

SMITH & LOWNEY, P.L.L.C.

2317 EAST JOHN STREET
SEATTLE, WASHINGTON 98112
(206) 860-2883, FAX (206) 860-4187

April 25, 2018

Via Certified Mail - Return Receipt Requested

Managing Agent
The Boeing Company
M/C: 4C-71
P.O. Box 3707
Seattle, WA 98124

Managing Agent
Boeing Military Delivery Center
10002 E. Marginal Way S.
Tukwila, WA 98108

Re: **NOTICE OF INTENT TO SUE UNDER THE CLEAN WATER ACT AND
REQUEST FOR COPY OF STORMWATER POLLUTION PREVENTION
PLAN**

Dear Managing Agent:

We represent Puget Soundkeeper Alliance ("Soundkeeper"), 5305 Shilshole Ave. NW, Suite 150, Seattle, WA 98107, (206) 297-7002, and Waste Action Project ("WAP"), P.O. Box 9281, Covington, WA 98042, (253) 639-7245. Any response or correspondence related to this matter should be directed to us at the letterhead address. This letter is to provide you with sixty days notice of our clients' intent to file a citizen suit against The Boeing Company ("Boeing") under section 505 of the Clean Water Act ("CWA"), 33 USC § 1365, for the violations described below. This letter is also a request for a copy of the complete and current stormwater pollution prevention plan ("SWPPP") required by Boeing's National Pollution Discharge Elimination System ("NPDES") permit.

For stormwater discharges from the Boeing Military Delivery Center ("BMDC," formerly known as the Boeing Military Flight Center), located at or about 10002 East Marginal Way South, Tukwila, WA 98108, to the Duwamish River via municipal separate storm sewer systems, Boeing was granted coverage under the Washington Industrial Stormwater General Permit issued by the Washington Department of Ecology ("Ecology") on October 21, 2009, effective January 1, 2010, modified May 16, 2012, effective July 1, 2012, and set to expire on January 1, 2015, under National Pollutant Discharge Elimination System Permit No. WAR-000150 (the "2010 Permit"). Since January 2, 2015, these discharges have been authorized by the iteration of the Washington Industrial Stormwater General Permit issued December 3, 2014, effective January 2, 2015, and expiring on December 31, 2019 (the "2015 Permit"), under the same permit identification number.

Ecology has issued at least two administrative orders concerning the conditions of the 2010 Permit and the 2015 Permit (collectively, “the Permits”) for the BMDC. Administrative Order Docket No. 10554 was issued to Boeing on April 3, 2014, and remains in effect. Administrative Order Docket No. 13932 was issued to Boeing on March 23, 2017.

Boeing has violated and continues to violate the CWA (see Sections 301 and 402 of the CWA, 33 USC §§ 1311 and 1342) and the terms and conditions of (1) the Permits, and (2) Order No. 13932 as described below.

I. COMPLIANCE WITH STANDARDS.

A. Violations of Water Quality Standards.

Condition S10.A of the Permits prohibits discharges that cause or contribute to violations of water quality standards. Water quality standards are the foundation of the CWA and Washington’s efforts to protect clean water. In particular, water quality standards represent the U.S. Environmental Protection Agency (“EPA”) and Ecology’s determination, based on scientific studies, of the thresholds at which pollution starts to cause significant adverse effects on fish or other beneficial uses. For each water body in Washington, Ecology designates the “beneficial uses” that must be protected through the adoption of water quality standards.

A discharger must comply with both narrative and numeric criteria water quality standards. WAC 173-201A-010; WAC 173-201A-510 (“No waste discharge permit can be issued that causes or contributes to a violation of water quality criteria, except as provided for in this chapter.”). Narrative water quality standards provide legal mandates that supplement the numeric criteria. Furthermore, the narrative water quality standard applies with equal force even if Ecology has established a numeric water quality standard. Specifically, Condition S10.A of the Permits require that Boeing’s discharges not cause or contribute to an excursion of Washington State water quality standards.

Boeing discharges to the Duwamish River via the BMDC stormwater system and the municipal separate storm sewer systems through which it flows. Boeing discharges stormwater that contains elevated levels of PCBs as indicated by Boeing’s stormwater monitoring results included in **TABLE 1**:

Date of sample/discharge	Sampling Point	Total PCB Concentration (ug/L)
7/23/14	1.1M	0.35
1/23/15	OWS2	0.037
1/23/15	3.1M	0.07
1/23/15	4.1C	0.014
1/21/16	3.1M	0.251
7/22/16	3.1M	0.134
10/4/16	OWS2	0.017
10/4/16	4.1C	0.014

1/18/17	OWS2	0.025
1/18/17	3.1M	0.096
4/5/17	OWS2	0.025
4/5/17	3.1M	0.015
9/29/17	3.1M	0.034
10/12/17	3.1M	0.032
10/12/17	4.1C	0.022
1/11/18	3.1M	0.125

These elevated concentrations of total PCBs are certain to cause violations of human health criteria for total PCBs in the water column (0.000007 ug/L) in the vicinity of the outfall (Norfolk Street outfall to the Duwamish River) and of sediment quality standards for total PCBs applicable in the Lower Duwamish Waterway Superfund Site. See WAC 173-201A-240(5) and WAC 173-204 Part III. The Duwamish River water column and sediments are already heavily contaminated with total PCBs to the extent that discharges at any detectable amounts are likely to cause or contribute to violations of relevant water quality standards, both the numeric standards reference above and the narrative water quality criteria for toxics, WAC 173-201A-240(1), because they have the potential to cumulatively (or singularly) to affect characteristic water uses (including fish and shellfish harvest), cause acute or chronic toxicity to the most sensitive biota depending on the Duwamish River, and adversely affect public health. These violations are ongoing and recur with each stormwater discharge from the BMDC.

The BMDC stormwater discharges to the Duwamish River containing elevated levels of zinc and copper as indicated in the monitoring results in **TABLE 2:**

Date or period of sample	Monitoring Point	Pollutant	Sample concentration (or average) exceeding benchmark
3rd Quarter 2014	MFC-1.1M	Zinc	145.94 ug/L
3rd Quarter 2014	MFC-3.1M	Zinc	217.17 ug/L
1st Quarter 2015	MFC-1.1M	Copper	30.53 ug/L
1st Quarter 2015	MFC-1.1M	Zinc	761.66 ug/L
4th Quarter 2015	MFC-1.1M	Zinc	120 ug/L
3rd Quarter 2016	MFC-1.1M	Copper	34.70 ug/L
3rd Quarter 2016	MFC-1.1M	Zinc	650 ug/L
4th Quarter 2016	MRC-1.1M	Zinc	238 ug/L
4th Quarter 2016	MFC-3.1M	Zinc	581 ug/L
3rd Quarter 2017	MFC-1.1M	Zinc	252 ug/L
3rd Quarter 2017	MFC-3.1M	Copper	37.1 ug/L
3rd Quarter 2017	MFC-3.1M	Zinc	206 ug/L
4th Quarter 2017	MFC-3.1M	Copper	21.1 ug/L

These elevated concentrations of zinc and copper are likely to cause or contribute to violations of the narrative water quality criteria for toxics, WAC 173-201A-240(1), because they have the potential to cumulatively (or singularly) to affect characteristic

water uses (including fish and shellfish harvest), cause acute or chronic toxicity to the most sensitive biota depending on the Duwamish River, and adversely affect public health. They are also likely to cause or contribute to violations of aquatic life criteria for copper and zinc in the Duwamish River water column and sediments. WAC 173-201A-240(5); WAC 173-204 Part III. These violations are ongoing and recur with each stormwater discharge from the BMDC.

The BMDC discharges stormwater causing these violations every time there is more than a trace amount of precipitation at the BMDC. Attachment A contains precipitation data identifying dates of such precipitation and discharge over the past five years.

B. Compliance with Standards.

Condition S10.C of the Permits requires Boeing to apply all known and reasonable methods of prevention, control and treatment (“AKART”) to all discharges, including preparation and implementation of an adequate SWPPP and best management practices (“BMPs”). Boeing has violated and continues to violate these conditions by failing to apply AKART to its discharges or to implement an adequate SWPPP and BMPs as evidenced by the elevated levels of pollutants in its discharge indicated in the table above and as described below in this notice of intent to sue.

II. STORMWATER POLLUTION PREVENTION PLAN VIOLATIONS.

Condition S3.A.1 of the Permits requires Boeing to develop and implement a SWPPP as specified. Condition S3.A.2 of the Permits requires the SWPPP to specify BMPs necessary to provide AKART and ensure that discharges do not cause or contribute to violations of water quality standards. On information and belief, Boeing has violated these requirements of the Permits each and every day during the last five years and continues to violate them as it has failed to prepare and/or implement a SWPPP that includes AKART BMPs and BMPs necessary to comply with state water quality standards.

Condition S3.A of the Permits requires Boeing to have and implement a SWPPP that is consistent with permit requirements, fully implemented as directed by permit conditions, and updated as necessary to maintain compliance with permit conditions. On information and belief, Boeing has violated these requirements of the Permits each and every day during the last five years and continues to violate them because its SWPPP is not consistent with permit requirements, has not been fully implemented and has not been updated as necessary. As noted by Order No. 13932, dated March 23, 2017, elevated pollutant levels in stormwater discharged from BMDC and in storm drain solids at the site “strongly indicate that the source control at [BMDC] is inadequate and may lead to the release of polluting matters into waters of the state.”

The SWPPP fails to satisfy the requirements of Condition S3 of the Permits because it does not adequately describe BMPs. Condition S3.A.3 of the Permits requires that the SWPPP include BMPs consistent with approved stormwater technical manuals or document

how stormwater BMPs included in the SWPPP are demonstratively equivalent to the practices contained in the approved stormwater technical manuals, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs. Boeing's SWPPP does not comply with these requirements because it does not adequately describe BMPs and does not include BMPs consistent with approved stormwater technical manuals nor does it include BMPs that are demonstratively equivalent to such BMPs with documentation of BMP adequacy.

Boeing's SWPPP fails to satisfy the requirements of Condition S3.B.2 of the Permits because it fails to include a facility assessment as mandated. The SWPPP fails to include an adequate facility assessment because it does not describe the industrial activities conducted at the site, the general layout of the facility including buildings and storage of raw materials, the flow of goods and materials through the facility, regular business hours and seasonal variations in business hours or in industrial activities as required.

Boeing's SWPPP fails to satisfy the requirements of Condition S3.B.1 of the Permits because it does not include a site map that identifies significant features, the stormwater drainage and discharge structures, the stormwater drainage areas for each stormwater discharge point off-site, a unique identifying number for each discharge point, each sampling location with a unique identifying number, paved areas and buildings, areas of pollutant contact associated with specific industrial activities, conditionally approved non-stormwater discharges, surface water locations, areas of existing and potential soil erosion, vehicle maintenance areas, and lands and waters adjacent to the site that may be helpful in identifying discharge points or drainage routes.

Boeing's SWPPP fails to comply with Condition S3.B.2.b of the Permits because it does not include an inventory of industrial activities that identifies all areas associated with industrial activities that have been or may potentially be sources of pollutants as required. The SWPPP does not identify all areas associated with loading and unloading of dry bulk materials or liquids, outdoor storage of materials or products, outdoor manufacturing and processing, onsite dust or particulate generating processes, on-site waste treatment, storage, or disposal, vehicle and equipment fueling, maintenance, and/or cleaning, roofs or other surfaces exposed to air emissions from a manufacturing building or a process area, and roofs or other surfaces composed of materials that may be mobilized by stormwater as required by these conditions.

Boeing's SWPPP does not comply with Condition S3.B.2.c of the Permits because it does not include an adequate inventory of materials. The SWPPP does not include an inventory of materials that lists the types of materials handled at the site that potentially may be exposed to precipitation or runoff and that could result in stormwater pollution, a short narrative for material describing the potential for the pollutants to be present in stormwater discharge that is updated when data becomes available to verify the presence or absence of the pollutants, a narrative description of any potential sources of pollutants from past activities, materials and spills that were previously handled, treated, stored, or disposed of in a manner to allow ongoing exposure to stormwater as required. The SWPPP does not include the

method and location of on-site storage or disposal of such materials and a list of significant spills and significant leaks of toxic or hazardous pollutants as these permit conditions require.

Boeing's SWPPP does not comply with Condition S3.B.3 of the Permits because it does not identify specific individuals by name or title whose responsibilities include SWPPP development, implementation, maintenance and modification.

Boeing's SWPPP does not comply with Condition S3.B.4.b.i of the Permits because it does not include required operational source control BMPs in the following categories: good housekeeping (including definition of ongoing maintenance and cleanup of areas that may contribute pollutants to stormwater discharges, and a schedule/frequency for each housekeeping task); preventive maintenance (including BMPs to inspect and maintain stormwater drainage, source controls, treatment systems, and plant equipment and systems, and the schedule/frequency for each task); spill prevention and emergency cleanup plan (including BMPs to prevent spills that can contaminate stormwater, for material handling procedures, storage requirements, cleanup equipment and procedures, and spill logs); employee training (including an overview of what is in the SWPPP, how employees make a difference in complying with the SWPPP, spill response procedures, good housekeeping, maintenance requirements, and material management practices, how training will be conducted, the frequency/schedule of training, and a log of the dates on which specific employees received training); inspections and recordkeeping (including documentation of procedures to ensure compliance with permit requirements for inspections and recordkeeping, including identification of personnel who conduct inspections, provision of a tracking or follow-up procedure to ensure that a report is prepared and appropriate action taken in response to visual monitoring, definition of how Boeing will comply with signature and record retention requirements, and certification of compliance with the SWPPP and Permit).

Boeing's SWPPP does not comply with Condition S3.B.4.b.i.7 of the Permits because it does not include measures to identify and eliminate the discharge of process wastewater, domestic wastewater, noncontact cooling water, and other illicit discharges to stormwater sewers, or to surface waters and ground waters of the state.

Boeing's SWPPP does not comply with Condition S3.B.4.b.ii of the Permits because it does not include required structural source control BMPs to minimize the exposure of manufacturing, processing, and material storage areas to rain, snow, snowmelt, and runoff. Boeing's SWPPP does not comply with Condition S3.B.4.b.iii of the Permits because it does not include treatment BMPs as required.

Boeing's SWPPP fails to comply with Condition S3.B.4.b.v of the Permits because it does not include BMPs to prevent the erosion of soils or other earthen materials and prevent off-site sedimentation and violations of water quality standards.

Boeing's SWPPP fails to satisfy the requirements of Condition S3.B.5 of the Permits because it fails to include a stormwater sampling plan as required. The SWPPP does not include a sampling plan that identifies points of discharge to surface waters, storm sewers, or discrete ground water infiltration locations, documents why each discharge point is not

sampled, identifies each sampling point by its unique identifying number, identifies staff responsible for conducting stormwater sampling, specifies procedures for sampling collection and handling, specifies procedures for sending samples to the a laboratory, identifies parameters for analysis, holding times and preservatives, laboratory quantization levels, and analytical methods, and that specifies the procedure for submitting the results to Ecology.

III. MONITORING AND REPORTING VIOLATIONS.

A. Failure to Collect Quarterly Samples.

Condition S4.B of the Permits require Boeing to collect a sample of its stormwater discharge once during every calendar quarter. Conditions S3.B.5.b and S4.B.2.c of the Permits require Boeing to collect stormwater samples at each distinct point of discharge offsite except for substantially identical outfalls, in which case only one of the substantially identical outfalls must be sampled. These conditions set forth sample collection criteria, but require the collection of a sample even if the criteria cannot be met.

Boeing violated these requirements by failing to collect stormwater samples at any of its discharge points during the second quarters of both 2015 and 2016; at sample point MFC-OWS2 (Drainage Area 2) in the third and fourth quarters of 2017, in the third quarter of 2016; and at sample point MFC-1.1 (Drainage Area 4) in the third quarter of 2017.

B. Failure to Collect Stormwater Samples from Each Distinct Point of Discharge.

Boeing has also violated and continues to violate these conditions because it does not sample each distinct point of discharge off-site. In particular, it fails to monitor discharge from Area 1 (the western portion of the BMDC, including stalls 69, 71, 73, 75, and 77), and areas of sheet flow off its facility. These violations have occurred and continue to occur each and every quarter during the last five years that Boeing was and is required to sample its stormwater discharges, including the quarters in which it collected stormwater discharge samples from some, but not each, point of discharge. These violations will continue until Boeing commences monitoring all distinct points of discharge.

IV. CORRECTIVE ACTION VIOLATIONS.

A. Violations of the Level One Requirements.

Condition S8.B of the Permits requires Boeing take specified actions, called a “Level One Corrective Action,” each time quarterly stormwater sample results exceed a benchmark value or are outside the benchmark range for pH.

As described by Condition S8.B of the Permits, a Level One Corrective Action requires Boeing: (1) review the SWPPP for the facility and ensure that it fully complies with Condition S3 of the Permits and contains the correct BMPs from the applicable Stormwater Management Manual; (2) make appropriate revisions to the SWPPP to include additional

operational source control BMPs with the goal of achieving the applicable benchmark values in future discharges and sign and certify the revised SWPPP in accordance with Condition S3.A.6 of the Permits; and (3) summarize the Level One Corrective Action in the Annual Report required under Condition S9.B of the Permits. Condition S8.B.4 of the Permits requires Boeing implement the revised SWPPP as soon as possible, and no later than the DMR due date for the quarter the benchmark was exceeded.

Condition S5.A and Table 2 of the Permits establish the following benchmarks: turbidity 25 NTU; pH 5 – 9 SU; total copper 14 µg/L; and total zinc 117 µg/L.

Boeing has violated the requirements of the Permits described above by failing to conduct a Level One Corrective Action in accordance with permit conditions, including the required review, revision and certification of the SWPPP, the required implementation of additional BMPs, and the required summarization in the annual report each time in the past five years that its quarterly stormwater sampling results were greater than a benchmark or outside the benchmark range for pH, including the benchmark excursions listed in **TABLE 2** above.

B. Violations of the Level Two Requirements of the 2010 Permit.

Condition S8.C of the Permits requires Boeing take specified actions, called a “Level Two Corrective Action,” each time quarterly stormwater sample results exceed an applicable benchmark value or are outside the benchmark range for pH for any two quarters during a calendar year.

As described by Condition S8.C of the Permits, a Level Two Corrective Action requires Boeing: (1) review the SWPPP for the facility and ensure that it fully complies with Condition S3 of the Permits; (2) make appropriate revisions to the SWPPP to include additional structural source control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges and sign and certify the revised SWPPP in accordance with Condition S3.A.6 of the Permits; and (3) summarize the Level Two Corrective Action (planned or taken) in the Annual Report required under Condition S9.B of the Permits. Condition S8.C.4 of the Permits requires Boeing implement the revised SWPPP according to condition S3 and the applicable stormwater management manual as soon as possible, and no later than August 31st of the following year.

Condition S5.A and Table 2 of the Permits establish the following benchmarks: turbidity 25 NTU; pH 5 – 9 SU; total copper 14 µg/L; and total zinc 117 µg/L.

Boeing has violated the requirements of the Permits described above by failing to conduct a Level Two Corrective Action in accordance with permit conditions, including the required review, revision and certification of the SWPPP, the required implementation of additional BMPs, including additional structural source control BMPs, and the required summarization in the annual report each time since January 1, 2013, its quarterly stormwater sampling results were greater than a benchmark or outside the benchmark range for pH for any two quarters during a calendar year. As indicated in **TABLE 2**, these violations include,

but are not limited to, Boeing's failure to fulfill these obligations for zinc triggered by its stormwater sampling during calendar years 2015 and 2016.

V. VIOLATION OF NUMERIC EFFLUENT LIMITATION.

Condition S6.C of the 2015 Permit imposes a maximum daily effluent limitation for total suspended solids ("TSS") concentration of 30 mg/L on discharges from the BMDC, effective January 1, 2017. Boeing violated this effluent limitation by discharging stormwater with a TSS concentration of 62.6 mg/L on January 18, 2017.

VI. VIOLATION OF ADMINISTRATIVE ORDER DOCKET NO. 13932.

Ecology issued Administrative Order Docket No. 13932 to Boeing on March 23, 2017. Order No. 13932, issued to ensure Boeing's compliance with the 2015 Permit and Washington State water pollution control laws, imposes requirements on Boeing with regard to BMDC stormwater discharges. Order No. 13932 has three requirements: (1) by June 15, 2017, Boeing was to submit an engineering report for Ecology's review and approval for treatment of stormwater discharges from the BMDC, including specified requirements such as a brief summary of the treatment alternatives considered and why the proposed option was selected, the basic design data and sizing calculations of the treatment units, a description of the treatment process and operation, including a flow diagram, results to be expected from the treatment process including the predicted stormwater discharge characteristics, and a statement, expressing sound engineering justification through the use of pilot plant data, results from similar installations, and/or scientific evidence that the proposed treatment is reasonably expected to meet the permit benchmarks; (2) the engineering report must incorporate necessary operational and structural source control BMPs for Level 1 and 2 corrective actions; and (3) installation and operation of all final stormwater treatment systems approved by Ecology no later than October 31, 2017.

Boeing is in violation of Order No. 13932. First, Boeing failed to submit to Ecology, by June 17, 2017, or subsequently, an engineering report satisfying the requirements of the order. The revised engineering report submitted by Boeing, dated March 22, 2018, does not summarize treatment alternatives considered and explain why the proposed treatment option was selected, does not include basic treatment unit design and sizing calculations, does not include a description of the treatment process and operation, including a flow diagram, does not describe results to be expected from the treatment process including the predicted stormwater discharge characteristics, and does not include a statement, expressing sound engineering justification through the use of pilot plant data, results from similar installations, and/or scientific evidence that the proposed treatment is reasonably expected to meet the permit benchmarks. Further, the revised engineering report does not propose treatment for the entire BMDC as contemplated by the order. Attachment B to this notice of intent to sue is Ecology's August 25, 2017, letter declining to approve the engineering report as initially submitted by Boeing on July 7, 2017, including specific bases for its disapproval and failure to satisfy the requirements of Order No. 13932, which are incorporated herein by reference. The engineering report deficiencies identified in Attachment B have not been remedied in Boeing's March 22, 2018, revision, or subsequently. Second, the revised engineering report

does not incorporate necessary operational and structural source control BMPs for Level 1 and 2 corrective actions for copper and zinc. Third, Boeing has failed to install and have operational all final stormwater treatment systems approved by Ecology by October 31, 2017, or to date.

VII. REQUEST FOR SWPPP.

Pursuant to Condition S9.F of the 2015 Permit, Client hereby requests that Boeing Company, Inc. provide a copy of, or access to, its SWPPP complete with all incorporated plans, monitoring reports, checklists, and training and inspection logs. The copy of the SWPPP and any other communications about this request should be directed to the undersigned at the letterhead address.

Should Boeing fail to provide the requested complete copy of, or access to, its SWPPP as required by Condition S9.F of the 2015 Permit, it will be in violation of that condition, which violation shall also be subject to this notice of intent to sue and any ensuing lawsuit.

VIII. CONCLUSION.

The above-described violations reflect those indicated by the information currently available to our clients. These violations are ongoing. Our clients intend to sue for all violations, including those yet to be uncovered and those committed after the date of this Notice of Intent to Sue.


Under Section 309(d) of the CWA, 33 USC § 1319(d), each of the above-described violations subjects the violator to a penalty of up to \$32,500 per day for each violation before and through January 12, 2009 and up to \$37,500 per day for each violation thereafter. In addition to civil penalties, Client will seek injunctive relief to prevent further violations under Sections 505(a) and (d) of the CWA, 33 USC § 1365(a) and (d), and such other relief as is permitted by law. Also, Section 505(d) of the CWA, 33 USC § 1365(d), permits prevailing parties to recover costs, including attorney's fees.

Our clients believe that this NOTICE OF INTENT TO SUE sufficiently states grounds for filing suit. We intend, at the close of the 60-day notice period, or shortly thereafter, to file a citizen suit against Boeing Company, Inc. under Section 505(a) of the Clean Water Act for violations.

During the 60-day notice period, we would be willing to discuss effective remedies for the violations addressed in this letter and settlement terms. If you wish to pursue such discussions in the absence of litigation, we suggest that you initiate those discussions within 10 days of receiving this notice so that a meeting can be arranged and so that negotiations may be completed promptly. We do not intend to delay the filing of a complaint if discussions are continuing when the notice period ends.

Very truly yours,

SMITH & LOWNEY, PLLC

By: 
Richard Smith

richard@smithandlowney.com

cc: Scott Pruitt, Administrator, U.S. EPA
Chris Hladick, Region 10 Administrator, U.S. EPA
Maia Bellon, Director, Washington Department of Ecology
CORPORATION SERVICE COMPANY (Registered Agent) 300 DESCHUTES
WAY SW STE 304, TUMWATER, WA 98501

Precipitation Data for Boeing Field/King County Airport, WA,
Station No. USW00024234

DATE	PRCP	5/10/2013	0	6/19/2013	0
4/1/2013	0	5/11/2013	0	6/20/2013	0
4/2/2013	0	5/12/2013	0.08	6/21/2013	0.01
4/3/2013	0	5/13/2013	0.12	6/22/2013	0
4/4/2013	0.42	5/14/2013	0	6/23/2013	0
4/5/2013	0.5	5/15/2013	0.03	6/24/2013	0.01
4/6/2013	0.37	5/16/2013	0	6/25/2013	0.1
4/7/2013	0.96	5/17/2013	0.02	6/26/2013	0.56
4/8/2013	0.04	5/18/2013	0	6/27/2013	0.13
4/9/2013	0	5/19/2013	0	6/28/2013	0
4/10/2013	0.23	5/20/2013	0	6/29/2013	0
4/11/2013	0.13	5/21/2013	0.43	6/30/2013	0
4/12/2013	0.18	5/22/2013	0.21	7/1/2013	0
4/13/2013	0.35	5/23/2013	0.08	7/2/2013	0
4/14/2013	0.02	5/24/2013	0.02	7/3/2013	0
4/15/2013	0	5/25/2013	0	7/4/2013	0
4/16/2013	0.07	5/26/2013	0.08	7/5/2013	0
4/17/2013	0	5/27/2013	0.2	7/6/2013	0
4/18/2013	0.2	5/28/2013	0.01	7/7/2013	0
4/19/2013	0.65	5/29/2013	0.17	7/8/2013	0
4/20/2013	0.01	5/30/2013	0	7/9/2013	0
4/21/2013	0.03	5/31/2013	0	7/10/2013	0
4/22/2013	0	6/1/2013	0	7/11/2013	0
4/23/2013	0	6/2/2013	0	7/12/2013	0
4/24/2013	0	6/3/2013	0	7/13/2013	0
4/25/2013	0	6/4/2013	0	7/14/2013	0
4/26/2013	0	6/5/2013	0	7/15/2013	0
4/27/2013	0	6/6/2013	0	7/16/2013	0
4/28/2013	0.1	6/7/2013	0	7/17/2013	0
4/29/2013	0.13	6/8/2013	0	7/18/2013	0
4/30/2013	0	6/9/2013	0	7/19/2013	0
5/1/2013	0	6/10/2013	0	7/20/2013	0
5/2/2013	0	6/11/2013	0	7/21/2013	0
5/3/2013	0	6/12/2013	0	7/22/2013	0
5/4/2013	0	6/13/2013	0	7/23/2013	0
5/5/2013	0	6/14/2013	0	7/24/2013	0
5/6/2013	0	6/15/2013	0	7/25/2013	0
5/7/2013	0	6/16/2013	0	7/26/2013	0
5/8/2013	0	6/17/2013	0	7/27/2013	0
5/9/2013	0	6/18/2013	0	7/28/2013	0

7/29/2013	0	9/10/2013	0	10/23/2013	0.01
7/30/2013	0	9/11/2013	0	10/24/2013	0.01
7/31/2013	0	9/12/2013	0	10/25/2013	0.01
8/1/2013	0	9/13/2013	0	10/26/2013	0
8/2/2013	0	9/14/2013	0	10/27/2013	0.06
8/3/2013	0	9/15/2013	0.21	10/28/2013	0
8/4/2013	0	9/16/2013	0	10/29/2013	0
8/5/2013	0	9/17/2013	0	10/30/2013	0.01
8/6/2013	0	9/18/2013	0	10/31/2013	0.01
8/7/2013	0	9/19/2013	0	11/1/2013	0.03
8/8/2013	0	9/20/2013	0.15	11/2/2013	0.35
8/9/2013	0	9/21/2013	0.01	11/3/2013	0.02
8/10/2013	0	9/22/2013	0.39	11/4/2013	0.01
8/11/2013	0	9/23/2013	0.06	11/5/2013	0.05
8/12/2013	0	9/24/2013	0.01	11/6/2013	0.09
8/13/2013	0	9/25/2013	0.04	11/7/2013	0.94
8/14/2013	0	9/26/2013	0.01	11/8/2013	0
8/15/2013	0	9/27/2013	0.05	11/9/2013	0.09
8/16/2013	0	9/28/2013	1.27	11/10/2013	0
8/17/2013	0	9/29/2013	0.62	11/11/2013	0
8/18/2013	0	9/30/2013	0.62	11/12/2013	0.14
8/19/2013	0	10/1/2013	0.08	11/13/2013	0
8/20/2013	0	10/2/2013	0.21	11/14/2013	0.01
8/21/2013	0	10/3/2013	0	11/15/2013	0.08
8/22/2013	0	10/4/2013	0.01	11/16/2013	0
8/23/2013	0	10/5/2013	0	11/17/2013	0.05
8/24/2013	0	10/6/2013	0.13	11/18/2013	0.8
8/25/2013	0	10/7/2013	0.01	11/19/2013	0.11
8/26/2013	0	10/8/2013	0.39	11/20/2013	0
8/27/2013	0	10/9/2013	0	11/21/2013	0
8/28/2013	0	10/10/2013	0.03	11/22/2013	0
8/29/2013	0.46	10/11/2013	0.53	11/23/2013	0.08
8/30/2013	0	10/12/2013	0.06	11/24/2013	0
8/31/2013	0	10/13/2013	0	11/25/2013	0
9/1/2013	0	10/14/2013	0.01	11/26/2013	0
9/2/2013	0	10/15/2013	0	11/27/2013	0
9/3/2013	0.12	10/16/2013	0	11/28/2013	0
9/4/2013	0	10/17/2013	0.01	11/29/2013	0.01
9/5/2013	0.87	10/18/2013	0	11/30/2013	0.06
9/6/2013	0.68	10/19/2013	0	12/1/2013	0.03
9/7/2013	0	10/20/2013	0	12/2/2013	0.11
9/8/2013	0.01	10/21/2013	0	12/3/2013	0.01
9/9/2013	0	10/22/2013	0	12/4/2013	0

12/5/2013	0	1/17/2014	0	3/1/2014	0.01
12/6/2013	0	1/18/2014	0	3/2/2014	0.7
12/7/2013	0	1/19/2014	0	3/3/2014	0.37
12/8/2013	0	1/20/2014	0	3/4/2014	0.42
12/9/2013	0	1/21/2014	0	3/5/2014	1.44
12/10/2013	0	1/22/2014	0	3/6/2014	0.2
12/11/2013	0	1/23/2014	0	3/7/2014	0
12/12/2013	0.22	1/24/2014	0	3/8/2014	1.12
12/13/2013	0.01	1/25/2014	0	3/9/2014	0.26
12/14/2013	0	1/26/2014	0	3/10/2014	0.42
12/15/2013	0.03	1/27/2014	0	3/11/2014	0
12/16/2013	0	1/28/2014	0.36	3/12/2014	0
12/17/2013	0	1/29/2014	0.76	3/13/2014	0
12/18/2013	0.04	1/30/2014	0.01	3/14/2014	0.11
12/19/2013	0	1/31/2014	0.03	3/15/2014	0.21
12/20/2013	0.1	2/1/2014	0.02	3/16/2014	1.08
12/21/2013	0.22	2/2/2014	0	3/17/2014	0.01
12/22/2013	0.21	2/3/2014	0	3/18/2014	0.01
12/23/2013	0.01	2/4/2014	0	3/19/2014	0
12/24/2013	0	2/5/2014	0	3/20/2014	0
12/25/2013	0	2/6/2014	0	3/21/2014	0
12/26/2013	0	2/7/2014	0	3/22/2014	0
12/27/2013	0.03	2/8/2014	0.09	3/23/2014	0
12/28/2013	0	2/9/2014	0.01	3/24/2014	0
12/29/2013	0	2/10/2014	0.54	3/25/2014	0.22
12/30/2013	0.03	2/11/2014	0.76	3/26/2014	0.06
12/31/2013	0	2/12/2014	0.13	3/27/2014	0.03
1/1/2014	0.01	2/13/2014	0	3/28/2014	0.51
1/2/2014	0.53	2/14/2014	0.41	3/29/2014	0.63
1/3/2014	0.03	2/15/2014	0.51	3/30/2014	0.02
1/4/2014	0	2/16/2014	1.43	3/31/2014	0
1/5/2014	0	2/17/2014	0.42	4/1/2014	0
1/6/2014	0	2/18/2014	0.62	4/2/2014	0
1/7/2014	0.34	2/19/2014	0.02	4/3/2014	0.12
1/8/2014	0.44	2/20/2014	0.03	4/4/2014	0
1/9/2014	0.11	2/21/2014	0.23	4/5/2014	0.08
1/10/2014	0.15	2/22/2014	0.09	4/6/2014	0
1/11/2014	0.91	2/23/2014	0.18	4/7/2014	0
1/12/2014	0.02	2/24/2014	0.39	4/8/2014	0.38
1/13/2014	0.01	2/25/2014	0	4/9/2014	0
1/14/2014	0	2/26/2014	0	4/10/2014	0
1/15/2014	0	2/27/2014	0	4/11/2014	0
1/16/2014	0	2/28/2014	0	4/12/2014	0

4/13/2014	0	5/26/2014	0	7/8/2014	0
4/14/2014	0	5/27/2014	0	7/9/2014	0
4/15/2014	0.01	5/28/2014	0.03	7/10/2014	0
4/16/2014	0.42	5/29/2014	0	7/11/2014	0
4/17/2014	0.69	5/30/2014	0	7/12/2014	0
4/18/2014	0	5/31/2014	0	7/13/2014	0
4/19/2014	0.36	6/1/2014	0	7/14/2014	0
4/20/2014	0	6/2/2014	0	7/15/2014	0
4/21/2014	0.17	6/3/2014	0	7/16/2014	0
4/22/2014	0.5	6/4/2014	0	7/17/2014	0
4/23/2014	0.24	6/5/2014	0	7/18/2014	0
4/24/2014	0.28	6/6/2014	0	7/19/2014	0
4/25/2014	0.05	6/7/2014	0	7/20/2014	0
4/26/2014	0.18	6/8/2014	0	7/21/2014	0
4/27/2014	0	6/9/2014	0	7/22/2014	0
4/28/2014	0	6/10/2014	0	7/23/2014	0
4/29/2014	0	6/11/2014	0	7/25/2014	0
4/30/2014	0	6/12/2014	0	7/26/2014	0
5/1/2014	0	6/13/2014	0.05	7/27/2014	0
5/2/2014	0	6/14/2014	0	7/28/2014	0
5/3/2014	1.19	6/15/2014	0.1	7/29/2014	0
5/4/2014	0.26	6/16/2014	0.09	7/30/2014	0
5/5/2014	0.24	6/17/2014	0.05	7/31/2014	0
5/6/2014	0	6/18/2014	0	8/1/2014	0
5/7/2014	0	6/19/2014	0	8/2/2014	0
5/8/2014	0.41	6/20/2014	0	8/3/2014	0
5/9/2014	0.07	6/21/2014	0	8/4/2014	0
5/10/2014	0	6/22/2014	0	8/5/2014	0
5/11/2014	0.01	6/23/2014	0	8/6/2014	0
5/12/2014	0	6/24/2014	0	8/7/2014	0
5/13/2014	0	6/25/2014	0	8/8/2014	0
5/14/2014	0	6/26/2014	0	8/9/2014	0
5/15/2014	0	6/27/2014	0	8/10/2014	0
5/16/2014	0	6/28/2014	0	8/11/2014	0
5/17/2014	0	6/29/2014	0	8/12/2014	0
5/18/2014	0.04	6/30/2014	0	8/14/2014	0.21
5/19/2014	0	7/1/2014	0	8/15/2014	0
5/20/2014	0	7/2/2014	0	8/16/2014	0
5/21/2014	0	7/3/2014	0	8/17/2014	0
5/22/2014	0	7/4/2014	0	8/18/2014	0
5/23/2014	0.19	7/5/2014	0	8/19/2014	0
5/24/2014	0	7/6/2014	0	8/20/2014	0
5/25/2014	0.28	7/7/2014	0	8/21/2014	0

8/22/2014	0	10/4/2014	0	11/16/2014	0
8/23/2014	0	10/5/2014	0	11/17/2014	0
8/24/2014	0	10/6/2014	0	11/18/2014	0
8/25/2014	0	10/7/2014	0	11/19/2014	0
8/26/2014	0	10/8/2014	0	11/20/2014	0.11
8/27/2014	0	10/9/2014	0	11/21/2014	0.67
8/28/2014	0	10/10/2014	0	11/22/2014	0.03
8/29/2014	0	10/11/2014	0	11/23/2014	0.43
8/30/2014	0	10/12/2014	0	11/24/2014	0.01
8/31/2014	0	10/13/2014	0	11/25/2014	0.33
9/1/2014	0	10/14/2014	0.13	11/26/2014	0.01
9/2/2014	0	10/15/2014	0.44	11/27/2014	0.04
9/3/2014	0	10/16/2014	0	11/28/2014	1.39
9/4/2014	0	10/17/2014	0.14	11/29/2014	0.06
9/5/2014	0	10/18/2014	0.32	11/30/2014	0
9/6/2014	0	10/19/2014	0	12/1/2014	0
9/7/2014	0	10/20/2014	0.44	12/2/2014	0
9/8/2014	0	10/21/2014	0.1	12/3/2014	0
9/9/2014	0	10/22/2014	1.47	12/4/2014	0.06
9/10/2014	0	10/23/2014	0.33	12/5/2014	0.11
9/11/2014	0	10/24/2014	0.2	12/6/2014	0.25
9/12/2014	0	10/25/2014	0.37	12/7/2014	0
9/13/2014	0	10/26/2014	0.06	12/8/2014	0.45
9/14/2014	0	10/27/2014	0.02	12/9/2014	0.43
9/15/2014	0	10/28/2014	0.44	12/10/2014	0.49
9/16/2014	0	10/29/2014	0.02	12/11/2014	0.33
9/17/2014	0	10/30/2014	0.75	12/12/2014	0
9/18/2014	0	10/31/2014	0.7	12/13/2014	0.01
9/19/2014	0	11/1/2014	0	12/14/2014	0
9/20/2014	0	11/2/2014	0.12	12/15/2014	0
9/21/2014	0	11/3/2014	0.24	12/16/2014	0
9/22/2014	0	11/4/2014	0.07	12/17/2014	0.16
9/23/2014	0	11/5/2014	0.27	12/18/2014	0.6
9/24/2014	0.66	11/6/2014	0.22	12/19/2014	0.14
9/25/2014	0.27	11/7/2014	0	12/20/2014	0.66
9/26/2014	0.19	11/8/2014	0	12/21/2014	0
9/27/2014	0	11/9/2014	0.29	12/22/2014	0
9/28/2014	0	11/10/2014	0	12/23/2014	0.66
9/29/2014	0	11/11/2014	0	12/24/2014	0.12
9/30/2014	0	11/12/2014	0	12/25/2014	0
10/1/2014	0	11/13/2014	0	12/26/2014	0
10/2/2014	0	11/14/2014	0	12/27/2014	0.12
10/3/2014	0	11/15/2014	0	12/28/2014	0.06

12/29/2014	0	2/10/2015	0.02	3/25/2015	0.13
12/30/2014	0	2/11/2015	0	3/26/2015	0
12/31/2014	0	2/12/2015	0.02	3/27/2015	0.01
1/1/2015	0	2/13/2015	0	3/28/2015	0
1/2/2015	0.03	2/14/2015	0.06	3/29/2015	0
1/3/2015	0.01	2/15/2015	0	3/30/2015	0.04
1/4/2015	0.21	2/16/2015	0	3/31/2015	0.36
1/5/2015	0.07	2/17/2015	0	4/1/2015	0.05
1/6/2015	0.01	2/18/2015	0	4/2/2015	0
1/7/2015	0	2/19/2015	0.03	4/3/2015	0.05
1/8/2015	0	2/20/2015	0.02	4/4/2015	0
1/9/2015	0.01	2/21/2015	0	4/5/2015	0
1/10/2015	0.19	2/22/2015	0	4/6/2015	0
1/11/2015	0.06	2/23/2015	0	4/7/2015	0.01
1/12/2015	0	2/24/2015	0	4/8/2015	0
1/13/2015	0	2/25/2015	0.07	4/9/2015	0
1/14/2015	0	2/26/2015	0.26	4/10/2015	0.54
1/15/2015	0.43	2/27/2015	0.69	4/11/2015	0
1/16/2015	0	2/28/2015	0	4/12/2015	0
1/17/2015	0.84	3/1/2015	0	4/13/2015	0.55
1/18/2015	0.24	3/2/2015	0	4/14/2015	0.06
1/19/2015	0.03	3/3/2015	0	4/15/2015	0
1/20/2015	0	3/4/2015	0	4/16/2015	0
1/21/2015	0	3/5/2015	0	4/17/2015	0
1/22/2015	0.03	3/6/2015	0	4/18/2015	0
1/23/2015	0.08	3/7/2015	0	4/19/2015	0
1/24/2015	0.02	3/8/2015	0	4/20/2015	0
1/25/2015	0.01	3/9/2015	0	4/21/2015	0.16
1/26/2015	0	3/10/2015	0.02	4/22/2015	0
1/27/2015	0.02	3/11/2015	0.08	4/23/2015	0.1
1/28/2015	0	3/12/2015	0	4/24/2015	0.16
1/29/2015	0	3/13/2015	0.09	4/25/2015	0.01
1/30/2015	0	3/14/2015	0.63	4/26/2015	0
1/31/2015	0	3/15/2015	2.45	4/27/2015	0
2/1/2015	0.04	3/16/2015	0	4/28/2015	0.12
2/2/2015	0.3	3/17/2015	0.04	4/29/2015	0
2/3/2015	0.03	3/18/2015	0	4/30/2015	0
2/4/2015	0.32	3/19/2015	0.01	5/1/2015	0
2/5/2015	0.9	3/20/2015	0.13	5/2/2015	0
2/6/2015	0.75	3/21/2015	0.14	5/3/2015	0
2/7/2015	0.82	3/22/2015	0.07	5/4/2015	0
2/8/2015	0.15	3/23/2015	0.21	5/5/2015	0.25
2/9/2015	0.15	3/24/2015	0.28	5/6/2015	0

5/7/2015	0	6/19/2015	0.07	8/1/2015	0
5/8/2015	0	6/20/2015	0	8/2/2015	0
5/9/2015	0	6/21/2015	0	8/3/2015	0
5/10/2015	0	6/22/2015	0	8/4/2015	0
5/11/2015	0	6/23/2015	0	8/5/2015	0
5/12/2015	0.12	6/24/2015	0	8/6/2015	0
5/13/2015	0.13	6/25/2015	0	8/7/2015	0
5/14/2015	0	6/26/2015	0	8/8/2015	0
5/15/2015	0.01	6/27/2015	0	8/9/2015	0
5/16/2015	0	6/28/2015	0	8/10/2015	0
5/17/2015	0	6/29/2015	0.01	8/11/2015	0
5/18/2015	0	6/30/2015	0	8/12/2015	0.04
5/19/2015	0	7/1/2015	0	8/13/2015	0
5/20/2015	0	7/2/2015	0	8/14/2015	0.82
5/21/2015	0	7/3/2015	0	8/15/2015	0
5/22/2015	0	7/4/2015	0	8/16/2015	0
5/23/2015	0	7/5/2015	0	8/17/2015	0
5/24/2015	0	7/6/2015	0	8/18/2015	0
5/25/2015	0	7/7/2015	0	8/19/2015	0
5/26/2015	0	7/8/2015	0	8/20/2015	0
5/27/2015	0	7/9/2015	0	8/21/2015	0
5/28/2015	0	7/10/2015	0	8/22/2015	0
5/29/2015	0	7/11/2015	0	8/23/2015	0
5/30/2015	0	7/12/2015	0	8/24/2015	0
5/31/2015	0	7/13/2015	0	8/25/2015	0
6/1/2015	0.09	7/14/2015	0	8/26/2015	0
6/2/2015	0	7/15/2015	0	8/27/2015	0
6/3/2015	0	7/16/2015	0	8/28/2015	0.01
6/4/2015	0	7/17/2015	0	8/29/2015	0.22
6/5/2015	0	7/18/2015	0	8/30/2015	0.27
6/6/2015	0	7/19/2015	0	8/31/2015	0.05
6/7/2015	0	7/20/2015	0	9/1/2015	0.18
6/8/2015	0	7/21/2015	0.13	9/2/2015	0.01
6/9/2015	0	7/22/2015	0	9/3/2015	0
6/10/2015	0	7/23/2015	0	9/4/2015	0
6/11/2015	0	7/24/2015	0.02	9/5/2015	0.06
6/12/2015	0	7/25/2015	0.01	9/6/2015	0.19
6/13/2015	0	7/26/2015	0.1	9/7/2015	0
6/14/2015	0	7/27/2015	0.01	9/8/2015	0
6/15/2015	0	7/28/2015	0	9/9/2015	0
6/16/2015	0	7/29/2015	0	9/10/2015	0.01
6/17/2015	0	7/30/2015	0	9/11/2015	0
6/18/2015	0	7/31/2015	0	9/12/2015	0

9/13/2015	0.03	10/26/2015	0.09	12/8/2015	1.51
9/14/2015	0	10/27/2015	0.01	12/9/2015	0.55
9/15/2015	0	10/28/2015	0.1	12/10/2015	0.63
9/16/2015	0.05	10/29/2015	0.02	12/11/2015	0.01
9/17/2015	0.57	10/30/2015	0.56	12/12/2015	0.56
9/18/2015	0.01	10/31/2015	0.83	12/13/2015	0.11
9/19/2015	0	11/1/2015	0.47	12/14/2015	0
9/20/2015	0.09	11/2/2015	0.07	12/15/2015	0.02
9/21/2015	0	11/3/2015	0.07	12/16/2015	0.13
9/22/2015	0	11/4/2015	0	12/17/2015	0.82
9/23/2015	0	11/5/2015	0.01	12/18/2015	0.54
9/24/2015	0	11/6/2015	0.01	12/19/2015	0.01
9/25/2015	0.03	11/7/2015	0.49	12/20/2015	0.19
9/26/2015	0	11/8/2015	0.38	12/21/2015	0.83
9/27/2015	0	11/9/2015	0.16	12/22/2015	0.12
9/28/2015	0	11/10/2015	0.07	12/23/2015	0.09
9/29/2015	0	11/11/2015	0.04	12/24/2015	0.11
9/30/2015	0	11/12/2015	0.24	12/25/2015	0.05
10/1/2015	0.01	11/13/2015	1.31	12/26/2015	0
10/2/2015	0.01	11/14/2015	1.66	12/27/2015	0.32
10/3/2015	0	11/15/2015	0.73	12/28/2015	0.03
10/4/2015	0	11/16/2015	0.09	12/29/2015	0
10/5/2015	0	11/17/2015	0.74	12/30/2015	0
10/6/2015	0.01	11/18/2015	0.05	12/31/2015	0
10/7/2015	0.38	11/19/2015	0.08	1/1/2016	0
10/8/2015	0	11/20/2015	0	1/2/2016	0
10/9/2015	0.01	11/21/2015	0	1/3/2016	0.01
10/10/2015	0.77	11/22/2015	0	1/4/2016	0.07
10/11/2015	0	11/23/2015	0.12	1/5/2016	0.11
10/12/2015	0.36	11/24/2015	0.21	1/6/2016	0
10/13/2015	0.05	11/25/2015	0	1/7/2016	0
10/14/2015	0	11/26/2015	0	1/8/2016	0
10/15/2015	0	11/27/2015	0	1/9/2016	0
10/16/2015	0.01	11/28/2015	0	1/10/2016	0
10/17/2015	0.04	11/29/2015	0	1/11/2016	0.07
10/18/2015	0.16	11/30/2015	0.01	1/12/2016	0.52
10/19/2015	0	12/1/2015	0.39	1/13/2016	0.57
10/20/2015	0	12/2/2015	0.07	1/14/2016	0
10/21/2015	0	12/3/2015	0.51	1/15/2016	0.04
10/22/2015	0.01	12/4/2015	0.12	1/16/2016	0.41
10/23/2015	0	12/5/2015	0.81	1/17/2016	0.32
10/24/2015	0.01	12/6/2015	0.55	1/18/2016	0.05
10/25/2015	0.35	12/7/2015	1.07	1/19/2016	0.46

1/20/2016	0.2	3/5/2016	0.2	4/17/2016	0
1/21/2016	1.27	3/6/2016	0.39	4/18/2016	0
1/22/2016	0.27	3/7/2016	0.26	4/19/2016	0
1/23/2016	0.53	3/8/2016	0.05	4/20/2016	0
1/24/2016	0	3/9/2016	0.95	4/21/2016	0
1/25/2016	0	3/10/2016	0.32	4/22/2016	0.02
1/26/2016	0.27	3/11/2016	0.36	4/23/2016	0.02
1/27/2016	0.81	3/12/2016	0.02	4/24/2016	0.35
1/28/2016	0.51	3/13/2016	0.52	4/25/2016	0.02
1/29/2016	0.18	3/14/2016	0.06	4/26/2016	0
1/30/2016	0.02	3/15/2016	0	4/27/2016	0
1/31/2016	0	3/16/2016	0	4/28/2016	0
2/1/2016	0.25	3/17/2016	0	4/29/2016	0.04
2/2/2016	0.02	3/18/2016	0	4/30/2016	0
2/3/2016	0.48	3/19/2016	0	5/1/2016	0
2/4/2016	0.05	3/20/2016	0.08	5/2/2016	0
2/5/2016	0.15	3/21/2016	0.28	5/3/2016	0
2/6/2016	0	3/22/2016	0.01	5/4/2016	0
2/7/2016	0	3/23/2016	0.13	5/5/2016	0
2/8/2016	0	3/24/2016	0	5/7/2016	0
2/9/2016	0	3/25/2016	0	5/8/2016	0.02
2/10/2016	0.16	3/26/2016	0.09	5/9/2016	0
2/11/2016	0.38	3/27/2016	0.43	5/10/2016	0
2/12/2016	0.85	3/28/2016	0	5/11/2016	0
2/15/2016	0.12	3/29/2016	0	5/12/2016	0
2/16/2016	0.01	3/30/2016	0	5/13/2016	0
2/17/2016	0.46	3/31/2016	0	5/14/2016	0
2/18/2016	0.12	4/1/2016	0	5/15/2016	0
2/19/2016	0.49	4/2/2016	0	5/16/2016	0
2/20/2016	0	4/3/2016	0.18	5/17/2016	0
2/21/2016	0.07	4/4/2016	0.11	5/18/2016	0
2/22/2016	0.01	4/5/2016	0	5/19/2016	0.22
2/23/2016	0	4/6/2016	0	5/20/2016	0
2/24/2016	0.02	4/7/2016	0	5/21/2016	0.04
2/25/2016	0	4/8/2016	0	5/22/2016	0
2/26/2016	0.15	4/9/2016	0	5/23/2016	0
2/27/2016	0.08	4/10/2016	0	5/24/2016	0
2/28/2016	0.69	4/11/2016	0	5/25/2016	0
2/29/2016	0.11	4/12/2016	0.44	5/26/2016	0
3/1/2016	0.71	4/13/2016	0.03	5/27/2016	0.02
3/2/2016	0.27	4/14/2016	0.17	5/28/2016	0.03
3/3/2016	0.03	4/15/2016	0	5/29/2016	0
3/4/2016	0.21	4/16/2016	0	5/30/2016	0

5/31/2016	0	7/14/2016	0	8/26/2016	0
6/1/2016	0	7/15/2016	0	8/27/2016	0
6/2/2016	0	7/16/2016	0	8/28/2016	0
6/3/2016	0	7/17/2016	0	8/29/2016	0
6/4/2016	0	7/18/2016	0	8/30/2016	0
6/5/2016	0	7/19/2016	0	8/31/2016	0
6/6/2016	0	7/20/2016	0	9/1/2016	0
6/7/2016	0	7/21/2016	0	9/2/2016	0
6/8/2016	0	7/22/2016	0.21	9/3/2016	0
6/9/2016	0.07	7/23/2016	0	9/4/2016	0
6/10/2016	0	7/24/2016	0	9/5/2016	0
6/11/2016	0.1	7/25/2016	0	9/6/2016	0
6/12/2016	0	7/26/2016	0	9/7/2016	0.02
6/13/2016	0	7/27/2016	0	9/8/2016	0
6/14/2016	0.05	7/28/2016	0	9/9/2016	0
6/15/2016	0	7/29/2016	0	9/10/2016	0
6/16/2016	0	7/30/2016	0	9/11/2016	0
6/17/2016	0.34	7/31/2016	0	9/12/2016	0
6/18/2016	0.04	8/1/2016	0	9/13/2016	0
6/19/2016	0	8/2/2016	0	9/14/2016	0
6/20/2016	0.56	8/3/2016	0	9/15/2016	0
6/21/2016	0.07	8/4/2016	0	9/16/2016	0
6/22/2016	0	8/5/2016	0	9/17/2016	0.09
6/23/2016	0.36	8/6/2016	0	9/18/2016	0
6/24/2016	0.13	8/7/2016	0.03	9/19/2016	0.01
6/25/2016	0	8/8/2016	0	9/20/2016	0
6/26/2016	0	8/9/2016	0	9/21/2016	0
6/27/2016	0	8/10/2016	0	9/22/2016	0
6/28/2016	0	8/11/2016	0	9/23/2016	0
6/29/2016	0	8/12/2016	0	9/24/2016	0
6/30/2016	0	8/13/2016	0	9/25/2016	0
7/1/2016	0	8/14/2016	0	9/26/2016	0
7/2/2016	0	8/15/2016	0	9/27/2016	0
7/3/2016	0	8/16/2016	0	9/28/2016	0
7/4/2016	0	8/17/2016	0	9/29/2016	0
7/5/2016	0	8/18/2016	0	9/30/2016	0
7/6/2016	0	8/19/2016	0	10/1/2016	0.1
7/7/2016	0.07	8/20/2016	0	10/2/2016	0
7/8/2016	0.18	8/21/2016	0	10/3/2016	0.01
7/9/2016	0.02	8/22/2016	0	10/4/2016	0.11
7/10/2016	0	8/23/2016	0	10/5/2016	0.03
7/12/2016	0	8/24/2016	0	10/6/2016	0.34
7/13/2016	0	8/25/2016	0	10/7/2016	0.08

10/8/2016	0.65	11/20/2016	0.1	1/2/2017	0
10/9/2016	0.21	11/21/2016	0.03	1/3/2017	0
10/10/2016	0	11/22/2016	0.52	1/4/2017	0
10/11/2016	0	11/23/2016	0.26	1/5/2017	0
10/12/2016	0.01	11/24/2016	1.16	1/6/2017	0
10/13/2016	1.74	11/25/2016	0.05	1/7/2017	0
10/14/2016	1.49	11/26/2016	0.52	1/8/2017	0.56
10/15/2016	0.68	11/27/2016	0.42	1/9/2017	0.06
10/16/2016	0.52	11/28/2016	0	1/10/2017	0.1
10/17/2016	0.04	11/29/2016	0.06	1/11/2017	0
10/18/2016	0.12	11/30/2016	0.19	1/12/2017	0
10/19/2016	0.18	12/1/2016	0	1/13/2017	0
10/20/2016	1.17	12/2/2016	0.2	1/14/2017	0
10/21/2016	0.01	12/3/2016	0.06	1/15/2017	0
10/22/2016	0.04	12/4/2016	0.17	1/16/2017	0
10/23/2016	0.11	12/5/2016	0.23	1/17/2017	1.52
10/24/2016	0.13	12/6/2016	0	1/18/2017	1.21
10/25/2016	0.02	12/7/2016	0	1/19/2017	0.13
10/26/2016	1.46	12/8/2016	0.04	1/20/2017	0
10/27/2016	0.07	12/9/2016	0.29	1/21/2017	0.04
10/28/2016	0.01	12/10/2016	0.21	1/22/2017	0.12
10/29/2016	0.17	12/11/2016	0.06	1/23/2017	0
10/30/2016	0.23	12/12/2016	0.02	1/24/2017	0
10/31/2016	0.75	12/13/2016	0	1/25/2017	0
11/1/2016	0.26	12/14/2016	0	1/26/2017	0
11/2/2016	0.48	12/15/2016	0	1/27/2017	0
11/3/2016	0	12/16/2016	0	1/28/2017	0
11/4/2016	0	12/17/2016	0	1/29/2017	0
11/5/2016	0.94	12/18/2016	0	1/30/2017	0
11/6/2016	0.21	12/19/2016	0.55	1/31/2017	0.01
11/7/2016	0.05	12/20/2016	0.01	2/1/2017	0
11/8/2016	0	12/21/2016	0	2/2/2017	0
11/9/2016	0.19	12/22/2016	0.36	2/3/2017	0.66
11/10/2016	0	12/23/2016	0.61	2/4/2017	0.71
11/11/2016	0	12/24/2016	0	2/5/2017	0.68
11/12/2016	0.09	12/25/2016	0	2/6/2017	0.39
11/13/2016	0.25	12/26/2016	0.39	2/7/2017	0
11/14/2016	0.24	12/27/2016	0	2/8/2017	0.76
11/15/2016	1.02	12/28/2016	0	2/9/2017	1.55
11/16/2016	0	12/29/2016	0.13	2/10/2017	0.06
11/17/2016	0	12/30/2016	0.06	2/11/2017	0.01
11/18/2016	0	12/31/2016	0	2/12/2017	0
11/19/2016	0.1	1/1/2017	0.16	2/13/2017	0

2/14/2017	0.23	3/29/2017	0.41	5/11/2017	0.38
2/15/2017	1.65	3/30/2017	0.01	5/12/2017	0.19
2/16/2017	0.46	3/31/2017	0	5/13/2017	0.08
2/17/2017	0	4/1/2017	0.06	5/14/2017	0.01
2/18/2017	0.13	4/2/2017	0.05	5/15/2017	0.28
2/19/2017	0.12	4/3/2017	0	5/16/2017	0.14
2/20/2017	0.2	4/4/2017	0.09	5/17/2017	0
2/21/2017	0.22	4/5/2017	0.51	5/18/2017	0
2/22/2017	0.01	4/6/2017	0.27	5/19/2017	0
2/23/2017	0.03	4/7/2017	0.37	5/20/2017	0
2/24/2017	0	4/8/2017	0.06	5/21/2017	0
2/25/2017	0	4/9/2017	0.01	5/22/2017	0
2/26/2017	0.26	4/10/2017	0.35	5/23/2017	0
2/27/2017	0.46	4/11/2017	0.01	5/24/2017	0
2/28/2017	0	4/12/2017	0.87	5/25/2017	0
3/1/2017	0	4/13/2017	0.13	5/26/2017	0
3/2/2017	0.07	4/14/2017	0.02	5/27/2017	0
3/3/2017	0.59	4/15/2017	0	5/28/2017	0
3/4/2017	0.03	4/16/2017	0	5/29/2017	0
3/5/2017	0.11	4/17/2017	0.06	5/30/2017	0
3/6/2017	0	4/18/2017	0.22	5/31/2017	0.05
3/7/2017	0.46	4/19/2017	0.38	6/1/2017	0
3/8/2017	0.03	4/20/2017	0	6/2/2017	0
3/9/2017	0.53	4/21/2017	0	6/3/2017	0
3/10/2017	0.02	4/22/2017	0.13	6/4/2017	0
3/11/2017	0.28	4/23/2017	0.21	6/5/2017	0
3/12/2017	0.02	4/24/2017	0.02	6/6/2017	0
3/13/2017	0.51	4/25/2017	0.01	6/7/2017	0.02
3/14/2017	0.36	4/26/2017	0.04	6/8/2017	0.27
3/15/2017	0.71	4/27/2017	0.02	6/9/2017	0
3/16/2017	0	4/28/2017	0.06	6/10/2017	0
3/17/2017	0.77	4/29/2017	0.06	6/11/2017	0
3/18/2017	0.47	4/30/2017	0.05	6/12/2017	0
3/19/2017	0	5/1/2017	0.07	6/13/2017	0
3/20/2017	0	5/2/2017	0.13	6/14/2017	0
3/21/2017	0.17	5/3/2017	0.19	6/15/2017	0.9
3/22/2017	0	5/4/2017	0.36	6/16/2017	0
3/23/2017	0.25	5/5/2017	0.19	6/17/2017	0.01
3/24/2017	0.45	5/6/2017	0.43	6/18/2017	0
3/25/2017	0.01	5/7/2017	0	6/19/2017	0
3/26/2017	0.31	5/8/2017	0	6/20/2017	0
3/27/2017	0.08	5/9/2017	0	6/21/2017	0
3/28/2017	0.08	5/10/2017	0	6/22/2017	0

6/23/2017	0	8/5/2017	0	9/17/2017	0.06
6/24/2017	0	8/6/2017	0	9/18/2017	0.17
6/25/2017	0	8/7/2017	0	9/19/2017	0.27
6/26/2017	0	8/8/2017	0	9/20/2017	0.04
6/27/2017	0	8/9/2017	0	9/21/2017	0
6/28/2017	0	8/10/2017	0	9/22/2017	0
6/29/2017	0	8/11/2017	0	9/23/2017	0
6/30/2017	0	8/12/2017	0.02	9/24/2017	0
7/1/2017	0	8/13/2017	0	9/25/2017	0.02
7/2/2017	0	8/14/2017	0	9/26/2017	0
7/3/2017	0	8/15/2017	0	9/27/2017	0
7/4/2017	0	8/16/2017	0	9/28/2017	0
7/5/2017	0	8/17/2017	0	9/29/2017	0.04
7/6/2017	0	8/18/2017	0	9/30/2017	0.03
7/7/2017	0	8/19/2017	0	10/1/2017	0
7/8/2017	0	8/20/2017	0	10/2/2017	0
7/9/2017	0	8/21/2017	0	10/3/2017	0
7/10/2017	0	8/22/2017	0	10/4/2017	0
7/11/2017	0	8/23/2017	0	10/5/2017	0
7/12/2017	0	8/24/2017	0	10/6/2017	0
7/13/2017	0	8/25/2017	0	10/7/2017	0.08
7/14/2017	0	8/26/2017	0	10/8/2017	0
7/15/2017	0	8/27/2017	0	10/9/2017	0
7/16/2017	0	8/28/2017	0	10/10/2017	0.01
7/17/2017	0	8/29/2017	0	10/11/2017	0
7/18/2017	0	8/30/2017	0	10/12/2017	0.15
7/19/2017	0	8/31/2017	0	10/13/2017	0
7/20/2017	0	9/1/2017	0	10/14/2017	0
7/21/2017	0	9/2/2017	0	10/15/2017	0
7/22/2017	0	9/3/2017	0	10/16/2017	0
7/23/2017	0	9/4/2017	0	10/17/2017	0.05
7/24/2017	0	9/5/2017	0	10/18/2017	1.04
7/25/2017	0	9/6/2017	0	10/19/2017	0.41
7/26/2017	0	9/7/2017	0	10/20/2017	0.11
7/27/2017	0	9/8/2017	0	10/21/2017	0.19
7/28/2017	0	9/9/2017	0	10/22/2017	0.04
7/29/2017	0	9/10/2017	0	10/23/2017	0
7/30/2017	0	9/11/2017	0	10/24/2017	0
7/31/2017	0	9/12/2017	0	10/25/2017	0
8/1/2017	0	9/13/2017	0	10/26/2017	0
8/2/2017	0	9/14/2017	0	10/27/2017	0
8/3/2017	0	9/15/2017	0	10/28/2017	0
8/4/2017	0	9/16/2017	0	10/29/2017	0

10/30/2017	0	12/14/2017	0	1/26/2018	0.18
10/31/2017	0	12/15/2017	0.02	1/27/2018	0.56
11/1/2017	0	12/16/2017	0.1	1/28/2018	0.03
11/2/2017	0.08	12/17/2017	0.01	1/29/2018	0.89
11/3/2017	0	12/18/2017	0.69	1/30/2018	0
11/4/2017	0.01	12/19/2017	1.14	1/31/2018	0
11/6/2017	0	12/20/2017	0.07	2/1/2018	0.57
11/8/2017	0.13	12/21/2017	0	2/2/2018	0.02
11/9/2017	0.27	12/22/2017	0.06	2/3/2018	0.11
11/10/2017	0	12/23/2017	0	2/4/2018	0.02
11/11/2017	0.14	12/24/2017	0.11	2/5/2018	0
11/12/2017	0.57	12/25/2017	0.07	2/6/2018	0
11/13/2017	0.61	12/26/2017	0	2/7/2018	0
11/14/2017	0.07	12/27/2017	0	2/8/2018	0.08
11/15/2017	0.64	12/28/2017	0.09	2/9/2018	0.05
11/16/2017	0.08	12/29/2017	1.37	2/10/2018	0
11/17/2017	0	12/30/2017	0.08	2/11/2018	0
11/18/2017	0	12/31/2017	0	2/12/2018	0
11/19/2017	0.38	1/1/2018	0	2/13/2018	0.16
11/20/2017	0.49	1/2/2018	0	2/14/2018	0.09
11/21/2017	1.26	1/3/2018	0	2/15/2018	0.01
11/22/2017	0.56	1/4/2018	0.13	2/16/2018	0.07
11/23/2017	0.1	1/5/2018	0.39	2/17/2018	0.25
11/24/2017	0	1/6/2018	0.23	2/18/2018	0.03
11/25/2017	0.22	1/7/2018	0.4	2/19/2018	0
11/26/2017	0.2	1/8/2018	0.11	2/20/2018	0
11/27/2017	0	1/9/2018	0.29	2/21/2018	0.02
11/28/2017	0.57	1/10/2018	0.1	2/22/2018	0
11/29/2017	0.01	1/11/2018	0.88	2/23/2018	0
11/30/2017	0.26	1/12/2018	0.1	2/24/2018	0.03
12/1/2017	0.21	1/13/2018	0	2/25/2018	0.06
12/2/2017	0.61	1/14/2018	0	2/26/2018	0
12/3/2017	0.04	1/15/2018	0.07	2/27/2018	0.51
12/4/2017	0	1/16/2018	0.18	2/28/2018	0.37
12/5/2017	0	1/17/2018	0.38	3/1/2018	0.02
12/6/2017	0	1/18/2018	0.67	3/2/2018	0.16
12/7/2017	0	1/19/2018	0.02	3/3/2018	0
12/8/2017	0	1/20/2018	0.05	3/4/2018	0.07
12/9/2017	0	1/21/2018	0.22	3/5/2018	0
12/10/2017	0	1/22/2018	0.14	3/6/2018	0
12/11/2017	0	1/23/2018	0.8	3/7/2018	0.05
12/12/2017	0	1/24/2018	0.39	3/8/2018	0.45
12/13/2017	0	1/25/2018	0.12	3/9/2018	0

3/10/2018	0
3/11/2018	0
3/12/2018	0
3/13/2018	0.16
3/14/2018	0.01
3/15/2018	0
3/16/2018	0
3/17/2018	0
3/18/2018	0
3/19/2018	0
3/20/2018	0
3/21/2018	0.14
3/22/2018	0.36
3/23/2018	0.35
3/24/2018	0.16
3/25/2018	0
3/26/2018	0.06
3/27/2018	0
3/28/2018	0
3/29/2018	0
3/30/2018	0
3/31/2018	0
4/1/2018	0.14
4/2/2018	0
4/3/2018	0
4/4/2018	0.27
4/5/2018	0.19
4/6/2018	0
4/7/2018	0.74



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

August 25, 2017

Susanne McIlveen
The Boeing Company
M/C: 4C-71
P.O. Box 3707
Seattle, WA 98125

**Re: Stormwater Engineering Report – Boeing Military Flight Center at 10002 E
Marginal Way South, Tukwila, WA**

Dear Ms. McIlveen,

The Washington State Department of Ecology (Ecology) has reviewed The Boeing Company's (Boeing) Stormwater Engineering Report (Report) prepared by Landau Associates and submitted to comply with Administrative Order (Order) Docket No. 13932, dated March 23, 2017, for the Boeing Military Flight¹ Center (Facility). Ecology's Northwest Regional Office (NWRO) received the Report on July 7, 2017. Bo Li, P.E., at Ecology's NWRO, reviewed the Report.

Ecology cannot grant approval of the Report. Ecology finds that the engineering design provided does not demonstrate that the Facility can meet the requirements in the Industrial Stormwater General Permit (ISGP), Permit # WAR000150 (Permit). Ecology's conclusion is based on the findings below.

1. The Report fails to propose treatment for runoff from Area 1. Boeing does not monitor discharges from Area 1. The lack of monitoring for Area 1 indicates that Boeing has determined that the industrial activities in Area 1 are substantially identical to Area 2 according to permit condition S4.B.2.c. Accordingly, the same treatment implemented for Area 2 is required for Area 1 as well.

¹ Boeing has requested to change the name of the facility to Military Delivery Center. Until such time as the name change is officially requested and processed, Ecology will use Military Flight Center.



2. The Report fails to adequately describe the pipe repair proposed for Area 4: Detailed design is needed for the pipe repair. Specify which alternative is proposed and provide a detailed engineering design.
3. Existing Area 2 infiltration must cease and proposed additional infiltration is not approved. Infiltration of untreated industrial stormwater above the ground water quality standards of WAC 173-200 is not allowed according to Permit condition S10.A and must cease. Industrial stormwater must meet the groundwater quality standards of WAC 173-200 before discharge to the ground surface or be discharged to a properly engineered and constructed infiltration system as detailed in the current version of the Stormwater Management Manual for Western Washington (Manual) or an approved equivalent. The existing rock infiltration trench and proposed infiltration system do not meet the design standards and requirements for infiltration systems as detailed in the Manual.
4. Untreated runoff from Area 2 must not sheet flow onto the adjacent site. Runoff from Area 2 sheet flows east to the adjacent property. According to Permit condition S3.B.4.b.ii.2, regarding structural source control BMPs, permittees shall "use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas." Boeing must use grading, berming, curbing, or another acceptable alternative, that ensures untreated runoff does not sheet flow to the adjacent site.
5. Treatment must be proposed for Area 2 and Area 1. Boeing must propose treatment for runoff from Area 2. As described above, because Area 1 has substantially similar industrial activities as Area 2, the runoff from Area 1 must be treated equivalent to runoff from Area 2. The proposed treatment technology and design needs to be able to reduce pollutants in stormwater runoff sufficient to meet applicable water quality standards, effluent limits, and benchmarks. The proposed treatment must also address PCBs (see below and Table 2 of the Report).
6. Treatment proposed for Area 3 is insufficient. The Area 3 monitoring results (Table 2 of the Report) indicate that there are levels of PCBs that exceed chronic aquatic life criteria for marine water (0.03 µg/L) in discharges. The proposed CleanWay catch basins inserts with MetalZorb™ media are not designed for PCB removal and have not been demonstrated to be able to address PCBs. Alternative treatment needs to be selected and designed to address PCBs in the discharges.

In closing, the engineering analysis and other details provided in the Report do not demonstrate Permit compliance and will not protect surface and groundwater quality. Boeing must address the issues noted above and revise and resubmit the engineering report for Ecology's review and approval as soon as possible. Implementation of the approved treatment is due by October 31, 2017. Ecology may take further enforcement actions if the issues noted above are not addressed. If you have questions or need additional information, please do not hesitate to contact Bo Li, P.E.

S. McIlveen, Boeing
August 25, 2017
Page 3 of 3

at bo.li@ecy.wa.gov, or call her at (425) 649-7284; or Robert Wright at
robert.wright@ecy.wa.gov, or call him at (425) 649-7060.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Henley', with a stylized flourish at the end.

Mark Henley, P.E.
Water Quality Section Manager
Northwest Regional Office

cc: Central File: WQ 9.5, **Boeing Military Flight Center, WAR000150**
Bo Li, NWRO, Ecology
Ronald Lavigne, AAG, Attorney General's Office