

2015 MS4 Annual Report

Joint Base Elmendorf-Richardson
U.S. Air Force, Alaska

Prepared for:

Alaska Department of Environmental Conservation

APDES Permit No. AKS-053651

Introduction

This document was prepared to satisfy the annual reporting requirements for the Joint Base Elmendorf-Richardson (JBER) Municipal Separate Storm Sewer System (MS4) Permit. JBER must submit a Summary Annual Report and a Detailed Annual Report to fulfill the reporting requirements set for in Part 4.3 of the MS4 permit. The Summary Annual Report is included in this document as Appendix A, while the Detailed Annual Report comprises the main body of this document. This Document covers Jan 2015- Dec 2015, and will cover the first year's permit requirements.

The purpose of this report is to:

- 1) Evaluate compliance with MS4 permit conditions
- 2) Gauge the appropriateness of best management practices (BMPs).
- 3) Track BMP implementation towards satisfying measurable goals identified in the SWMP.
- 4) Determine the overall effectiveness of the SWMP.

This document is structured according to the Minimum Control Measures (MCMs) found in the JBER SWMP:

- 1) Public Outreach and Education
- 2) Public Involvement and Participation
- 3) Illicit Discharge Detection and Elimination
- 4) Construction Site Storm water Runoff Control
- 5) Post-Construction Storm Water Management in New Development and Redevelopment
- 6) Pollution Prevention and Good Housekeeping for Base Operations

Reporting requirements for each MCM are addressed in this order.

Annual Report Requirements for MCMs

MCM 1 – Public Outreach and Education

JBER must include the following information in the Annual Report regarding MCM 1:

- 1) Describe the public education program and outreach activities accomplished during the previous calendar year, and submit at least one copy of each educational material distributed
- 2) Describe the methods and frequency of disseminating information
- 3) Describe the target audiences and pollutants/sources that are addressed by the program and how they were selected
- 4) Estimate the number of people reached by the program over the previous 12-month period
- 5) List the measurable goals for the public education and outreach program over the next 12-month period
- 6) List the dates by which the measurable goals will be achieved
- 7) Identify the person(s) responsible for implementing and coordinating the education activities

MCM 1 Compliance Discussion

- 1) JBER has several ongoing public outreach and education programs. In 2015 we had an Earth Day Celebration at the Elementary Schools on JBER. In addition, each spring the 673rd CES hosts a Base-wide cleanup day at the end of April to pick up trash, litter and other detritus all over base, as well as focusing along Ship Creek. Photos of these events will be attached in Appendix B of this document.
- 2) In addition to our Earth Day and Cleanup Day efforts, JBER Compliance maintains a quarterly training opportunity for storm water and water quality issues for civilian and military personnel. These trainings cover BMPs, Pollution Prevention and other storm water related information. The trainings are often held in a classroom setting, with a power point being given to the audience. Handouts of the power point slides are also disseminated at these trainings.
- 3) JBER aims to reach every major target group on the installation, including housing residents, industrial facility personnel, pet owners, vet services, students, civilian personnel, contracted personnel, etc. These target groups were selected in part to their relation to pollutants of concern, i.e. sediment, pet waste, and POLs.
- 4) In 2015 the total number of individuals reached in the public outreach program reach nearly 1500 through the many trainings, public outreach and new tenants that came to JBER.
- 5) The measurable goals for JBER's public education and outreach program over the next 12 months will be to:
 - a. Continue to give necessary training to civilian and military personal as required by permit.
 - b. Create more key audience SWPP materials and distribute them at annual base events and to tenant housing
 - c. Create new SWPP signage and place them in high traffic areas where they will have the most impact.
 - d. Continue to update and make available materials pertaining to SWPP on the JBER Environmental webpage.

6-7) These goals will be completed by December 2016 for this following year's requirements and it will be the responsibility of the 673rd CES/CEIEC Water Program personnel and the Environmental Compliance Chief to see that these goals are achieved adequately and on time.

MCM 2 – Public Involvement and Participation

Annual Report Requirements for MCM 2

JBER must include the following information in the Annual Report regarding MCM 2:

- 1) Describe the activities and target audiences for public involvement that the program accomplished for the preceding 12 month period, including any monitoring and/or survey results, number of storm drains stenciled, etc.
- 2) Describe the procedure(s) for receiving and reviewing public comments.

- 3) Describe the measurable goals for the public involvement/participation program over the next 12-month period.
- 4) List the dates by which JBER will accomplish each of the upcoming measurable goals.
- 5) Identify the person(s) responsible for implementing and coordinating the public involvement/participation activities.

MCM 2 Compliance Discussion

- 1) As previously mentioned in last year's annual report, Storm Water Steering Committees were held each quarter of 2015, and the SWMP and annual reports are displayed online at the JBER Environmental webpage. In addition to public involvement in the storm water steering committee meetings, we also held the annual base-wide cleanup event in April of 2015. Special attention was paid to areas of base where Ship Creek runs through, in order to keep any litter or trash from entering the stream. Finally, stencil contest was held with local elementary school children, but participation and results were not adequate.
- 2) There is also a portal on the JBER Environmental website where the public may ask questions or contact the Environmental Compliance personnel with any questions pertaining to environmental compliance issues and subjects. This is available at all times to the JBER public. Additionally, the personnel in the Environmental Compliance office are always available to take calls and emails about storm water questions and concerns. Those comments are addressed promptly within a day or two of receiving the comment.
- 3) The Measurable Goals for the public involvement/participation program over the next 12 months include:
 - a. Continue holding the storm water steering committee meetings.
 - b. Continuing to update the website with the newest annual reports, SWMP revisions, and any other SWPP information.
 - c. Hold another stencil contest and hold a voting session for best design. Stencil winning design to 50% storm drains.
 - d. Begin drafting attitude survey to measure resident and working knowledge of SWPP and to solicit feedback.
- 4-5) These goals will be completed by December 2016 for this following year's requirements and it will be the responsibility of the 673rd CES/CEIEC Water Program personnel and the Environmental Compliance Chief to see that these goals are achieved adequately and on time.

MCM 3 – Illicit Discharge Detection and Elimination

Annual Report Requirements for MCM 3

Part 3.3.12 of the JBER MS4 Permit states that Annual Report requirements for MCM 3 must be included "Within two years from the effective date of this permit and annually thereafter." However, JBER did begin to conduct the following requirements in 2015.

- 1) Inventory and map industrial facilities to include in a storm sewer system map and into JBER GIS network.
- 2) Conduct wet weather outfall inspections.
- 3) Conduct dry weather inspections of storm water discharge locations to identify illicit discharges.
- 4) Survey and inspect oil/water separators (OWSs) to ensure proper connection to sanitary sewer system.
- 5) Conduct education on hazards associated with illegal discharges.

Measurable Goals for the Next 12 Months

Measurable goals for JBER for the next 12 months (Jan 2016- Dec 2016) are presented below:

- 1) Conduct hydrologic study of all roadway structures within the JBER MS4.
- 2) Develop and implement a system for tracking information on illicit discharge detection and response.
- 3) Develop and implement a command policy to control illicit discharges to the JBER MS4.
- 4) Develop IDDEP for JBER MS4.

These goals will be completed by December 2016 for this following year's requirements and it will be the responsibility of the 673rd CES/CEIEC Water Program personnel and the Environmental Compliance Chief to see that these goals are achieved adequately and on time.

MCM 4 – Construction Site Storm Water Runoff Control

Annual Report Requirements for MCM 4

JBER must include the following information in the Annual Report regarding MCM 4:

- 1) A copy of the ordinance or other regulatory mechanism used to require erosion, sediment, and waste controls at construction sites. If JBER has yet to develop the required regulatory mechanism, a plan and schedule for implementation must be included.
- 2) A summary of the number of sanctions and enforcement actions taken by JBER to ensure compliance with the construction site ordinance during the previous 12-month period. To the extent allowable under JBER's legal authority, sanctions may include both monetary and non-monetary penalties.
- 3) A copy of the written requirements for appropriate erosion, sediment, and waste control BMPs at construction sites.
- 4) A summary of the procedures for receipt and consideration of information submitted by the public.
- 5) A summary of the number of sites inspected during the previous 12-month period, including a description of the site inspection procedures, how sites are prioritized for inspection and when and how often sites are inspected.
- 6) A list of measurable goals for the construction site runoff control program, including dates by which JBER will achieve each of the measurable goals.
- 7) The name and title of the person(s) responsible for coordination and implementation of construction site runoff control programs.

MCM 4 Compliance Discussion

JBER met the regulatory requirement for erosion, sediment, and waste controls at construction sites through the establishment of a Command Policy. The Command Policy for SWPP management at construction sites is described in Section 3.4.3.3 of the JBER SWMP. The Command Policy became effective December 11th, 2014. The letter was made available to tenants, contractors, and relevant base personnel, and was published on JBER's storm water webpage.

Since the beginning of 2015 there have been four active construction projects on the installation. Two of these projects have been fully completed during the 2015 construction season. The inspections performed by 673 CES/CEIEC are in addition to the routine inspections required by construction storm water permits, conducted by the permittee(s). At a minimum, 673 CES/CEIEC staff inspects every construction activity area once per year. In most cases, there is more frequent oversight.

Of the four projects active since the beginning of 2015, 673 CES/CEIEC conducted 53 inspections, with no resulting citations or enforcement measures being taken. BMP improvements were occasionally recommended by inspectors and adopted by site operators. In all cases, there were no persistent findings and all recommendations were implemented prior to subsequent inspections. Section 3.4.3.3 of the JBER SWMP explains how the installation handles instances in which construction contractors fail to address persistent issues or permit violations.

Multiple factors dictate how construction site inspections are prioritized at JBER. General site management practices and conditions during inspections determine the frequency of oversight visits. Three major factors influence priority:

1. Location of the project relative to storm water conveyances and/or waters of the U.S.
2. Project size
3. Previous inspection results

Because construction site inspections performed by 673 CES/CEIEC staff are in addition to those performed by contractors, in-house inspection criteria differs somewhat from that in the Alaska Construction General Permit (ACGP), and aim to provide more of an overview of operations to ensure quality control. The construction site inspection checklist used by 673 CES/CEIEC is provided in Appendix B.

The written requirements for appropriate erosion, sediment, and waste control BMPs at construction sites on JBER is contained in *Engineering Technical Letter (ETL) 14-1: Construction and Operation and Maintenance Guidance for Storm Water Systems, 7 August, 2014*. All projects on the installation involving ground disturbance areas greater than or equal to one acre¹ must implement applicable BMPs in ETL 14-1. Projects disturbing less than one acre must submit an Erosion and Sediment Control Plan (ESCP) to 673 CES/CEIEC for approval prior to ground disturbance. A copy of ETL 14-1 and a sample ESCP are provided as Attachments (5 and 4, respectively) to the JBER SWMP.

Public comments regarding the construction program are received and treated in the same way as described earlier in this document (see Section 2.2, Public Participation and Involvement).

At the time this report was prepared there were no new, military construction (MILCON) projects planned on JBER. MILCON projects are coordinated in conjunction with the sponsoring agency, generally the United States Army Corps of Engineers (USACE). Smaller construction projects may occur during the next 12 months, as well as routine maintenance or upgrades, but none were scheduled at the time this report was prepared.

Measurable Goals for the Construction site runoff Control Program

- 1) Continue to implement a Command Policy to require appropriate management of construction site storm water runoff to ensure compliance with the SWMP and ACGP
- 2) Continue to implement ESCP for all construction projects.
- 3) Continue to implement plan review procedures for reviewing construction plans and project SWPPPs.
- 4) Continue to impliment standard language for inclusion in JBER construction contracts.
- 5) Conduct continued training related to the construction requirements and BMPs outlined in the Command Policy Letter.

These goals will be met by April 2016, and it is the responsibility of the JBER Water Program Manager and the 673rd Environmental Compliance Chief to ensure these goals are met by the prescribed time.

MCM 5 – Post Construction Storm Water Management in New Development and Redevelopment

Annual Report Requirements for MCM 5

JBER must include the following information in the Annual Report regarding MCM 5:

- 1) A copy of the BMP design manual containing structural and non-structural BMPs that will be used to manage post-construction runoff from new development and redevelopment projects within the MS4. Include any specific priority areas for this program.
- 2) An explanation of the design and performance features of the chosen BMPs, intended to minimize water quality impacts.
- 3) A copy of the established ordinance or other regulatory mechanism used to address post-construction runoff control. If JBER has yet to develop the required regulatory mechanism, a plan and schedule for implementation must be included.
- 4) A description of how long-term operation and maintenance for the selected BMPs will be ensured, including the organization responsible and their expected operation and maintenance schedule.
- 5) A description of the plans to inform and education developers and the public about appropriate project designs that minimize water quality impacts.
- 6) A list of measurable goals for the post-construction runoff control program, including dates by which JBER will achieve each of the measurable goals.
- 7) The name or title of the person(s) responsible for coordination and implementation of the post-construction storm water management plan.

MCM 5 Compliance Discussion

The manual containing structural and non-structural BMPs that all contractors are expected to follow for applicable construction and post-construction activities within the JBER MS4 is ETL 14-1. ETL 14-1 is an Air Force-wide BMP design manual for construction activities, post-construction operations and maintenance activities, as well as a guide for construction and post-construction site inspectors on Air Force installations in the United States. Intended users of the manual include the following groups:

- Engineers
- Construction managers
- Construction contractors
- Inspection and maintenance personnel
- Shop technicians
- Equipment Operators
- USACE and U.S. Navy offices responsible for design and construction of Air Force facilities
- Environmental managers responsible for installation industrial storm water permits

JBER believes ETL 14-1 to be the most applicable and comprehensive BMP design manual to implement within the MS4 to reduce the potential water quality impacts from construction and associated activities.

The main priority area of the JBER MS4 is the JBER-E airfield. During rain and snowmelt events, significant discharges are directed through a single conduit. The capacity of the current infrastructure has been maximized relative to the discharge volumes it can convey. Therefore, new and post-construction on and adjacent to the airfield are heavily scrutinized and evaluated for potential impacts that could overload the airfield conveyance system.

JBER has implemented a Command Policy as a regulatory mechanism to ensure all installation personnel and contractors comply with post-construction SWPP requirements on the installation. The Command Policy letter has been distributed to relevant installation personnel, tenants, and contractors, and published on JBER's storm water webpage.

The ongoing operations and maintenance program at JBER is contingent upon DoD funding. JBER intends to implement all long term operations and maintenance of selected post-construction BMPs either through internal resources (773 Civil Engineering Squadron [CES]), or through the use of contractors in accordance with mission.

Unlike a typical MS4, where the public may construct according to building permits issued by their respective municipality, JBER is a federal installation that strictly controls all development. To illustrate this limitation, installation approval is necessary before residents may erect a fence or put in a garden. Residents must apply for a dig permit if they plan to disturb greater than four inches of soil. In the event that public projects outside JBER require ground disturbance within the installation boundary (such as when Anchorage Water and Wastewater Utility [AWWU] installed a new 54" line through JBER property), 673 CES/CEIEC is required to review and approve the plans prior to groundbreaking to ensure they meet JBER standards.

Developers operating on the installation are required to utilize designs found in ETL 14-1, or equivalent measures that are acceptable to, and approved by, JBER. Contractors, USACE, and departmental personnel are further educated, as funding allows, through construction training events sponsored by 673 CES/CEIEC, such as the Certified Erosion and Sediment Control Lead (CESCL) courses offered in the past. Future training events will be offered by 673 CES/CEIEC as funding allows.

Measurable Goals for MCM 5:

- 1) Develop, implement and enforce a post-construction site runoff control program (1 June 2017).
- 2) Develop and implement a Command Policy to require appropriate management of post-construction site storm water runoff to ensure compliance with the SWMP and ACGP (1 June 2017).
- 3) Adopt or develop and distribute a BMP design manual for post-construction evaluation (1 June 2018).
- 4) Develop and implement an inspection schedule and long-term Post-Construction Operation and Maintenance Plan for post-construction BMPs (1 June 2018).
- 5) Develop and conduct at least one training for local contracts, engineers, and tenants regarding the requirements of the Post-Construction Operation and Maintenance Plan and the green infrastructure/low impact development (GI/LID) strategy (1 June 2018).
- 6) Develop a strategy for evaluating GI/LID projects (1 June 2018).

The JBER Water Program Manager and the 673 CES/CEIEC Environmental Compliance Chief are responsible for upholding these goals.

MCM 6 – Pollution Prevention and Good Housekeeping for Municipal Operations

Annual Report Requirements for MCM 6:

- 1) A description of the activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the MS4.
- 2) A description of the employee-training program used to prevent and reduce storm water pollution including the targeted department personnel, frequency of such training, and a copy of training materials.
- 3) A summary description of the controls for reducing or eliminating the discharge of pollutants from areas owned or operated by JBER, including but not limited to streets, roads, and highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, and snow disposal sites operated by JBER.
- 4) A description of procedures to ensure proper disposal of waste removed from the MS4 and MS4 operations including dredge spoil, accumulated sediments, floatables, and other debris.
- 5) A description of procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices.
- 6) A list of all industrial facilities owned or operated by JBER that discharge to the MS4, including industrial facilities that are subject to the APDES Multi-Sector General Permit (MSGP) or individual APDES permits for discharges of storm water associated with industrial activity, and/or facilities as identified as part of

the inventory required by Part 3.3.1 of the MS4 Permit. JBER must include the permit tracking number(s) or a copy of the Notice of Intent(s) (NOI) for each facility, as appropriate.

- 7) A list of measureable goals for the pollution prevention and good housekeeping program, including dates by which JBER will achieve each of the measureable goals.
- 8) The name and title of the person(s) responsible for coordination and implementation of the pollution prevention and good housekeeping program.

MCM 6 Compliance Discussion

The storm water drainage system at JBER is cleaned annually. The wash water from these events is collected, sediment is removed, and the water is then discharged into the sanitary sewer for further processing. Biannual street sweeping occurs prior to freezing conditions and again following break up. This is accomplished using wet-vac sweeper trucks. Snowplow drivers are instructed to watch for discolored snow that may indicate a POL release. If identified, POL spills are reported to 673 CES/CEIEC and spill response is initiated. Additionally, 673 CES/CEIEC staff perform periodic inspections of snow stockpiles to look for POL spills or trash debris. The majority of these inspections occur during melting conditions, when evidence of floatables and POLs can be more easily identified and addressed. Following complete snowmelt, an end of season inspection is performed to ensure there is no contaminated soil at stockpile locations. Should contaminated soil be discovered, it is collected and properly disposed of through the JBER Hazardous Waste Center. Due to storm water and wildlife concerns, facility personnel are instructed to keep dumpsters covered and closed when not in use.

673 CES/CEIEC staff provide annual SWPP training to personnel at industrial facilities as required by the industrial storm water permit. Personnel that perform roads and grounds operations and maintenance, such as 773 CES, receive annual storm water training specific to their operations. A copy of industrial storm water training materials is provided in Appendix C.

Activities performed at JBER that represent the greatest potential to contaminate storm water occur at industrial facilities. JBER has implemented an aggressive SWPP program at these locations that incorporates many complimentary Air Force procedures and directives, as well as state and federal environmental requirements. At the heart of this program is the ongoing implementation of BMPs recommended by the U.S. Environmental Protection Agency (EPA) and ADEC covering such categories as minimizing exposure, good housekeeping, proper materials and waste management, BMPs for bulk fueling and fuel storage, etc. Practices detailed in the installation's industrial SWPPP, SWMP, and Spill Prevention Control and Countermeasures (SPCC), help guarantee overall success with the SWPP program.

Roads and grounds personnel are trained and aware of SWPP requirements and report issues observed while conducting field duties. Reported issues are addressed as soon as practicable to minimize impacts to storm water. Floatables are collected and properly disposed of in dumpsters. Trash collected from dumpsters around the installation, including the residential areas, is disposed of at the Anchorage Regional Landfill in Eagle River. Uncontaminated sediment from road sweeping and other activities is re-used for road sanding and maintenance of gravel roads on the installation. Potentially contaminated sediment and soils are sampled and either re-used, or properly disposed of, if contaminated. All State of Alaska and federal requirements are adhered to during these activities. JBER does not conduct dredging activities.

No flood control projects are currently planned on JBER. Should the need for flood control projects arise on the installation, they will be coordinated through USACE. Section 3.6.6.5 of the JBER SWMP discusses flood control measures implemented in the past. Roads and grounds personnel conduct preventive maintenance of MS4 infrastructure as necessary to reduce the potential for seasonal flooding to occur. This work includes maintaining the integrity of check dams, utilizing heating coils installed in select culverts, steam thawing culverts when necessary, and reseeding areas that have experienced erosion during peak flows.

With the exception of Bryant Airfield at JBER-R, all industrial facilities on the installation operate under JBER's MSGP. The Alaska Army National Guard (AK ARNG) manages five Sector S (Air Transportation) facilities in addition to the Bryant Airfield under a separate MSGP. There were 53 industrial facilities operating at JBER under both permits at the time this report was prepared. The list of these buildings is included in Table 1 of the SWMP.

Measureable Goals for MCM 6

- 1) Continue to conduct SWPPP inspections.
- 2) Continue to implement maintenance standards for storm water facilities.
- 3) Complete a study of the effectiveness of current street sweeping operations, storm drain cleaning operations and other base activities with potential for storm water impacts (1 June 2019).
- 4) Continue to train employees and contractors whose job functions may impact storm water quality.
- 5) Ensure that new flood management projects are assessed for impacts on water quality (1 June 2016).

The JBER Water Program Manager and the 673 CES/CEIEC Environmental Compliance Chief are responsible for implementing these goals.

Additional Annual Reporting Requirements

Inspections

JBER must track and report the number of inspections conducted during each year of the Permit, as well as the number of official enforcement actions taken. As stated earlier in this report, the Command Policy letter for storm water compliance serves as the regulatory mechanism to enforce the storm water program. There were no enforcement requirements during the reporting period and stakeholders and user groups executed their responsibilities satisfactorily with regard to installation-wide storm water management.

Since the beginning of 2015, 673 CES/CEIEC staff conducted 53 site inspections under the construction storm water program. Industrial facilities on the installation must be inspected quarterly under the MSGP. These inspections occur according to calendar year quarters. There were four full calendar quarters during this reporting period and a minimum of 246 inspections of industrial facilities were conducted. Each industrial outfall is monitored visually for the presence of floatables, odor, erosion, structural integrity, vegetation conditions, and other parameters. Five outfalls potentially discharge industrial storm water within the MS4 and a minimum of 10 industrial outfall inspections were conducted during the reporting period.

At staffed locations such as active construction sites and industrial facilities, inspectors convey results to appropriate personnel immediately after inspections to facilitate compliance as efficiently as possible. Any BMPs or conditions that otherwise need repair, improvement, or replacement are expected to be addressed as required, or as soon as practicable. SWPP inspection results are maintained by the 673 CES/CEIEC Water Program Manager. Copies of the inspection forms used for construction sites, industrial facilities, and outfalls are included in Appendix B of this report.

Evaluation of Overall Program Effectiveness

Part 4.2 of the MS4 permit states the following:

At least annually the permittee must evaluate its compliance with the permit conditions, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals for each of the minimum control measures in Part 3.0. This evaluation of program compliance must be documented in the Annual Report.

JBER has successfully met all the first year requirements for the MS4 permit, and is therefore in compliance with the MS4 permit requirements for 2015. These milestones have been met in the previous sections of this document. JBER is committed to compliance and will continue to implement BMPs toward satisfying the measurable goals identified in the SWMP as efficiently as possible and as funding and Air Force mission allows.

Appendix A

MS4-Summary Annual Report Form



ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM MS4 – Summary Annual Report Form

1. MS4 Information

AKS-053651 Joint Base Elmendorf-Richardson

Permit Number Name of MS4

Scott Morey Water Program Manager

Name of Contact Person (First) (Last) (Title)

907-384-3913 Scott.morey.1@us.af.mil

Telephone (including area code) Email

6326 Arctic Warrior Drive

Mailing Address

JBER Alaska 99506

City State Zip Code

What size population does your MS4 serve? 35,000

What is the reporting period for this report? (mm/dd/yyyy) From January 1, 2015 to December 31, 2015

2. Water Quality Priorities

- A. Does your MS4 discharge to waters listed as impaired on a state 303(d) list? Yes No
- B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4. Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Ship Creek	Fecal Coliform	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

- C. What specific sources contributing to the impairment(s) are you targeting in your storm water program?
 No activities at JBER are known to contribute to the impairment; pet management BMPs in the SWMP decrease the likelihood of issues arising from pet waste; BMPs also include permeable conveyances and an infiltration basin prior to discharge to Ship Creek.
- D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)? Yes No
- E. Are you implementing additional specific provisions to ensure their continued integrity? Yes No

J. How often do municipal employees receive training on the construction program? Every 3 years as funding allows.

5. Illicit Discharge Elimination

- A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? Yes No
- B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system? Yes No
- C. Identify the number of outfalls in your storm sewer system.
- D. Do you have documented procedures, including frequency, for screening outfalls? Yes No
- E. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period? 6
- F. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? 6
- G. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type. Frequency of outfall screening will be dictated by MS4 permit requirements and if/when illicit discharges are reported by the public.
- H. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges? Yes No
- I. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges? Yes No
- J. During this reporting period, how many illicit discharges/illegal connections have you discovered? 0
- K. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? N/A
- L. How often do municipal employees receive training on the illicit discharge program? Annually

6. Storm Water Management for Municipal Operations

- A. Have storm water pollution prevention plans (or an equivalent plan) been developed for:
 - All public parks, ball fields, other recreational facilities and other open spaces Yes No
 - All municipal fleet and building maintenance activities Yes No
 - All municipal construction activities, including those disturbing greater than 1 acre Yes No
 - All municipal storm water system maintenance Yes No
 - All municipal snow disposal site operation and maintenance activities Yes No
 - Other The JBER SWMP is the installation wide storm water management plan including management of the areas listed above. SWPPPs are further developed for construction >1 acre and industrial operations. ESCPs are developed for construction <1 acre.
- B. Are storm water inspections conducted at these facilities? Yes No
- C. If Yes, at what frequency are inspections conducted? As required by the MS4 permit, MSGP, ACGP, associated management plans, as issues are reported by the public. Snow stockpiles are inspected biannually, construction sites biweekly, during life of project, maintenance buildings annually, and parks and ball fields annually.
- D. List activities for which operating procedures or management practices specific to storm water management have been developed (e.g., road repairs, catch basin cleaning). For all industrial operations (see MSGP SWPPP), construction activities(in SWPPPs or ESCPs), and MS4 infrastructure maintenance. The JBER SWMP details this information.
- E. Do you prioritize certain municipal activities and/or facilities for more frequent Yes No

inspection?

- F. If Yes, which activities and/or facilities receive most frequent inspections? Construction activity, industrial activity areas, roads and grounds operations and infrastructure and snow stockpile locations.
- G. Do all municipal employees and contractors overseeing planning and implementation of storm water-related activities receive comprehensive training on storm water management? Yes No
- H. If yes, do you also provide regular updates and refreshers? Yes No
- I. If so, how frequently and/or under what circumstances? Annually or as required; triannually for construction as funding allows.

7. Long-term (Post-Construction) Storm Water Measures

- A. Do you have an ordinance or other regulatory mechanism to require:
- Site plan reviews for storm water/water quality of all new and re-development projects? Yes No
- Long-term operation and maintenance of storm water management controls? Yes No
- Retrofitting to incorporate long-term storm water management controls? Yes No
- B. If you have retrofit requirements, what are the circumstances/criteria?
N/A
- C. What are your criteria for determining which new/re-development storm water plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.)
All plans requiring ground disturbance must be reviewed and pre-approved by 673rd CES/CEIEC.
- D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development? Yes No
- E. Do these performance or design standards require that pre-development hydrology be met for:
- Flow volumes Yes No
- Peak discharge rates Yes No
- Discharge frequency Yes No
- Flow duration Yes No
- F. Please provide the URL/reference where all post-construction storm water management standards can be found.
Engineering Technical Letter (ETL) 14-1: Constuction and Operation and Maintenance Guidance for Storm water Systems, 7 August 2014.
- G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 2
- H. How many of the plans identified in 7.G were approved? 2
- I. How many privately owned permanent storm water management practices/facilities were inspected during the reporting period? N/A Federal installation; no privately owned facilities.
- J. How many of the practices/facilities identified in 7.I were found to have inadequate maintenance? N/A
- K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections? Operators must remedy deficiencies as set forth in applicable permit requirements

- | | |
|---|--|
| L. Do you have authority to take enforcement action for failure to properly operate and maintain storm water practices/facilities? | <hr/> or as soon as practicable. <hr/> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain storm water management practices? | 0 |
| N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? | <hr/> Yes <hr/> |
| O. Do all municipal departments and/or staff (as relevant) have access to this tracking system? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| P. How often do municipal employees receive training on the post-construction program? | Every 3 years as funding allows. <hr/> |

8. Additional Information

Please include any additional information on the performance of your MS4 program. If providing clarification to any of the questions on this form, please provide the question number (e.g., 2C) in your response.

Appendix B

Inspection forms:

Construction Sites, Industrial
Facilities, and Outfalls

JOINT BASE EL MENDORF-RICHARDSON WEEKLY SWPPP INSPECTION REPORT

Project Name: _____
 Project Number: _____
 Permit Number: _____
 Operator: _____
 Operator #1: CERCIL K. _____
 Operator #2: CERCIL K. _____
 Date & Time of Inspection: _____
 Current Weather: _____
 Precipitation Last 7 Days: _____
 Contract Final Completion Date: _____
 Expected Final Stabilization Date: _____
 Site Average: _____



Inspection Criteria	ABC 4.1.1	ABC 4.1.2	ABC 4.1.3	ABC 4.1.4	ABC 4.1.5	NO	NO	NO	NO	NO	NO
Review Control Measures											
1- Are the boundaries of the final discharge activity clearly marked?	YES										
2- Is the contractor exposing only the minimum amount of soil necessary and planning?	YES										
3- Is the contractor maintaining natural buffers at stream crossing and water's edge?	YES										
4- Is the contractor controlling storm water discharges and flow rates from and to project?	YES										
5- Is the contractor directing steep slopes with BMP and are they working?	YES										
Sediment Control Measures											
6- Has the contractor installed BMPs to minimize discharge of sediment to water body?	YES										
7- Are the contractor for installed BMPs to minimize discharge of sediment to water body?	YES										
8- Has the contractor installed BMPs to prevent down-slope sediment discharge of sediment?	YES										
9- Has the contractor established vehicle access and over BMPs, and are they working?	YES										
10- Is the contractor addressing down-slope control and off-site tracking?	YES										
11- Has the contractor established and covered soil stockpiles?	YES										
12- Has the contractor minimized any non-storm water discharges allowed under permit?	YES										
13- Has the contractor installed the correct rate sediment basin and maintained the basin?	YES										
Soil Stabilization											
14- Has the contractor employed BMPs to stabilize soils?	YES										
15- Has the contractor employed temporary stabilization on all non-work areas in 14 days?	YES										
16- Has the contractor established final stabilization within 7 days of area completion?	YES										
Prohibited Discharge											
17- Is there evidence of spill discharge from on-site washing?	YES										
18- Is there evidence of spill discharge from on-site cleaning or paint, form release, etc.?	YES										
19- Is there evidence of spill discharge of fuel, oil, or other pollutants from vehicle equipment?	YES										
20- Is there evidence of spill discharge from slope or debris from equipment washing?	YES										

Reported by: _____ Date: _____

Good Housekeeping Measures	ABC 4.7.1	ABC 4.7.2	ABC 4.7.3.1	ABC 4.7.2.2	ABC 4.7.3.3	ABC 4.7.3.4	ABC 4.7.2.4	ABC 4.7.3	ABC 4.7.4	ABC 4.7.4.3	ABC 4.7.4.4	ABC 4.7.6.3	ABC 4.7.6.4	NO	NO	NO	NO	NO	NO	
21- Has the contractor for washing equipment, vehicle or wheel wash in compliance?	YES																			
22- Is contractor's fueling and maintenance area identified and in compliance?	YES																			
23- Is there evidence of leaks, drips, spills, and/or contaminated surface areas?	YES																			
24- Are there adequate spill cleaning kits on hand and location clearly known by all?	YES																			
25- Is the contractor using and maintaining drip pans under equipment if needed?	YES																			
26- Proper disposal of waste, debris and materials associated with fueling?	YES																			
27- Has contractor identified designated areas for use as storage storage materials?	YES																			
28- Has the contractor minimized the exposure to materials from precipitation?	YES																			
29- Has the contractor designated areas with signage for a vehicle?	YES																			
30- Is designated washout area lined, water-tight and walls to discharge?	YES																			
31- Is concrete washout maintained and emptied when 1/2 height is reached?	YES																			
32- Is contractor storing hazardous and toxic waste in appropriate containers?	YES																			
33- Is contractor managing portable tanks to prevent discharge?	YES																			
Water Contamination																				
34- Has contractor temporary or permanently established construction ditches?	YES																			
35- Has contractor temporary or permanently established ditches, disturbed areas, multiple?	YES																			
36- Has contractor installed BMPs in anticipation of spring thaw?	YES																			
Additional SWPPP Requirements																				
37- Does the contractor have signage at all entrance exit locations?	YES																			
38- Are inspections being conducted at frequency specified in SWPPP?	YES																			
39- Are corrective actions being addressed in timeframe identified within permit?	YES																			
40- Has contractor submitted NOI before 70% vegetation is established?	YES																			

For all questions of concerns regarding this inspection or other aspects of JBER's Storm Water Program, contact the JBER Environmental Compliance, Water Program Manager (Mr. Don Haas) at 364-1363 or 228-5077.

QUARTERLY MSGP STORM WATER POLLUTION PREVENTION INSPECTION FORM **JBER BUILDING NO.** _____

Tenant organization:	Escort (if not primary or alternate):
Tenant activity:	Inspection date and time:
SW Primary (rank, name, phone):	Inspector name:
SW Alternate (rank, name, phone):	Inspector signature:
Cloud cover: clear partly cloudy cloudy raining snowing Temperature: °F	

Outreach materials distributed:

	JBER SWPPP Section Citation(s)	Compliant	Non-Compliant	Observations
--	---------------------------------------	------------------	----------------------	---------------------

Parking, Loading/Unloading, and Outdoor Storage Areas

Evidence of spills or leaks not promptly addressed?	5.7			
Is drip pan use adequate where allowed?	4.1			
Improper disposal of loose trash or other unusable items observed?	4.8			
Any indication of off-site tracking of materials from inside?	4.9			
Adequate cover in use to prevent precipitation from reaching sources that could contaminate runoff?	4.1, 5.7			
Storm water management features in tact?	4.3, 4.5.1			
Could run-on or runoff come into contact with sources that could contaminate storm water?	5.7			<input type="checkbox"/> Check if no deficiencies were observed

Vehicle, Equipment, and Aircraft Washing Areas

All wash water draining to a proper collection system and not overflowing or overspraying to surrounding area?	5.3			<input type="checkbox"/> Circle for No Exposure , or check if no deficiencies were observed
--	-----	--	--	--

QUARTERLY MSGP STORM WATER POLLUTION PREVENTION INSPECTION FORM

JBER BUILDING NO. _____

	JBER SWPPP Section Citation(s)	Compliant	Non-Compliant	Observations
Hazardous Materials and Hazardous Waste (HM/HW) Management Areas				
Evidence of spills or leaks not promptly addressed?	4.2, 5.6			
Individual containers closed, lids/caps/bungs secured?	4.2, 4.4, 5.6			
Secondary containment adequate?	4.1, 4.4, 5.6			
Damaged batteries in proper, protective containers?	4.1, 5.2			
HM/HW containers properly labeled and stored when not in use?	4.2, 4.4, 5.6			
HM stored outdoors protected from weather and located within a contained area?	4.1, 5.6, 5.7			
Adequate spill response materials available on site?	3.1.6, 5.6			<input type="checkbox"/> Circle for No Exposure , or check if no deficiencies were observed
Maintenance Areas				
HM/HW containers properly labeled and stored when not in use?	4.2, 4.4			
Is drip pan use adequate?	4.1, 5.2			
Evidence of spills or leaks not promptly addressed?	5.2			
Adequate spill response materials available on site?	5.2			<input type="checkbox"/> Circle for No Exposure , or check if no deficiencies were observed
Fueling Areas				
Evidence of fuel spills or leaks not promptly addressed?	4.4, 5.1			
Control measures such as secondary containment/curbing present where needed and in good condition (i.e., no cracks)?	4.1, 5.1			
Any maintenance concerns with fueling system components?	4.3, 5.1			
Fuel sheen observed on water in secondary containment?	5.1			
Adequate spill response materials available on site?	4.4, 5.1			<input type="checkbox"/> Check if no deficiencies were observed

QUARTERLY MSGP STORM WATER POLLUTION PREVENTION INSPECTION FORM

JBER BUILDING NO. _____

4.7, 8.1	Description of discharge(s), if any (note type, and if contaminated or unauthorized):	
4.3, 8.1	Control Measures Needing Maintenance, Repairs, or Replacement (Including Erosion Control)	<input type="checkbox"/> Check if not applicable
	Inspector Notes	<input type="checkbox"/> Check if not applicable
I certify that I have read and understand the findings presented on pages 1-3 of this form and will initiate proper action, if necessary, as soon as practicable.		
Print name	_____	Signature
	_____	Date

OUTFALL INSPECTION FORM: JOINT BASE ELMENDORF-RICHARDSON

Date and time: _____

Inspector name and signature: _____

Weather (cloud cover, precipitation, and temperature): _____

Is there snow or ice on the ground? YES NO

Has there been a storm event (1/2" or more of precipitation) within the last 48 hours? YES NO

Outfall: JBER-E 1 JBER-E 2 JBER-E 3 JBER-E 4 JBER-E 5 Six Mile Lake Outfall JBER-R 1

Active discharge present? YES NO

Physical observations (circle one or write observation)

• **Odor:** none, sewage, sulfide, POL, rancid/sour, other _____

• **Color:** none, yellow, brown, green, gray, other _____

• **Turbidity:** clear, cloudy, opaque _____

• **Floatables:** none, POL sheen, bubbles, foam, sewage, other (including trash) _____

• **Deposits and/or stains:** none, sediment, oily, describe _____

• **Vegetation conditions:** normal, excessive growth, inhibited growth, erosion, describe

• **Damage to outfall structure:** none, concrete cracking or spalling, peeling paint, corrosion,

describe _____

Other comments or observations (use back, if needed):