FACT SHEET

NPDES Permit Number:	WAS026638
Date:	August 6, 2014
Public Comment Expiration Date:	September 8, 2014
Technical Contact:	Misha Vakoc (206) 553-6650 vakoc.misha@epa.gov

The U.S. Environmental Protection Agency (EPA) Proposes to Modify a National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges To:

Joint Base Lewis-McChord, Washington

EPA Proposes to Modify NPDES Permit

EPA proposes to modify the NPDES permit issued on August 22, 2013, for discharges from municipal separate storm sewer system (MS4) owned or operated by Joint Base Lewis-McChord. Specifically, EPA proposes to revise to the following provisions:

- **Amend Permit Part II.B.5** (*Stormwater Management Measures for Areas of New and Redevelopment)*, by: specifying that alternative documents may be submitted by the permittee for EPA review to determine if they are functionally equivalent to directives in the 2012 *Western Washington Stormwater Management Manual*; reorganizing Parts II.B.5.e and II.B.5.f for clarity; and editing the corresponding provisions in II.A.7 (*Equivalent Documents, Plans, or Programs*); VII (*Definitions and Acronyms*); and Appendix C-6 and C-7 (*Exemptions from the Requirements of Part II.B.5*).

- **Revise Permit Part II.C** (*Stormwater Retrofits*), to reorganize and amend the requirements by adding further assessment of MS4 discharges into Clover Creek; and to revise Part IV (Monitoring, Recordkeeping and Reporting) to reflect such changes.

- **Revise deadlines for specific SWMP actions** found in: Permit Parts II.A.3 (*SWMP Document*); II.B.2.c (*SWMP availability*); II.B.3.g, II.B.4.h; II.B.5.k; II.B.6.g (*Training*); II.B.4.g (*Construction Site Inspection Plan*); and II.B.5.i (*Inspections of permanent stormwater facilities*).

EPA also proposes to revise all references to these modifications summarized in Permit Table III, and to correct Permit Table IV.E in order to reflect the appropriate submittal deadline for

the 5th Year Annual Report. EPA will accept public comment only on the modified provisions described in this document.

This Fact Sheet includes:

- Information on public comment, public hearing, and appeal procedures, and
- A description and rationale for the modifications proposed.

State of Washington Certification.

EPA has requested that the Washington Department of Ecology (Ecology) certify the proposed modification of this NPDES permit pursuant to Section 401 of the Clean Water Act, 33 U.S.C. § 1341. EPA may not issue the NPDES permit until Ecology has granted, denied or waived certification. On August 4, 2014, Ecology provided EPA with a letter indicating its intent to certify the permit modification pursuant to certain conditions set forth in Ecology's letter (see Appendix B of this document).

Comments regarding Ecology's intent to certify the Permit should be submitted directly to the Department of Ecology as indicated in the Public Comment section below no later than September 8, 2014. For more information about this letter of intent to certify, please contact Mr. Chris Montague-Breakwell at (360) 407-6364.

Public Comment on the Permit and the State Certification

Persons wishing to comment on the proposed permit modification, or wishing to request that a public hearing be held, may do so in writing to the EPA address indicated below. Any request for a public hearing must be received by the EPA no later than August 26, 2014, and must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All written comments on the permit modification must be received by the EPA no later than September 8, 2014, to be considered in the final determinations regarding permit issuance. All comments should include name, address, phone number, a concise statement of basis of comment and relevant facts upon which it is based. Comments on the Permit modification should be addressed to:

EPA Region 10, Office of Water and Watersheds, OWW-130
Attn: NPDES Stormwater – JBLM #WAS026638
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
Email: *vakoc.misha@epa.gov*

Comments on the State Certification should be addressed to:

Washington Department of Ecology
Water Quality Program, Southwest Regional Office
Attn: Municipal Stormwater Permit Manage
P.O. Box 47775
Olympia, WA 98504-7775
Email: *chris.montague-breakwell@ecy.wa.gov*

After the Public Notice period has ended and the public comments have been considered, EPA Region 10's Director of the Office of Water and Watersheds will make a final decision regarding permit reissuance. If no substantive comments are received, the conditions in the proposed permit will become final and the permit will become effective upon issuance. If substantive comments are received, EPA will respond to the comments and make any necessary changes to the Permit. Thereafter, EPA will obtain a final CWA § 401 certification from Ecology and issue the Permit with the response to comments. The Permit modification will become effective no earlier than 30 days after its issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days, pursuant to 40 CFR §122.19.

Documents are Available for Review

The draft NPDES permit, fact sheet and related documents can be reviewed or obtained by visiting or contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (see physical address below). The draft permit, fact sheet, and other information can also be found by visiting the EPA websites at:
http://www.epa.gov/region10/stormwater

Or
http://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/DraftPermitsORWA

U.S. EPA Region 10
Office of Water and Watersheds
1200 6th Avenue, Suite 900
OWW-130
Seattle, Washington 98101
(206) 553–0523
(800) 424–4372

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I. Facility Overview

Joint Base Lewis-McChord (JBLM) owns and operates a regulated small municipal separate storm sewer system (MS4) within its 142 square mile military installation located in Pierce and Thurston Counties, Washington (See map, Appendix A-1).

JBLM's MS4 consists of curbs, gutters, ditches, storm drains, lift stations, treatment systems, infiltration areas and structures, drainage canals, and the associated outfalls, which discharge into both surface and ground waters. The JBLM MS4 drains surface runoff from the populated, developed areas of the installation, or "cantonment areas" known as JBLM-Main, JBLM-North and JBLM-McChord Field. Land use in the cantonment areas include residential housing for family and troops; administrative and commercial areas (i.e., offices, shops and medical services); industrial areas (i.e., maintenance, logistics, and transportation activities); and open space (maintained as green belts and recreational areas). Remaining areas of the installation are used exclusively for military training operations, and have limited, if any, development. The training areas are not known to support any existing MS4 infrastructure discharging to receiving waters. (See map, Appendix A-2). Waterbodies receiving discharges from the JBLM MS4 include, but are not limited to, Murray Creek, American Lake, Clover Creek, and Puget Sound.

II. Cause for Modifications

In March 2003, JBLM (and its predecessor organizations, Fort Lewis and McChord Air Force Base) submitted NPDES permit application materials for discharges from its MS4, and augmented that information in 2011. EPA issued a NPDES Permit for discharges from the JBLM MS4 on August 22, 2013, with a scheduled effective date of October 1, 2013.

The U.S. Department of the Army ("Army") filed Motions for Extension of Time to File Petition for Review, which extended the deadline for filing a Petition for Review to November 5, 2013. On November 5, 2013, the Army filed its Petition for Review which seeking review of the new and redevelopment stormwater management provisions and the stormwater retrofits provisions as well as various compliance deadlines in the Permit.

On November 22, 2013, pursuant to 40 CFR § 124.16, EPA sent a letter notifying JBLM that the contested provisions in Permit Parts II.B.5 and II.C, and the specific compliance deadlines identified in the Army's Petition, had been stayed. Pursuant to 40 CFR § 124.16, a new effective date of December 25, 2013 for the uncontested provisions was established.

On December 5, 2013, the parties agreed to participate in the EAB's Alternative Dispute Resolution ("ADR") Program. The EAB stayed the administrative appeal proceedings through March 31, 2014 to allow the ADR process to proceed and established a due date for EPA's Response Brief of January 15, 2014. EPA filed the response brief on January 15, 2014 with accompanying documents.

As a result of the ADR process, on June 6, 2014, EPA and the Army entered into a settlement agreement whereby EPA agreed to modify various provisions of the Permit subject to public comment. At this time, EPA is issuing for public comment a draft Permit modification that reflects the agreed upon permit language. The following sections provide a brief explanation for the proposed modification.

III. Modified Permit Provisions

A. Permit Effective Date

As previously noted, EPA issued the Permit on August 22, 2013, with a scheduled effective date of October 1, 2013. The Army filed its Petition for Review on November 5, 2013. On November 22, 2013, EPA notified JBLM that all contested Permit provisions/deadlines had been stayed, and uncontested provisions would become "effective and enforceable 33 days after the date this notice is mailed." As a result, pursuant to 40 CFR § 124.16, the revised effective date for the uncontested Permit provisions was December 25, 2013.

B. Part II.A.3 (*SWMP Document*) and Part II.B.2.c (*SWMP availability*)

Part II.A.3 of the Permit requires JBLM to prepare written documentation of its SWMP within one year (12 months) from the Permit effective date, to update the document annually as needed, and to submit the document as part of each Annual Report. In Part II.B.2.c, the Permit required JBLM to make the SWMP document publicly available via JBLM's website within one year of the Permit effective date.

In the Petition for Review, the Army requested new deadlines for Parts II.A.3 and II.B.2.c of 30 months from the Permit effective date. JBLM requested additional time to accommodate JBLM's fiscal and contracting processes and obtain additional staff to complete the SWMP document prior to making the document publicly available.

EPA proposes to modify both deadlines to "no later than July 25, 2016." JBLM must subsequently submit the SWMP document in the corresponding Annual Report, which as modified requires its submittal with the 3rd Year Annual Report. Finally, EPA proposes to modify text in Table III referring to Parts II.A.3 and II.B.2.c, accordingly.

C. Part II.A.7 (*Equivalent Documents, Plans or Programs*)

The Permit allows JBLM to submit for EPA review and approval documents, plans or programs existing at the time of Permit issuance that JBLM believes are equivalent to, and would fulfill, a required SWMP control measure. EPA explained its rationale for the original provision in its January 26, 2012, Fact Sheet for the Permit and in the Response to Comments document, both of which are available within the Administrative Record for this action. As a result of ADR, EPA is proposing to modify Part II.A.7 such that JBLM could develop and submit for EPA approval new documents, plans or programs, which may fulfill specific Permit requirements.

EPA proposes to revise Part II.A.7, by deleting all references to "existing" or "pre-existing" documents, plans or programs (e.g., materials created prior to August 22, 2013). EPA also proposes a minor clarifying edit to Permit Table III's reference to Part II.A.7, adding the words "*due date*."

D. Part II.B.3.g (*Staff Training-Illicit Discharge Detection & Elimination Program*)

The Permit requires, within two years of the effective date, that JBLM ensure that all staff responsible for the Illicit Discharge Detection and Elimination (IDDE) program are trained to conduct such activities.

In the Petition, the Army noted that EPA inconsistently specified timeframes for ensuring staff are trained to implement various SWMP program areas. The Army stated that existing staff are fully trained, and any new staff would possess sufficient knowledge/background to be a competent team member, and will be subsequently trained on local issues by the respective supervisor. The Army requested EPA revise this and related training provisions by deleting any stated deadline, and adding the following sentence: "*Orientation and training concerning the JBLM stormwater management program will be accomplished within the first six months of employment for new staff who work directly on stormwater management issues*."

EPA proposes to modify Part II.B.3.g by changing this section to state: "*Orientation and training concerning the JBLM stormwater management program must be accomplished within the first six months of employment for new staff who work directly on stormwater management issues."* EPA also proposes comparable revisions to Table III's text referencing to II.B.3.g.

E. Part II.B.4.g (*Construction Site Inspection Plan*)

The Permit requires, within six months of the Permit effective date, that JBLM develop and implement a construction site inspection plan. In its Petition, the Army stated that at least 24 months of additional time would be necessary for JBLM to obtain the necessary funding for this activity and hire additional staff.

EPA proposes to modify the deadline for developing and implementing a construction site inspection plan to "*No later than January 25, 2016*..."

F. Part II.B.4.h (*Staff Training for Construction Site Stormwater Runoff Control*)

The Permit requires JBLM to ensure that all staff responsible for implementing the construction site runoff control program are adequately trained to conduct such activities throughout the Permit term. As explained in Section III.D above, the Army requested that EPA modify the Permit text to require consistent timeframes and focus on training for newly hired staff.

EPA proposes to modify Part II.B.4.h by changing this section to state: "*Orientation and training concerning the JBLM stormwater management program must be accomplished within the first six months of employment for new staff who work directly on stormwater management issues."* EPA also proposes comparable revisions to Table III's text referencing to II.B.4.h.

G. Part II.B.5 (*Stormwater Management for Areas of New Development & Redevelopment*)

In the Permit, Part II.B.5 states that not later than one year from the Permit effective date, JBLM must "implement a program to manage stormwater from developed areas in a manner that preserves and restores the area's predevelopment hydrology...[and]…use an ordinance (or other regulatory mechanism …) to implement and enforce a program to control stormwater runoff from all public and private new development or redevelopment project sites that will disturb 5,000 square feet or more of land area." Documentation and reporting requirements, allowance for certain projects to be exempt from the provisions pursuant to Appendix C, and requirements for JBLM to implement the following program components are also included: (Note: components listed here in the order they appear in the Permit):

a. site planning procedures;
b. stormwater site plans;
c. source control of pollution;
d. new development and redevelopment design to minimize impervious areas, preserve vegetation and preserve natural drainage systems;
e. hydrologic performance requirements for on-site stormwater management;
f. hydrologic performance requirements for flow control;
g. runoff treatment;
h. wetland protection;
i. inspections;
j. proper operation and maintenance; and
k. staff training requirements.

As a result of ADR, EPA and the Army agreed on several editorial corrections to the text of Part II.B.5 as detailed in items 1-10 below. EPA believes that these corrections clarify the requirements for JBLM to adequately manage stormwater at new development and redevelopment sites.

1. **EPA proposes to modify the first sentence in Part II.B.5** by deleting and adding the text in italics, for the reason outlined below:

> Not later than one year from the effective date of this permit, the Permittee must implement a program to manage stormwater from ~~developed areas~~ *new development and redevelopment project sites* in a manner that ~~preserves and restores the area's predevelopment hydrology~~ *maintains the site's predevelopment runoff conditions to the maximum extent practicable and prevents or minimizes water quality impacts*.

- EPA is proposing to revise this sentence to reflect the language used in federal regulations at 40 CFR 122.34(b)(5), and notes that the "to the maximum extent practicable" standard in an "umbrella" paragraph applies to the sub-paragraphs as well.

2. **EPA proposes to add the following sentence to the introduction of Part II.B.5** for the reason outlined below:

> *Pursuant to the procedures in Part II.A.7, the Permittee may submit to EPA for approval an alternative document, plan or program that describes functionally equivalent run-off controls to the 2012 Stormwater Management Manual for Western Washington and other manual provisions cited below.*

- EPA is proposing this sentence to provide JBLM with the ability to develop and submit for EPA's review and approval, an alternative document, plan or program it deems to contain functionally equivalent stormwater controls to those specified within the *2012 Stormwater Management Manual for Western Washington* or other manuals cited in this Part.

- Similar edits, which reference Part II.A.7, were made throughout this section.

3. **EPA proposes to modify Part II.B.5.b (*Preparation of a Stormwater Site Plan*),** by correcting a typographical error, and, as explained in G.2, above, add a reference to the alternative document approval procedure in Part II.A.7, as follows:

> **Preparation of a Stormwater Site Plan.** For all new development and redevelopment project sites disturbing 5,000 square feet or more, the Permittee must require a project-specific *stormwater site plan*. Stormwater site plans must be prepared consistent with Chapter 3, Volume 1-*Minimum Technical Requirements and Site Planning* of the 2012 *Stormwater Management Manual for Western Washington;* and with Chapter 3 of the *Low Impact Development Technical Guidance Manual for the Puget Sound (2012); or an alternative document approved pursuant to Part II.A.7.* For new development or redevelopment sites disturbing 5,000 square feet or more within Airport Operations Areas (AOA), stormwater site plans must be prepared consistent with the *Aviation Stormwater Design Manual (2008) or an alternative document approved pursuant to Part II.A.7.*

4. **EPA proposes to modify Part II.B.5.c (*Source Control of Pollution*),** by adding explicit references to the alternative document approval procedure in Part II.A.7 as explained above. In addition, EPA proposes to replace the phrase "in accordance with" with the phrase "consistent with," for reasons outlined below:

> **Source Control of Pollution**. The Permittee must require the use of available and reasonable source control BMPs at all new development and redevelopment project sites disturbing 5,000 square feet or more. Source control BMPs must be selected, designed, and maintained ~~in accordance~~ *consistent* with Volume IV-*Source Control BMP*s of the 2012 *Stormwater Management Manual for Western Washington or an alternative document approved pursuant to Part II.A.7.* For new development or redevelopment sites disturbing 5,000 square feet or more within Airport Operations Areas (AOA), source control BMPs must be selected, designed and maintained ~~in accordance~~ *consistent* with the *Aviation Stormwater Design Manual (2008) or an alternative document approved pursuant to Part II.A.7.*

- EPA is proposing to replace the phrase "in accordance with" with the phrase "consistent with" to clarify that JBLM can submit an alternative document pursuant to Part II.A.7, above.
    - EPA believes that the phrase "consistent with" does not connote or require absolute compliance with a specific document; however, EPA purposefully references the *2012 Stormwater Management Manual for Western Washington* because it contains the appropriate and unique specifications for stormwater control practices in Western Washington. This manual, and the other cited references within the Permit, define what EPA considers the acceptable minimum content of Stormwater Site Plans (as required in Part II.B.5.b); the acceptable and expected use of source control BMPs (as required in Part II.B.5.c); acceptable and expected use of stormwater dispersion or infiltration BMPs (as required in Part II.B.5.e.ii); and acceptable and expected operation and maintenance standards for permanent stormwater facilities (as required in Part II.B.5.j). Finally, pursuant to Washington Department of Ecology's certification of the Permit under Clean Water Act §401 dated January 17, 2012, and August 7, 2013, the Permit must retain explicit reference to runoff controls for new and redevelopment and construction sites that are functionally equivalent to the *2012 Stormwater Management Manual for Western Washington*.

5. **EPA proposes to revise Part II.B.5.d (*New Development and Redevelopment Site Design to Minimize Impervious Areas, Preserve Vegetation, and Preserve Natural Drainage Systems*)** by reorganizing the sentence to include reference to the 2012 Stormwater Management Manual for Western Washington and (for reasons previously explained) reference to the alternative document approval procedure in Part II.A.7. In addition, EPA proposes to replace the word "feasible" in the first paragraph with "practicable," and to delete the phrase "To the maximum extent technically feasible," in the second bulleted paragraph. EPA's rationale for these revisions is described below:

> **New Development and Redevelopment Site Design to Minimize Impervious Areas, Preserve Vegetation, and Preserve Natural Drainage Systems**. For all new development and redevelopment project sites disturbing 5,000 square feet or more, the Permittee must ensure such projects are designed to minimize impervious surfaces, retain vegetation, restore native vegetation, and preserve natural drainage systems, *considering the techniques in the 2012 Stormwater Management Manual for Western Washington or an alternative document approved pursuant to Part II.A.7, and meet the following requirements* to the maximum extent ~~feasible~~ *practicable*:.
>
> - The Permittee must require site design that minimizes the project's roadway surfaces and parking areas, incorporates clustered development, and ensures that vegetated areas are designed to receive stormwater dispersion from all developed project areas*;*
> - ~~To the maximum extent feasible, t~~*T*he Permittee must ensure that natural drainage patterns of the project site are maintained, and that discharge from the new development or redevelopment project site occurs at the natural location*;*
> - The Permittee must ensure that the manner by which runoff is discharged from the new development project site does not cause a significant adverse impact to downstream receiving waters and/or down gradient properties*; and*.
> - The Permittee must ensure that all outfalls utilize dissipation devices.

- As a result of ADR, the EPA agreed to include language that is consistent with the language in Clean Water Act Section 402(p)(3)(iii) and the federal regulations at 40 CFR §122.34 for municipal stormwater discharge permits to include controls to reduce the discharge of pollutants to the "maximum extent practicable."

- The Permit's requirements to minimize impervious areas, preserve vegetation and preserve natural drainage systems at new and redevelopment project sites are important and relevant considerations for the management of stormwater, and which are broadly referenced but are not explicitly specified in the 2012 Manual; as a result, the proposed revision for this text directs JBLM to consider those techniques as they are presented in the 2012 Manual or an alternative document, which may be approved pursuant to Part II.A.7.

6. **EPA proposes to modify Part II.B.5.e (*Hydrologic Performance Standard for Onsite Stormwater Management*),** by: deleting the phrase "to the maximum extent technically feasible;" reorganizing and renumbering the original bulleted paragraphs to clarify requirements based on site size/characteristics; correcting typographical errors and Chapter references in the 2012 Stormwater Management Manual for Western Washington; and referencing to the document approval procedures in Part II.A.7.

EPA also proposes to reorganize the expression of hydrologic performance standard for onsite stormwater management (specific to new or redevelopment project sites creating or replacing 5,000 square feet or more of hard surfaces, now renumbered as *Part II.B.5.e.iii*), first by citing the calculated range of flows to be matched for the project site using the Western Washington Hydrology Model; followed by the alternative that JBLM may instead ensure that controls are designed to retain onsite the volume of stormwater produced from the 95th percentile rainfall event.

Finally, EPA includes a specific reference to Appendix C-6, regarding exemptions from the requirements of Part II.B.5.e.iii based on the competing needs or infeasibility criteria outlined in the *2012 Stormwater Management Manual for Western Washington*.

EPA explains the rationale for these proposed modifications below:

> **Hydrologic Performance Requirement for On-site Stormwater Management.** For all new development or redevelopment project sites disturbing 5,000 square feet or more, the Permittee must require the use of onsite stormwater management practices intended to infiltrate, disperse, retain, and/or harvest and reuse stormwater runoff ~~to the maximum extent technically feasible~~. *as follows*:
>
> > *i) For lawn and landscape areas on the new development or redevelopment project site*, the Permittee must ensure the soil quality meets the specifications within BMP T5.13 (Post-Construction Soil Quality and Depth) in Chapter 5 of Volume V-*Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washington (2012) or an alternative document approved pursuant to Part II.A.7.* Lawn and landscape areas associated with project sites occurring within Airport Operations Areas must ensure the soil quality meets specifications ~~of source control BMPs must be~~

~~selected, designed and maintained~~ in ~~accordance with~~ the *Aviation Stormwater Design Manual (2008)* *or an alternative document approved pursuant to Part II.A.7*.

ii) For new or redevelopment project sites creating or replacing 2,000 > 4,999 square feet of hard surfaces: To the maximum extent practicable, the Permittee must ~~ensure that~~ *use* stormwater dispersion or infiltration BMPs are used consistent with: ~~those specified in the~~ *Chapter 5 of Volume V of the* 2012 *Stormwater Management Manual for Western Washington; Chapter 3 of Volume III of the 2012 Stormwater Management Manual for Western Washington;* ~~and/or~~ the *Low Impact Development Technical Guidance Manual for the Puget Sound (2012)*; or an alternative document approved pursuant to Part II.A.7. Such project sites within Airport Operations Areas must ensure that stormwater dispersion or infiltration BMPs are used consistent with those specified in the *Aviation Stormwater Design Manual (2008) or an alternative document approved pursuant to Part II.A.7.*

iii) For new development or redevelopment project sites creating or replacing 5,000 square feet or more of hard surfaces, the Permittee must ensure ~~stormwater controls are designed to retain on-site the volume of stormwater produced from the 95th percentile rainfall event.~~
~~As an alternative, the Permittee may instead comply with this requirement to manage stormwater runoff from new or replaced hard surfaces >5,000 square feet by ensuring~~ the post-development stormwater discharge flows from the project site do not exceed the pre-development discharge flows for the range of 8% of the 2-year peak flow to 50% of the 2-year peak flow, as calculated by using the Western Washington Hydrology Model (or other continuous runoff model).
For the purposes of ~~this permit~~ *the Western Washington Hydrology Model*, the ~~modeled~~ pre-development condition for all new development and redevelopment project sites must be "forested land cover" (with applicable soil and soil grade), unless reasonable historic information indicates the site was prairie prior to settlement (and may be modeled as "pasture" when using the Western Washington Hydrology Model).

• As an alternative, the Permittee must ensure stormwater controls are designed to retain on-site the volume of stormwater produced from the 95th percentile rainfall event.

• Pursuant to the procedures in Appendix C.6, the Permittee may exempt a project site from full compliance with the performance standards cited above if the competing needs or infeasibility criteria referenced in Appendix C.6 prevent use of certain BMPs to attain the performance standards.

- EPA proposes to delete the phrase "to the maximum extent technically feasible." The purpose of this change is to change the wording to be consistent with Section 402 of the Clean Water Act, as discussed previously.

- EPA proposes to add the phrase "to the maximum extent practicable" to newly numbered paragraph ii), to acknowledge that JBLM should consider using infiltration and dispersion practices at such small project sites, yet, lack of available space, for example, may preclude their use in certain cases.

- EPA proposes to reference the alternative document approval procedures in Part II.A.7 throughout this section, for reasons previously explained in Section III.G.2.

- EPA proposes to fix an editorial error in the Permit as issued (referencing source control BMPs) for clarity, in newly numbered paragraph i); and corrects the Chapter citations identified for the 2012 *Stormwater Management Manual for Western Washington* and 2012 *LID Manual* for accuracy.

- EPA proposes to reorganize Part II.B.5.e, using i), ii), and iii), as a result of adding a reference to the project exemptions in Appendix C-6. EPA notes that the Appendix C-6 exemptions apply only to the onsite stormwater management performance standard in paragraph iii), and are not applicable to preceding requirements for soil quality or use of dispersion or infiltration BMPs at small sites.

- EPA revises the reference to the Western Washington Hydrology Model for clarity, linking the appropriate predevelopment condition for calculations regarding the hydrologic performance standard.

- EPA proposes to add reference to Appendix C-6 at the end of new paragraph iii), in order to acknowledge that JBLM maintains decision-making flexibility with regard to the design and installation of specific onsite stormwater management practices. For example, to ensure that the Army has needed flexibility to decide whether a certain type of stormwater management practice is compatible with military mission requirements unique to the operation of JBLM-McChord Airfield. EPA believes that adding a reference here, as well as proposed revisions to Appendix C-6 (discussed in Section III.M of this document) provide appropriate flexibility.

7. **EPA proposes to make the following revisions in Permit Part II.B.5.f (*Hydrologic Performance Standard for Flow Control)*** for clarity, and/or for consistency with previous edits in other provisions: reorganize the structure of the first sentence identifying applicable project sites; consolidate references to the Western Washington Hydrology Model and the appropriate predevelopment condition to be used for flow calculations associated with this performance standard; and add a specific reference to the exemption from the flow control standard in Appendix C-7.

> **Hydrologic Performance Requirement for Flow Control.** The Permittee must ensure that ~~the following~~ new development and redevelopment project sites are designed to control post development discharge flows *where such sites*: sites which create >10,000 square feet effective impervious surface area; sites which convert ¾ acres or more from native vegetation to lawn/landscaping, and from which there is a surface discharge to a natural or manmade conveyance system; and*/or,* sites which convert 2.5 acres or more of native vegetation to pasture, and from which there is a surface discharge to a natural or manmade conveyance system. For these new development or redevelopment project sites, post-development stormwater discharge flows must not exceed the pre-development discharge flows for the range of 50% of the 2-year peak flow to 100% of the 50-year peak flow, as calculated by using the Western Washington Hydrology Model (or other continuous runoff model). *For the purposes of the Western Washington Hydrology Model, the pre-development condition for all new development and redevelopment project sites must be "forested land cover" (with applicable soil and soil grade), unless reasonable historic information indicates the site was prairie prior to settlement (and may be modeled as "pasture" when using the Western Washington Hydrology Model).*

- ~~For the purposes of this permit, the modeled pre-development condition for all new development and redevelopment project sites must be "forested land cover" (with applicable soil and soil grade), unless reasonable historic information indicates the site was prairie prior to settlement (and may be modeled as "pasture" when using the Western Washington Hydrology Model).~~

- The Permittee must prioritize the use of small scale dispersion or infiltration practices, or other appropriate Low Impact Development practices to meet this flow control requirement. The Permittee may not design new development or redevelopment sites to meet this hydrologic performance requirement for flow control solely through the use of large scale retention or detention practices.

- New development or redevelopment project sites that will discharge directly to the JBLM Canal, or indirectly through Outfalls #OF-4 or #OF-5, are exempt from this hydrologic performance requirement for flow control.

- *Pursuant to the procedures in Appendix C.7, the Permittee may exempt a project site from full compliance with the performance standards cited above if the severe economic cost criteria referenced in Appendix C.7 prevent use of certain BMPs to attain the performance standards*.

8. **EPA proposes to revise the schedule associated with Permit Part II.B.5.i (*Inspections*).** The Permit requires that JBLM develop a post-construction site inspection program within fourteen months of the Permit effective date intended to verify that permanent stormwater facilities are properly installed and operational. In the Petition, the Army stated that at least 24 months of additional time would be necessary for JBLM to obtain the necessary funding for this activity and hire additional staff. Therefore, EPA is proposing to change the deadline to **"***No later than January 25, 2016, ,...*" EPA also proposes to make appropriate revisions to text referencing Part II.B.5.i in Table III.

9. **EPA proposes to modify Permit Part II.B.5.j (*Operation and Maintenance*)** by adding a reference to the alternative document approval procedures in Part II.A.7, as explained in Section G.2 above.

10. **EPA proposes to modify the deadline associated with Permit Part II.B.5.k (*Staff Training for Stormwater Management for Areas of New Development and Redevelopment*).** The Permit requires, no later than one year from the effective date of the permit, that JBLM ensure that all staff responsible for activities required in Part II.B.5 are adequately trained. As explained in Section III.D above, EPA is changing the language to read: "*Orientation and training concerning the JBLM stormwater management program must be accomplished within the first six months of employment for new staff who work directly on stormwater management issues."* EPA also proposes comparable revisions to text referencing to II.B.5.k in Table III.

H. Part II.B.6.g (*Staff Training for Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance*)

The Permit requires that JBLM implement an ongoing program to ensure that all staff responsible for activities required in Part II.B.6 are adequately trained. As explained in Section

III.D above, EPA is changing the language to read: "*Orientation and training concerning the JBLM stormwater management program must be accomplished within the first six months of employment for new staff who work directly on stormwater management issues.*" EPA also proposes comparable revisions to text referencing to II.B.6.g in Table III.

I. Part II.C, Pertaining to Stormwater Retrofits

The Permit requires JBLM to conduct stormwater discharge, water quality and biological assessment monitoring, and develop a stormwater retrofit plan to reduce flows and pollutant loading into Clean Water Act Section 303(d) listed and other degraded waterbodies within JBLM's jurisdiction. In addition, the Permit requires JBLM to prioritize rooftop drainage disconnection from the portion of the MS4 that drains to Clover Creek and requires JBLM to evaluate and prioritize a list of potential retrofits where it was feasible to use Low Impact Development techniques. JBLM was to summarize total area from which roof drainage had been disconnected from the MS4. Prior to the Permit expiration date, the Permit required JBLM to initiate or complete one or more projects sufficient to disconnect and infiltrate effective impervious area equal to five acres.

EPA is proposing to focus the stormwater retrofit requirements on Clover Creek for this Permit term. Clover Creek is a priority watershed, based on its water quality impaired status, and as Essential Fish Habitat for coho salmon. All proposed revisions in Part II.C referring to "*water quality, including beneficial uses*" are intended to encompass the assessment of both the chemical and physical impacts from the JBLM MS4 on the Clover Creek environment. In addition, in order to determine the quality of the stormwater coming from JBLM's MS4 and its potential impact to Clover Creek, EPA is proposing to include additional outfall monitoring in Part IV of the Permit, as discussed later in this Fact Sheet.

Significant revisions proposed to the retrofit provision are as follows:

- JBLM will **develop a Retrofit Report on Reduction of Pollutant Discharges to Clover Creek** (rather than using existing watershed planning documents and references to identify candidate project locations where retrofits would be feasible for JBLM to accomplish);
- To create this report, JBLM will **conduct intensive MS4 discharge monitoring into Clover Creek**, in addition to water quality and biological monitoring efforts, and will consult available information on the Clover Creek subbasin from Department of Ecology, Pierce County and/or other neighboring jurisdictions (instead of considering multiple existing but dated information sources pertaining to various waterbodies within the Permit Area);
- JBLM must **analyze potential locations to reduce stormwater pollutant loadings from MS4 discharges draining from the cantonment area subbasins into Clover Creek, if monitoring data and other Clover Creek information indicate that JBLM's discharges impact water quality, including beneficial uses**, (rather than developing a prioritized list of potential project locations across multiple subbasins draining to various receiving waterbodies);

- JBLM must **submit the Retrofit Report, including a MS4 Discharge Characterization Report with the 4th Year Annual Report and must schedule a meeting with EPA prior to the expiration date of the Permit** to discuss the results of the Report; and
- Prior to the expiration date of the permit, JBLM **must initiate at least one retrofit project identified in the report** based on the evaluation of considerations listed within the Permit, provided sufficient funding is available.

Proposed edits to revise Part II.C, and the rationale supporting these changes, are outlined below:

Stormwater Retrofits ~~To Reduce~~ *Report on Reduction of Pollutant* Discharges to Impaired ~~and Degraded~~ Receiving Waters.

1. The Permittee must conduct stormwater discharge, water quality and biological assessment monitoring as required in Part IV.

2. ~~Within three years of the permit effective date, t~~*T*he Permittee must *characterize the MS4 discharges to Clover Creek and must develop a stormwater retrofit report as described below*.

a) The retrofit report must evaluate the monitoring data collected under Parts II.C,1 and IV of this Permit, and take into consideration any other relevant monitoring data available from the Washington Department of Ecology, Pierce County, or other neighboring jurisdictions, and the recommendations contained in the August 2005 Clover Creek Basin Plan and the 2008 Chambers-Clover Creek Watershed Action Plan. ~~develop a stormwater retrofit plan to reduce flows and associated pollutant loadings from existing effective impervious surfaces into Clean Water Act Section 303(d) listed and other degraded water bodies. The retrofit plan must be consistent with the recommendations contained in the March 2007 *Murray/Sequalitchew Watershed Management Plan* and the 2008 *Chambers-Clover Creek Watershed Action Plan.*~~

~~a)~~ *b) If the information evaluated in Part II.C.2.a indicates that the Permittee's MS4 discharges impact water quality, including beneficial uses, in Clover Creek, the Permittee must analyze potential locations to reduce stormwater pollutant loadings, including sediment loadings and bank scouring caused by MS4 stormwater discharges from cantonment area sub-basins draining to Clover Creek*.~~At a minimum, the Permittee's retrofit plan must analyze potential locations to reduce both stormwater flow volume and pollutant loadings from cantonment area sub-basins draining to American Lake; Clover Creek. ; Murray Creek; and the Bell-McKay-Hamer Marshes near Sequalitchew Creek and the JBLM Canal.~~

.

~~b)~~ *c)* For each potential location, the retrofit ~~plan~~ *report* must evaluate the feasib~~le~~*ility* ~~use~~ of *using* low impact development techniques, and other controls that infiltrate, evapotranspire, harvest and re-use stormwater runoff, or which otherwise eliminate stormwater ~~flow volume and~~ pollutant loadings, *including sediment loadings and bank scouring caused by MS4 stormwater discharges,* from existing surfaces discharging to *Clover Creek* ~~waters listed in Part II.C.2.a~~.

~~c)~~ *d) The retrofit report will include evaluation of* ~~The Permittee must evaluate and prioritize~~ existing building locations where the disconnection of existing flows from rooftop downspouts into the MS4 and/or into ~~waters of the United States~~ *Clover Creek* could be ~~accomplished~~ *feasible and will contribute to water quality improvement, including support of beneficial uses*. ~~The Permittee must accomplish such retrofits as soon as practicable, with priority given to roof disconnection projects within the Clover Creek subbasin~~. The Permittee may consider using such techniques as full dispersion; downspout full infiltration

systems; rain gardens; and/or other appropriate practices, as described in the 2012 *Stormwater Management Manual for Western Washington*.

~~d)~~ *e)* The retrofit ~~plan~~ *report* must *evaluate* ~~include a prioritized list of~~ potential projects and project locations ~~for waterbodies listed in Part II.C.2.a. The Permittee must prioritize identified project locations through an evaluation and ranking process that includes~~ *to mitigate water quality impacts identified therein based on* the following considerations:

- *Monitoring data and watershed/basin plans for Clover Creek cited in Part II.C.2.a and Part IV;*
- *Effectiveness in improving water quality in* ~~Efficacy of eliminating stormwater flows to~~ the receiving water, *including support of beneficial uses*;
- Feasibility;
- Cost effectiveness;
- Pollutant removal effectiveness; *and*
- ~~Effective impervious surface area potentially mitigated~~,
- Long term maintenance requirements.

~~e)~~ *f)* The Permittee must submit the retrofit ~~plan~~ *report* to EPA as part of the ~~3rd~~ *4th* Year Annual Report. ~~In addition to a prioritized list of potential retrofit projects, the plan must include a summary of the Permittee's rooftop downspout disconnection evaluation and the total number of buildings/total square footage of rooftop disconnected from the MS4 or receiving waters after the Permit effective date~~.

~~f)~~ *g) To the extent practicable, the Permittee should coordinate with Pierce County in developing the retrofit report.*

h) Subject to the availability of funds and p~~P~~rior to the expiration date of this permit, the Permittee must initiate ~~or complete~~ *at least* one ~~or more structural~~ retrofit project~~(s) sufficient to disconnect and infiltrate discharges from~~ *identified in the report and based on the evaluation cited in Part II.C.2.e above. Said retrofit project may be satisfied in connection with a redevelopment project as defined in Part II.B.5 of this permit.* ~~effective impervious surfaces equal to five (5) acres of cumulative area. Calculation of the cumulative total effective impervious surface area to be retrofitted may not include the amount of roof area mitigated through the roof downspout disconnection effort required in Part II.C.2.c. The Permittee must submit a comprehensive retrofit implementation status report to EPA with the 5th Year Annual Report.~~

3. Prior to the expiration date of this permit, the Permittee will schedule a meeting with EPA to discuss the results of the report and determine whether any specific permit terms should be included in the reissuance of the permit.

- After assessing data collected for evidence of water quality impacts, JBLM will begin to evaluate potential projects that would serve to mitigate any such impacts. EPA notes that it intends to independently review and assess all of the submitted data (MS4 discharge, instream and biological monitoring) collected by JBLM during the Permit term in order to determine how JBLM's MS4 discharges may affect water quality in Clover Creek, and consider future actions JBLM may need to take based on such evidence. During the required meeting between EPA and the Army prior to the Permit expiration date, EPA anticipates the parties can compare their respective conclusions and discuss future actions as appropriate.

- EPA continues to strongly encourage JBLM to actively participate in the watershed groups hosted by Pierce County and other neighboring jurisdictions during the Permit term to coordinate its monitoring and assessment work with other interested parties.

- EPA proposes to revise Permit Part II.C.2.h to indicate that '…*The required retrofit project could be satisfied in connection with a redevelopment project as defined in Part II.B.5.*'

    - To illustrate how the retrofit project requirement could be fulfilled in connection with a redevelopment project, the following hypothetical example of a redevelopment project within the Clover Creek subbasin is provided:

      In this hypothetical project, JBLM plans to remove and replace a large portion of the adjacent road surface in conjunction with a redevelopment project on the base. By taking advantage of the interim period during which the road surface is removed, JBLM could also elect to complete a previously identified retrofit project (unrelated to the specific redevelopment project), which itself ultimately serves to reduce pollutants draining to Clover Creek. JBLM may have previously come to the conclusion that such a candidate retrofit project on its own would be cost prohibitive (given the need to remove the road surface); however, due to the coincidence of work scheduled as part of the separate redevelopment project, multiple projects with multiple water quality benefits are achievable and cost-effective.

    - Post-construction stormwater management controls already required by Part II.B.5 are not retrofits, and cannot be "double counted" as a retrofit project. In order to be counted as a retrofit project, the Permittee must implement new or improved controls to mitigate water quality impacts. That being said, EPA envisions possible project efficiencies that could result with appropriate planning, preparation and scheduling where retrofits are undertaken in concert with a redevelopment project (as described in the above paragraph), which can ultimately fulfill multiple water quality improvement goals.

J. Table III (*Schedule for Implementation and Compliance*)

As previously mentioned, EPA proposes to modify the summary text contained in Table III associated with each of the various changes identified in this proposed modification.

K. Part IV (*Monitoring, Recordkeeping and Reporting*)

EPA proposes to modify the following provisions of Part IV, for the reasons detailed below.

1. **EPA proposes to revise Part IV.A.2 (*Monitoring Objectives*)** by expanding the stated objectives to include stormwater discharge monitoring into Clover Creek, and revising the

deadlines for phased development of the Monitoring and Quality Assurance Plan accordingly.

> **Monitoring Objectives**. The Permittee must monitor stormwater discharges, surface water quality and stream biology to assess the effectiveness of the SWMP to minimize the impacts from MS4 discharges. The Permittee must conduct monitoring to estimate phosphorus loading from its MS4 discharges into American Lake; characterize water quality discharging through the JBLM Canal; characterize water quality in Clover Creek and Murray Creek; ~~and~~ assess baseline biological conditions in Clover Creek and Murray Creek; *and conduct monitoring to determine pollutant loading into Clover Creek from the MS4*. Within one year from the effective date of this permit, the Permittee must develop a monitoring plan to address *the objectives of Parts IV.A.6, IV.A.7 and IV.A.8.* ~~these objectives, including the quality assurance requirements as defined in Part IV.A.8~~. The *initial* monitoring plan must be submitted as part of the 1st year Annual Report. *No later than July 25, 2015, the Permittee must update the monitoring plan to address the objectives of Part IV.A.5 and IV.A.8, and submit the updated plan with the 2nd year Annual Report*.

- As a result of ADR, and as discussed in Section III.I above, EPA is proposing to add additional MS4 discharge characterization sampling in Clover Creek. JBLM must update the monitoring and quality assurance plan to accommodate collection of the MS4 discharge monitoring required in Part IV.A.5.

2. EPA proposes to modify Part IV.A.5 *(Stormwater Discharge Monitoring)* by reorganizing the provisions to include intensive characterization sampling for MS4 discharges into Clover Creek. EPA adds a table to define this monitoring effort. EPA also proposes to revise the implementation and submittal deadlines for this monitoring effort, and to delete the option of electing to participate in the Regional Stormwater Monitoring Program instead of conducting MS4 outfall monitoring. The rationale for these revisions is explained below:

> **Stormwater Discharge Monitoring.**
>
> *i)* No later than *July 25, 2015*, ~~eighteen (18) months from the effective date of this permit~~ the Permittee must sample at least quarterly from at least one stormwater outfall discharging to American Lake. This monitoring must include stormwater flow measurements collected using automated or manual sampling methods. Samples must be analyzed for total phosphorus as summarized in Table IV.A.*i.*
>
> *ii) At a minimum, over a period of 24 consecutive months the Permittee must collect monthly samples of MS4 discharges into Clover Creek, as specified in Table IV.A.ii below.*
>
> *iii) The Permittee must collect automated flow weighted composite samples to fully characterize two individual storm events each year for two years during the beginning of the wet weather season (~October 15- Nov 15) discharging to Clover Creek. As indicated in Part IV.A.2, the Permittee must update or create a Quality Assurance Plan (QAP) which clearly identifies all methods and protocols used in the composite sampling. All data collected must be summarized and reported to EPA annually as part of the corresponding Annual Report.*
>
> *iv)* Beginning with the *4th* ~~3rd~~ Year Annual Report, any data collected from the selected stormwater outfall(s) discharging to American Lake *and Clover Creek* must be summarized *into a MS4*

Discharge Characterization Report and *submitted* to EPA annually as part of the corresponding Annual Report. ~~The Permittee may elect to opt out of this monitoring requirement as described below in Part IV.A.9.~~

Table IV.A~~: Stormwater Discharge Monitoring for American Lake~~ ***MS4 Discharge Monitoring For American Lake and Clover Creek***

Table IV.A.i: American Lake MS4 Outfall Monitoring

Parameter	Monitoring requirements	
	Sample location[1]	**Sample frequency[2]**
Flow (cfs)	See below	Quarterly
Total Phosphorus (mg/L)	See below	Quarterly

[1]At least one (1) MS4 outfall discharging into American Lake, location(s) to be selected by Permittee.
[2] Samples must be collected at least quarterly during a storm event sufficient to produce a discharge.

Table IV.A.ii: Clover Creek MS4 Outfall Monitoring

Parameter	*Monitoring requirements*	
	Sample location[1]	*Sample frequency[2]*
Flow (cfs)[3]	*See below*	*See below*
Oil and Grease	*See below*	*See below*
Dissolved Oxygen (mg/L)	*See below*	*See below*
pH (s.u)	*See below*	*See below*
Fecal coliform bacteria (cfu/100mL)	*See below*	*See below*
Total Nitrogen (mg/L)	*See below*	*See below*
Total Phosphorus (mg/L)	*See below*	*See below*
Total Suspended Solids (mg/L)	*See below*	*See below*
Turbidity (NTU)	*See below*	*See below*
Total and Dissolved Copper (µ/L)	*See below*	*See below*
Total and Dissolved Zinc (µ/L)	*See below*	*See below*
Hardness (mg/L)	*See below*	*See below*

[1] Samples must be collected from at least two (2) outfall locations discharging to Clover Creek.
[2] Over a period of twenty four (24) consecutive months, the Permittee must collect samples monthly at both outfall locations.
[3] Stormwater flow measurements must be collected using automated or manual sampling methods.

- EPA believes that, in order to obtain the robust dataset needed to make any future decisions regarding retrofit projects, year round monitoring of MS4 discharges into Clover Creek as well as characterizing the quality of runoff during the initial storm events, which typically occur in the mid-October to November timeframe is needed. The parameters identified for this intensive characterization effort are proposed consistent with those that comprise the Department of Ecology's Water Quality Index

assessment, and coincide with parameters to be collected by JBLM through the water quality sampling required in Part IV.6.b.

- In the Petition, the Army stated that additional time, at least 18 months from the Permit effective date, would be necessary for JBLM to obtain the necessary funding for this activity and hire additional staff. EPA proposes to modify the deadline for starting the MS4 discharge monitoring to "*No later than July 25, 2015*,..."

3. **EPA proposes to modify Part IV.A.6.a and b (*Water Quality in the JBLM Canal and Water Quality in Clover Creek and Murray Creek*), by revising the deadlines.** The Permit requires, within one year of the Permit effective date, that JBLM begin to collect water quality samples within JBLM Canal, Clover Creek and Murray Creek. In the Petition, the Army stated that at least 18 months of additional time would be necessary for JBLM to obtain the necessary funding for this activity and hire additional staff.

   EPA proposes to modify the deadline for initiating the water quality sampling to "*No later than July 25, 2016*,..." EPA also revises the references to the submittal of data within corresponding Annual Reports, and the associated summary text referring to this requirement in Table III.

4. **EPA proposes to revise Part IV.A.8 (*Quality Assurance Requirements*)** by adding the following sentence corresponding to similar revisions in Part IV.A.2: "*Any update to the QAP must be submitted to EPA as part of the subsequent Annual Report."*

5. **EPA proposes to revise Part IV.A.9 (*Optional Participation in the Puget Sound Regional Stormwater Monitoring Program Status and Trends Monitoring*)** by deleting two references to the outfall monitoring in Part IV.A.5.

   - Because a primary purpose of the MS4 outfall monitoring effort in Part IV.A.5 is now to support decision-making associated with potential retrofit projects within the Clover Creek subbasin, it is inappropriate to allow JBLM the opportunity to opt out of this monitoring requirement.

6. **EPA proposes to revise Part IV.C.1 (*Stormwater Discharge, Water Quality, and Biological Monitoring Reports*)** by deleting the current submittal deadline in the Permit. Instead, EPA proposes to specify that all available stormwater discharge and water quality data collected during the prior reporting periods must be submitted as part of the 4th and 5th Year Annual Reports. EPA also proposes to modify Table III's summary reference to this requirement**.**

7. **EPA proposes to revise Part IV.C.2 (*Annual Report*)** by correcting an editorial error associated with the date by which the 5th Year Annual Report must be submitted.

   - As issued on August 22, 2013, the Permit required that the 5th Year Annual Report be submitted no later than January 30, 2019; however, this date inappropriately

extends beyond the Permit expiration date of September 30, 2018. Therefore, EPA proposes to modify this table by specifying a September 30, 2018 deadline for JBLM to submit the 5th Year Annual Report.

L. Part VII (*Definitions and Acronyms*)

As a result of ADR, EPA proposes to revise Permit Part VII by deleting the definition for "predevelopment hydrologic condition and/or predevelopment hydrology." The purpose of this change is to reflect EPA's Phase II stormwater regulations for MS4 permitting at 40 CFR §122.34(b). As a result, single use of the term "predevelopment hydrology" was deleted from the Permit; therefore, the definition in Part VII is no longer necessary.

M. Appendix C-6 (*Exemptions from New Development &Redevelopment Requirements of Part II.B.5.e*)

As a result of ADR, EPA proposes to modify Permit Appendix C-6 by: adding appropriate references to the newly renumbered Part II.B.5.e.iii; replacing the term "technically feasible" with "practicable" throughout this provision; revising the description of documentation necessary to substantiate and report JBLM's use of this exemption; and revising the list of example site conditions which may prevent the management of 100% of the runoff volume calculated to meet the hydrologic performance standard in Part II.B.5.e.iii. These revisions, and rationale for these changes, are provided below.

6. Exemptions from the Hydrologic Performance Standard for Onsite Stormwater Management (Part II.B.5.e.*iii*):

The Permittee may exempt a new development or redevelopment project site from retaining the total volume of runoff calculated to meet the hydrologic performance standard for onsite stormwater management in Part II.B.5.e.iii, provided the Permittee fully documents its determination that compliance with the performance standard is not ~~technically feasible~~ *practicable*.

The Permittee must keep written records of all exempt project determinations. The following information regarding each exempt project identified during an annual reporting period must be included in the corresponding Annual Report.

- Name, location and identifying project description.
- For projects where the Permittee determines it is ~~technically infeasible~~ *not practicable* to use stormwater management strategies to fully infiltrate, evapotranspirate, and/or harvest and reuse 100% of the runoff volumes calculated to meet the performance standard in Part II.B.5.e.iii, the Permittee must document the reasons for such conclusion.
- The Permittee must use all reasonably available stormwater management techniques. to the maximum extent practicable, and must document both the estimated annual runoff volume that can/will be successfully managed on site and the remaining annual runoff volume for which it is deemed ~~technically infeasible~~ *not practicable* to successfully manage onsite.

Documentation supporting the Permittee's determination ~~of technical infeasibility~~ *that it is not practicable to fully attain the performance standard* must include, but is not limited to, reference to the *competing needs and* infeasibility criteria for onsite stormwater management practices ~~contained~~ *as listed* in Volume V- ~~*Runoff Treatment BMPs* of Ecology's~~ 2012 *Stormwater Management Manual for Western Washington or an alternative document approved pursuant to*

Part II.A.7, and all relevant engineering calculations, geologic reports, and/or hydrologic analysis.

Examples of site conditions which may be recognized by the Permittee as preventing management of 100% of the runoff volumes calculated to meet the performance standard in Part II.B.5.e.iii may include, but are not limited to:

low soil infiltration capacity;

high groundwater;

~~contaminated soils~~ non-potable water demand is too small to warrant harvest and reuse systems;

downgradient erosion;

steep slopes and/or slope failure; ~~or~~

flooding;

contaminated soils;

federal airport safety requirements;

public health and safety requirements;

and/or conflicts with specific military mission requirements.

- Modifications citing to Part II.B.5.e.*iii* are necessary to refer to the reorganized provision.

- EPA proposes to replace the terms "technical feasibility," and "technically infeasible," with the alternative terms "practicable" and "not practicable."

    - EPA recognizes there are a variety of reasons, unrelated to merely technical considerations, why a specific onsite stormwater management practice may not be suitable for use at a particular new development or redevelopment project site. EPA proposes to replace "technical feasibility," and "technically infeasible," with the alternative terms "practicable"/"not practicable," as these alternatives are closely related to statutory language found in CWA Sec 402 (p)(3)(iii).

    - EPA believes this change does not alter the fundamental premise of Appendix C-6. In its *2012 Stormwater Management Manual for Western Washington*, the Washington Department of Ecology recognizes that use of certain onsite stormwater management practices may be superceded or reduced where they are in conflict with "competing needs." Such competing needs listed by Ecology include particular state or federal laws (i.e., federal Superfund or state Model Toxics Control Act, or Federal Aviation Administration requirements for airports); special zoning district design criteria; public health and safety standards; and/or transportation regulations to maintain the option of future expansion or multimodal use of public rights of ways. (See: Volume V of the *2012 Stormwater Management Manual for Western Washington*, Page 5-2).

- Further, Ecology has identified certain criteria to describe conditions that make the use of bioretention or rain gardens no longer required. Many of these "infeasibility criteria" require evaluation of site specific conditions, and a written recommendation from an appropriate licensed engineer, geologist or hydrogeologist (for example, where professional geotechnical evaluation recommends infiltration not be used due to reasonable concerns about erosion, slope failure, or down gradient flooding). A subset of these listed criteria can be cited as a reason that bioretention is infeasible without further justification, though professional services may still be required (for example, bioretention would not be feasible for sites located within 100 feet of a closed or active landfill, or within 100 feet of a drinking water well). (See Volume V of the *2012 Stormwater Management Manual for Western Washington.* pages 7-7 and 7-8*).*

- EPA has added reference to the alternative document approval procedure outlined in Part II.A.7 for consistency with other edits proposed in this modification.

- EPA proposes to reorganize the list of example site conditions that may prevent the use of onsite stormwater management practices; EPA developed this list from the competing needs and infeasibility criteria cited in Department of Ecology's manual. Reordering the elements of this list in Appendix C-6 allows EPA to add several considerations identified as relevant to the Army and which were not included in the Permit as issued in August 2013.

- Finally, as a result of ADR. EPA proposes to add "military mission requirements" to the list of example considerations that may preclude use of a particular onsite stormwater management practice. EPA intends to evaluate any documentation submitted by JBLM in its Annual Reports regarding the projects it has deemed to be exempt from the onsite stormwater management requirements. However, as EPA stated in its Response to Comments on the Permit issued on August 22, 2013,

  > "…the LID practice feasibility criteria within Ecology's 2012 *Stormwater Management Manual for Western Washington*, and the documentation/ reporting requirements included in Appendix C-6 .., are sufficient to frame possible project exemptions JBLM or its representatives may make. Soil characteristics within the JBLM Permit Area are well suited for infiltration-based stormwater management techniques; EPA therefore believes it unlikely that JBLM will need to exempt development projects using the provisions within Appendix C-6 … during the permit term." (See RtC 57, page 34).

IV. Other Legal Requirements

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration Fisheries (NOAA-Fisheries) if their actions could beneficially or adversely affect any threatened or endangered species.

EPA submitted its *Biological Evaluation for the issuance of NPDES Permit #WAS026638 for Discharges from the Joint Base Lewis-McChord MS4* to USFWS on April 24, 2013, and to NOAA Fisheries on April 25, 2013.

EPA received concurrence from USFWS on June 20, 2013, on its determination that issuance of the JBLM MS4 Permit "may affect, but is not likely to adversely affect" bull trout (*Salvelinus confluentus*) and designated bull trout critical habitat. Upon issuance of the final Permit on August 22, 2013, EPA responded to the USFWS conservation recommendation (related to more robust monitoring provisions related to the JBLM Canal) in a letter dated August 26, 2013.

EPA received concurrence from NOAA Fisheries on July 12, 2013, on its determination that issuance of the JBLM MS4 Permit "may affect, but is not likely to adversely affect" Chinook salmon (*Oncorhynchus tshawytscha*) or Steelhead (*O.mykiss*).

EPA has tentatively determined that the proposed Permit modifications discussed in this Fact Sheet will not cause any adverse effect to the listed species or critical habitats beyond that which was considered by EPA, USFWS and NOAA-Fisheries at the time of the original issuance of the Permit. EPA intends to reinitiate consultation with USFWS and NOAA-Fisheries if necessary in the near future regarding this proposal to modify the Permit.

B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires the EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of EFH).

The EPA prepared an EFH assessment in concert with the Biological Evaluation discussed above, and submitted it to NOAA Fisheries on April 25, 2013. On July 12, 2013, NOAA Fisheries identified EFH Conservation Recommendations related its conclusion that issuance of the JBLM MS4 permit would adversely affect coho salmon EFH. EPA responded to those Conservation Recommendations in its letter to NOAA Fisheries dated August 26, 2013.

EPA is currently evaluating the impacts of this proposal to modify the Permit and will reinitiate EFH consultation with NOAA-Fisheries if necessary.

C. State Certification

Section 401 of the CWA requires the EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation. On August 4, 2014, Ecology provided EPA with a letter indicating its intent to certify the permit modification pursuant to certain conditions set forth in Ecology's letter (see Appendix B of this document). Comments regarding Ecology's intent to certify the Permit should be submitted

directly to the Department of Ecology as previously discussed in the Introduction to this document.

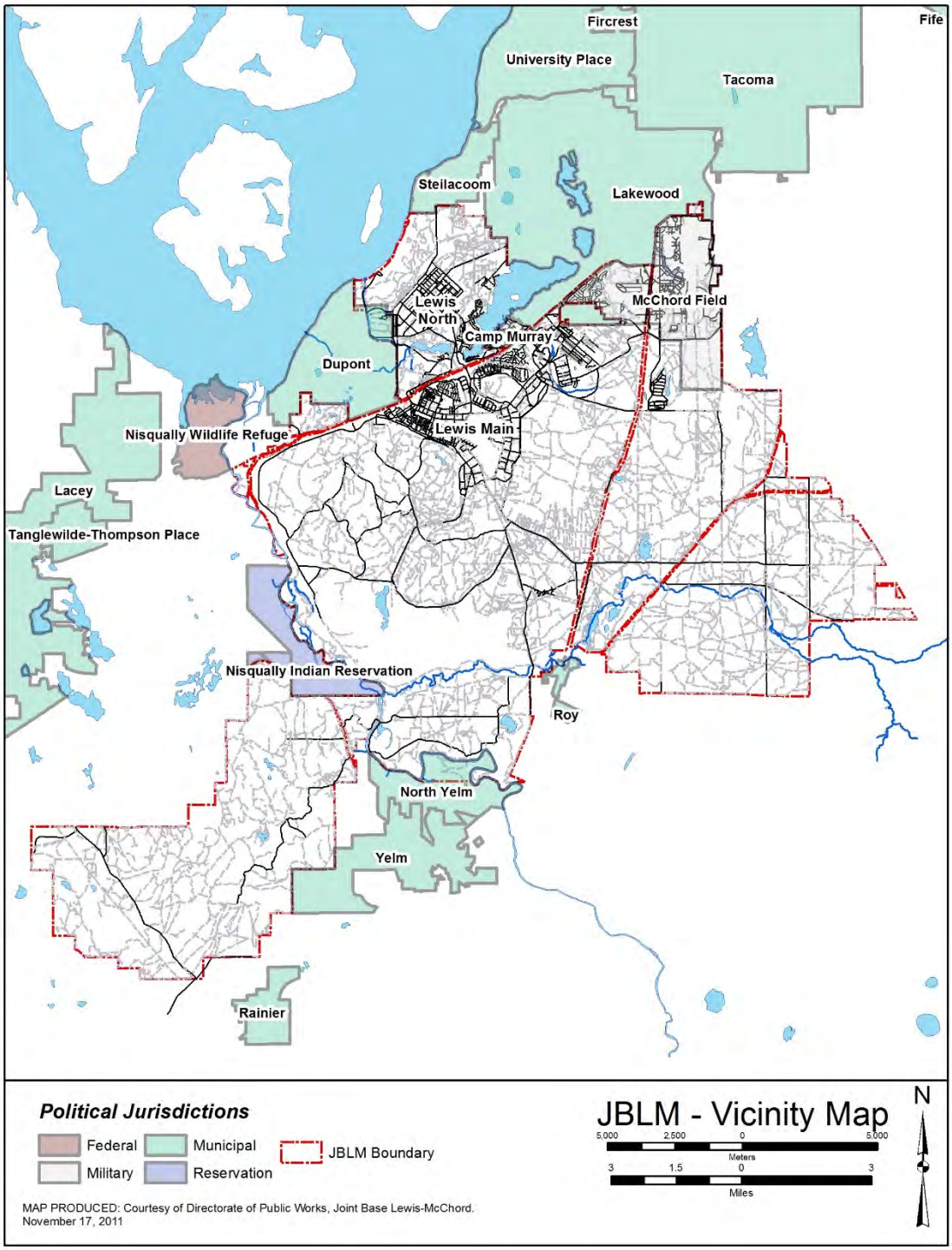
D. Permit Expiration

The permit will expire on September 30, 2018, (i.e, five years from the original Permit effective date). See Section III.A of this document regarding the Permit's revised effective date of December 25, 2013.

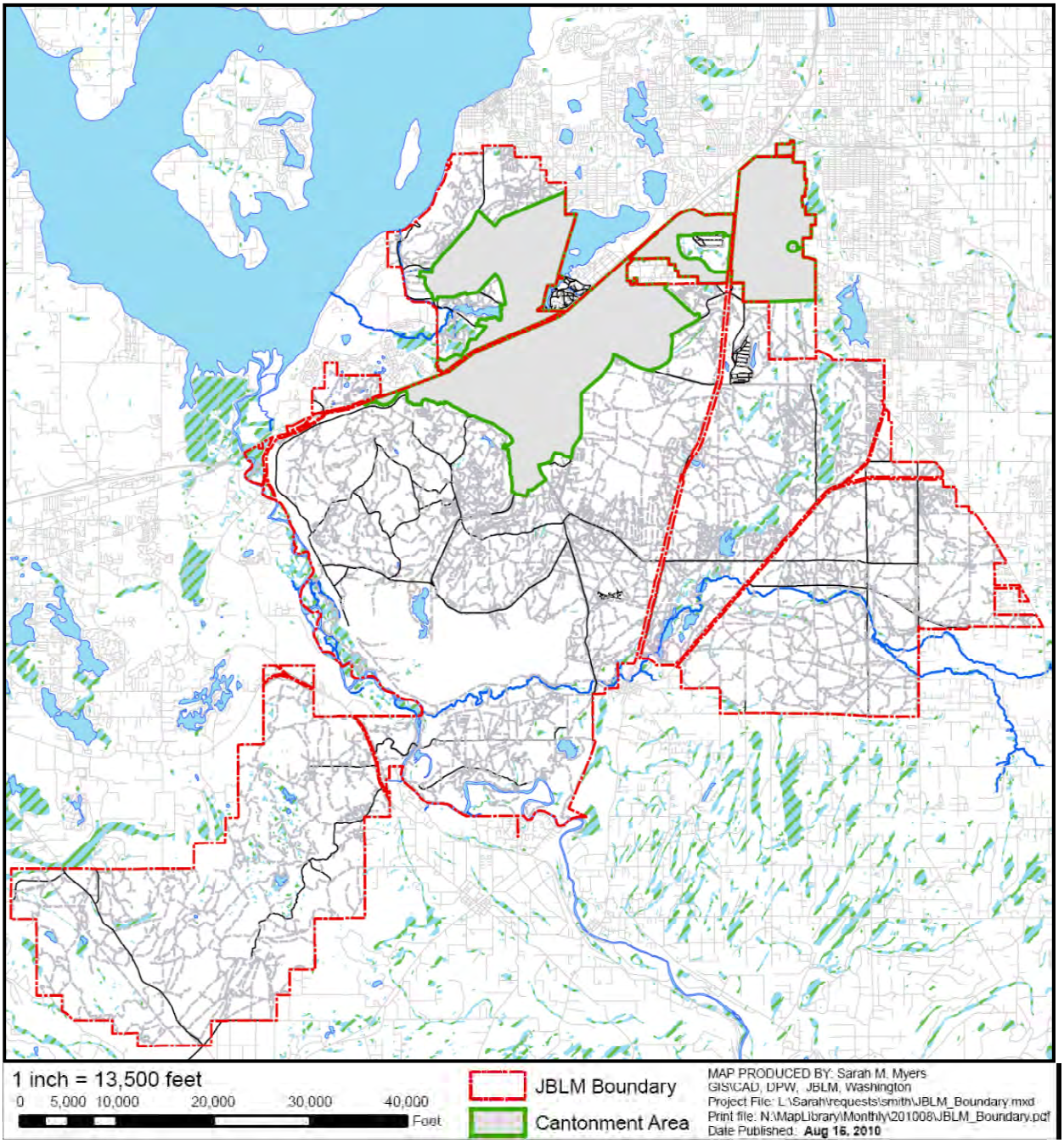
V. References

Information cited in this Fact sheet is available as part of the Administrative Record for this modification, and can be obtained by contacting EPA by Email at *vakoc.misha@epa.gov* or by telephone at (206) 553-6650 or (800) 424-4372, extension 6650.

Appendix A-1 – JBLM Vicinity Map



Appendix A-2 – JBLM Cantonment Areas and Training Areas



Appendix B- Department of Ecology's Preliminary Certification under Clean Water Act §401

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

August 4, 2014

Mr. Michael Lidgard
NPDES Permits Unit Manager
Office of Water and Watersheds
U.S. EPA Region 10
1200 6th Avenue, Suite 900 OWW-130
Seattle, WA 98101

RE: Draft Clean Water Act (CWA) Section 401 Conditional Certification for EPA Modifications to National Pollutant Discharge Elimination System (NPDES) Permit No. WAS-026638 Joint Base Lewis-McChord Municipal Separate Storm Sewer System

Dear Mr. Lidgard:

With this Draft 401 Conditional Certification, the Washington State Department of Ecology (Ecology) conditionally certifies the modifications to NPDES Permit No. WAS-026638 (Permit), subject to conditions listed in the attachment. The attached conditions are necessary to assure that discharges from the municipal separate storm sewer system (MS4) of Joint Base Lewis-McChord (JBLM) will comply with Chapter 173-201A (Surface Water Quality Standards) of the Washington Administrative Code (WAC); Groundwater Standards (Chapter 173-200 WAC); Sediment Management Standards (Chapter 173-204 WAC); human health-based criteria in the national Toxics Rule (Federal Register, Vol.57, No. 246, Dec. 22, 1992, pages 60848-60923); and other appropriate requirements of State law.

The U.S Environmental Protection Agency (EPA) submitted on June 7, 2013 a final NDPES Permit to the Washington State Department of Ecology (Ecology) for review and to request CWA Section 401 Certification. Ecology issued certification, subject to certain conditions, of the final permit on August 7, 2013 and the final permit became effective October 1, 2013. The United States Department of the Army (Army) appealed the final permit and after negotiations with EPA came to a settlement. The settlement agreed to by the Army and EPA requires EPA to modify the permit, including a public notice, comment and appeal period, and seek a draft 401 certification from Ecology on the proposed permit modification.

Draft JBLM 401 Conditional Certification

This Draft 401 Conditional Certification is based on the language EPA provided Ecology for the proposed permit modification required by the settlement between EPA and the Army. Ecology reserves final certification of the JBLM permit until Ecology is provided the proposed final permit which incorporates any and all changes EPA may make as a result of the public comment period. Ecology specifically reserves its right to modify this Draft 401 Conditional Certification in response to any changes made to the draft modification of the JBLM permit.

Ecology notes that many of the issues that the Army appealed in the final 2013 permit were, in fact, requirements under Ecology's August 7, 2013 401 certification. Ecology strongly encourages the Army to engage in a dialogue with Ecology to discuss Washington State water quality standards and take advantage of the many resources and flexibility offered in its *2012 Stormwater Management Manual for Western Washington.*

If you have any questions or would like to discuss these matters further, please contact Bill Moore at bill.moore@ecy.wa.gov or (360) 407-6460.

Sincerely,

for Bill Moore

Kathleen Emmett
WA Department of Ecology
Water Quality Program

Enclosure

By Certified Mail: 7010 0780 0002 3523 6330

Draft JBLM 401 Conditional Certification

Washington State Draft 401 Conditional Certification for Modification to Permit No. WAS-026638 Joint Base Lewis-McChord Municipal Separate Storm Sewer System

Final 401 certification of the modifications to the permit is conditional upon the final permit meeting the below conditions. No condition may be made less stringent. This draft 401 conditional certification addresses only the proposed modification to the permit and in no way limits Ecology's August 7, 2013 401 certification, which is hereby incorporated by reference. The below conditional certification is based upon and in accordance with Chapter 90.48 of the Revised Code of Washington (RCW), under which the discharge of toxicants to waters of the State of Washington which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria is prohibited. RCW 90.48 requires the permittee to use all known, available, and reasonable methods of prevention, control and treatment (AKART) to prevent and control pollution of waters of the state of Washington. Additionally, CWA § 402(p)(3)(B)(iii) requires the permittee to reduce the discharge of pollutants to the maximum extent practicable (MEP). Conditional certification of the Permit does not authorize JBLM's MS4 discharges to cause or contribute to a violation of applicable State water quality standards (Surface Water Quality Standards Chapter 173-201A WAC); Groundwater Standards (Chapter 173-200 WAC); Sediment Management Standards (Chapter 173-204 WAC); and human health-based criteria in the national Toxics Rule (Federal Register, Vol.57, No. 246, Dec. 22, 1992, pages 60848-60923); and other appropriate requirements of State law. Furthermore, nothing in this conditional certification absolves or releases JBLM from liability for contamination or any subsequent cleanup of surface waters, ground waters, or sediments resulting from discharges from JBLM's MS4.

1. All references in the Permit to the *Stormwater Management Manual for Western Washington* (2012 SWMMWW) and the *Low Impact Development Technical Guidance Manual for the Puget Sound* must cite to the 2012 versions of those documents.

2. Certification of Part II.A.7 (Equivalent Documents, Plans or Programs) is denied. As written, Part II.A.7 allows for EPA to review a permittee-submitted document, plan or program for equivalency with the required Stormwater Management Program (SWMP) components. If EPA determines the submission to be equivalent to the SWMP component(s) then it may be substituted for any part of the SWMP, the heart of the permit. While Ecology can review the SWMP components in the Draft Permit for meeting Washington State water quality standards, Ecology cannot review a hypothetical, yet to be written alternative plan and thus has no basis to judge whether it would meet Washington State water quality standards. Additionally, a substitution for one or more SWMP components could constitute a modification of the permit because it has the potential to change substantive requirements. Such a substantive change must have a guarantee of public notice, comment and appeal period and a new 401 certification from Ecology. A permit modification process for the Part II.A.7 equivalent document, plan or program as outlined in 40 C.F.R. § 122.62 or § 124.5 would remedy this defect.

Draft JBLM 401 Conditional Certification

3. Part II.B.5.b (Preparation of a Stormwater Site Plan) must require stormwater site plans be prepared consistent with *Chapter 3, Volume 1 Minimum Technical Requirements and Site Planning* of the *2012 SWMMWW*, with the exception of sites within Airport Operations Areas (AOA), where stormwater site plans must be prepared consistent with the *Aviation Stormwater Design Manual (2008)*.
4. Certification of Appendix C.6 (Exemptions from the Hydrologic Performance Standard under Part II.B.5.e.iii) is denied. As written, Appendix C.6 allows the permittee to opt out of any hydrologic performance standard for on-site stormwater management in Part II.B.5.e.iii if the permittee determines compliance is "not practicable." This would exempt the permittee from MEP/AKART standards required to meet State Water Quality Standards, reducing requirements to what is merely "practicable." Rather than create an appendix to deal with exemptions to the hydrologic performance standard, EPA must modify Part II.B.5.e.iii. See below.
5. Part II.B.5.e.iii (Hydrologic Performance Requirement for On-site Stormwater Management) must be modified to refer to the *2012 SWMMWW Volume 1 Minimum Technical Requirements* and Minimum Requirements one through nine, allowing the permittee to choose between the "list approach" or using the LID Performance Standard under Minimum Requirement #5. For the alternative performance standard (retain on-site the "95th percentile rainfall event") infeasibility must be judged using either a.) Infeasibility as determined by evaluation against design criteria, limitations, and infeasibility criteria identified for each BMP in the *2012 SWMMWW* or b.) Infeasibility as determined by whether it is possible for site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow as stated in Section 438 of the Energy Independence and Security Act of 2007 (EISA) and EPA's Technical Guidance on implementation (EPA document 841-B-09-001). For any permittee-exempted new development or redevelopment projects under Part II.B.5.e the permittee must document its determination in written record, to be submitted with the Annual Report.
6. Part II.B.5.f (Hydrologic Performance Requirement for Flow Control) must incorporate Minimum Requirement #7 of the *2012 SWMMWW Volume 1 Minimum Technical Requirements*.