



RE: 19 July 2011 Meeting on Proposed NPDES Municipal Separate Storm Sewer System (UNCLASSIFIED)

Burris, Martin J CIV USA to: Misha Vakoc

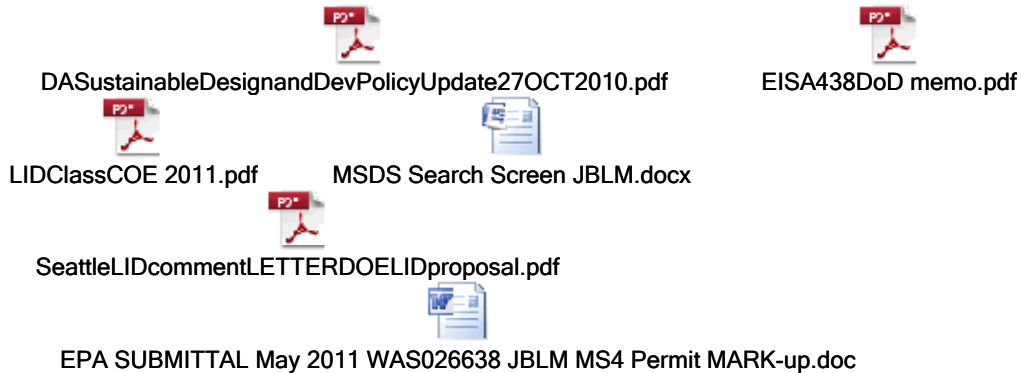
08/26/2011 02:29 PM

"Smith, Jennifer M Mrs CTR US USA IMCOM", "Gibbens, Joseph Mr
Cc: CIV USA IMCOM", "Crawford, Philip B CIV USA IMCOM", John
Palmer, Dino Marshalonis

This message is digitally signed.

From: "Burris, Martin J CIV USA" <martin.burris@us.army.mil>
To: Misha Vakoc/R10/USEPA/US@EPA
Cc: "Smith, Jennifer M Mrs CTR US USA IMCOM" <jennifer.mary.smith@us.army.mil>, "Gibbens, Joseph Mr CIV USA IMCOM" <joseph.gibbens@us.army.mil>, "Crawford, Philip B CIV USA IMCOM" <philip.b.crawford@us.army.mil>, John Palmer/R10/USEPA/US@EPA, Dino

6 attachments



Classification: UNCLASSIFIED
Caveats: NONE

Ms. Misha Vakoc:

JBLM has developed a marked up version of the permit. The marking legend is on the first page. This is our first pass to identify concerns with the permit language. JBLM is also looking at the fact sheet and will provide some comments on that soon. As a federal facility, JBLM has a number of programs in place to protect the environment and these may overlap with the requirements identified in the permit. An example of such a program is the JBLM spill response program under the Integrated Contingency Plan (meets FRP requirements) and the Spill Control and Countermeasure Plan. These plans identify the roles and responsibilities for first responders and other response personnel in the event of a spill of hazardous material or chemical on JBLM. I have attached the covers for these documents. JBLM also has a Hazardous Material approval process and online database of MSDS information for approved Hazardous Materials. Emergency responders and all shops should have access to the searchable database. The MSDS search page screen shot is attached. If there are any questions on HM management or spill response please contact me.

The DoD and Department of the Army guidance on implementation of EISA 438 Requirements is attached as well as the outline for a USACOE training course in Low Impact Design that JBLM staff attended in June 2011. The Army is developing a LID design guide for use on future construction projects. The Seattle comment letter on proposed WDOE MS4 permit language is attached. Please contact me if you have any questions or require additional information. I will be out of the office for the Labor day holiday. I will be in the office through Wed 31 AUG next week. After that I won't return until 12 September

V/R

Martin Burris, P.E.
Environmental Division DPW
JBLM, Washington
253-966-1768
FAX 253-966-4985
AKO: martin.burris@us.army.mil

-----Original Message-----

From: Misha Vakoc [mailto:Vakoc.Misha@epamail.epa.gov]
Sent: Friday, July 22, 2011 8:56 AM
To: Burris, Martin J CIV USA
Cc: Clouse, David C CIV USA IMCOM; Dino Marshalonis; Smith, Jennifer M Mrs
CTR US USA IMCOM; John Palmer; Elliott, Laura J CIV USA; BURRIS, MARTIN J JR
CIV USAF AMC 627 CES/CEV; Steucke, Paul CIV USA IMCOM; Crawford, Philip B
CIV USA IMCOM
Subject: Re: 19 July 2011 Meeting on Proposed NPDES Municipal Separate Storm
Sewer System (UNCLASSIFIED)

Hello,

Thank you all very much for the time you spent with us on Tuesday - John,
Dino and I very much appreciated the opportunity to discuss the preliminary
permit with you and to see the extensive work your organization is currently
doing throughout the JBLM area.

I also appreciate the attendees list, and contact information for Mr.
Clouse - I will plan to contact him next week when I return to the office.

Here is a Word version of the preliminary draft permit; we look forward to
receiving your comments on this draft by late August as we continue to work
towards a proposal for formal public comment in September.
(See attached file: May 2011 WAS026638 JBLM MS4 Permit.doc)

Thank you - and I hope you each have a great sunny weekend!

Misha Vakoc
NPDES Permits Unit
EPA Region 10
(206) 553-6650

19 July 2011 Meeting on Proposed NPDES Municipal Separate Storm Sewer
System (UNCLASSIFIED)

Burris, Martin J CIV USA
to:
Misha Vakoc

07/21/2011 03:20 PM

Cc:
"Smith, Jennifer M Mrs CTR US USA IMCOM", "Elliott, Laura J CIV
USA", "BURRIS, MARTIN J JR CIV USAF AMC 627 CES/CEV", "Crawford,
Philip B CIV USA IMCOM", John Palmer, Dino Marshalonis, "Clouse,
David C CIV USA IMCOM", "Steucke, Paul CIV USA IMCOM"

From: "Burris, Martin J CIV USA" <martin.burris@us.army.mil>

To: Misha Vakoc/R10/USEPA/US@EPA

Cc: "Smith, Jennifer M Mrs CTR US USA IMCOM"
<jennifer.mary.smith@us.army.mil>, "Elliott, Laura J CIV USA"
<laura.j.elliott@us.army.mil>, "BURRIS, MARTIN J JR CIV USAF AMC
627 CES/CEV" <martin.burris@us.af.mil>, "Crawford, Philip B CIV USA
IMCOM" <philip.b.crawford@us.army.mil>, John
Palmer/R10/USEPA/US@EPA,
Dino Marshalonis/R10/USEPA/US@EPA, "Clouse, David C CIV USA IMCOM"
<david.c.clouse@us.army.mil>, "Steucke, Paul CIV USA IMCOM"
<paul.steucke@us.army.mil>

Classification: UNCLASSIFIED

Caveats: NONE

Ms. Misha Vacok:

On behalf of the JBLM Stormwater Team and DPW, thank you for the opportunity to discuss the Municipal Separate Storm Sewer System (MS4) permit for Joint Base Lewis-McChord Washington on 19 July 2011. I am attaching the sign in list from the meeting and an updated outline that includes the sites that were visited during the afternoon.

Mr. David Clouse (253-967-3474) is familiar with past biological consultations on JBLM. He may be able to provide the ESA information you need to process the proposed permit.

Do you have a text file (such as word) for the proposed permit. That would

be helpful on our side as we craft some new wording.

Thank you

Martin Burris, P.E.
Environmental Division DPW
JBLM, Washington
253-966-1768
FAX 253-966-4985
CELL 253-377-4036
AKO: martin.burris@us.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

[attachment "19JULY2011MS4meetingJBLM.pdf" deleted by Misha
Vakoc/R10/USEPA/US]
Classification: UNCLASSIFIED
Caveats: NONE

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Caveats: NONE

(JBLM Submittal for EPA) DATED 26 August 2011 MARK-UP KEY ~~strikethrough~~ = original permit language, blue proposed permit language, green *italics* = clarification comments, justification, not intended to be part of final permit.

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems

Authorization to Discharge Under the National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the “Act”, the

~~Joint Base Lewis-McChord~~ **Joint Base Lewis-McChord**
(hereinafter “permittee”)

is authorized to discharge from all municipal separate storm sewer system (MS4) outfalls existing as of the effective date of this permit to waters of the United States, including Murray Creek, Clover Creek, Muck Creek, Puget Sound and other associated waters of the United States, in accordance with the conditions and requirements set forth herein.

This permit shall become effective xxxxx, 2011.

This permit and the authorization to discharge shall expire at midnight, xxxx, 2016.

The permittee must reapply for permit reissuance on or before xxxx, 2015, 180 days before the expiration of this permit if the permittee intends to continue operations and discharges from the MS4 beyond the term of this permit.

Signed this day of 2011

Michael A. Bussell, Director
Office of Water and Watersheds

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*Note: This preliminary draft is provided by EPA for informational purposes only;
 EPA intends to propose a revised draft for public comment and State 401 certification at a future date.
 Questions regarding this document may be directed to EPA Region 10 at 206-553-6650*

I. Applicability

A. Permit Area. This permit covers all areas of the military installation located within Pierce and Thurston Counties, Washington, served by the municipal separate storm sewer system (MS4) owned or operated by the ~~Joint Base Lewis McChord~~ **Joint Base Lewis-McChord (JBLM)**, hereafter also referred to as “permittee”.

Discharges Authorized Under This Permit. **During the effective dates of this permit, the permittee is authorized to discharge storm water to waters of the United States from all portions of its MS4 located within the boundaries of the JBLM military installation, including but not limited to the cantonment area (comprised of and referred to as JBLM Main, JBLM North, and/or JBLM McChord Field) and geographically contiguous all military training areas, subject to the conditions set forth herein.** *(The permit does not include the Yakima Training Center (YTC), Grant County International Airport facilities, and other geographically remotes sites operated by JBLM. MS4 and other stormwater management facilities on JBLM which are owned or operated by a third party solely to manage stormwater for areas outside JBLM are not included in this permit. Verify the terms JBLM Main, JBLM North, JBLM McChord Field. For the purpose of this permit the permitted JBLM area is the geographical area defined with EPA Emergency Planning and Community Right To Know Act (EPCRA) Facility ID 98433SDDSRIMIL) If MS4 infrastructure is added or removed, the permit area shall be modified accordingly. Any new development or redevelopment within the permit area which includes MS4 infrastructure discharging to waters of the United States or connecting to existing covered MS4 infrastructure shall be covered by this permit. Actions which are not associated with MS4 are not within the permit area. Specifically the permit will not impact training areas where no MS4 infrastructure exists. Sites that manage all stormwater through on-site or off-site infiltration are not included in the permit area. Sites that are modified to manage all stormwater through infiltration will be removed from the permit area. Sites which manage stormwater on-site, but include MS4 overflow infrastructure are included in the permit area. This section may need some work and support in the fact sheet. JBLM has authority over the indicated permit area, but JBLM includes the geographic areas that are not within the permit area including YTC. JBLM is the appropriate permittee, but the permit area must be defined as specific JBLM areas not just JBLM.*

B. This permit also authorizes the discharge of flows categorized as allowable non-storm water discharges in Part I.C of this permit.

C. Limitations on Permit Coverage

1. Non-Storm Water Discharges. The permittee is authorized to discharge non-storm water from the MS4, only where such discharges satisfy one of the following conditions:

- a) The non-storm water discharges are in compliance with a separate NPDES permit;

The discharges originate from emergency fire fighting activities;
(Discharges in compliance with instructions of an On-Scene-Coordinator pursuant to 40 CFR part 300 or 33 CFR 153.10[e])

b) The non-storm water discharges result from a spill and:

- are the result of an unusual and severe weather event where reasonable and prudent measures have been taken to minimize the impact of such discharge; or
- consist of emergency discharges required to prevent imminent threat to human health or severe property damage, provided that reasonable and prudent measures have been taken to minimize the impact of such discharges;

or

c) The non-storm water discharges consist of one or more flows listed below, and such flows are managed by the permittee in accordance with Parts ~~II.B.3.b~~ **II.B.3.c?** and II.B.6 of this permit.

- potable and **reclaimed water sources**, including water line flushing, ~~hyperchlorinated water line flushing~~, fire hydrant flushing, pipeline hydrostatic test water, **and dyed water used for system evaluation including identification of sources of infiltration, inflow, and illicit discharges. Dyed water may also be used during spill exercises to evaluate effectiveness of permittee spill response program. (Detection of Illicit discharges is required per II.B.3)**
- Landscape watering and other irrigation runoff;
- ~~Dechlorinated~~ Swimming pool discharges **and hyperchlorinated water line flushing fluids after dechlorination (see below);**
- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
- Uncontaminated pumped ground water;
- Foundation drains;
- Air conditioning condensation;
- uncontaminated cooling waters**
- Irrigation water from agricultural sources that is commingled with urban stormwater;
- Springs;

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EPA intends to propose a revised draft for public comment and State 401 certification at a future date.
Questions regarding this document may be directed to EPA Region 10 at 206-553-6650*

- Water from crawl space pumps;
- Footing drains; and/or
- Flows from riparian habitats and wetlands.

Flows from Stormwater capture systems

Stormwater Flows from material storage secondary containment

- 2. Discharges Threatening Water Quality.** The permittee is not authorized to discharge storm water that will cause, or have the reasonable potential to cause or contribute to an exceedance above the applicable water quality standard. The required response to such exceedences of these standards is defined in Part II.D.
- 3. Snow Disposal to Receiving Waters.** The permittee is not authorized to dispose of snow directly to waters of the United States or directly to the MS4(s). Discharges from permittee-owned snow disposal sites and the permittee's snow management practices are authorized under this permit when such sites/practices are operated using best management practices (BMPs) as required in Part II.B.6. Such BMPs must be designed to prevent pollutants in the runoff and prevent violations of the applicable water quality standards.
- 4. Storm Water Discharges Associated with Industrial and Construction Activity.** The permittee is authorized to discharge storm water associated with industrial and construction activity from the MS4, only when such discharges are otherwise authorized under an appropriate NPDES permit.

II. Storm Water Management Program (SWMP) Requirements

A. General Requirements

- 1. Implement a SWMP.** The permittee must develop, implement and enforce a Storm Water Management Program (SWMP) designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, and protect water quality in receiving waters. The SWMP must be implemented throughout the permit area described in Part I.A.
- 2. Control Discharges of Pollutants from the MS4 to the maximum extent practicable.** The permittee must comply with the SWMP actions and activities outlined in Parts II.B and II.C, the required response provisions of Part II.D, and the assessment/monitoring requirements described in Part IV. The SWMP actions and activities require the permittee to use Best Management Practices (BMPs), control measures, system design, engineering methods, and other provisions appropriate to control discharges of pollutants from the MS4 to the maximum extent practicable.

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- 3. SWMP Document.** The permittee must prepare written documentation of the SWMP. The SWMP documentation must be organized according to the program components in Part II.B and II.C, and the assessment/monitoring requirements of Part IV. The SWMP must be updated at least annually for submittal as part of the permittee's Annual Report. The SWMP documentation must include:

 - a) A description of each program component in Parts II.B and II.C; and
 - b) Any additional actions implemented by the permittee pursuant to Parts II.B and II.C, and
 - c) A description of the monitoring activity pursuant to Part IV.
- 4. SWMP Information.** The permittee's SWMP must include an ongoing means for gathering, tracking, maintaining, and using information in order to evaluate SWMP development and implementation, permit compliance, and to set priorities.

 - a) No later than one year from permit effective date, the permittee must track the cost, or estimated cost, of development and implementation of each component of the SWMP. A summary of costs and funding sources, by program component, must be included in each Annual Report.
 - b) The permittee must track the number of inspections, official enforcement actions, types of public education activities, etc., as stipulated by the respective program component. Information summarizing these activities during the previous reporting period must be included in the Annual Report(s).
- 5. SWMP Modification.** Modifications to the SWMP requirements must be made in accordance with Part II.E of this permit.
- 6. Shared Implementation.** Implementation of one or more of the minimum control measures may be shared with or delegated to another entity other than the permittee. The permittee may rely on another entity only if:

 - a) The other entity, in fact, implements the control measure;
 - b) The control measure, or component of that measure, is at least as stringent as the corresponding permit requirement; and
 - c) The other entity agrees to implement the control measure on the permittee's behalf. A binding written acceptance of this obligation is required. The permittee must maintain this obligation as part of the SWMP. If the other entity agrees to report on the minimum control measure, the permittee must supply the other entity with the reporting requirements in Part IV.C of this permit. The permittee remains

responsible for compliance with the permit obligations if the other entity fails to implement the control measure.

7. **Acceptability of Equivalent Documents and programs.** This permit defines a number of documents and program requirements. The permittee may identify equivalent JBLM documents and programs which meet the permit requirement in the SWMP. In the case where an equivalent document is provided a separate stormwater specific document or program is not required. The document or program must incorporate all significant requirements identified in the permit.

Equivalent documents or programs may include: JBLM Business and Operations Integration Division Preventative Maintenance Program

Integrated Contingency Plan (ICP), JBLM Spill Prevention, Control and Countermeasure Plan.

JBLM Quality Assurance Project Plan.

- B. Minimum Control Measures.** The following minimum control measures must be accomplished through this Storm Water Management Program:

1. Public Education and Outreach on Stormwater Impacts

- a) Within two years of the effective date of this permit, the permittee must develop and implement an ongoing program to educate project managers, contractors, tenants, students and environmental staff about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce pollutants in storm water runoff. The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse storm water impacts.

Alternative to conventional training may be required. For Project Managers and Construction Contractors verify that they have qualified staff and provide training as required. Other contractors must be contacted in accordance with appropriate procedures. Permittee should develop the list for public outreach. Suggest all section s be recommendations. To be effective the training, education, qualifications must be specific to the target audience. Tenants will be a challenging area. Suggest work to include stormwater requirements in tenant agreements with AFEES, Commissary, BX/PX, Madigan, Housing, etc.

- **The permittee must incorporate at least six prioritized topics in the education program. Priority shall be based on potential impact to the stormwater system. Permittee may include the following topics in its public education and outreach program: household hazardous waste disposal; recycling; appropriate storm water management practices for commercial, food service, and automotive activities; lawn watering and proper use of fertilizers; pet waste management;**

spill prevention; street, sidewalk, and building wash water; water used to control dust.; and proper design and use of Low Impact Development techniques at new development and redevelopment sites.

- b) ~~Beginning two years from the effective date of this permit, the permittee must measure understanding and adoption of the targeted behaviors among targeted audiences. The resulting measurements must be used to direct education and outreach resources most effectively and to evaluate changes in adoption of the targeted behaviors.~~
- c) The permittee must document the **basis for prioritized topics**, specific education program goals, and track and maintain records of public education and outreach activities in the SWMP document. **Beginning two years from the effective date of this permit, the permittee must annually measure and document the effectiveness of the program in meeting education program goals. The education program will be modified as needed based on the annual measurement. *Measuring changes in behavior may be difficult, suggest permitted be allowed to define goals. Goals to reach XX% of target audience. Possibly evaluating (survey) awareness of a representative sample of the "students" at some later date. Did training change your behaviors? Did you pass on importance of stormwater protection to others? Etc.***

2. Public Involvement/Participation

- a) The permittee must comply with applicable federal, state and local public notice requirements when implementing a public involvement/participation program.
- b) Within six months of the effective date of this permit, and regularly scheduled at least annually thereafter, the permittee must select and conduct at least one of the following activities to facilitate within the permit area throughout the permit term:
- Convene meeting(s) with the Environmental Division Chief & Environmental Compliance Program Mgr, and/or other JBLM organizations as appropriate, to discuss and coordinate effective SWMP implementation, or
 - Convene a JBLM Water Council or organize other means to provide opportunity for the military community to participate in development and implementation of SWMP activities.
- c) ~~No later than one year from the permit effective date, and annually thereafter, the permittee must make all Annual Reports available to the public on the permittee's website. *There may be security and other issue with this. The Annual report is not necessarily geared toward a public audience. A summary of the Annual report highlights would be more effective for this requirement. There are also security reviews*~~

required for public release of JBLM information. The report is available through the FIOA process. The internal network on JBLM reaches installation population, but is not public. Outreach requirements should be limited to those within the MS4 area.

- d) At least once per year, the permittee must provide one or more ongoing volunteer activities as practicable to help actively engage residents and personnel at ~~Joint Base Lewis-McChord~~ JBLM in understanding water resources and how their activities can affect water quality. In the SWMP document, the permittee must maintain a log of public participation activities performed.
- Volunteer activities may include, but are not limited to, storm drain ~~stenciling~~-marking program; establishing a website, e-mail address, and/or hotline for citizens to report pollution concerns; establishing a pet waste management program at American Lake or other resource areas. *(JBLM has storm drain medallions)*

3. Illicit Discharge Detection and Elimination

An illicit discharge is any discharge to a MS4 that is not composed entirely of stormwater as defined in 40 CFR § 122.26(b)(2). The permittee's SWMP must include an ongoing program to detect and remove illicit connections and discharges into the MS4. The permittee must include a description of the program in the SWMP document. The permittee must fully implement an ongoing illicit discharge detection and elimination program no later than 180 days prior to the expiration date of this permit.

- a) **Map of Cantonment Areas.** Within ~~one year~~ 24 months from the effective date of this permit, the permittee must update and maintain a map of the MS4 located within the JBLM cantonment area. At a minimum, the cantonment area map must be periodically updated and include the following information:
- jurisdictional boundaries;
 - locations of all known MS4 storm sewers, including ditches or other conveyances;
 - locations of all known MS4 outfalls, and receiving waters, The following attributes must be mapped for all outfalls:
 - (i) tributary conveyances (include type, material and size where known);
 - (ii) associated drainage areas; and
 - (iii) land use;
 - Locations of structural stormwater control measures or BMPs owned, operated or maintained by the permittee on

lines of 24" diameter and above. *JBLM owns the buildings, so the stormwater system starts at the building, a clear break is needed between the building infrastructure and the MS4 system. The line size limit should give an inventory of significant control measures and BMP's. This should make up the major facility inspection list (annual). These facilities should be limited to MS4 structures, this should not include infiltration systems outside the MS4. It also should not include onsite infiltration facilities within the MS4 areas if there is no conveyance into the MS4..*

- ~~Geographic areas served by the MS4 that do not discharge stormwater to surface waters;~~ *This language is not clear. Is the intent to map MS4 infrastructure that does not discharge to surface water? Per the regulatory definition the MS4 must discharge to waters of the US: "under Section 208 of the CWA that discharges to waters of the United States". Or is the intent is to map areas that potentially could be connected to the MS4 but currently use alternative stormwater management processes?*
- Points at which the permittee's MS4 is interconnected with other MS4s; **and other storm and surface water conveyances**
- Locations of all significant permittee owned or operated industrial facilities, maintenance/storage facilities and snow disposal sites that discharge directly to the permittee's MS4- ~~waters of the U.S., and/or waters of the State.~~ Significant industrial facilities or maintenance/storage facilities are defined for the purpose of this permit as uncovered yards of 0.5 acres or more. Significant liquid product storage facilities are defined as reportable EPCRA Tier II facilities.

The permittee must maintain the cantonment area map and must add any new connections to the MS4 allowed by the permittee after the effective date of this permit. A copy of the completed map, as both a report and as an electronic file via Arc GIS format, must be submitted to EPA upon request or as part of the reapplication submittal required in Part IV.B. *(The map may not be releasable due to security and Anti-Terrorism Force Protection (ATFP) Requirements.)*

To the extent appropriate, the permittee must provide mapping information to adjacent regulated MS4s upon request.

- b) **Map of Training Areas.** No later than 180 days prior to the expiration date of this permit, the permittee must develop and submit to EPA a preliminary map identifying the MS4 located outside the cantonment area. The permittee must prioritize development of the training area MS4 map in the Muck Creek watershed/basin. The preliminary training

area map must include the information listed in Part II.B.3.a. A copy of the preliminary map as both a report and as an electronic file via Arc GIS compatible format must be submitted to EPA as part of the permit application submittal required in Part IV.B.

- c) **Ordinance.** The permittee must effectively prohibit, through ordinance or other regulatory mechanism, all illicit discharges into the MS4 to the maximum extent allowable under the legal authorities of JBLM. The ordinance or regulatory mechanism must be adopted, or existing mechanism amended, to comply with this permit no later than ~~six months~~ one year from the effective date of this permit. *The revised environmental ordinance JBLM 200- 1 may be established within 1 year, but may take more time to implement. Tenant agreements and land leases may not include this type of requirement. This will need to be added through appropriate processes and may take more than 1 year.*

The regulatory mechanism does not need to prohibit the following categories of non-stormwater discharges *consistent with section I.C.1.d:*

- Diverted stream flows.
- Rising ground waters.
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)).
- Uncontaminated pumped ground water.
- Foundation drains.
- Air conditioning condensation.
- Irrigation water from agricultural sources that is commingled with urban stormwater.
- Springs.
- Water from crawl space pumps.
- Footing drains.
- Flows from riparian habitats and wetlands.
- Non-stormwater discharges covered by another NPDES permit.

• Discharges from emergency fire fighting activities in accordance with Part 1.C.b. *Non-routine discharges of cooling waters from HVAC or heat-pump systems. The MAMC cooling and infiltration ponds have a storm overflow to the MS4 for significant rain events. A number of new buildings will use pumped groundwater for heat pump systems. During maintenance or testing of the system, the operators may need to*

discharge the groundwater to MS4. The standard process would be to manage these flows in infiltration areas or injection wells. MS4 discharge would only be during limited events.

- **Product Water from Water Purification Equipment:** Water meeting Reclaim or drinking water standards including product water from portable filtration systems to manufacture drinking water. *(JBLM uses stormwater impoundments for operator training on portable reverse osmosis water treatment units. The units treat impounded stormwater to manufacture drinking water onsite. (ROPU) training)*

The regulatory mechanism must prohibit the following categories of non-stormwater discharges, unless the stated conditions are met:

- *Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water:* Planned discharges must be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4.
- *Discharges from lawn watering and other irrigation runoff:* These discharges must be minimized through, at a minimum, public education activities (see Part II.B.2.a) and water conservation efforts.
- ~~Dechlorinated~~ **Swimming pool discharges and hyperchlorinated water line flushing:** The discharges must be dechlorinated to a concentration of 1.0 ppm or less, pH-adjusted to 6.5-7.5. Volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. For discharges to MS4 facilities within 2000 feet of the receiving water, when flow is present in receiving water body or stream, the discharge shall be metered to add less than 5% to flowing streams or 5 % of the total volume per day to retained waters. Planned discharges must be volumetrically and velocity controlled to prevent resuspension of sediments in the MS4. Swimming pool

cleaning wastewater and filter backwash must not be discharged to the MS4.

- *Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents:* The permittee must reduce these discharges through, at a minimum, public education activities (see part II. B. 2. a) and/or water conservation efforts. To avoid washing pollutants into the MS4, the permittee must minimize the amount of street wash and dust control water used. At active construction sites, street sweeping must be performed prior to washing the street.
- *Other non-stormwater discharges.* The discharges must be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the permittee which addresses control of such discharges.

The permittee must implement appropriate enforcement procedures and actions associated with the ordinance or regulatory mechanism, including a written policy of enforcement escalation procedures for recalcitrant or repeat offenders.

- d) **Detection and Elimination.** No later than ~~one year~~ 24 months from the effective date of this permit, the permittee must develop and implement an ongoing program to detect and address non-stormwater discharges, spills, and illicit connections into their MS4. **The program must be consistent with current industry standards.** This program ~~may~~ **must** include:

- Procedures for locating priority areas likely to have illicit discharges, including areas where complaints have been recorded in the past, and areas with storage of large quantities of materials that could result in spills.
- Field assessment activities, including visual inspection of outfalls draining priority areas during dry weather and for the purposes of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges.
- No later than two years from the effective date of this permit, the permittee must begin dry weather field screening for non-storm water flows from storm water outfalls. ~~The screening may include field tests of selected parameters selected as indicators of discharge sources. The permittee may utilize~~

~~less expensive “field test kits,” using test methods not approved by EPA under 40 CFR Part 136, provided the manufacturer’s published detection ranges are adequate for the illicit discharge detection purposes.~~ Screening tests do not need to comply with EPA requirements under 40 CFR Part 136 or be performed at a certified laboratory. The permittee may utilize field testing equipment, field test kits, and other analytical testing methods provided the manufacturer’s published detection ranges are adequate for the illicit discharge detection purposes. Screening analysis may be completed at on-site or off-site laboratories. *(for a possible cross connection an investigator could test for coliforms, BOD Or COD, ammonia, TOC, pH, DO etc. Some of these tests can be completed at the WWTP onsite or with a portable meter YSI etc. Visual or thermal examination may be effective for detecting some contaminants such as fuels or oil (POL))*

- Screening for illicit connections may be conducted in accordance with *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Center for Watershed Protection, October 2004, or another methodology of comparable effectiveness. *Dyes may be used for system evaluation including identification of sources of infiltration, inflow, and illicit discharges.*
- Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges which are found by or reported to the permittee. Procedures must include detailed instructions to responsible staff for evaluating whether the discharge must be immediately contained and steps to be taken for containment of the discharge. Compliance with this provision will be achieved by investigating (or referring to the appropriate agency), within seven (7) days, any complaints, reports or monitoring information that indicates a potential illicit discharge, including spills; and immediately investigating (or referring) problems and violations determined to be emergencies or otherwise judged to be urgent or severe. *(JBLM has first responder capacity to respond to any spill event. Spill response and*

management is governed under the Integrated Contingency Plan (Alternate plan meeting regulatory requirements for Facility Response Plan). This may be a duplication of existing requirements.)

- Procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures.
 - Procedures for removing the source of the discharge; including notification of appropriate authorities; notification of the responsible operator or organization; technical assistance for eliminating the discharge; follow-up inspections; and escalating enforcement and legal actions if the discharge is not eliminated. Compliance with this provision will be achieved by initiating an investigation within twenty one (21) days of a report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection. Upon confirmation of the illicit nature of a storm drain connection, the permittee must take action in a documented effort to eliminate the illicit connection within forty five (45) days.
- e) **Tracking.** The permittee must implement a means of program evaluation and assessment which tracks the number and type of illicit discharges identified, dry weather screening efforts, and the location and any remediation efforts to address identified illicit discharges.
- f) **Education.** Within ~~one year~~ **two years** from the effective date of this permit, the permittee must inform employees, businesses, and the general public within the permit area of hazards associated with illegal discharges and improper disposal of waste. This program ~~must~~ **may** be conducted in concert with the public education requirements outlined in Part II.B.1.
- No later than one year from the effective date of this permit, the permittee must list and publicize a hotline or other local means for the public and JBLM personnel to report spills and other illicit discharges. The permittee must maintain a record of calls received and follow-up actions taken in accordance

with II.B.3.d above and include a summary in the Annual Report.

Training. Within two years of the effective date of this permit, the permittee must ensure that all staff responsible for the identification, investigation, termination, clean up and reporting of illicit discharges, including spills and illicit connections, are trained to conduct these activities. The permittee must maintain records of the training provided and the staff trained, and include a training summary in the Annual Report. *(This is very detailed for a facility that owns most of the infrastructure. With private entities tying into the MS4 this is a more significant concern. Please see comment on training at II.B.6.(h))* FROM CARSON: A description of training materials used and the frequency at which training was provided to the target audience(s) on how to respond to reports of illicit discharges FROM Army Regulation 200-1: 15-3. **Environmental training, awareness, and competence**

- a. All personnel who perform tasks that can cause significant environmental impacts will be competent on the basis of appropriate education, training, and/or experience.
- b. Personnel in non-environmental managerial functions will receive appropriate technical and/or awareness training.
- c. All organizations will identify training needs (including legally mandated training), document training taken, and evaluate effectiveness.
- d. Supervisors are responsible to ensure their employees are properly trained.
- e. Organizations should use the most effective and efficient education and training sources available, such as academia, private vendors, Federal or State agencies, workshops and conferences, and distributive training. Army organizations will develop training courses only when such training courses do not exist. Proposals to develop training courses will be coordinated with higher headquarters and Training and Doctrine Command (TRADOC).
- f. The U.S. Army Engineer School (USAES) is responsible for developing and integrating environmental considerations into personnel training.
- g. All organizations will ensure applicable personnel at all levels conform to a single installation-wide environmental management system (EMS).

4. Construction Site Storm Water Runoff Control. Throughout the permit area, the permittee must implement and enforce a program to reduce pollutants in storm water runoff from construction activities resulting in land disturbance of greater than or equal to ~~5,000 square feet~~ 1 acre or more. (

- a) **Oversight.** The permittee must provide adequate direction and oversight to ensure that entities responsible for regulated construction activities within the permit area obtain authorization to discharge as necessary under the NPDES General Permit for Stormwater Discharges for Construction Activity for Federal Facilities in Washington, Permit #WAR10000F (Construction General Permit). *(The draft CGP identifies a primary and secondary permittee for construction projects. JBLM policy is to require that the contractor obtain permit coverage and act as the "primary" permittee. There were issues with division of responsibilities when JBLM (McChord Field) obtained CGP coverage for contractors in the past.)*

- b) **Ordinance.** The permittee must use an ordinance or other regulatory mechanism available under the legal authorities of JBLM to require erosion and sediment controls, onsite materials management and sanctions to ensure compliance with the terms of the SWMP and the Construction General Permit.
- c) **Enforcement.** The permittee must maintain a list of policies and procedures which can be used to enforce construction site compliance within JBLM independent of EPA staff directly enforcing the CGP. No later than ~~one year~~ 24 months from the effective date of this permit, the permittee must include this list of policies and procedures in the SWMP document, and must update the list as necessary at least annually. The permittee must summarize in each Annual Report any enforcement actions taken at construction sites during the previous reporting period. *This will require some negotiation as a contract requirement. The enforcement may need to be through the COE contracting officer.*
- d) **Construction Site Best Management Practices (BMPs).** The permittee must maintain (or incorporate by reference) a list of appropriate construction site BMPs in the SWMP; such a list must include associated criteria for maintenance and installation of the specific practice.
- e) **Contractual Language.** The permittee must ensure that all Requests For Proposal (RFPs) and construction contracts for new construction projects disturbing 1 acre or more within the permit area include specifications that require compliance with the SWMP and the Construction General Permit when applicable.
- f) **Pre-construction Site Plan Review.** The permittee must implement procedures for reviewing pre-construction site plans for potential water quality impacts, appropriate erosion and sediment controls, and appropriate control of other construction site materials. These procedures must include provisions for receipt and consideration of information submitted by the public.
- g) **Construction Site Inspection Plan.** Within six months of the permit effective date,, the permittee must develop and implement a construction site inspection plan which provides the criteria that triggers an inspection, and a mandatory timeframe within which construction sites meeting the criteria must be inspected by JBLM staff or its representatives.
- The permittee must develop methods for JBLM staff or JBLM representatives to stop work on construction sites deemed to be in non-compliance with the JBLM construction site runoff control program. *May not be possible, it requires specific language in the contract and only Contracting Officer can stop work.*

- The permittee must develop and use a construction site inspection form for use by JBLM stormwater managers or by JBLM representatives at construction sites. The form must be included in the SWMP document.
- All projects with land disturbance over an acre encompassed by this inspection plan must be inspected by the permittee at least ~~monthly~~ quarterly.
- Projects with less than an acre of land disturbance do not require quarterly inspections. However, the inspection plan must include criteria that will trigger a spot check inspection for projects with less than an acre of land disturbance.

5. Storm Water Management for Areas of New Development and

Redevelopment. The permittee must manage storm water from developed areas in a manner that preserves and restores the area's predevelopment hydrology in accordance with applicable DoD policy. *[Note: most potential building sites on the Joint Base are disturbed to some extent or another, as with any urban area. Restoring every site to full predevelopment hydrology is an unreasonable requirement for a stormwater discharge permit.]* At a minimum, the permittee must implement and enforce a program to control storm water runoff from all public and private new development and redevelopment project sites that disturb ~~5,000 square feet~~ 1 acre or more of land area. Certain projects may be exempt from this Part as defined in Appendix C. *JBLM project planning process currently goes a long way to meeting the goals of this section. The stormwater team works closely with master planning, operations, COE, and design consultants to include stormwater management in the earliest phases of planning. This includes deconfliction meetings to locate facilities on JBLM and design charettes to establish specific project features. Onsite stormwater management is promoted for almost all projects. If required, connections to existing stormwater infrastructure must be justified by both a technological requirement and a system capacity evaluation. A justification for this process includes the age of the infrastructure. Onsite stormwater management may allow JBLM to abandon some aging stormwater infrastructure lines. These lines are also often limiting the use of existing properties during redevelopment. There is an economic driver to closely evaluate the cost of relocation or rehabilitation of stormwater lines and facilities. In some cases these costs must be included in new construction. Stormwater system modeling efforts are ongoing to evaluate the existing capacity of the JBLM Ms4 system.* Not later than one year from the effective date of this permit, the permittee must implement the following program elements:

- a) **Site Planning Procedures.** For all new development and redevelopment projects disturbing ~~5,000 square feet~~ 1 acres or more, the permittee must implement a project site planning process, BMP selection, and design criteria that will protect water quality, and reduce the discharge of pollutants to the maximum extent practicable.

Note: This preliminary draft is provided by EPA for informational purposes only; EPA intends to propose a revised draft for public comment and State 401 certification at a future date. Questions regarding this document may be directed to EPA Region 10 at 206-553-6650

- b) **Preparation of a Stormwater Site Plan.** For each new development and redevelopment project disturbing ~~5,000 square feet~~ 1-acre or more, the permittee shall require a project specific Stormwater Site Plan. Stormwater Site Plans shall be prepared in accordance with Chapter 3 of Volume of the *Stormwater Management Manual for Western Washington (2005)* and Chapter 3 of the *Low Impact Development Technical Guidance Manual for the Puget Sound (2005)*.
- c) **Source Control of Pollution.** The permittee must require the use available and reasonable source control BMPs at all new development and redevelopment project sites disturbing ~~5,000 square feet~~ 1-acre or more. Source control BMPs must be selected, designed, and maintained in accordance with Volume IV of the *Stormwater Management Manual for Western Washington (2005)*.
- d) **New Development Site Design to Minimize Impervious Areas, Preserve Native Vegetation, and Preserve Natural Drainage Systems.** For all new development project sites disturbing ~~5,000 square feet~~ 1 acre or more, the permittee must ensure projects are designed to minimize impervious surfaces and retain or restore native vegetation to maximum extent *feasible*. For projects that are designed to discharge stormwater to waters of the U.S. the below criteria must be met. *EISA requirements*
- Native vegetative cover must be maintained or restored on at least 20% of the project site area and utilized for dispersion of runoff from the project's impervious surfaces. *Site specific, recommend regional or area goal of 20%. Also development projects may accomplish the native vegetative cover goal at another location on the installation. For example JBLM has ongoing prairie restoration project. A land banking process is used in Pierce County to restore drainage habitat.*
 - ~~The permittee must ensure that impervious surfaces cover no more than 70% of a new development project site area.~~ *Site specific: Not possible in very developed area. Regional goal better.* The permittee must ensure that impervious surfaces draining to MS4 systems cover no more than 70% of the new development areas in regional development plans.
 - The permittee must ensure that natural drainage patterns of the project site are maintained, and that discharges from the new development project site occur at the natural location to the maximum extent feasible.

- The manner by which runoff is discharged from the new development project site must not cause a significant adverse impact to downstream receiving waters and down gradient properties.
 - The permittee must ensure that all **new** outfalls utilize dissipation devices.
- e) **On-site Storm Water Management.** For all new development or redevelopment project sites disturbing ~~5,000 square feet~~ **1-acre** or more, the permittee must utilize on-site **or on-installation** stormwater management practices to infiltrate, disperse, and retain stormwater runoff onsite to the maximum extent feasible without causing flooding or erosion impacts.
- **Consider** dispersion and soil quality BMPs utilized to comply with this Part must be functionally equivalent to those in Chapter 5 of Volume V of *Stormwater Management Manual for Western Washington (2005)*
 - To reduce the hydrologic disruption of the site in compliance with this Part, the permittee ~~must~~ **should** ~~consider~~ ~~require~~ roof downspout control BMPs which are functionally equivalent to those described in Chapter 3 of Volume II of the *Stormwater Management Manual for Western Washington (2005)*; and
 - To infiltrate water on the project site, the permittee ~~must require~~ **should consider** the use of bioretention areas and permeable surfaces which are designed in conformance with Chapter 6 of the *Low Impact Development Technical Guidance Manual for the Puget Sound (2005)*. *(The DoD is developing LID design manual and guidance documents for implementation on DoD installations)*
 - ~~At a minimum, stormwater from at least 50% of the impervious surfaces from the new development project site must be infiltrated or dispersed through roof downspout BMPs, bioretention, permeable surfaces, or other LID practices.~~ *If adopted should be installation wide 50% not site by site. Impervious development outside the MS4 service area (100% onsite management) should count toward any reduction goals for impervious surfaces. The selection of development sites outside the MS4 area,*

reduces stormwater impacts. LID should be stormwater management tool, but not a requirement for every site. There are limitations on implementation of LID at many locations including in and around the airfields. Due to their complexity, an airfield exemption from redevelopment and onsite stormwater management requirements is recommended.

- f) **Hydrologic Performance Requirement.** All new development and redevelopment projects that disturb 5,000 square feet 1-acre or more must be designed in accordance with DoD policies on Low Impact Development. ~~using the Western Washington Hydrology Model (or other continuous runoff model), such that post development stormwater discharge flows from a project site must not exceed the pre-developed discharge flows for the range of 8% of the 2-year peak flow to 100% of the 50-year peak flow.~~
- ~~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).~~
- g) **Runoff Treatment.** The permittee must ensure the proper construction of storm water treatment facilities in accordance with Appendix B of this permit.
- h) **Wetlands Protection.** The permittee must ensure that discharges to wetlands maintain the hydrologic conditions, hydrophytic vegetation, and substrate characteristics necessary to support existing and designated uses. The hydrologic analysis must use the existing land cover condition to determine the existing hydrologic conditions unless directed otherwise by a regulatory agency with jurisdiction. *(The indicated program to reduce stormwater flows may reduce hydraulic recharge of wetlands and impact existing wetlands. Some actions may require NEPA evaluation)*
- i) **Operation and Maintenance.** No later than three years of the effective date of this permit, the permittee must develop or compile an operation and maintenance manual to address significant all structural storm water facilities installed at new development and redevelopment project sites after the effective date of this permit. The manual must be consistent with Volume V of the *Stormwater Management Manual for*

Western Washington (2005). Significant structural stormwater facilities are those facilities on trunk lines of '24" and larger. For significant stormwater facilities operated by third parties or tenants, the permittee shall ensure appropriate O&M manuals are developed for the indicated facilities.

- To ensure long term O&M of stormwater facilities, the permittee must require the entities responsible for maintenance and operation to use the manual required in this Part.
 - The permittee must maintain records of maintenance activity, and summarize anticipated annual maintenance activity in the SWMP documentation.
 - A summary of facility maintenance activity accomplished during the previous reporting period must be included in the Annual Report.
- j) ~~**Construction Project Data Sheets.** The permittee must review Department of Defense (DoD) Form 1391 Military Construction Project Data Sheets prior to submittal by the Army Corps of Engineers (COE) to ensure that all new construction projects funded with Military Construction appropriations (MILCON) disturbing 5,000 square feet or more are designed, and provide sufficient funds, to meet the requirements of Parts II.B.5 a-i.~~
- k) **Construction Project Data Sheets.** Permittee shall develop procedures to review Department of Defense (DoD) Form 1391 Military Construction Project Data Sheets prior to submittal by the Army Corps of Engineers (COE) to ensure that new construction projects funded with Military Construction appropriations (MILCON) disturbing 1 acre or more within the MS4 system area, are designed, and provide sufficient funds, to meet the requirements of DoD policies on Low Impact Development from Carson permit (1 Acre)
- l) **Training.** Where practicable, the permittee must conduct training, or provide training opportunities, for COE (local/Portland District) and architect engineers (AEs) working on design-build projects related to post-construction stormwater controls at JBLM. *Government (JBLM) is limited on training allowed for contractors and COE. The COE is the DoD lead for LID design training. For contractors it is more appropriate to develop design standards or specifications. Highly qualified contractors are hired to complete these construction projects. Their personnel should have all required training.*

6. Pollution Prevention and Good Housekeeping for Municipal Operations.

Within two years from the effective date of this permit, the permittee must develop and implement an operations and maintenance (O&M) program that includes a training component and prevents or reduces pollutant runoff from JBLM operations.

a) **Maintenance Standards for Stormwater Facilities.** The permittee must establish maintenance standards for its structural stormwater treatment and flow control facilities that are protective, of facility function. The purpose of a maintenance standard is to determine if maintenance of a structural stormwater treatment facility or flow control facility is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections is not a permit violation.

Unless there are circumstances beyond the permittee's control, if an inspection identifies an exceedance of the maintenance standard, maintenance must be performed:

- Within ~~1 year~~ 24 months for most facilities except catch basins
- Within ~~6 months~~ 1 year for catch basins
- Within ~~2 years~~ 3 years for maintenance that requires capital construction of less than \$25,000.

For each exceedance of the maintenance standard, the permittee must document the circumstances which are outside the permittee's control.

b) **Inspection of Stormwater Facilities.** The program must include annual inspection of all JBLM owned or operated permanent stormwater treatment and flow control facilities, other than catch basins. The permittee must take appropriate maintenance actions in accordance with its adopted maintenance standards. As part of the first year Annual Report, the permittee must report the total number of permittee owned or operated stormwater facilities. *Stormwater facilities are defined as those facilities on stormwater conveyances of 24" in diameter or larger. Facilities are also associated with alternative stormwater conveyances such as drainage ditches or box culverts with capacity equal to or greater than that of a 24" dia pipe. JBLM owns stormwater facilities from building roofs on. The inspection program should apply to major facilities on trunk lines (24" and larger) only. Small infiltration swales around buildings are not significant. The term facility needs to be clearly defined for the purpose of this permit.*

c) **Spot Check Inspection of Stormwater Facilities.** The permittee must conduct spot checks of potentially damaged treatment and flow control facilities (other than catch basins) after major storm events. For the purposes of this permit, a major storm event is rainfall greater than the 24-hour, 10 year recurrence interval. The permittee must conduct

repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the spot check inspections.

- d) **Catch Basin Inspections.** The permittee must inspect all catch basins and inlets owned or operated by the permittee at least once before the end of the permit term. As part of the first year Annual Report, the permittee must report the total number of permittee owned or operated catchbasins. The permittee must clean catch basins if inspection indicates cleaning is needed. Decant water must be disposed of in accordance with Appendix A Street Waste Disposal. *JBLM contracts with an EPA permitted environmental services company or a stormwater maintenance contractor to manage non-hazardous process waters from treatment devices in accordance with RCRA. Will this disposal practice be allowed?*
- e) **Compliance.** Compliance with the inspection requirements in Parts II.B.6.b, c and d above will be determined by records of an established stormwater facility inspection program. Compliance during this permit term will be determined by completion of inspections on ~~achieving an annual rate of at least 95%~~ *75%* of stormwater facilities inspected no later than 180 days prior to the expiration date of this permit *Plan to place catch basins on a regular seasonal (dry season) schedule to complete 20% per year. Within 180 days of permit renewal one seasonal inspection cycle could remain (20%). The requirement as stated requires that 95% of the inspections be completed in 4.5 years. This would require an accelerated inspection program. 75% allows for a regular schedule and some flexibility. Also there should be at least a 5% allowance for error or access issues. Alternative is 90% at end of permit period. Also, could modify to state that if 90% of the facilities have not been inspected within the time frame identified, permittee must provide a plan to complete the required inspections.*
- f) **Maintenance Practices.** The permittee must document and implement maintenance practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways, and from road maintenance activities conducted within the permit area by the permittee or other entities. The permittee must ensure that the following activities are conducted in a manner that is protective of receiving water quality:

- Pipe cleaning

- Cleaning of culverts that convey stormwater in ditch systems
 - Ditch maintenance
 - Street cleaning
 - Road repair and resurfacing, including pavement grinding
 - Snow and ice control
 - Utility installation
 - Pavement striping maintenance
 - Maintaining roadside areas, including vegetation management
 - Dust control
- g) **Land Management Activities.** The permittee must document and implement policies and procedures to reduce pollutants in discharges from all lands owned or maintained by the permittee. Such policies and procedures must apply, at a minimum, to all parks, open space, road right-of-way, maintenance yards, and stormwater treatment and flow control facilities located within the permit area. These policies and procedures must address:
- Application of fertilizer, pesticides, and herbicides, including the development of nutrient management and integrated pest management plans.
 - Sediment and erosion control.
 - Landscape maintenance and vegetation disposal.
 - Trash management.
 - Building exterior cleaning and maintenance.

Training. The permittee must develop and implement an on-going training program for JBLM. **Target audience may include:** facility maintenance, contracted companies, environmental project officers, or other staff whose construction, operations or maintenance job functions may impact stormwater quality. The training program must address the importance of protecting water quality; the requirements of this permit; operation and maintenance standards, inspection procedures, selecting appropriate BMPs as required in this Part; ways to perform their job activities to prevent or minimize impacts to water quality; and procedures for reporting water quality concerns, including potential illicit discharges. ~~Followup training must be provided as needed to address changes in procedures, techniques, or requirements.~~ The permittee must

document and maintain records of all key personnel training or qualifications. ~~in the SWMP A summary of the training or qualification requirements must be provided in the SWMP.~~ *There are of number of training requirements in the permit that overlap and may be confusing. Recommend training be permittee determination on who will be trained and how they will be trained. For a number of requirements, qualified contractors will be hired. These contractors should already be trained or have appropriate credentials. States have registration programs for Professional Engineers. If the permittee hires a registered professional such as an engineer or other subject matter expert, that professional should not need training. For other organizations such as the USACOE, training requirement shall be provided to the COE. The COE will determine if training is required and provide the training. A very structured training requirement may prevent participation in regional workshops and other mechanisms to work with other communities. It is usually most effective to incorporate this type training with other training programs. It is difficult to track the training for every individual. Propose the SWMP will describe the training programs, not track all the training actions. (The Fort Carson permit has specific actions, but may refer to an established training program) If the training is an employee requirement this should be included in their training record and tracked. This is the procedure for other environmental training (McChord). The shop training manager maintains training records. Targeted training for specific responsibilities may be a better approach for stormwater protection. As an example, JBLM has an environmental operating permit (EOP) program for military units. This authorizes the unit activities and provides specific requirements for compliance with environmental requirements. For the management of hazardous waste and hazardous materials units delegate HW technicians and HM technicians respectively. These individual must complete Environmental Operation Management training annually. A program similar to this could be implemented to target activities with high risk to impact stormwater. As stated above, the permittee should develop the training program and requirements including identifying appropriate target audiences. Carson language: Provide annual training for public education and outreach for facility maintenance contracted companies, EPOs, and other people identified as having fleet maintenance activities in line with the SWMP. Each of the categories of municipal activities*

a) h) referenced in the SWMP should receive stormwater training;

b) **i) Storm Water Pollution Prevention Plans for Equipment Maintenance /Material Storage Yards.** The permittee must develop and implement Stormwater Pollution Prevention Plans (SWPPP) for all heavy equipment maintenance or storage yards, and/or material storage facilities owned or operated by the permittee within the permit area that are not required to have coverage under the *NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activities, WAR05-000F* or another NPDES permit.. Implementation of non-structural BMPs must begin immediately after the pollution prevention plan is developed. A schedule for installation of any structural BMPs must be included in the SWPPP. Generic SWPPPs that can be applied at multiple similar sites may be used to comply with this requirement. The SWPPP(s) must include a summary of BMPs expected to be utilized at the site and periodic visual

observation of discharges from the facility by responsible staff to evaluate and document the effectiveness of the BMPs used to reduce pollutants in runoff. Equipment yards of $\frac{3}{4}$ acres or more and Material Storage for EPCRA TIER II reportable materials. Interior and covered material storage areas and liquids in double wall tanks are exempt from this requirement. Material storage in secondary containments which drain stormwater to sanitary sewer are exempt. Facilities covered by the JBLM Spill Prevention Control and Countermeasure Plan (SPCC) do not need to be included in the SWPPP. *Needs to be limited to material storage with a significant potential to contaminate stormwater. Shipping container storage should not be included. This requirement must be implemented over time for tenants. This is a new requirement. This definition was used above: "Significant-industrial facilities or maintenance/storage facilities are defined for the purpose of this permit as uncovered yards of 0.5 acres or more. Significant liquid product storage facilities are defined as reportable EPCRA Tier II facilities." Section calls out a separate SWPPP, is permittee allowed to develop combined SWPPP to address multiple discharge permit requirements?*

- c) **Documentation.** Records of all inspections, maintenance, or repair activities conducted by the permittee must be maintained in accordance with Part IV.C of this permit, and summarized in each Annual Report.

C. Stormwater Retrofits to Reduce Discharges and Pollutant Loadings to Water Quality-Impaired and Degraded Receiving Waters

1. The permittee must conduct storm water discharge and water quality monitoring as required in Part IV.
2. ~~Within three years of the permit effective date, the permittee must develop a stormwater retrofit plan to reduce flows and associated pollutant loadings from existing 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.~~ *Removal of all retrofit requirements is preferred significant infiltration is already occurring on JBLM. Future development must follow JBLM procedures to minimize flows into existing MS4 facilities.(*). The JBLM stormwater systems have been in place for many years directing stormwater flows into regional water bodies. In some cases the habitat in*

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these areas may be dependent on the recharge from the stormwater. Any program to retrofit the system and remove these flows must be evaluated through NEPA for impacts to the current habitat at these downstream locations. In many cases, significant changes were made to the natural contours and drainage patterns when JBLM was developed. The current habitats have developed around these modified conditions. Diverting flow from wetlands supported by the stormwater flows may be prohibited by federal law. A significant habitat has developed around the stormwater canal on JBLM. Retrofits to eliminate the flow in this canal would impact this habitat.

3. *If Retrofit Required: Within three years of the permit effective date, the permittee must complete a stormwater retrofit study. The study will evaluate the potential for retrofit projects to reduce flows and associated pollutant loadings from existing impervious surfaces into Clean Water Act Section 303(d) listed and other degraded water bodies. The retrofit study 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) ~~The retrofit plan must reduce stormwater discharges and pollutant loadings in sub-basins draining to the following CWA Section 303(d) listed and degraded water bodies:~~
 - ~~Clover Creek (JBLM portion), including subbasin areas discharging to outfalls # 3, 20, 33, and 50. *Outfall 50 is an overflow from Carter Lake. Most of the housing area drains to Carter Lake within JBLM and will only drain to outfall 50 when Carter Lake is very full during flood events. Also many areas of housing such as the schools and some roadways, have onsite stormwater infiltration features. This was not clear on the outfall map. That map was not part of the original drainage area mapping effort on McChord.*~~
 - ~~Lower Murray Creek, including subbasin areas discharging into outfalls #6, 7, 11, and 63.~~
 - ~~Middle Murray Creek, including subbasin areas discharging to outfalls #9 (Kennedy Marsh), 32, 53, 55, 56, 63. *Outfall 9 is MSGP*~~
 - ~~Sequalitchew Creek, including subbasin areas discharging to outfall #2 (Bell Marsh) and #3 (Hammar Marsh) *These flows are already minimized through treatment and infiltration. The marshes overflow to the stormwater canal. The canal is isolated from Sequalitchew Creek*~~
 - b) ~~The retrofit plan must emphasize the use of low impact development techniques and other controls that infiltrate, evapotranspire, harvest and~~

~~use storm water discharges, or otherwise eliminate storm water flows and pollutant loadings from discharging to waters listed in Part II.C.2.a.~~

- c) ~~The retrofit plan must include a list of prioritized list of projects for each subbasin area listed in Part II.C.2.a. The plan must identify projects which, when fully implemented, will disconnect and infiltrate existing discharges from at least 50% of the effective impervious surfaces in each subbasin. The permittee must prioritize identified project locations through an evaluation and ranking process that includes the following considerations:~~
- ~~• Efficacy of eliminating storm water flows to the receiving water.~~
 - ~~• Feasibility~~
 - ~~• Cost effectiveness~~
 - ~~• Pollutant removal effectiveness~~
 - ~~• Impervious area potentially mitigated and~~
 - ~~• Maintenance requirements.~~
- d) ~~The retrofit plan must be submitted to EPA as part of the 3rd Year Annual Report.~~
- e) ~~Prior to the expiration date of this permit, JBLM must complete retrofit projects sufficient to disconnect and infiltrate discharges from at least 15% of the effective impervious surfaces currently discharging to Clover Creek, Murray Creek, Kennedy Marsh, and Bell/Hammar Marsh through the MS4.~~
- f) *JBLM has been promoting city centers areas in the master plan which include residence areas within walking distance of offices and many services in a core district of the installation. The goal is a reduction in the driving requirements for installation residents. These core areas historically have large area of impervious surface The city center concept is not compatible with requirements for extensive retrofits on existing developed areas. JBLM issues are similar to those expressed by the City of Seattle (July 2011) when responding to WDOE proposed MS4 permit language.*

D. Required Response to Violations of Water Quality Standards. The permittee remains in compliance with this permit despite any discharges prohibited by Part I.C, when the permittee undertakes the following response toward long-term water quality improvement:

1. The permittee must notify EPA in writing within 30 days of becoming aware, based on credible site-specific information, that a discharge from the MS4 owned or operated by the permittee is causing or contributing to a known or likely violation of water quality standards in the receiving water. Written notification provided under this Part must, at a minimum, identify the source of the site-specific information, describe the nature and extent of the known or

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likely water quality standard violation in the receiving water, and explain the reasons why the MS4 discharge is believed to be causing or contributing to the problem. For ongoing or continuing violations, a single written notification to EPA will fulfill this requirement. *Is this requirement limited to events that do not meet the immediate reporting requirements under CERCLA. On JBLM Spill response is reported through the SPCC and Integrated Contingency Plan procedures by JBLM First Responders and Onsite Commanders. The spill response procedures were developed to comply with all applicable environmental requirements. This permit should not modify those procedures. Will spill notifications to National Response Center and State Emergency Response Commission fulfill this requirement? The concern is that the required reporting might be delayed if someone is under the impression there are 30 days to report. For many events immediate reporting is required.*

2. In the event that EPA determines, based on a notification provided under II.D.1.or through any other means, that a discharge from a MS4 owned or operated by the permittee is causing or contributing to a violation of water quality standards in a receiving water, EPA will notify the permittee in writing that an adaptive management response outlined in II.D.4 below is required. *Recommend EPA respond within 15 days.*
3. EPA may elect not to require an adaptive management response from the permittee if:
 - a) EPA determines that the violation of water quality standards is already being addressed by a Total Maximum Daily Load implementation plan or other enforceable water quality cleanup plan; or
 - b) EPA concludes the violation will be eliminated through implementation of other permit requirements.
4. Adaptive Management Response:
 - a) Within 60 days of receiving a notification under II.D. 2, or by an alternative date established by EPA, the permittee must review its Storm Water Management Program and submit a report to EPA. The report must include:
 - A description of the operational and/or structural BMPs that are currently being implemented to prevent or reduce any pollutants that are causing or contributing to the violation of water quality standards, including a qualitative assessment of the effectiveness of each BMP.
 - A description of potential additional operational and/or structural BMPs that will or may be implemented in order to prevent or reduce to the maximum extent practicable any pollutants that are causing or contributing to the violation of water quality standards.

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- A description of the potential monitoring or other assessment and evaluation efforts that will or may be implemented to monitor, assess, or evaluate the effectiveness of the additional BMPs.
 - A schedule for implementing the additional BMPs including, as appropriate: funding, training, purchasing, construction, monitoring, and other assessment and evaluation components of implementation.
- b) EPA will, in writing, acknowledge receipt of the report within a reasonable time and notify the permittee when it expects to complete its review of the report. EPA will either approve the additional BMPs and implementation schedule or require the permittee to modify the report as needed. If modifications are required, EPA will specify a reasonable time frame in which the permittee must submit and EPA will review the revised report. *Recommend EPA respond with acknowledgement of receipt within 15 days.*
- c) The permittee must implement the additional BMPs, pursuant to the schedule approved by EPA, beginning immediately upon receipt of written notification of approval.
- d) The permittee must include with each subsequent Annual Report a summary of the status of implementation and the results of any monitoring, assessment or evaluation efforts conducted during the reporting period. If, based on the information provided under this subsection, EPA determines that modification of the BMPs or implementation schedule is necessary, the permittee must make such modifications as EPA directs.
- e) Provided the permittee is implementing the approved adaptive management response under this section, the permittee remains in compliance with Part II.D, despite any on-going violations of water quality standards identified under II.D.1 or 2 above.
- f) The adaptive management process provided under Part II.D is not intended to create a shield for the permittee from any liability it may face under 42 U.S.C. 9601 *et seq.*

E. Reviewing and Updating the SWMP

1. The permittee must annually review their SWMP actions and activities as part of the preparation of the Annual Report required in Part IV.C
2. The permittee shall update the SWMP as required and summarize significant changes in the annual report. The permittee may request changes to any SWMP action or activity specified in this permit in accordance with the following procedures: *There may be some clarification required to determine what SWMP changes are permittee allowed and what changes require EPA review. The permit should be performance based. The permittee should be determining*

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the required actions to comply with the performance requirement. The permittee should determine if there will be a change to the SWMP to meet the performance requirement. If the permittee or industry develops a better alternative methodology to comply with a permit requirement this process could be followed without EPA review if the proposed action meets the permit requirements. The procedure listed here should be followed specifically to change a permit requirement when the permit requirements are cost prohibitive or not feasible.

- a) Changes to delete or replace an action or activity specifically identified in this permit with an alternate action or activity may be requested at any time. Modification requests to EPA must include:
 - An analysis of why the original actions or activity is ineffective, infeasible, or cost prohibitive;
 - Expectations on the effectiveness of the replacement action or activity; and
 - An analysis of why the replacement action or activity is expected to better achieve the permit requirements.
 - b) Change requests must be made in writing and signed by the permittee in accordance with Part VI.E.
3. Documentation of any of the actions or activities required by this permit must be submitted to EPA upon request.
- a) EPA may review and subsequently notify the permittee that changes to the SWMP are necessary to:
 - Address discharges from the MS4 that are causing or contributing to adverse water quality impacts;
 - Include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; or
 - Include other conditions deemed necessary by EPA to comply with water quality standards, and/or other goals and requirements of the CWA.
 - b) If EPA notifies the permittee that changes are necessary pursuant to Part II.E.3.a, the notification will offer the permittee an opportunity to propose alternative program changes to meet the objectives of the requested modification. Following this opportunity, the permittee must implement any required changes according to the schedule set by EPA.
4. Any formal modifications to this permit will be accomplished according to Part VI.A of this permit.

F. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation. The permittee must implement the actions and activities of the

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SWMP in all new areas added or transferred to the permittee's MS4 (or for which the permittee becomes responsible for implementation of storm water quality controls) as expeditiously as practicable, but not later than one year from the date upon which the new areas were added. Such additions and schedules for implementation must be documented in the next Annual Report following the transfer.

- G. SWMP Resources.** The permittee must provide adequate finances, staff, equipment and other support capabilities to implement the SWMP actions and activities outlined in this permit. Consistent with Part II.A.4.a, estimated costs of SWMP implementation must be summarized in each Annual Report. *There are some limitations on what cost estimates may be released by JBLM. For proposed contract work the government estimate is not releasable. JBLM is funded through congressional appropriations. It may not be appropriate to JBLM to commit to providing the indicated resources before the appropriation process is complete.*

III. Schedule for Implementation and Compliance

Table III SWMP - Schedule for Implementation and Compliance			
Permit Citation	Program Component	Due Date	Include in Annual Report
<i>General Requirements</i>			
Part II.A.1	Implement a SWMP within permit area through compliance with minimum controls, retrofit plan requirements, corrective action provisions, and assessment and monitoring requirements	Ongoing	
Parts II.A. and IV.C	Create SWMP document describing program component, additional actions, and assessment/monitoring program. Gather data, track costs and funding; activities, inspections, etc. by program component; report shared implementation of SWMP. Conduct annual review of SWMP implementation and submit an Annual Report to EPA	(month XX, 2011), annually thereafter	✓
<i>Public Education and Outreach (40 CFR §122.34(b)(1))</i>			
Part II.B.1	Conduct ongoing public education program to reduce behaviors that contribute to adverse water quality impacts. - Measure understanding and adoption of target behaviors among target audiences. - Track and maintain records of SW-related education activities, topics, target audiences and overall effectiveness.	Two years from permit effective date (PED) Ongoing	✓
<i>Public Involvement and Participation (40 CFR §122.34(b)(2))</i>			
Part II.B.2	Convene internal and/or external meetings with JBLM organizations and/or public to discuss SWMP and collect comments (2.b)	W/in 6 12 months of PED, annually thereafter	✓
	Make all MS4 Annual Reports available on website; provide web address in SWMP (2.c) <i>internal or external?</i>	Within 1 year 24 months of PED	
	Provide volunteer activities as practicable to engage residents and personnel; maintain a log of public participation activities. (2.d)	At least once per year	
<i>Illicit Discharge Detection and Elimination (IDDE) (40 CFR §122.34(b)(3))</i>			
Part II.B.3	Develop/update a comprehensive storm sewer system map of the cantonment area (3.a)	One year from PED, ongoing	✓
	Develop preliminary MS4 map of Muck Creek Basin area (3.b), submit with permit reapplication	180 days from permit expiration	
	Adopt ordinance to prohibit illicit discharges to the MS4 (3.c)	6 months 1 year from PED	✓
	Implement program to detect/address non-stormwater, spills and illicit connections; Begin dry weather screening of outfalls Assess & investigate non-emergencies within 7 days; remove sources within 21 days; disconnect from MS4 within 45 days; (3.d)	Two years from PED Ongoing	✓
	Maintain database of activities and responses (3.e); Educate re: illegal discharges/improper disposal; provide hotline (3.f) Provide ongoing training to staff (3.g)	Ongoing; One year from PED; Two years from PED	✓

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Table III, continued			
SWMP- Schedule for Implementation and Compliance			
Permit Citation	Program Component	Due Date	Include in Annual Report
<i>Construction Site Storm Water Runoff (40 CFR §122.34(b)(4))</i>			
Part II.B.4	Implement a construction site runoff control program for sites disturbing 5,000 sq feet 1 acre or more; Direct & oversee regulated construction as required by the EPA's CGP (4.a)	Ongoing	✓
	Use ordinance to require appropriate erosion, sediment and waste control (4.b)	Upon PED	✓
	Maintain a list of policies and procedures to enforce site compliance within JBLM ; update SWMP document as necessary; Summarize enforcement taken by permittee (4.c)	One year from PED	✓
	Maintain a list of specific construction BMPs with criteria for maintenance and installation (4.d)	Upon PED	✓
	Include language in all new construction RFPs requiring compliance with CGP and the permittee's SWMP (4 e)	Upon PED	✓
	Review pre-construction site plans& allow for input (4.f)	Upon PED	✓
	Implement site inspection plan including stop work order procedures & site inspection form for use by JBLM managers. Inspect targeted sites at least monthly (4.g)	Within 6 month of PED; ongoing	✓
<i>Post-Construction Storm Water Management (40 CFR 122.34(b)(5))</i>			
Part II.B.5	Require Storm Water Site Plans for all new development /redevelopment projects. (5.a & b)	Within one year of PED	✓
	Require Source Control BMPs for all development /redevelopment sites (5.c)5.b)	Within one year of PED	✓
	Minimize Impervious Areas, Preserve Native Vegetation, and Preserve Natural Drainage Systems. (5.d)	Within one year of PED	✓
	Use on-site practices to infiltrate, disperse, & retain runoff onsite to the maximum extent feasible (5.e)	Within one year of PED	✓
	Preserve/restore predevelopment hydrology at new development/redevelopment projects disturbing 5,000 sq ft 1 acre or more. All projects must be designed using a continuous runoff model such that post development flows do not exceed predeveloped flows for the range of 8% of the 2 year peak flow to 100% of the 50 year peak flow (5.f).	Within one year of PED	✓
	Ensure proper construction of runoff treatment facilities to comply with Appendix B(II.B.5.g)		✓
	Ensure discharges to wetlands maintain hydrologic conditions, hydrophytic vegetation, and substrate characteristics to support existing & designated uses (II.B.5.h)		✓
	Compile an operation & maintenance manual to address all new development/redevelopment storm water facilities; Require proper installation & long-term maintenance of facilities installed after PED (5.i)	Three years from PED	✓
	Review Construction Project Data sheets for MILCON projects ensure design and funds to install necessary practices (5.j))		✓
	Conduct training for COE architect engineers (5.k)	As practicable	✓

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Table III.A, continued SWMP - Schedule for Implementation and Compliance			
Permit Citation	Program Component	Due Date	Include in Annual Report
<i>Pollution Prevention/Good Housekeeping (40 CFR 122.34(b)(6))</i>			
Part II.B.6	Establish maintenance and inspection standards for stormwater facilities (6.a) <i>See stormwater facility definition</i>	Two years from PED; ongoing	✓
	Inspect all major stormwater facilities annually (II.B.6.b) Report total # of major facilities in 1 st year Annual Report	Ongoing	✓
	Spot check stormwater facilities after major storm events (II.B.6.c) Repair as necessary	Ongoing	✓
	Inspect all catchbasins and inlets at least once before the end of the permit term. (6.d) Report total # of catchbasins in 1 st year Annual Report.	By permit expiration date	✓
	Inspect 95% <i>75%</i> of SW facilities (6.e) <i>Which facilities on 1 year inspection which on one time during permit?</i>	180 days before permit expiration date	✓
	Implement practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned by the permittee (6.f)	Two years from PED; ongoing	✓
	Implement policies and procedures to reduce pollutants in discharges from parks, open space, and other land owned by the permittee (6.g)	Two years from PED; ongoing	✓
	Conduct training for employees or contractors whose O&M job functions may impact stormwater quality. (6.h) <i>Ensure Contractors are qualified JBLM requirement in contact. Contractor responsible for following JBLM procedures.</i>	Two years from PED; ongoing	✓
	Implement SWPPPs at maintenance/equipment/material storage yards not already permitted under the MSGP (6.i)	Two years from PED; ongoing	✓
	Document all activities; summarize in Annual Report (6.j)	Annually	✓
Retrofits to Reduce Existing Discharges – Schedule for Implementation and Compliance			
Permit Citation	Program Component	Due Date	Include in Annual Report
II.C.1, IV.5, IV.6	Monitor water quality in Clover Creek, Murray Creek and Sequalitchew Creek, and SW discharges to American Lake	At least quarterly, starting 18 months from PED	✓
Part II.C.2	Complete retrofit study Develop a retrofit plan to reduce existing discharges to Clover Creek, Lower Murray Creek, Middle Murray Creek (Kennedy Marsh), and Sequalitchew Creek (Bell/Hammar Marsh), using LID and other infiltration practices ;	Three years from PED	✓
	Prioritize projects in each subbasin sufficient to result in 50% reduction in existing discharge;	Three years from PED	✓
	Submit plan to EPA		✓
	Complete retrofit projects sufficient to result in 15% reduction in existing discharges		

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Table III.A, continued			
Required Response to Violations- Schedule for Implementation and Compliance			
Permit Citation	Program Component	Due Date	Include in Annual Report
Part II.D	Notify EPA in writing within 30 days of MS4 discharge contributing to violation of WQ standards (II.D.1)	As necessary	✓
	Adaptive Management Reponse, including a review of SWMP and written report to EPA discussing: BMPs currently used to reduce violation of WQ standards, potential additional BMPs, including assessment of effectiveness; and schedule for implementation. (D.4.a)	60 days from date of notification from EPA	✓
	Implement additional BMPs immediately upon approval from EPA (D.4.c)	As necessary	✓
	Summarize BMP implementation status, effectiveness, etc	Annually	✓
Transferred or Annexed Areas -Schedule for Implementation and Compliance			
Part II.F	Implement SWMP in new areas added or transferred to the permittee’s MS4 as expeditiously as practicable; Document in next Annual Report following the transfer	Not later than one year from the date new areas were added	✓
SWMP Resources - Schedule for Implementation and Compliance			
Part II.G	Provide resources to implement SWMP actions and activities outlined in this permit. Summarize costs in each Annual Report.	Update annually	✓
Monitoring and Reporting – Schedule for Implementation and Compliance			
Part IV	Review Compliance with this permit to prepare Annual Report (IV.A.1)	At least annually	✓
	Develop monitoring plan (IV.A.2)	One year from PED	✓
	Begin quarterly sampling of SW discharge to American Lake (VI.A.5)	18 months from PED	✓
	Begin quarterly sampling of Murray Creek, Clover Creek, Sequalitchew Creek (IV.A.6)	18 months from PED	✓
	Submit monitoring data, SWMP document update and Annual Report (IV.C)	At least annually	✓

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IV. Monitoring, Recordkeeping, and Reporting Requirements

A. Monitoring

1. **Compliance Evaluation.** At least once per year, the permittee must evaluate its compliance with these permit conditions and progress toward achieving the minimum control measures. This evaluation of permit compliance must be documented in each Annual Report required as described in Part IV.C.
2. **Monitoring Objectives.** The permittee must monitor surface water and stormwater discharges to determine the impacts of storm water discharges from the MS4. Within one year from the effective date of this permit, the permittee must develop a monitoring plan that includes the quality assurance requirements defined in Part IV.A.7. The permittee must develop and implement a monitoring program to characterize water quality in Murray Creek, Clover Creek and Sequelitchew Creek, and the quality of stormwater discharges to American Lake to estimate and quantify pollutant concentrations to these
3. **Representative Sampling.** Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.
4. **Monitoring Procedures.** Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 [for surface water](#). Where an approved 40 CFR Part 136 method does not exist, and other test procedures have not been specified, any available method may be used after approval from EPA.
5. **Storm Water Discharge Monitoring.** No later than eighteen months from the effective date of this permit, the permittee must sample quarterly from at least one storm water outfall discharging to American Lake. At a minimum, the sample must be analyzed for total phosphorus, and the data must be reported to EPA as part of the Annual Report.
6. **Water Quality Monitoring.** Not later than eighteen months from the effective date of this permit, the permittee must begin a water quality monitoring program in Murray Creek, Clover Creek and ~~Sequalitchew Creek~~ for pollutants identified in Tables IV.A, B, and C, respectively. *There are some ongoing regional water quality monitoring programs within Puget Sound. The permittee should have the alternative option to participate in these programs to fulfill the indicated monitoring requirement. The indicated studies may have study specific quality assurance requirements in QAP's and alternative test procedures approved under 40 CFR Part 136 for surface water. Participation in these program will assist in developing regional water quality data. This should be optional.*

Table IV.A: Monitoring Requirements for Murray Creek

Parameter	Monitoring requirements		
	Sample location ¹	Sample frequency ²	Sample type ³
Flow (cfs)	See below	Quarterly	Continuous
Fecal coliform	See below	Quarterly	Grab
Total phosphorus (mg/L)	See below	Quarterly	Grab
Temperature	See below	Quarterly	Grab
Dissolved Oxygen	See below	Quarterly	Grab
pH	See below	Quarterly	Grab

¹ A minimum of three locations representing upper, middle and lower Murray Creek.
² A minimum of four (4) samples must be collected in a calendar year
³ Grab samples may be taken manually or with an automatic water sampler.

Table IV.B: Monitoring Requirements for Clover Creek

Parameter	Monitoring requirements		
	Sample location ¹	Sample frequency ²	Sample type ³
Flow (cfs)	See below	Quarterly	Continuous
Fecal coliform	See below	Quarterly	Grab
Total phosphorus (mg/L)	See below	Quarterly	Grab
Temperature	See below	Quarterly	Grab
Dissolved Oxygen	See below	Quarterly	Grab
pH	See below	Quarterly	Grab
Copper	See below	Quarterly	Grab
Lead	See below	Quarterly	Grab

¹ A minimum of one location in Clover Creek as it leaves the permit area.
² A minimum of four (4) samples must be collected in a calendar year
³ Grab samples may be taken manually or with an automatic water sampler.

Table IV.C: Monitoring Requirements for Sequelitchew Creek

Parameter	Monitoring requirements		
	Sample location ¹	Sample frequency ²	Sample type ³
Flow (cfs)	See below	Quarterly	Continuous
Fecal coliform	See below	Quarterly	Grab
Total phosphorus (mg/L)	See below	Quarterly	Grab
Temperature	See below	Quarterly	Grab
Dissolved Oxygen	See below	Quarterly	Grab

¹ A minimum of one location in Sequelitchew Creek downstream of Sequelitchew Lake.
² A minimum of four (4) samples must be collected in a calendar year

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³ Grab samples may be taken manually or with an automatic water sampler.

7. Quality Assurance Requirements. The permittee must develop a quality assurance plan (QAP) for all monitoring required in this Part. The QAP must be developed concurrent with the monitoring plan within one year of the effective date of this permit. Any existing QAPs may be modified for the requirements under this section. Upon completion of the QAP, the permittee must provide written notice to EPA, as indicated in Part IV.D. *Is this requirement flexible enough to allow JBLM to develop one QAP to cover most sampling requirement including wastewater, drinking water and stormwater?*

- a) The QAP must be designed to assist in planning for the collection and analysis of storm water discharge samples in support of the permit and in explaining data anomalies when they occur.
- b) Throughout all sample collection and analysis activities, the permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in the following documents:
 - *EPA Requirements for Quality Assurance Project Plans EPA-QA/R-5* (EPA/240/B-01/003, March 2001). A copy of this document can be found electronically at: <http://www.epa.gov/quality/qs-docs/r5-final.pdf>
 - *Guidance for Quality Assurance Project Plans EPA-QA/G-5*, (EPA/600/R-98/018, February, 1998). A copy of this document can be found electronically at: <http://www.epa.gov/r10earth/offices/oea/epaqag5.pdf>

The QAP must be prepared in the format specified in these documents. *This is very restrictive language. There is a Puget Sound Regional Water Quality Monitoring Program (State). The permittee should have the option to follow that QAP so that JBLM data may be useful to this study.*

- c) At a minimum, the QAP must include the following:
 - Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;
 - Map(s) indicating the location of each sampling point;
 - Qualification and training of personnel; and

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- Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the permittee.
- d) The permittee must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP.
- e) ~~Copies of the QAP must be maintained by the permittee and made available to EPA upon request.~~ *This is covered by B.2. below delete e. Recommend record keeping requirements all be in section B. The requirements should be uniform for the permit if possible. The format below in B and C provides a clear description of records and reporting required.*

B. Recordkeeping

1. **Retention of Records.** The permittee must retain records and copies of all information (including all monitoring, calibration and maintenance records and all original strip chart recordings for any continuous monitoring instrumentation, copies of all reports required by this permit, a copy of the NPDES permit, and records of all data used to complete the application for this permit) for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended at the request of the EPA at any time. Records include all information used in the development of the SWMP, all monitoring data, copies of all reports, and all data used in the development of the permit application. *Some regulatory language states records retention is 5 years. 40 CFR 122.34(g)(2) states the timeframe is three years. Verify retention requirement.*
2. **Availability of Records.** The permittee must submit the records referred to in Part IV.B.1 to EPA only when such information is requested. The permittee must retain all records comprising the SWMP required by this permit (including a copy of the permit language and all Annual Reports) at a location accessible to the EPA. The permittee must make records, including the permit application and the SWMP, available to the public if requested to do so in writing. ~~The public must be able to view the records during normal business hours. The permittee may charge the public a reasonable fee for copying requests.~~ *Requests for documentation will be processed in accordance with the Freedom of Information Act procedures and fees may be charged if applicable. General Public access to the files on the installation is not possible. Does the CWA have an Administrative Record requirement like CERCLA?*

C. Reporting Requirements

1. **Storm Water Discharge and Water Quality Monitoring Report.** Within two years from the effective date of this permit, and once per year thereafter, all available storm water discharge and water quality monitoring data must be submitted as part of the Annual Report. At a minimum, this Report must include:

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- a) Dates of sample collection and analyses;
- b) Results of analytical samples collected;
- c) Location of sample collection.
- d) *For clarification the water monitoring data is not submitted quarterly. Also, water quality data is currently collected on JBLM to support the MSGP program. Is this data to be submitted with the annual report. The data is currently being provided with the MSGP quarterly DMDR. Also is the DMDR form required? This is not a good fit for the water quality monitoring required in this permit.*

2. Annual Report. No later than (*Month*) 15th of each year beginning in year 2013, the permittee must submit an Annual Report to EPA. The reporting period for the first Annual Report will be from the effective date of this permit through *Month XX, 2012*. The reporting period for all subsequent annual reports will be the 12 month period ending (*Month*) XX of the previous calendar year. Copies of all Annual Reports must be made available to the public, at a minimum, through a permittee-maintained website. The following information must be contained in each Annual Report:

- a) An updated SWMP document as required in Part II.A.3;
- b) The report must assess compliance with this permit and progress towards achieving the identified actions and activities for each minimum control measure in Parts II.B and II.C. Status of each program area must be addressed, even if activity has previously been completed or has not yet been implemented;
- c) Results of any information collected and analyzed during the previous 12 month period, including any information used to assess the success of the program at improving water quality to the maximum extent practicable;
- d) A summary of the number and nature of inspections, formal enforcement actions, and/or other similar activities performed by the permittee;
- e) A summary list of any water quality compliance-related enforcement actions received from regulatory agencies other than EPA. Such actions include, but are not limited to, formal warning letters, notices of violation, field citations, or similar actions. This summary should include dates, project synopsis, and actions taken to address the compliance issue(s);
- f) Copies of education materials, ordinances (or other regulatory mechanisms), inventories, guidance materials, or other products produced as a result of actions or activities required by this permit;
- g) A general summary of the activities the permittee plans to undertake during the next reporting cycle (including an implementation schedule) for each minimum control measure;

- h) A description and schedule for implementation of additional BMPs that may be necessary, based on monitoring results, to ensure compliance with applicable water quality standards;
- i) Notice if the permittee is relying on another entity to satisfy any of the permit obligations, if applicable; and
- j) A description of the location, size, receiving water, and drainage area of any new MS4 outfall(s) owned or operated by the permittee added to the system since the previous annual reporting period.

D. Addresses. Reports and other documents required by this permit must be signed in accordance with Part VI.E. One hard copy and one electronic copy (by email or on CD ROM) must be submitted to each of the following addresses:

EPA: United States Environmental Protection Agency
Attention: Storm Water Program
NPDES Compliance Unit
1200 6th Avenue, Suite 900 (OCE-133)
Seattle, WA 98101

WA Dept of Ecology: Department of Ecology
Water Quality Program
Municipal Stormwater Permits
P.O. Box 47696
Olympia, WA 98504-7696

V. Compliance Responsibilities

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

B. Penalties for Violations of Permit Conditions

- 1. Civil and Administrative Penalties.** Pursuant to 40 CFR Part 19 and the Act, any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently \$37,500 per day for each violation).

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2. Administrative Penalties. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of this Act. Pursuant to 40 CFR Part 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently \$16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$37,500). Pursuant to 40 CFR Part 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently \$16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$177,500).

3. Criminal Penalties.

- a) **Negligent Violations.** The Act provides that any person who negligently violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two years, or both.
- b) **Knowing Violations.** Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six years, or both.
- c) **Knowing Endangerment.** Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- d) **False Statements.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate. The permittee must take all reasonable steps to minimize or prevent any discharge or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance. The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Toxic Pollutants. The permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

G. Planned Changes. The permittee must give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR §122.29(b); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit.

H. Anticipated Noncompliance. The permittee must give advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

VI. General Provisions

A. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §§ 122.62, 122.64, or 124.5. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Duty to Reapply. If the permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. In accordance with 40 CFR §122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Director, the permittee must submit a new application at least 180 days before the expiration date of the permit, or in conjunction with the fourth Annual Report. The reapplication package must contain the information required by 40 CFR §122.21(f) which includes: name and mailing address(es) of the permittee(s) that operate the MS4(s), and names and titles of the primary administrative and technical contacts for the municipal permittee(s). In addition, the permittee must identify the identification number of the existing NPDES MS4 permit; any previously unidentified water bodies that receive discharges from the MS4; a summary of any known water quality impacts on the newly identified receiving waters; a description of any changes to the number of applicants; and any changes or modifications to the Storm Water Management Program. The re-application package may incorporate by reference the fourth Annual Report when the reapplication requirements have been addressed within that report.

C. Duty to Provide Information. The permittee must furnish to the Director, within the time specified in the request, any information that the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to the Director, upon request, copies of records required to be kept by this permit.

D. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Director, the permittee must promptly submit the omitted facts or corrected information.

E. Signatory Requirements. All applications, reports or information submitted to the Director must be signed and certified as follows.

1. All permit applications must be signed as follows:
 - a) For a corporation: by a responsible corporate officer.
 - b) or a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
 - c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by the Director must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a) The authorization is made in writing by a person described above;
 - b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the organization; and
 - c) The written authorization is submitted to the Director.
3. Changes to authorization. If an authorization under Part VI.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part VI.E.2 must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this Part must make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for

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submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports. In accordance with 40 CFR Part 2, information submitted to EPA pursuant to this permit may be claimed as confidential by the permittee. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

G. Inspection and Entry. The permittee must allow the Director or an authorized representative (including an authorized contractor acting as a representative of the Director), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of state or local laws or regulations.

I. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)

J. State/Tribal Environmental Laws

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1. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State/Tribal law or regulation under authority preserved by Section 510 of the Act.
2. No condition of this permit releases the permittee from any responsibility or requirements under other environmental statutes or regulations.

K. Oil and Hazardous Substance Liability. Nothing in this permit shall be constructed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

L. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to the circumstances, and the remainder of this permit shall not be affected thereby.

VII. Definitions and Acronyms

All definitions contained in Section 502 of the Act and 40 CFR Part 122 apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided but, in the event of a conflict, the definition found in the statute or regulation takes precedence.

“Administrator” means the Administrator of the EPA, or an authorized representative.

“AKART” means all known, available and reasonable methods of prevention, control and treatment, and refers to the State of Washington Water Pollution Control Act, Chapter 90.48.010 and 90.48.520 RCW.

“Best Management Practices (BMPs)” means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See “stormwater control measure (SCM).”

“Bioretention” is the water quality and water quantity storm water management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from storm water runoff.

“Canopy Interception” is the interception of precipitation, by leaves and branches of trees and vegetation that does not reach the soil.

“Construction General Permit or CGP” means the current version of the U.S. Environmental Protection Agency’s *NPDES General Permit for Storm Water Discharges from Construction*

Activities in Washington, Permit No. WAR10-0000. The permit is posted on EPA's website at www.epa.gov/npdes/stormwater/cgp.

“Common Plan of Development” is a contiguous construction project where multiple separate and distinct construction activities may be taking place at different times on different schedules but under one plan. The “plan” is broadly defined as any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot; included in this definition are most subdivisions and industrial parks.

“Construction activity” includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to construction of residential buildings and non-residential buildings, and heavy construction (e.g., highways, streets, bridges, tunnels, pipelines, transmission lines and industrial nonbuilding structures). See “Stormwater Discharge Associated with Construction Activity.”

“Control Measure” as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States.

“CWA” or “The Act” means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.

“Director” means the Environmental Protection Agency Regional Administrator, the Director of the Office of Water and Watersheds, or an authorized representative.

“Discharge” when used without a qualifier, refers to “discharge of a pollutant” as defined at 40 CFR §122.2.

“Discharge of a pollutant” means (a) any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or (b) any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any “indirect discharger.”

“Discharge-related Activities” include: activities which cause, contribute to, or result in storm water point source pollutant discharges and measures to control storm water discharges, including siting, construction, and operation of best management practices to control, reduce or prevent storm water pollution.

“Discharge Monitoring Report or DMR” means the EPA uniform national form, including any subsequent additions, revisions or modification for the reporting of self monitoring results by permittees. See 40 CFR §122.2.

“Disconnect” for the purposes of this permit, means the change from a direct discharge into receiving waters to one in which the discharged water flows across a vegetated surface, through a constructed water or wetlands feature, through a vegetated swale, or other attenuation or infiltration device before reaching the receiving water.

“Engineered Infiltration” is an underground device or system designed to accept storm water and slowly exfiltrates it into the underlying soil. This device or system is designed based on soil tests that define the infiltration rate.

“Erosion” means the process of carrying away soil particles by the action of water.

“Evaporation” means rainfall that is changed or converted into a vapor.

“Evapotranspiration” means the sum of evaporation and transpiration of water from the earth’s surface to the atmosphere. It includes evaporation of liquid or solid water plus the transpiration from plants.

“Extended Filtration” is a structural storm water device which filters storm water runoff through a soil media and collects it in an under drain which slowly releases it after the storm is over.

“EPA” means the Environmental Protection Agency Regional Administrator, the Director of the Office of Water and Watersheds, or an authorized representative.

“Facility or Activity” means any NPDES “point source” or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

“Green infrastructure” means runoff management approaches and technologies that utilize, enhance and/or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse.

“Hydromodification” means changes to the storm water runoff characteristics of a watershed caused by changes in land use.

“Illicit Connection” means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

“Illicit Discharge” is defined at 40 CFR §122.26(b)(2) and means any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities [or other activities listed in this permit](#)

“Impaired Water” (or “Water Quality Impaired Water”) for purposes of this permit means any waterbody identified by the State of Washington or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards. Impaired waters include both waters with approved or established Total Maximum Daily Loads (TMDLs), and those for which a TMDL has not yet been approved or established.

“Industrial Activity” as used in this permit refers to the eleven categories of industrial activities included in the definition of discharges of storm water associated with industrial activity at 40 CFR §122.26(b)(14).

“Industrial Storm Water” as used in this permit refers to storm water runoff from industrial activities, such as those defined in 40 CFR 122.26(b)(14)(i-xi).

“Infiltration” is the process by which storm water penetrates into soil.

JBLM: for the purpose of this permit JBLM is defined as the geographic area defined by EPA facility ID as

“Low Impact Development” or “LID” means storm water management and land development strategies applied at the parcel and subdivision scale that emphasizes conservation and use of on-site natural features integrated with engineered, small scale hydrologic controls to more closely mimic pre-development hydrologic functions.

“Major storm event” as used in this permit, refers to rainfall greater than the 24 hour- 10 year-recurrence interval.

“MEP” or "maximum extent practicable," means the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by CWA Section 402(p). EPA’s discussion of MEP as it applies to regulated small MS4s is found at 40 CFR §122.34.

MEF Maximum extent feasible, Term is used in permit, please provide definition

Maximum Extent Technically Feasible: This is the terminology used in DoD EISA guidance.

“Measurable Goal” means a quantitative measure of progress in implementing a component of a storm water management program.

“Minimize” means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

“MS4” means "municipal separate storm sewer system" and is used to refer to a Large, Medium, or Small Municipal Separate Storm Sewer System. The term, as used within the context of this permit, refers to small MS4s (see definition below) and includes systems operated by a variety of public entities (*e.g.*, military facilities, prisons, and systems operated by other levels of government).

“Municipality” means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

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“Municipal Separate Storm Sewer” is defined at 40 CFR 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

“Seattle Urbanized Area” means the greater Seattle, Washington, area delineated by the Year 2000 Census by the U.S. Bureau of the Census according to the criteria defined by the Bureau on March 15, 2002 (67 FR 11663) namely, the area consisting of contiguous, densely settled census block groups and census blocks that meet minimum population density requirements, along with adjacent densely settled census blocks that together encompass a population of at least 50,000 people.

“National Pollutant Discharge Elimination System” or “NPDES” means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the CWA. The term includes an “approved program” delegated to a State agency.

“Outfall” means a point source (defined below) at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

“Owner or operator” means the owner or operator of any “facility or activity” subject to regulation under the NPDES program.

“Permitting Authority” means U.S. Environmental Protection Agency, or EPA..

“Permanent storm water management controls” see “post-construction storm water management controls.”

“Point Source” means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

"Pollutant" is defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

"Pollutant(s) of concern" includes any pollutant identified as a cause of impairment of any water body that will receive a discharge from a MS4 authorized under this permit.

"Pollution-generating impervious surface (PGIS)" means surfaces considered to be significant sources of pollutants in storm water runoff. Such surfaces include those that are subject to vehicular use, industrial activities, or storage of erodible or leachable materials that receive direct rainfall or run-on or blow-in of rainfall. Metal roofs are considered to be PGIS unless coated with an inert, non-leachable material. Roofs that are subject to venting of indoor pollutants from manufacturing, commercial or other operations or processes are also considered PGIS. A surface, whether paved or not, shall be considered PGIS if it is regularly used by motor vehicles. The following are considered regularly-used surfaces: roads, unvegetated road shoulders, bike lanes within the traveled lane of a roadway, driveways, parking lots, unfenced fire lanes, vehicular equipment storage yards, and airport runways.

"Pollution-generating pervious surface (PGPS)" means any non-impervious surface subject to use of pesticides and fertilizers or loss of soil. Typical PGPS include lawns, landscaped areas, golf courses, parks, cemeteries, and sports fields.

"Post- construction stormwater management controls" or "permanent stormwater management controls" means those controls designed to treat or control runoff on a permanent basis once construction is complete.

"Pre-development hydrologic condition" or "predevelopment hydrology" means the combination of runoff, infiltration and evapotranspiration rates and volumes that typically existed on a site before original development on the site, i.e., a natural stable hydrologic condition.

"QA/QC" means quality assurance/quality control.

"QAP" means Quality Assurance Plan, or Quality Assurance Project Plan.

“Rainfall and Rainwater Harvesting” is the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses.

“Redevelopment” for the purposes of this permit, means the alteration, renewal or restoration of any developed land or property that results in the land disturbance of ~~5,000 square feet~~ **1 acre** or more, and that has one of the following characteristics: land that currently has an existing structure, such as buildings or houses; or land that is currently covered with an impervious surface, such as a parking lot or roof; or land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering

“Regional Administrator” means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.

“Regulated Construction Activities” include clearing, grading or excavation that results in a land disturbance of greater than or equal to one acre, or that disturbs less than one acre if part of a larger common plan of development or sale that would disturb one acre or more. See “Stormwater Discharge Associated with Construction Activity.”

“Repair of Public Streets, Roads and Parking Lots” means repair work on permittee-owned or permittee managed streets and parking lots that involves land disturbance including asphalt removal or regrading of ~~5,000 square feet~~ **1 acre** or more. This definition excludes the following activities: pot hole and square cut patching; overlaying existing asphalt or concrete paving with asphalt or concrete without expanding the area of coverage; shoulder grading; reshaping or regrading drainage ditches; crack or chip sealing; and vegetative maintenance. **Exclusion includes aircraft taxiways and runways.**

“Runoff Reduction Techniques” means the collective assortment of storm water practices that reduce the volume of storm water from discharging off site.

“Sewershed” means, for the purposes of this permit, all the land area that is drained by a network of municipal storm sewer system conveyances to a single point of discharge to a water of the United States

“Significant contributors of pollutants” means any discharge that causes or could cause or contribute to an excursion above any Washington water quality standard.

“Small Municipal Separate Storm Sewer System” is defined at 40 CFR §122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States, but is not defined as “large” or “medium” municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities such as systems at military bases, large hospital or prison complexes, and highways

and other thoroughfares. The term does not include separate storm sewers in very discrete areas such as individual buildings.

“Snow management” means the plowing, relocation and collection of snow.

“Soil amendments” are components added to in situ or native soils to increase the spacing between soil particles so that the soil can absorb and hold more moisture. The amendment of soils changes various other physical, chemical and biological characteristics so that the soils become more effective in maintaining water quality.

“Source control” storm water management means practices that control storm water *before* pollutants have been introduced into storm water

“Storm event” or “measurable storm event” for the purposes of this permit means a precipitation event that results in an actual discharge from the outfall and which follows the preceding measurable storm event by at least 48 hours (2 days).

“Storm water” “stormwater” and “storm water runoff” as used in this permit means storm water runoff, snow melt runoff, and surface runoff and drainage, and is defined at 40 CFR §122.26(b)(13). Storm water means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

“Stormwater Control Measure (SCM)” means physical, structural, and/or managerial measures that, when used singly or in combination, reduce the downstream quality and quantity impacts of stormwater. Also, SCM means a permit condition used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. This may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. SCMs may include, but are not limited to, treatment requirements; operating procedures; practices to control plant site runoff, spillage, leaks, sludge, or waste disposal; or drainage from raw material storage. See “best management practices (BMPs).”

“Storm water Discharge Associated with Construction Activity” as used in this permit, refers to a discharge of pollutants in storm water runoff from areas where soil disturbing activities (*e.g.*, clearing, grading, or excavation), construction materials or equipment storage or maintenance (*e.g.*, fill piles, borrow areas, concrete truck washout, fueling) or other industrial storm water directly related to the construction process are located. (See 40 CFR §122.26(b)(14)(x) and 40 CFR §122.26(b)(15) for the two regulatory definitions of storm water associated with construction sites.)

“Stormwater Discharge Associated with Industrial Activity” as used in this permit, refers to the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial activity included in the regulatory definition at 40 CFR §122.26(b)(14).

“Stormwater Facility” means a constructed component of a stormwater drainage system, designed or constructed to perform a particular function or multiple functions. Stormwater facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention basins, retention

basins, constructed wetlands, infiltration devices, catch basins, oil/water separators, sediment basins, and modular pavement.

“Storm Water Management Practice” or “Storm Water Management Control” means practices that manage storm water, including structural and vegetative components of a storm water system.

“Storm Water Management Program (SWMP)” refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system.

“Storm Water Pollution Prevention Plan (SWPPP)” means a site specific plan designed to describe the control of soil or other materials to prevent pollutants in storm water runoff, generally developed for a construction site, or an industrial facility. For the purposes of this permit, a SWPPP means a written document that identifies potential sources of pollution, describes practices to reduce pollutants in storm water discharges from the site, and identifies procedures that the operator will implement to comply with applicable permit requirements

“Structural Stormwater BMP” or “Structural Stormwater Control Measure” means

“TMDL” means Total Maximum Daily Load, an analysis of pollutant loading to a body of water detailing the sum of the individual waste load allocations for point sources and load allocations for non-point sources and natural background. See 40 CFR §130.2.

“Treatment control” storm water management means practices that ‘treat’ storm water after pollutants have been incorporated into the storm water.

“Waters of the State” means:

“Waters of the United States” means:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate "wetlands";
3. All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

- c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs 1. through 4. of this definition;
6. The territorial sea; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs 1. through 6. of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds for steam electric generation stations per 40 CFR Part 423) which also meet the criteria of this definition are not waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

“Watershed” is defined as all the land area that is drained by a waterbody and its tributaries.

“Wetlands” means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

APPENDIX A – Street Waste Disposal

Street Waste Liquids

General Procedures:

Street waste collection should emphasize retention of solids in preference to liquids.

Street waste solids are the principal objective in street waste collection and are substantially easier to store and treat than liquids.

Street waste liquids require treatment before their discharge. Street waste liquids usually contain high amounts of suspended and total solids and adsorbed metals. Treatment requirements depend on the discharge location.

Discharges to sanitary sewer and storm sewer systems must be approved by the entity responsible for operation and maintenance of the system. Neither Washington Department of Ecology nor EPA will generally require waste discharge permits for discharge of stormwater decant to sanitary sewers or to stormwater treatment BMPs that are constructed and maintained in accordance with Department of Ecology's 2005 *Stormwater Management Manual for Western Washington*.

For disposal of catch basin decant liquid and water removed from stormwater treatment facilities, EPA recommends the following:

1. Discharge of catch basin decant liquids to a municipal sanitary sewer connected to a Public Owned Treatment Works (POTW) is the preferred disposal option.

Discharge to a municipal sanitary sewer requires the approval of the sewer authority. Approvals for discharge to a POTW will likely contain pretreatment, quantity and location conditions to protect the POTW. Following the conditions is a permit requirement.

2. Discharge of catch basin decant liquids may be allowed into a Basic or Enhanced Stormwater Treatment BMP, if option 1 is not available.

Decant liquid collected from cleaning catch basins and stormwater treatment wet vaults may be discharged back into the storm sewer system under the following conditions:

- The preferred disposal option of discharge to sanitary sewer is not reasonably available, and
- The discharge is to a Basic or Enhanced Stormwater Treatment Facility as described by Department of Ecology's 2005 *Stormwater Management Manual for Western Washington*.
- If pretreatment does not remove visible sheen from oils, the treatment facility must be able to prevent the discharge of oils causing a visible sheen, and
- The discharge is as near to the treatment facility as is practical, to minimize contamination or recontamination of the collection system, and

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- The storm sewer system owner/operator has granted approval and has determined that the treatment facility will accommodate the increased loading. Pretreatment conditions to protect the treatment BMP may be issued as part of the approval process. Following local pretreatment conditions is a requirement of this permit.
- Flocculants for the pretreatment of catch basin decant liquids must be non-toxic under the circumstances of use and must be approved in advance by EPA Region 10.

The reasonable availability of sanitary sewer discharge will be determined by the permittee, by evaluating such factors as distance, time of travel, load restrictions, and capacity of the stormwater treatment facility.

3. Water removed from stormwater ponds, vaults and oversized catch basins may be returned to the storm sewer system. Stormwater ponds, vaults and oversized catch basins contain substantial amounts of liquid, which hampers the collection of solids and pose problems if the removed waste must be hauled away from the site. Water removed from these facilities may be discharged back into the pond, vault or catch basin provided:

- Clear water removed from a stormwater treatment structure may be discharged directly to a down gradient cell of a treatment pond or into the storm sewer system.
- Turbid water may be discharged back into the structure it was removed from if
 - the removed water has been stored in a clean container (eductor truck, Baker tank or other appropriate container used specifically for handling stormwater or clean water); and
 - there will be no discharge from the treatment structure for at least 24 hours.

The discharge must be approved by the storm sewer system owner/operator.

Waste Contractors and Facility Service contractors often provide a fluid management service to JBLM. The contractor is responsible for managing the fluids in accordance with all applicable federal, state and local laws. Please confirm that this is allowable for this permit. These contractors may also be used to manage fluids that do not meet the discharge conditions described above.

Appendix B - Runoff Treatment Requirements for New Development and Redevelopment Project Sites (Part II.B.5.)

Project Thresholds

JBLM has adopted the Stormwater Management Manual for Western Washington (2005) as standard guidance for new construction. Justifications are required for designs that do not follow this guidance. The permit should recommend Incorporation of this guidance into the design process. This should not be a mandatory requirement.

The following projects require the construction of stormwater treatment facilities (see Table B-1 below):

- Projects in which the total of effective, pollution-generating impervious surface (PGIS) is 5,000 square feet or more in a threshold discharge area of the project, or
- Projects in which the total of pollution-generating pervious surfaces (PGPS) is three-quarters (3/4) of an acre or more in a threshold discharge area, and from which there is a surface discharge in a natural or man-made conveyance MS4 system from the site.

Table B-1: Treatment Requirements by Threshold Discharge Area				
	< ¾ acres of PGPS	≥ ¾ acres of PGPS	< 5,000 sq ft PGPS	≥ 5,000 sq ft PGPS
Treatment Facilities		✓		✓
Onsite Stormwater BMPs	✓	✓	✓	✓

PGPS = pollution-generating pervious surfaces
 PGIS = pollution-generating impervious surfaces
 sf = square feet

Treatment-Type Thresholds

1. Oil Control:

Treatment to achieve Oil Control applies to projects that have “high-use sites.” High-use sites are those that typically generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil. High-use sites include:

- a. An area of a commercial or industrial site subject to an expected average daily traffic (ADT) count equal to or greater than 100 vehicles per 1,000 square feet of gross building area;

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- b. An area of a commercial or industrial site subject to petroleum storage and transfer in excess of 1,500 gallons per year, not including routinely delivered heating oil; *(GOV fuel stations, Shopettes, bulk fuels, WADS, Airfields should be exempt from this requirement.)*
- c. An area of a commercial or industrial site subject to parking, storage or maintenance of 25 or more vehicles that are over 10 tons gross weight (trucks, buses, trains, heavy equipment, etc.);
- d. A road intersection with a measured ADT count of 25,000 vehicles or more on the main roadway and 15,000 vehicles or more on any intersecting roadway, excluding projects proposing primarily pedestrian or bicycle use improvements. *Entry Control Points on JBLM and the associated approaches and intersections are specialty facilities and are not evaluated as roads. The JBLM Access Control Points (gates) and adjacent intersections should be exempt from this requirement. These are vehicle processing facilities and concentrate vehicle flow specifically to process vehicles entering the installation. These are not typical high volume streets or intersections.*

2. Phosphorus Treatment:

The requirement to provide phosphorous control is determined by the local government with jurisdiction (e.g., through a lake management plan), or the Department of Ecology (e.g., through a waste load allocation). The local government may have developed a management plan and implementing ordinances or regulations for control of phosphorus from new/redevelopment for the receiving water(s) of the stormwater drainage. The local government can use the following sources of information for pursuing plans and implementing ordinances and/or regulations:

- a. Those waterbodies reported under section 305(b) of the Clean Water Act, and designated as not supporting beneficial uses due to phosphorous;
- b. Those listed in Washington State's Nonpoint Source Assessment required under section 319(a) of the Clean Water Act due to nutrients.

3. Enhanced Treatment:

Enhanced treatment for reduction in dissolved metals is required for the following project sites that discharge to fish-bearing streams, lakes, or to waters or conveyance systems tributary to fish-bearing streams or lakes:

Industrial project sites,
Commercial project sites,
Multi-family project sites, and
High AADT roads as follows:

- Roads with an AADT of 15,000 or greater unless discharging to a 4th Strahler order stream or larger;
- Roads with an AADT of 30,000 or greater if discharging to a 4th Strahler order stream or larger (as determined using 1:24,000 scale maps to delineate stream order).

Entry Control Points on JBLM and the associated approaches and intersections are specialty facilities and are not evaluated as roads. *The JBLM Access Control Points (gates) and adjacent intersections should be exempt from this requirement. These are vehicle processing facilities and concentrate vehicle flow specifically to process vehicles entering the installation. These are not typical high volume streets.*

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However, such sites listed above that discharge directly (or, indirectly through a municipal storm sewer system) to Basic Treatment Receiving Waters as defined in Appendix I-C of the *Stormwater Management Manual for Western Washington* (2005), and areas of the above-listed project sites that are identified as subject to Basic Treatment requirements, are also not subject to Enhanced Treatment requirements. For developments with a mix of land use types, the Enhanced Treatment requirement shall apply when the runoff from the areas subject to the Enhanced Treatment requirement comprise 50% or more of the total runoff within a threshold discharge area.

4. Basic Treatment:

Basic Treatment generally applies to:

- Project sites that discharge to the ground, UNLESS:
 - 1) The soil suitability criteria for infiltration treatment are met; (see Chapter 3 of Volume III of the *Stormwater Management Manual for Western Washington* (2005) for soil suitability criteria) or
 - 2) The project uses infiltration strictly for flow control – not treatment - and the discharge is within ¼-mile of a phosphorus sensitive lake (use a Phosphorus Treatment facility), or within ¼ mile of a fish-bearing stream, or a lake (use an Enhanced Treatment facility).
- Residential projects not otherwise needing phosphorus control as designated by USEPA, the Department of Ecology, or by the Permittee; and
- Project sites discharging directly to salt waters, river segments, and lakes listed in Appendix I-C of the *Stormwater Management Manual for Western Washington* (2005); and
- Project sites that drain to streams that are not fish-bearing, or to waters not tributary to fish-bearing streams;

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- Landscaped areas of industrial, commercial, and multi-family project sites, and parking lots of industrial and commercial project sites that do not involve pollution-generating sources (e.g., industrial activities, customer parking, storage of erodible or leachable material, wastes or chemicals) other than parking of employees' private vehicles. For developments with a mix of land use types, the Basic Treatment requirement shall apply when the runoff from the areas subject to the Basic Treatment requirement comprise 50% or more of the total runoff within a threshold discharge area.

Treatment Facility Sizing

Water Quality Design Storm Volume: The volume of runoff predicted from a 24-hour storm with a 6-month return frequency (a.k.a., 6-month, 24-hour storm). Wetpool facilities are sized based upon the volume of runoff predicted through use of the Natural Resource Conservation Service curve number equations in Chapter 2 of Volume III of the *Stormwater Management Manual for Western Washington* (2005), for the 6-month, 24-hour storm. Alternatively, the 91st percentile, 24-hour runoff volume indicated by an approved continuous runoff model may be used.

Water Quality Design Flow Rate

1. Preceding Detention Facilities or when Detention Facilities are not required:

The flow rate at or below which 91% of the runoff volume, as estimated by an approved continuous runoff model, will be treated. Design criteria for treatment facilities are assigned to achieve the applicable performance goal at the water quality design flow rate (e.g., 80% TSS removal).

2. Downstream of Detention Facilities:

The water quality design flow rate must be the full 2-year release rate from the detention facility.

Alternative methods may be used if they identify volumes and flow rates that are at least equivalent.

That portion of any development project in which the above PGIS or PGPS thresholds are not exceeded in a threshold discharge area shall apply On-site Stormwater Management BMPs in accordance with Minimum Requirement #5.

Treatment Facility Selection, Design, and Maintenance

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Stormwater treatment facilities shall be:

- Selected in accordance with the process identified in Chapter 4 of Volume I of the *Stormwater Management Manual for Western Washington* (2005),
- Designed in accordance with the design criteria in Volume V of the *Stormwater Management Manual for Western Washington* (2005), and
- Maintained in accordance with the maintenance schedule in Volume V of the *Stormwater Management Manual for Western Washington* (2005).

Additional Requirements

The discharge of untreated stormwater from pollution-generating impervious surfaces to ground water must not be authorized by the permittee, except for the discharge achieved by infiltration or dispersion of runoff from residential sites through use of On-site Stormwater Management BMPs.

Appendix C Exemptions from the New Development and Redevelopment Requirements of Part II.B.5

Forest practices:

Forest practices regulated under Title 222 WAC, except for Class IV General forest practices that are conversions from timber land to other uses, are exempt from the provisions of Part II.B.5.

Commercial agriculture:

Commercial agriculture practices involving working the land for production are generally exempt. However, the conversion from timberland to agriculture, and the construction of impervious surfaces are not exempt.

Oil and Gas Field Activities or Operations:

Construction of drilling sites, waste management pits, and access roads, as well as construction of transportation and treatment infrastructure such as pipelines natural gas treatment plants, natural gas pipeline compressor stations, and crude oil pumping stations are exempt.

Airfields: established airfields including all associated runways and taxiways are exempt.

Road, Parking Lot, and Airfield Maintenance:

The following road, parking lot, and airfield maintenance practices are exempt: pothole and square cut patching, overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage, shoulder grading, reshaping/regrading drainage systems, crack sealing, resurfacing with in-kind material without expanding the road prism, and vegetation maintenance.

The following road maintenance practices are considered redevelopment, and therefore are not categorically exempt. The extent to which Part II.B.5 applies is explained for each circumstance.

- *Removing and replacing a paved surface to base course or lower, or repairing the roadway base:* If impervious areas are not expanded, the requirements of Part II.B.5 apply.
- *Extending the pavement edge without increasing the size of the road prism, or paving graveled shoulders:* These are considered new impervious surfaces and are subject to the requirements of Part II.B.5.
- *Resurfacing by upgrading from dirt to gravel, asphalt, or concrete; upgrading from gravel to asphalt, or concrete; or upgrading from a bituminous surface treatment (“chip seal”) to asphalt or concrete:* These are considered new impervious surfaces and are subject to the requirements of Part II.B.5 when the 5,000 square foot disturbance threshold is met.

Underground utility projects:

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Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics are not subject to the requirements of Part II.B.5.