The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA 91304-1148

Via E-mail to Cassandra.Owens@waterboards.ca.gov

October 31, 2013
In reply refer to SHEA-114220

Ms. Cassandra Owens
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Dear Ms. Owens:

Subject: 2013-2014 Rainy Season Sampling and Analysis Plan (SAP), Best Management Practice (BMP) Monitoring and Performance Monitoring Programs for the Outfalls 008 and 009 Watersheds, The Boeing Company, Santa Susana Field Laboratory, Canoga Park, CA (Order No. R4-2010-0090, NPDES No. CA0001309, CI No. 6027)

The Boeing Company (Boeing) is providing the attached BMP Monitoring and Performance Monitoring Sampling and Analysis Plan for the Outfalls 008 and 009 Watersheds for the 2013-2014 rainy season, as referenced in the October 14, 2010 BMP Plan. This document has been developed with input and in accordance with recommendations from the Santa Susana Stormwater Expert Panel and prepared for Boeing and the National Aeronautics and Space Administration (NASA). The attached plan will be posted on the Boeing External website at the following address: http://www.boeing.com/aboutus/environment/santa_susana/isra.html.

If you have any questions or require anything further, please contact Debbie Taege at (818) 466-8849.

Sincerely,

Paul Costa, Manager
Environmental Operations and Compliance

Enclosure: 2013-2014 Rainy Season Sampling and Analysis Plan (SAP) Updates, Best Management Practice (BMP) Monitoring and Performance Monitoring Programs

Cc: Mr. Peter Raftery, RWQCB
Mr. Mazhar Ali, RWQCB
Mr. Buck King, DTSC
Mr. Allen Elliott, NASA
Mr. Peter Zorba, NASA
Dr. Michael Stenstrom, Surface Water Expert Panel
Mr. Jon Jones, Surface Water Expert Panel
Dr. Mike Josselyn, Surface Water Expert Panel
Mr. Bob Gearheart, Surface Water Expert Panel
Dr. Robert Pitt, Surface Water Expert Panel
Mr. Randy Dean, CH2M HILL
Mr. Brandon Steets, Geosyntec
Ms. Bronwyn Kelly, MWH
Mr. Alex Fischl, MWH

MWH

BUILDING A BETTER WORLD

October 25, 2013

Ms. Deborah Taege
The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA 91304

Mr. Allen Elliott
National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Mail Code: AS10
Marshall Space Flight Center, AL 35812

Subject: 2013/2014 Rainy Season Sampling and Analysis Plan (SAP) Updates, Best Management Practice (BMP) Monitoring and ISRA Performance Monitoring Programs

Dear Ms. Taege and Mr. Elliott:

This letter presents the sampling and analysis plan (SAP) updates to potential and treatment Best Management Practice (BMP) monitoring and performance monitoring programs for the 2013/2014 rainy season, and serves as an addendum to the 2012-2013 rainy season SAP (MWH, 2012). Potential BMP monitoring is conducted at locations receiving runoff from potential source areas and other infrastructure (e.g., roads, buildings, parking areas) to assess the potential for contribution of constituents of concern (COCs) from the potential source areas to stormwater runoff and to identify locations for new BMPs. Treatment BMP monitoring is conducted at structural BMPs (e.g. B-1 Media Filter, Lower Parking Lot BMP) to assess the effectiveness of the BMPs at promoting sediment settling, removing COCs, and increasing the probability of complying with NPDES permit limits. Performance monitoring is conducted up- and downstream of completed interim source removal action (ISRA) areas to assess the contribution of COCs to stormwater runoff following completion of remedial activities.

The updates to the 2012/2013 rainy season SAP are made to account for completed ISRA areas, completed and planned BMPs, field observations, and an evaluation of surface water sampling data collected to date. The updates involve changes to the potential and treatment BMP monitoring locations and performance monitoring locations, and are described below. In addition, attached to this letter are 2013/2014 rainy season versions of the SAP tables and figures. The changes described in this letter were developed with input from and in accordance with the recommendations from the Santa Susana Site Surface Water Expert Panel (Expert Panel) and Geosyntec Consultants (Geosyntec), and were initially presented in the in the 2012/2013 Rainy Season Annual Report (MWH *et al.*, 2013).

BMP Monitoring Location Updates

Outfall 008

- No changes.

Outfall 009

- At CM-9, monitoring location A1BMP0003 will be added to monitor CM-9 downstream and samples will be collected from the CM underdrain (Figure 4). This location was previously monitored by performance monitoring location A1SW0009, which is being discontinued (see Performance Monitoring Locations Update section).

- Within the LOX area, monitoring location LXBMP0009 will be added as an alternate location for LXBMP0008 to monitor downstream of the BMPs installed (Figure 5). Samples at this location will be collected at the influent point of the slope drain east of the one monitored by LXBMP0008, and a sample will be collected at LXBMP009 only if flow is not observed at LXBMP0008.

- At the corner of Helipad Road and Area 2 Road, monitoring locations EVBMP0004, EVBMP005, and EVBMP0006, as well as APBMP0002 in the Ash Pile area, will be discontinued as a result of installation of the ELV BMP (Figure 7). The performance of the ELV BMP will be monitored by two new monitoring locations EVBMP0007 (upstream) and EVBMP0008 (downstream); both locations will be monitored at sample ports along the conveyance pipeline entering and exiting the ELV BMP tank array. During storm events that exceed the ELV BMP design storm, runoff will bypass the ELV BMP via an overflow feature within the basin and enter the culvert inlet at the corner of Helipad Road and Area 2 Road. Monitoring location EVBMP0001 will be re-instated to monitor this runoff, however a sample will be collected only if the ELV BMP influent (EVBMP0007) is not being sampled that day as runoff at both locations is basically equivalent (i.e., sampling at EVBMP0001 will be performed at least one day after collection of the ELV BMP influent sample during rain events that exceed the design storm).

ISRA Performance Monitoring Location Updates

Outfall 009

- At CM-9, downstream monitoring location A1SW0009 will be discontinued because monitoring of CM has been reassigned to the BMP Monitoring program (Figure 4; see BMP Monitoring Location Updates section).

- Within the LOX area, monitoring locations LXSW0004, LXSW0005, LXSW0006, LXSW0007, LXSW0008, LXSW0009, and LXSW0010 will be added to monitor surface flow up- and downstream of ISRA areas LOX-1B-1, LOX-1B-2, and LOX-1B-3 (Figure 5). LXSW0007, LXSW0008, and LXSW0009 will be co-located with BMP monitoring locations LXBMP0007, LXBMP0008, and LXBMP0009, respectively, and LXSW0010 will be co-located with LXBMP0006. LXSW0009 will be an alternate location to LXSW0008, and sampled only if flow is not observed at LXSW0008.

- Within the Ash Pile area, monitoring will be discontinued at APSW0013 because the monitoring location is downstream of the ELV BMP discharge pipe (Figure 7). Monitoring location APSW0014 will be added upstream of the ELV BMP discharge pipe to monitor surface flow downstream of Ash Pile ISRA areas.

- Within the ELV area, monitoring locations EVSW0001 and EVSW0002 will be added to monitor surface flow up- and downstream of ISRA area ELV-1C, and EVSW0003 and EVSW0004 will be added to monitor surface flow up- and downstream of ISRA area ELV-1D (Figure 7). Monitoring will begin once the ISRA areas have been restored and BMPs installed (tentatively scheduled for late 2013).

Sincerely,
MWH

Alex Fischl, PMP
Project Manager

Bronwyn Kelly, PG 8347
Surface Water Program Director

Attachments

Table 1, Potential and Treatment BMP Monitoring Summary
Table 2, Performance Monitoring Summary

Figure 1, Outfalls 008 and 009 BMP and Performance Monitoring Locations
Figure 2, Outfall 008 BMP and Performance Monitoring Locations
Figure 3, Outfall 009 BMP and Performance Monitoring Locations, B-1 and Lower Parking Lot Areas
Figure 4, Outfall 009 BMP and Performance Monitoring Locations, AILF and IEL Areas
Figure 5, Outfall 009 BMP and Performance Monitoring Locations, LOX Area
Figure 6, Outfall 009 BMP and Performance Monitoring Locations, A2LF and ELV Areas
Figure 7, Outfall 009 BMP and Performance Monitoring Locations, AP/STP Area

References

MWH, 2012. 2012/2013 Rainy Season Sampling and Analysis Plan (SAP) Updates, Potential Best Management Practice (BMP) Monitoring and Performance Monitoring Programs. December 5.

MWH, Santa Susana Field Laboratory Surface Water Expert Panel, and Geosyntec Consultants, 2013. ISRA Performance Monitoring and BMP Monitoring for Outfalls 008 and 009 Watersheds, 2012/2013 Rainy Season, Santa Susana Field Laboratory, Ventura County, California. August 30.

Table 1
BMP Monitoring Inspection Locations and Analytical Plan
2013/2014 Rainy Season
Page 1 of 2

Object ID	Location	Purpose	Areas Monitored	Notes	Metals (Total Recoverable) (Method 200.7/200.8)	Metals (Total Dissolved) (Method 200.7/200.8)	Cd, Cu, Pb, Hg (Total Dissolved) (Method 200.7/200.8)	Cd, Cu, Pb, Hg (Total Recoverable) (Method 200.7/200.8)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540)	Particle Size Distribution (Method ASTM D422)	Turbidity (Method 180.1)
Outfall 008 Watershed												
HZBMP0001	Happy Valley	Potential BMP Location	HVS	HVS tributary drainage	X	X			X	X	X	X
HZBMP0003	Happy Valley	Potential BMP Location	CYN, DRG	CYN/DRG tributary drainage	X	X			X	X	X	X
Outfall 009 Watershed												
A1BMP0002	AILF	US South, Treatment BMP Performance Monitoring	CM-9, AILF	AILF tributary drainage			X	X	X	X	X	
A1BMP0003	AILF	DS, Treatment BMP Performance Monitoring	CM-9, AILF, IEL, Area II Road	CM-9 underdrain			X	X	X	X	X	
A2BMP0001	A2LF	Potential BMP Location	A2LF	Tributary drainage, west	X	X			X	X	X	X
A2BMP0002	A2LF	Potential BMP Location	A2LF	Tributary drainage, east	X	X			X	X	X	X
A2BMP0003	A2LF, WS-13 Road	Potential BMP Location	AP/STP, ELV, A2LF	Tributary drainage	X	X			X	X	X	X
A2BMP0005	ELV	Potential BMP Location	AP/STP, ELV	Tributary drainage	X	X			X	X	X	X
A2BMP0006	CM-1	US East, Treatment BMP Performance Monitoring	CM-1	CM-1 eastern tributary drainage			X	X	X	X	X	
A2BMP0007	CM-1	DS, Treatment BMP Performance Monitoring	CM-1	CM-1 culvert outlet			X	X	X	X	X	
APBMP0001	Ash Pile	Potential BMP Location	AP/STP, ELV	Area II Road asphalt swale	X	X			X	X	X	X
B1BMP0003	B-1	Potential BMP Location	B-1, Upper Parking Lot	Culvert inlet	X	X			X	X	X	X
B1BMP0004	B-1	US North, Treatment BMP Performance Monitoring	B-1 Media Filter	Tributary drainage			X	X	X	X	X	
B1BMP0005	B-1	US South, Treatment BMP Performance Monitoring	B-1 Media Filter	Asphalt swale downstream of retention basin discharge			X	X	X	X	X	
B1BMP0006	B-1	DS, Treatment BMP Performance Monitoring	B-1 Media Filter	B-1 Media Filter underdrain			X	X	X	X	X	
B1BMP0007	B-1	Potential BMP Location	B-1	Tributary drainage; DS of B-1 storm drain culvert outlet and US of Lower Parking Lot BMP discharge to Northern Drainage	X	X			X	X	X	X

Table 1
BMP Monitoring Inspection Locations and Analytical Plan
2013/2014 Rainy Season
Page 2 of 2

Object ID	Location	Purpose	Areas Monitored	Notes	Metals (Total Recoverable) (Method 200.7/200.8)	Metals (Total Dissolved) (Method 200.7/200.8)	Cd, Cu, Pb, Hg (Total Dissolved) (Method 200.7/200.8)	Cd, Cu, Pb, Hg (Total Recoverable) (Method 200.7/200.8)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540)	Particle Size Distribution (Method ASTM D422)	Turbidity (Method 180.1)
Outfall 009 Watershed (continued)												
EVBMP0001	ELV	Planned BMP Monitoring Location	ELV, Helipad	Culvert inlet; runoff will only be present when rain events exceed ELV BMP design storm	X	X			X	X	X	X
EVBMP0002	ELV, Helipad	Planned BMP Location	Helipad	Spillway inlet	X	X			X	X	X	X
EVBMP0003	CM-1	US West, Treatment BMP Performance Monitoring	CM-1, Area II Road	Sheetflow along Area II Road upstream of sandbag berm			X	X	X	X	X	
EVBMP0007	ELV	US, Treatment BMP Performance Monitoring	ELV BMP	Sample port in BMP influent pipe prior to "T" connection			X	X	X	X	X	
EVBMP0008	ELV	DS, Treatment BMP Performance Monitoring	ELV BMP	Sample port in BMP effluent pipe connected to middle tank			X	X	X	X	X	
ILBMP0001	Lower Parking Lot	Potential BMP Location	IEL	Culvert discharge under spillway chute	X	X			X	X	X	X
ILBMP0002	AILF	US East, Treatment BMP Performance Monitoring	CM-9, IEL, Area II Road	Culvert inlet off Area II Road			X	X	X	X	X	
LPBMP0002	Lower Parking Lot	US, Treatment BMP Performance Monitoring	Lower Parking Lot BMP	Sample port in cistern discharge pipe			X	X	X	X	X	
LPBMP0003	Lower Parking Lot	Intermediate Treatment BMP Performance Monitoring	Lower Parking Lot BMP	Discharge from Sediment Basin effluent pipe into Biofilter			X	X	X	X	X	
LPBMP0004	Lower Parking Lot	DS, Treatment BMP Performance Monitoring	Lower Parking Lot BMP	Discharge from Biofilter effluent pipe			X	X	X	X	X	
LXBMP0006	LOX	Potential BMP Location	LOX	Sheetflow along dirt road; co-located with LXSW0010	X*	X			X	X	X	X
LXBMP0007	LOX	DS, BMP Performance Monitoring	LOX Sandbag Berm and Slope Drains	Slope drain inlet, western end of sandbag berm; co-located with LXSW0007			X	X*	X*	X*	X	
LXBMP0008	LOX	DS, BMP Performance Monitoring	LOX Sandbag Berm and Slope Drains	Slope drain inlet, eastern end of sandbag berm; co-located with LXSW0008			X	X*	X*	X*	X	
LXBMP0009	LOX	Alternate DS, BMP Performance Monitoring	LOX Sandbag Berm and Slope Drains	Slope drain inlet, eastern end of sandbag berm; co-located with LXSW0009			X	X*	X*	X*	X	

Abbreviations:

X = Collect and Analyze DS - Downstream US - Upstream CM - Culvert Modification

Notes:

* Cd, Cu, Pb, Hg, dioxin, and total suspended solids analysis to be obtained from co-located performance monitoring sample.

Table 2
ISRA Performance Monitoring Inspection Locations and Analytical Plan
2013/2014 Rainy Season
Page 1 of 1

Object ID	Location	Purpose	Areas Monitored	Notes	Cadmium (Total Recoverable) (Method 200.8)	Copper (Total Recoverable) (Method 200.8)	Lead (Total Recoverable) (Method 200.8)	Mercury (Total Recoverable) (Method 245.1)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540)
Outfall 009 Watershed										
APSW0007	AP/STP	US/BG	AP/STP-1B, -1C-1	AP/STP tributary drainage	X	X	X	X	X	X
APSW0008	AP/STP	US/BG	AP/STP-1C-1, -1C-2	Intermittent stream flow	X	X	X	X	X	X
APSW0009	AP/STP	Secondary	AP/STP-1B, -1C-1, -1C-2	AP/STP tributary drainage	To Be Determined*					
APSW0010	AP/STP	Secondary	AP/STP-1E-1	Intermittent stream flow	To Be Determined*					
APSW0011	AP/STP	Secondary	AP/STP-1E-2	AP/STP tributary drainage	To Be Determined*					
APSW0012	AP/STP	US/BG	AP/STP-1E-3	Intermittent stream flow					X	X
APSW0014	AP/STP	DS	All AP/STP	AP/STP tributary drainage	X	X	X	X	X	X
EVSW0001	ELV	US	ELV-1C	Intermittent sheet flow	X	X	X	X	X	X
EVSW0002	ELV	DS	ELV-1C	Intermittent stream flow	X	X	X	X	X	X
EVSW0003	ELV	US	ELV-1D	Intermittent stream flow	X	X	X	X	X	X
EVSW0004	ELV	DS	ELV-1D	Intermittent stream flow	X	X	X	X	X	X
ILSW0003	IEL	US	IEL-2	Intermittent stream flow	X		X	X		X
ILSW0004	IEL	DS	IEL-2	Intermittent stream flow	X		X	X		X
ILSW0005	IEL	US	IEL-3	Intermittent stream flow	X	X	X	X		X
ILSW0006	IEL	DS	IEL-3	Intermittent stream flow	X	X	X	X		X
LXSW0004	LOX	US	LOX-1B-1, -1B-2, -1B-3	Intermittent stream flow	X	X	X	X	X	X
LXSW0005	LOX	US	LOX-1B-1, -1B-2, -1B-3	Intermittent stream flow	X	X	X	X	X	X
LXSW0006	LOX	US	LOX-1B-1, -1B-2, -1B-3	Intermittent stream flow	X	X	X	X	X	X
LXSW0007	LOX	DS	LOX-1B-1, -1B-2, -1B-3	Slope drain inlet; western end of sand bag berm	X	X	X	X	X	X
LXSW0008	LOX	DS	LOX-1B-1, -1B-2, -1B-3	Slope drain inlet; eastern end of sand bag berm	X	X	X	X	X	X
LXSW0009	LOX	Alternate DS	LOX-1B-1, -1B-2, -1B-3	Slope drain inlet; eastern end of sand bag berm	X	X	X	X	X	X
LXSW0010	LOX	DS	LOX-1B-3	Intermittent stream flow	X	X	X	X	X	X

Abbreviations:

DS - Downstream
US - Upstream
BG - Background Assessment
CM - Culvert Modification
X = Collect and Analyze

Notes:

* Analytical suite of secondary monitoring locations will be based on the evaluation of data from primary performance monitoring locations and sampled as warranted by the primary data.