM Database is currently being updated with data through the month of December 1999. Updated reports will be posted on the website on third week of January 2000.

O&M Cost

Updated Maintenance & Operation Cost Accounting Summaries for 1998/99 and 1999/00 are attached to this Biweekly Report. OMM Costs are provided through the month of November 1999. The worksheets have been revised since the previous submittal to exclude non-stormwater inspection effort.

VECTOR ACTIVITIES

SUMMARY OF VECTOR ISSUES FROM 12/1/99 TO 1/14/00

SITE-SPECIFIC DETAILS ON VECTOR ACTIVITIES ARE PROVIDED IN THE OMM SECTION

DISTRICT 7

San Gabriel Valley Vector Control District

No sites were found breeding during this period.

No abatement was carried out during this period.

Greater Los Angeles County Vector Control District

The spreader ditch of the Biofiltration Strip at the Altadena MS (Site #73211a) was found breeding during this period. The site was abated with Altosid pellets on December 1st and 10th, 1999.

The MCTT at the Lakewood P&R (Site #74208) was found breeding during this period. The site was abated with Altosid pellets on December 17, 1999 and January 11, 2000.

Los Angeles County West Vector Control District

The LACWVCD applied Altosid pellets to the monitoring vaults of the DIIs at the Las Flores MS (Site #73217) on December 7, 1999. There was no vector breeding detected during monitoring. However, there was standing water present in the monitoring vaults/flumes. This water resulted from the consultants normal pre-storm preparations which took place before the LACWVCDs initial monitoring visit on December 7. The district technician treated the monitoring vaults under the mistaken impression that "preventative" pesticide treatments were preferred. The LACWVCD has been notified that abatement should only take place after vector breeding has been verified.

DISTRICT 11

County of San Diego Vector Surveillance and Control

The Extended Detention Basin at I-5/SR-56 (Site #111101) was found breeding during this period. The site was abated with Altosid pellets on December 27, 1999.

DEPARTMENT OF HEALTH SERVICES

The Department of Health Services (DHS) continues soliciting vector production information from other states and municipalities with structural BMPs. DHS has mailed surveys to over 300 mosquito abatement and public health offices across the country.

DHS continues its vector production study and will be collecting data on a bi-weekly basis through the winter months.

DHS continues to oversee all aspects of vector monitoring and data collection by the local vector control districts and incorporate this information into its database.

DHS is currently searching for engineering expertise within its organization to assist in undertaking a general design review and formulating design recommendations with regard to vector production problems associated with the BMPs.

ADULT MONITORING

All adult monitoring data is currently being statistically analyzed by UC Riverside. Once this analysis is complete, UC Riverside will meet with Caltrans, consultants, DHS and VCD representatives to determine whether the adult monitoring program should be continued. This meeting is tentatively scheduled for January 27th or 28th, 2000.

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	None noted during routine inspection.
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	None noted during routine inspection.
Termination Park & Ride	MF	BC	GLACVCD	None noted during routine inspection.
Via Verde Park & Ride	MCTT	BC	SGVVCD	None noted during routine inspection.
Lakewood Park & Ride	MCTT	BC	GLACVCD	Breeding at the MCTT noted during this period; site abated with Altosid pellets on December 17, 1999 and January 11, 1999.
Altadena	Bio Strip/IT	MW/Law	GLACVCD	Breeding in the spreader ditch noted during this period; site abated with Altosid pellets on December 1 and 10, 1999.
Foothill	DII	MW/Law	SGVVCD	None noted during routine inspection.
LasFlores	DII	MW/Law	LA Co West	December 7, 1999: Altosid pellets applied to the monitoring vaults of the DIIs. No vector breeding was detected, but standing water was present in the monitoring vaults/flumes due to the consultant's normal pre-storm preparations. The LACWVCD has been notified that abatement should only take place after vector breeding has been verified.
Rosemead	DII	MW/Law	SGVVCD	None noted during routine inspection.
I-605/SR-91	Bio Strip/Swale	MW/Law	GLACVCD	None noted during routine inspection.
Cerritos MS	BioSwale	MW/Law	GLACVCD	None noted during routine inspection.
I-5/I-605	BioSwale	MW/Law	GLACVCD	None noted during routine inspection.
I-605/ Del Amo	BioSwale	MW/Law	GLACVCD	None noted during routine inspection.

Location	BMP Type	Monitor Consultant	Vector Control District	Activities
DISTRICT 11				
I-5/SR-56	EDB	KLI	SD Co VC	December 27, 1999: Second basin breeding mosquitoes; site abated with Altosid pellets.
I-15/SR-78	EDB	KLI	SD Co VC	None noted during routine inspection.
I-5/La Costa (West)	IB	KLI	SD Co VC	None noted during routine inspection.
I-5/La Costa (East)	WB	KLI	SD Co VC	None noted during routine inspection.
I-5/Manchester (East)	EDB	KLI	SD Co VC	None noted during routine inspection.
Kearney Mesa MS	StormFilter (Perlite/Zeolite)	KLI	SD Co VC	None noted during routine inspection.
Escondido MS	MF	KLI	SD Co VC	None noted during routine inspection.
La Costa Park & Ride	MF	KLI	SD Co VC	None noted during routine inspection.
SR-78/I-5 Park & Ride	MF	KLI	SD Co VC	None noted during routine inspection.
Melrose Ave/SR-78	Bio Swale	KLI	SD Co VC	None noted during routine inspection.
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 conducted the January visit on the 6th and 7th. Surveys for salt marsh skipper were negative. A visual-only survey for light-footed clapper rail was negative.

Gopher and ground squirrel activity remains to be more prevalent in District 7; however, the District 11 - 5/Palomar Airport Road, 78/Melrose, and 15/78 BMPs are still of concern. Trapping for gophers should be performed at the 605/91 strip, Cerritos Maintenance Station swale,5/605 bswale, 605/91 swale, 15/78 basin, 78/melrose swale, and 5 Palomar Airport Road swale. Ground squirrel burrows should be collapsed and increasing populations at the 5/Palomar Airport Road swale should be poisoned. Currently, there are no sensitive species issues at any of the sites.

A letter from the USFWS provided further direction in the type of surveys we should conduct for light-footed clapper rail (visual as opposed to tape playback)and requested coordination with regard to maintenance at the La Costa wet basin.

WEATHER

Precipitation data for Los Angeles and San Diego were obtained from NOAA (see Tables, next page).

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.

December 1999

Los Angeles – Downtown/USC				**San Diego**			
Day	**Precip. (Inches)**	**Day**	**Precip. (Inches)**	**Day**	**Precip. (Inches)**	**Day**	**Precip. (Inches)**
1	0.00	16	0.00	1	0.00	16	0.00
2	0.00	17	0.00	2	0.00	17	0.00
3	0.00	18	0.00	3	0.00	18	0.00
4	0.00	19	0.00	4	0.00	19	0.00
5	0.00	20	0.00	5	0.00	20	0.00
6	0.00	21	0.00	6	0.00	21	0.00
7	0.00	22	0.00	7	0.00	22	0.00
8	0.00	23	0.00	8	0.00	23	0.00
9	0.00	24	0.00	9	0.00	24	0.00
10	0.03	25	0.00	10	0.03	25	0.00
11	0.00	26	0.00	11	0.00	26	0.00
12	0.00	27	0.00	12	0.00	27	0.00
13	0.00	28	0.00	13	0.00	28	0.00
14	0.00	29	0.00	14	0.00	29	0.00
15	0.00	30	0.00	15	0.00	30	0.00
		31	0.00			31	0.00

January 2000

Los Angeles – Downtown/USC				San Diego			
Day	Precip. (Inches)	Day	Precip. (Inches)	Day	Precip. (Inches)	Day	Precip. (Inches)
1	0.12	16		1	0.28	16	
2	0.00	17		2	0.04	17	
3	0.00	18		3	0.00	18	
4	0.00	19		4	0.00	19	
5	0.00	20		5	0.00	20	
6	0.00	21		6	0.00	21	
7	0.00	22		7	0.00	22	
8	0.00	23		8	0.00	23	
9	0.00	24		9	0.00	24	
10	0.00	25		10	0.00	25	
11	0.00	26		11	0.00	26	
12	0.00	27		12	0.00	27	
13	0.00	28		13	0.00	28	
14	0.00	29		14	0.00	29	
15		30		15		30	
		31				31	

BMP RETROFIT PILOT PROGRAM
PS&E LOCATION 3
I-5/LA COSTA AVE INFILTRATION BASIN

TABLE 1
WATER SURFACE ELEVATION SUMMARY SHEET

Date	Time	Field Reading		Pond Depth*	Groundwater Elev (FT)*	Delta	By
		Headwall (FT)	Monitoring Well (FT)	(FT)		(FT)	
12/12/1997	---	---	BORING WW-1	---	2.22	4.67	GDC
12/13/1997	---	---	BORING WW-2	---	1.69	5.20	GDC
12/23/1997	---	---	---	---	No groundwater encountered.	---	GDC
2/10/1998	---	---	3.00	---	7.92	-1.03	GDC
4/21/1998	---	---	5.85	---	7.34	-0.45	GDC
6/30/1998	10:00am	---	6.90	---	6.29	0.60	KLI
7/31/1998	4:15pm	---	6.95	---	6.24	0.65	KLI
8/31/1998	11:57am	---	7.17	---	6.02	0.87	KLI
9/28/1998	---	---	---	---	4.38	---	RBF
11/2/1998	4:04pm	---	7.60	---	5.59	1.30	KLI
11/11/1998	4:55pm	---	7.60	---	5.59	1.30	KLI
12/2/1998	---	---	7.61	---	5.58	1.31	KLI
12/17/1998	---	---	---	---	0.00	---	CT RE
1/20/1999	7:05am	---	7.14	---	6.05	0.84	GDC
2/24/1999	10:15am	2.08	---	---	---	---	GC
3/2/1999	2:00pm	1.88	---	---	---	---	AW
3/9/1999	11:00am	1.73	---	---	---	---	GC
3/12/1999	1:00pm	1.86	9.00	1.45	4.19	2.70	AW
3/16/1999	4:55pm	1.98	6.90	1.57	6.29	0.60	AW
3/23/1999	10:00am	1.76	7.08	1.35	6.11	0.78	AW
3/26/1999	10:20am	2.48	9.00	2.07	4.19	2.70	AW
3/30/1999	9:05am	2.28	8.85	1.87	4.34	2.55	AW
4/2/1999	8:15am	2.89	8.35	2.48	4.84	2.05	AW
4/6/1999	2:00pm	2.69	7.00	2.28	6.19	0.70	AW
4/9/1999	10:00am	2.67	7.00	2.26	6.19	0.70	AW
4/13/1999	10:00am	2.89	6.91	2.48	6.28	0.61	AW
4/20/1999	9:50am	2.52	9.30	2.11	3.89	3.00	AW
4/27/1999	2:25pm	2.50	7.10	2.09	6.09	0.80	AW
5/5/1999	1:10pm	2.06	7.00	1.65	6.19	0.70	AW
5/18/1999	5:55pm	1.66	7.15	1.25	6.04	0.85	AW

BMP RETROFIT PILOT PROGRAM
PS&E LOCATION 3
I-5/LA COSTA AVE INFILTRATION BASIN

TABLE 1
WATER SURFACE ELEVATION SUMMARY SHEET

Date	Time	Field Reading		Pond Depth*	Groundwater Elev (FT)*	Delta	By
		Headwall (FT)	Monitoring Well (FT)	(FT)		(FT)	
5/25/1999	5:40pm	1.50	7.10	1.09	6.09	0.80	AW
6/8/1999	5:40pm	1.30	7.25	0.89	5.94	0.95	AW
6/15/1999	1:45pm	1.10	7.20	0.69	5.99	0.90	AW
6/28/1999	1:50pm	0.82	7.30	0.41	5.89	1.00	AW
7/7/1999	12:45pm	0.62	7.50	0.21	5.69	1.20	AW
7/19/1999	10:30am	0.43	7.40	0.02	5.79	1.10	AW
8/3/1999	11:45am	0.22	7.50	-0.19	5.69	1.20	AW
8/17/1999	10:50am	0.12	7.55	-0.29	5.64	1.25	AW
8/31/1999	9:50am	0.12	7.55	-0.29	5.64	1.25	AW
9/15/1999	11:45am	-0.26	7.60	-0.67	5.59	1.30	AW
9/28/1999	11:55am	0.08	7.60	-0.33	5.59	1.30	AW
10/12/1999	10:05am	0.08	7.65	-0.33	5.54	1.35	AW
10/26/1999	3:00pm	0.08	7.70	-0.33	5.49	1.40	AW
11/9/1999	2:35pm	0.08	7.65	-0.33	5.54	1.35	AW
11/23/1999	4:05pm	No standing water.	7.60	No standing water.	5.59	1.30	FP
12/8/1999	10:15am	No standing water.	7.75	No standing water.	5.44	1.45	AW
12/21/1999	3:30pm	No standing water.	7.75	No standing water.	5.44	1.45	AW
1/4/2000	12:20pm	No standing water.	7.65	No standing water.	5.54	1.35	AW

BMP RETROFIT PILOT PROGRAM
PS&E LOCATION 3
I-5/LA COSTA AVE INFILTRATION BASIN

TABLE 1
WATER SURFACE ELEVATION SUMMARY SHEET

Date	Time	Field Reading		Pond Depth*	Groundwater Elev (FT)*	Delta	By
		Headwall (FT)	Monitoring Well (FT)	(FT)		(FT)	
1/18/2000	8:50am	No standing water.	7.85	No standing water.	5.34	1.55	AW
2/1/2000	10:15am	Small Pools.	7.45	No standing water.	5.74	1.15	CW
2/15/2000	4:45pm	1.60	7.50	1.19	5.69	1.20	MZ
2/29/2000	12:30pm	2.90	7.25	2.49	5.94	0.95	MZ
3/15/2000	2:30pm	2.90	7.18	2.49	6.01	0.88	CW
3/28/2000	11:15am	1.51	7.35	1.10	5.84	1.05	CW

*
Temporary Well: Well Cover elevation 10.99 ft (3.35m). Well rim elevation 10.92 ft.

WSE at monitoring well = Well cover elevation (FT) - Monitoring Well Reading (FT)

*
Permanent Well: Monitoring well notch at elevation 13.186 ft (4.02m)

WSE at monitoring well = Notch elevation (FT) - Monitoring Well Reading (FT)
Monitoring Well reading = Distance to groundwater surface

*
Pond Depth = Headwall Field Reading (FT) - Pipe Invert Location on the Headwall Gauge (FT)

Pipe Invert Location on the Headwall Gauge (FT) = 0.41 ft
Note: Negative Pond Depths indicate ponded water is below invert.
This is due to scour and settlement of the invert material.

Delta = Basin Invert - Groundwater elevation
Basin Invert = 6.89 FT (2.1m)

AW- RBF
FP- RBF
GC- RBF
GDC-Group Delta Consultants (Formerly LKR- The LKR Group, Consulting Geotechnical Engineers)
KLI- Kinnetic Laboratories, Inc.
CT RE- Caltrans Resident Engineer

Comment
Existing surface elevation: 10.22 ft (3.117m)
Existing surface elevation: 10.69 ft (3.258m)
SD-7 Initial investigation monitoring well installed. (Bottom at 5 ft bgs.)
Reading after a series of rain storms. Adjacent ground saturated and surface ponding observed.
SDMW-1 Permanent monitoring well installed. (Bottom at 20 ft bgs.)
Exploratory hole excavated by contractor. Ground water elevation 0.54ft below original design invert, 4.92ft (1.5m)
Exploratory holes excavated 10.2 feet below invert elevation. No groundwater observed.
No signs of mosquitoes. Surface has 2"-3" dia algae.
No vector issues.
No vector issues - no algae present from 2/24/99.
No vector issues, < 0.1in rain on 3/11/99, no algae.
No vector issues, < 0.2in rain on 3/15/99, 2mm dia algae scattered on water surface. Dried high-algae-line observed on headwall at 2.84ft mark.
No vector issues, no algae.
No vector issues, < 0.5in rain on 3/25/99, no algae.
No vector issues, 6-sf algae at NW corner. Vector Control District treated basin with Altosid briquettes and stocked basin with mosquito fish.
No vector issues, <0.5in rain on 4/1/99, no algae.
No vector issues, no algae. No vector issues, 1mm dia algae, 8sf at NW corner.
No vector issues, <0.8in rain on 4/11/99, <1mm dia algae approx 8sf.
No vector issues, alga mats at NW corner.
No vector issues, 6-1-2ft dia alga mats.
No vector issues, few scattered 1-5mm dia algae.
Minor vector issues, refer to OMM Vector Issues, collection of small floating algae mats varying 4-8" wide and approx. 10ft long.

Comment
No vector issues, 6-12" wide alga mat at perimeter of the basin.
No vector issues, alga mats at perimeter and interior of the basin. <0.14" Rain rcvd June 1,2,3
No vector issues, alga mats at perimeter and interior of the basin.
No vector issues, alga mats at perimeter and scattered 2/3 length within basin interior.
No vector issues, alga mats 2/3 length of the basin at perimeter and scattered 10inch mats within interior.
No vector issues, alga mats cover 60% of basin.
No vector issues, alga mats cover 90% of basin.
Basin is empty. Residual water is ponded in the scour hole at the outlet (approximately 2ft x 2ft). No vector issues.
Basin is empty. Surface of the southern portion of the basin is dry. Residual water is ponded in the scour hole at the outlet (approximately 2ft x 2ft). No vector issues.
Basin is empty. Surface of the southern portion of the basin is dry. A 1sft, 1in deep puddle of water is located at the scour hole adjacent to the outlet. No vector issues.
Basin is empty. Surface of the southern portion of the basin is dry. Residual water is ponded in the scour hole at the outlet (approximately 2ft x 2ft). No vector issues.
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Basin is empty. Surface of the basin is dry. The invert of the scour hole at the outlet is saturated. No ponding was observed. No vector issues.
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Comment
Basin is empty. Surface of the basin is damp. The invert of the scour hole at the outlet is saturated. No ponding was observed. No vector issues.
Ponding was observed in several small pools in center of basin. Strong H2S smell from well.
Strong H2S smell from well. Basin has a large pool of water at 1.6ft. No vectors present.
Groundwater was sampled for water quality. Strong H2S smell from well. Basin at capacity with a 2.9 ft stage. No vectors present.
Strong H2S smell from well. Basin at capacity with a 2.9 ft stage. No vectors present.
Strong H2S smell from well. Basin stage has dropped to 1.51 feet. No vectors present.

BMP Retrofit Pilot Study, Stormwater Lab Data - District 11 (Kinnetic Laboratories Sites)

PRELIMINARY DATA

Submitted 3/14/00

Sample Date	BMP Location	Site ID	BMP Type	Sampling Location	% Storm Capture	pH	Specific Conductance (umhos/cm)	Hardness (mg/L)	TSS (mg/L)	Total (µg/L) Cu	Total (µg/L) Pb	Total (µg/L) Zn	Dissolved (µg/L) Cu	Dissolved (µg/L) Pb	Dissolved (µg/L) Zn	Nitrate-Nitrogen (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (MPN/100 ml)	TPH Diesel (µg/L)	TPH Gasoline (µg/L)	TPH Oil (µg/L)
Storm Water Matrix																						
January 25, 1999	SR56/I5-IN	111101	Extended Detention Basin	Influent	94	7.9	431	150	96	25	35	100	15	2.7	88	1.0	4.3	0.28	1700	380	<50	2500
January 25, 1999	SR56/I5-EFF	111101	Extended Detention Basin	Effluent	95	7.7	142	51	32	13	13	35	7.2	1.1	30	0.46	3.1	0.23	200	110	<50	1200
January 25, 1999	SR78/I15-IN	111102	Extended Detention Basin	Influent	100	8.2	75	55	120	32	30	150	11	1.5	42	0.78	2.6	0.25	700	440	<50	4300
January 25, 1999	SR78/I15-EFF	111102	Extended Detention Basin	Effluent	99	7.5	208	89	28	20	15	77	12	<1.0	37	1.9	4.3	0.82	400	310	<50	3600
February 5, 1999	SR56/I5-IN	111101	Extended Detention Basin	Influent	100	8.1	94	42	86	20	29	120	6.9	<1.0	110	0.3	1.2	0.2	200	4000	<50	---
February 5, 1999	SR56/I5-EFF	111101	Extended Detention Basin	Effluent	94	7.6	180	45	42	17	24	76	5.8	<1.0	17	0.38	1.4	0.21	400	2300	<50	---
February 5, 1999	SR78/I15-IN	111102	Extended Detention Basin	Influent	84	8.1	83	36	98	31	25	180	13	2.8	130	0.8	2.0	0.29	400	3900	<50	---
February 5, 1999	SR78/I15-EFF	111102	Extended Detention Basin	Effluent	95	7.7	179	58	32	17	13	98	9.3	<1.0	76	0.2	2.0	0.61	2300	2400	<50	---
March 25, 1999	SR56/I5-IN	111101	Extended Detention Basin	Influent	79	7.9	311	76	66	20	17	81	9.1	<1.0	24	0.53	1.1	0.26	400	1800	<500	---
March 25, 1999	SR56/I5-EFF	111101	Extended Detention Basin	Effluent	99.6	7.1	220	37	42	17	10	47	8.7	<1.0	25	0.34	1.1	0.19	400	1700	<500	---
March 25, 1999	SR78/I15-IN	111102	Extended Detention Basin	Influent	100	7.9	166	55	120	47	39	280	17	1.9	96	2.36	3.1	0.39	1100	4200	<500	---
March 25, 1999	SR78/I15-EFF	111102	Extended Detention Basin	Effluent	100	7.9	196	82	36	34	21	150	18	<1.0	81	1.72	2.5	0.3	2700	2800	<500	---
March 25, 1999	KearnyMS-IN	112201	Compost Filter	Influent	100	7.3	70	29	130	59	40	340	25	2.7	170	0.41	1.8	0.36	200	9300	<500	---
March 25, 1999	KearnyMS-EFF	112201	Compost Filter	Effluent	96	7.2	74	22	150	53	34	270	24	3.7	130	0.44	1.7	0.34	200	2600	<500	---
March 25, 1999	EsconMS-IN	112202	Sand Filter	Influent	100	7.1	99	29	86	33	25	500	17	2.2	200	0.77	2.8	0.4	800	3200	<500	---
March 25, 1999	EsconMS-EFF	112202	Sand Filter	Effluent	100	7.7	153	51	120	23	9.4	58	10	<1.0	38	0.95	1.9	0.49	200	1600	<500	---
March 25, 1999	LaCostaP&R-IN	112203	Sand Filter	Influent	100	6.9	83	43	42	14	8.6	110	9.7	1.1	110	0.66	2.6	0.33	<200	1300	<50	---
March 25, 1999	LaCostaP&R-EFF	112203	Sand Filter	Effluent	100	7.7	110	53	6.0	9.0	1.7	8.3	8.6	<1.0	5.2	0.69	1.8	0.28	200	2100	<50	---
March 25, 1999	SR78/I5P&R-IN	112204	Sand Filter	Influent	100	7.4	70	41	78	16	4.6	130	8.2	<1.0	65	0.29	1.8	0.41	400	1200	<500	---
March 25, 1999	SR78/I5P&R-EFF	112204	Sand Filter	Effluent	100	7.3	126	43	<1	8.3	<1	9.8	7.4	<1.0	7.7	0.97	1.3	0.24	<200	800	<500	---
April 7, 1999	SR56/I5-IN	111101	Extended Detention Basin	Influent	10	9.6	163	46	110	32	39	130	7.4	<1.0	32	0.43	1.4	0.3	2300	1200	<50	---
April 7, 1999	SR56/I5-EFF	111101	Extended Detention Basin	Effluent	100	8.0	212	48	48	18	16	69	8.9	<1.0	47	0.31	1.1	0.27	400	800	<50	---
April 7, 1999	SR78/I15-IN	111102	Extended Detention Basin	Influent	100	7.8	100	34	270	51	62	350	5.7	<1.0	24	0.59	2.1	0.65	1700	1000	<50	---
April 7, 1999	SR78/I15-EFF	111102	Extended Detention Basin	Effluent	100	7.7	170	52	38	15	13	81	8.2	<1.0	67	0.55	1.3	0.3	200	500	<50	---
April 7, 1999	KearnyMS-IN	112201	Compost Filter	Influent	100	7.4	185	46	60	51	19	230	32	2.1	150	0.42	1.9	0.18	<200	5000	<50	---
April 7, 1999	KearnyMS-EFF	112201	Compost Filter	Effluent	100	7.3	186	40	64	35	16	190	22	2.3	140	0.4	1.8	0.13	<200	700	<50	---
April 7, 1999	EsconMS-IN	112202	Sand Filter	Influent	100	6.9	62	15	220	21	28	460	5.7	<1.0	170	0.26	1.7	0.32	1300	1000	<50	---
April 7, 1999	EsconMS-EFF	112202	Sand Filter	Effluent	100	7.9	152	42	250	19	10	52	4.9	<1.0	51	0.34	1.1	0.58	200	400	<50	---
April 7, 1999	LaCostaP&R-IN	112203	Sand Filter	Influent	100	6.2	88	14	86	20	25	200	5.7	1.6	50	0.32	1.2	0.3	---	---	---	---
April 7, 1999	LaCostaP&R-EFF	112203	Sand Filter	Effluent	100	8.1	240	68	2.0	4.7	<1.0	2.6	4.0	<1.0	<2.0	0.69	1.0	0.24	---	---	---	---
April 11, 1999	SR56/I5-IN	111101	Extended Detention Basin	Influent	93	8.9	100	36	78	20	38	110	3.7	<1.0	30	0.25	0.9	0.44	---	---	---	---
April 11, 1999	SR56/I5-EFF	111101	Extended Detention Basin	Effluent	100	7.8	133	36	20	6.8	8.7	23	4.7	<1.0	16	0.21	0.8	0.19	---	---	---	---
April 11, 1999	KearnyMS-IN	112201	Compost Filter	Influent	92	7.3	68	42	34	67	26	180	20	<1.0	95	0.28	1.2	0.21	<200	7.2	<50	---
April 11, 1999	KearnyMS-EFF	112201	Compost Filter	Effluent	89	7.3	68	19	42	29	11	84	19	<1.0	82	0.26	0.8	0.44	200	2.2	<50	---
April 11, 1999	EsconMS-IN	112202	Sand Filter	Influent	87	7.0	30	10	46	18	17	250	4.1	<1.0	140	<0.20	1.2	0.21	<200	1.8	<50	---
April 11, 1999	EsconMS-EFF	112202	Sand Filter	Effluent	93	7.8	55	40	76	31	14	51	3.2	<1.0	10	<0.20	0.8	0.21	<200	1.9	<50	---
April 11, 1999	LaCostaP&R-IN	112203	Sand Filter	Influent	100	6.8	50	9.3	28	11	8	54	3.5	<1.0	45	0.28	1.5	0.17	<200	4.7	<50	---
April 11, 1999	LaCostaP&R-EFF	112203	Sand Filter	Effluent	96	7.4	108	24	6	4.1	1.3	6.4	4.1	<1.0	12	<0.20	0.9	0.17	<200	1.0	<50	---
April 11, 1999	SR78/I5P&R-IN	112204	Sand Filter	Influent	100	7.3	43	17	40	11	4.8	77	4	<1.0	31	<0.20	1.2	0.20	<200	5.1	<50	---
April 11, 1999	SR78/I5P&R-EFF	112204	Sand Filter	Effluent	100	7.5	69	18	18	18	<1.0	15	3	<1.0	7.3	0.27	1.1	0.21	<200	3.6	<50	---
January 25, 2000	SR56/I-5-IN	111101	Extended Detention Basin	Influent	100	7.3	320	69	100	46	15	120	20	<1	21	NA[a]	4.1	0.67	3000	5700	8100	<200
January 25, 2000	SR56/I-5-EFF	111101	Extended Detention Basin	Effluent	100	7.5	500	120	34	32	5.5	42	26	1.5	23	NA[a]	2.9	0.24	NA	NA	NA	NA
January 25, 2000	SR78/I-15-IN	111102	Extended Detention Basin	Influent	100	7.7	260	83	82	63	41	270	29	<1	38	4.7	4.6	0.66	400	7100	9400	<200
January 25, 2000	SR78/I-15-EFF	111102	Extended Detention Basin	Effluent	100	7.7	300	110	48	50	29	200	27	1.4	105	4.2	8.9	0.5	800	6900	9300	<200
January 25, 2000	LaCostaWB-IN	111105	Wet Basin	Influent	100	7.5	310	98	170	100	170	360	40	39	120	5.7	8.1	0.64	700	12000	16000	<200