

EXECUTIVE SUMMARY

In accordance to the MS4 permit number MO-R040088; an annual report is required to be presented to MDNR no later than 28 July each year. The purpose of this report is to provide the status of the six minimum control measures (MCMs) and subsequent measurable goals, and the installation's progress toward meeting the permit requirement of reducing pollution to the maximum extent possible. Of the 106 measurable goals for the fourth reporting year, there are three (3) measurable goals that have not been completed this year. Four (4) of last year's uncompleted measurable goals have been brought into green status (completed) during this reporting cycle.

Public Education and Outreach (MCM 1)

Evaluating, analyzing and implementing Public Education and Outreach measurable goals were a priority during this reporting year. All measurable goals were successfully completed. One measurable goal that was in orange status was moved to green status (see below paragraph for explanation).

During Reporting Year (RY) three (3), a thorough review of the BMPs for this MCM was completed and the following error was identified: During RY 1, BMP 1A stipulates that military and civilian audiences must be broken down into impacted groups and targeted pollutants. This BMP was misconstrued and therefore, not completed as suggested by the requirement. During RY 4, FLW conducted a thorough analysis of this targeted audience and identified several impacted sub-groups and their affected targeted pollutants. All targeted audiences are addressed in the Educational Campaign Plans, which are included as Attachment A3.1.1- A3.1.5 of this report.

Public Involvement/Participation (MCM 2)

During this reporting year, FLW engaged with the Missouri Department of Conservation (MDC). This partnership allowed FLW to promote established water quality related activities, such as anti-litter campaigns and river clean ups with great success. FLW volunteers were recognized by the Ozarks Rivers Solid Waste Management District with the Outstanding Contributions in Solid Waste Management Award for two river clean ups on the Big Piney River within the boundaries of FLW.

A new five year Storm Water Management Plan (SWMP) was developed this year, MCM 2 requirements were met by the public comment period and peer review of the draft plan that was implemented and allowed FLW patrons to review and comment on the SWMP prior to submission to MDNR .

Illicit Discharge Detection and Elimination (MCM 3)

The IDDE Program was a major priority during this reporting year. Outfalls were re-evaluated and re-determined and 100% of all outfalls were inspected and documented. The Storm Sewer Map was updated to include all of the newly defined outfalls. Priority areas were determined and an inspection schedule was determined and implemented.

Construction Site Storm water Runoff Control (MCM 4)

Four Land Disturbance Permits were issued during this reporting year for a total of 21 open permits as of 11 June 2013. Permit issuance meetings continue to be conducted prior to issuing the permits. These meetings include a review of and training on the Land Disturbance and MS4 permitted requirements. The training is documented on Attendance Rosters which is maintained by the Land Disturbance Program Manager. All open permits are documented on a Land Disturbance Tracking Spreadsheet. The Spreadsheet is used to document and track inspections, compliance/enforcement issues as required by the SWMP. The control measures in place have been deemed effective.

Post-Construction Runoff Control (MCM 5)

Collaboration between various Army entities and organizations, during this reporting year has continued. FLW continues to seek an understanding of low impact development (LID) BMPs that will accommodate both the FLW soils and climate. DPW Personnel, to include to the MS4 Program Manager, the Land Disturbance Program Manager, Engineering Design staff and Maintenance staff attended a week long Low Impact Development course in Austin, Texas during this reporting year. In addition, a draft FLW design guide and specifications has been developed by the US Army Corp of Engineers during this reporting year and will finalized during the next permit cycle.

Pollution Prevention/Good Housekeeping (MCM 6)

The FLW Director of Public Works is a large, multifaceted organization. Many of the operations that go on within the organization to include the execution of the Capacity, Maintenance and Operation Management (CMOM) Plan and the Base Maintenance Contract interrelate with the MS4 permit. This year, efforts have been focused on analyzing these different operations to determine how the personnel who run these programs can be better trained to ensure compliance with the MS4 permit requirements.

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A2: *EDUCATIONAL CAMPAIGN PLANS*

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A2.1.1 *MILITARY/CIVILIAN: ENVIRONMENTAL COMPLIANCE OFFICERS*

A2.1.2 *MILITARY/CIVILIAN: DIRECTORATE OF LOGISTICS*

A2.1.3 *MILITARY/CIVILIAN: CONSTRUCTION*

A2.1.4 *CIVILIAN: DPW CONTRACTORS*

A2.1.5 *CIVILIAN: DPW INSPECTORS*

A2.1.6 *CIVILIAN: RANGE CONTROL*

A2.1.7 *CIVILIAN: STORMWATER PROFESSIONALS*

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D1: *EPA FACTSHEET: TECHNICAL GUIDANCE ON SECTION 438 OF EISA*

D2: *DoD MEMORANDUM: IMPLEMENTATION OF SECTION 438 OF EISA*

D3: *DA MEMORANDUM: MANAGING STORMWATER WITH LOW IMPACT DEVELOPMENT*

D4: *GARRISON COMMAND POLICY #2013-3: ENVIRONMENTAL POLICY*

E: POLLUTION PREVENTION/GOOD HOUSEKEEPING

E1: *TYPICAL DEPARTMENT OF DEFENSE (DOD) INSTALLATION FUNCTIONAL AREAS AND PROCESSES*

E2: *POLLUTION PREVENTION/GOOD HOUSEKEEPING STANDARD OPERATING PROCEDURE*

INTRODUCTION

This report documents the activities performed to fulfill the Phase II National Pollutant Discharge Elimination System (NPDES) Permit, MO-R040088, issued by the Missouri Department of Natural Resources (MDNR) to the U.S. Army Installation Management Command (IMCOM), and Fort Leonard Wood (FLW), Missouri. Documentation necessary to fulfill the fourth year reporting requirements specified in Section 5.3 of the Permit for the period of June 12, 2012- June 11, 2013 are included herein. This report was prepared in collaboration with the FLW Environmental Division, and ICI Services Corporation.

The MS4 Annual Report documents the overall efforts and commitment by FLW to develop, implement and improve Stormwater Management procedures and practices. This report gives the status of each measurable goal for the six minimum control measures (MCMs), per the requirements and guidelines outlined in the MS4 Permit.

1.0 PUBLIC EDUCATION AND OUTREACH (SWMP Section 7.1)

1. Implementation Status

- a. General Summary: The goal of this MCM is to identify targeted audiences, their targeted pollutant sources and perform education/ outreach that informs the targeted audiences about the impact of polluted stormwater runoff discharges, how their actions impact water quality at FLW and steps/actions they can take to prevent them.

FLW has implemented the required measurable goals for each of the best management practices (BMPs) outlined in the SWMP for this MCM.

The following attachments are relevant to MCM 1:

A1: *LIST OF PUBLICATIONS*

A2: *EDUCATIONAL CAMPAIGN PLANS*

A2.1 *MILITARY AND CIVILIAN PERSONNEL*

A2.1.1 *MILITARY/CIVILIAN: ENVIRONMENTAL COMPLIANCE OFFICERS*

A2.1.2 *MILITARY/CIVILIAN: DIRECTORATE OF LOGISTICS*

A2.1.3 *MILITARY/CIVILIAN: CONSTRUCTION*

A2.1.4 *CIVILIAN: DPW CONTRACTORS*

A2.1.5 *CIVILIAN: DPW INSPECTORS*

A2.1.6 *CIVILIAN: RANGE CONTROL*

A2.1.7 *CIVILIAN: STORMWATER PROFESSIONALS*

A2.2 *RESIDENTS*

A2.3 *BUSINESSES*

A2.4 *STUDENTS (SCHOOL AGE)*

A3: *2013 EDUCATIONAL CAMPAIGN REPORT AND EFFECTIVENESS EVALUATION FOR MCM 1 & 2*

- b. Program Element Revisions: No SWMP elements have been changed or refined this reporting cycle.
- c. Status of Measurable Goals: The status of the measurable goals for this MCM is presented in Table 1. Items that are highlighted in green identify goals that have either been completed or implemented during the first, second, third and fourth reporting cycle. Items in orange identify goals that are in progress during the current reporting cycle. All measurable goals for this reporting cycle have been met.
- d. Completion Dates and Goals Not Completed:
1. Completion Dates: The completion dates for all measurable goals for this reporting cycle are included in Table 1.
 2. Scheduled Goals Not Completed: All scheduled goals were completed during this reporting year.

2. Overall Compliance with Permit Conditions and SWMP

- a. Assessment of BMP Appropriateness: The FLW community consists of a mixture of residents, students, contractors, business owners, and military personnel, which makes it necessary to have a diverse outreach program. The BMP's for MCM 1 were appropriate for the first permit cycle, however, during the revision of the SWMP that was conducted this reporting year, BMPs were revised to allow for continued growth of the program.
- b. Progress towards Achieving the Statutory Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: To work toward our goal of maximizing the reduction of pollutants entering waterways, we matched pollutant sources and outreach mechanisms to watersheds and targeted audiences, in order to focus our efforts as much as possible. We believe our approach will lead to the maximum reduction of pollutants being discharged. In addition, we believe that repeated exposure to outreach events, articles, distributed materials, etc., will elevate awareness and modify behaviors.

3. Results of Information Collected and Analyzed

The programs that were conducted during this reporting year yielded a high level of participation and they were successful and effective.

4. Stormwater Activities Planned for the Next Reporting Cycle

Measureable goals for this MCM that will be undertaken during the next reporting cycle are annotated in the revised version of the SWMP.

5. Proposed Changes to the Program Area and Documented SWMP

- a. Changes to BMPs: BMPs that were changed are annotated in the revised version of the SWMP.
- b. Changes to Measurable Goals: BMPs that were changed are annotated in the revised version of the SWMP.

2.0 PUBLIC INVOLVEMENT/PARTICIPATION

(SWMP Section 7.2)

1. Implementation Status

- a. General Summary: The goal of this MCM is to provide all audiences the opportunity to become involved in the development and implementation of the SWMP and other water quality issues. Public involvement leads to an increase in water quality awareness, promotes stewardship, and encourages citizens with interest or expertise to become an active voice for water quality.

In RY4, FLW Environmental Branch and Army Community Services (ACS) teamed up to encourage volunteerism in two well-known water quality programs, the “No More Trash Bash and FLW Stream Team. FLW promoted participation in MoDOT’s annual “No MOre Trash Bash” and re-established an anti-litter media campaign to raise awareness and promote the importance of healthy waterways through messaging on FLW’s marquee and a local cable channel. FLW also participated in the Stream Team program. A team comprised of service members and civilians was organized. Two extensive stream events were held and they cleaned more than 20 miles in and along the Big Piney River. The Stream Team was acknowledged with the Ozarks Rivers Solid Waste Management District’s Outstanding Contributions in Solid Waste Management Award for its efforts in cleaning up the Big Piney River

The development of FLW’s revised SWMP gave opportunity to perform MS4 training with environmental personnel and increase awareness of the inter-connectedness of water quality related programs. Public Involvement and Participation MCM correlates to Sections B of MDNR Form MO 780-2049

FLW has successfully implemented the required fourth reporting cycle measureable goals for each of the BMPs outlined in the SWMP for this MCM.

The following attachments are relevant to MCM 2:

A1: *LIST OF PUBLICATIONS*

A2: *EDUCATIONAL CAMPAIGN PLANS*

A2.1 *MILITARY AND CIVILIAN PERSONNEL*

A2.1.1 *MILITARY/CIVILIAN: ENVIRONMENTAL COMPLIANCE OFFICERS*

A2.1.2 *MILITARY/CIVILIAN: DIRECTORATE OF LOGISTICS*

A2.1.3 *MILITARY/CIVILIAN: CONSTRUCTION*

A2.1.4 *CIVILIAN: DPW CONTRACTORS*

A2.1.5 *CIVILIAN: DPW INSPECTORS*

A2.1.6 *CIVILIAN: RANGE CONTROL*

A2.1.7 *CIVILIAN: STORMWATER PROFESSIONALS*

A2.2 *RESIDENTS*

A2.3 *BUSINESSES*

A2.4 *STUDENTS (SCHOOL AGE)*

A3: *2013 EDUCATIONAL CAMPAIGN REPORT AND EFFECTIVENESS EVALUATION FOR MCM 1 & 2*

- b. Program Element Revisions: No SWMP elements have been changed or refined this reporting cycle.
- c. Status of Measurable Goals: The statuses of the measurable goals for this MCM are present in Table 2. Items that are highlighted in green identify goals that have either been completed or implemented during the first, second, third and fourth reporting cycle.
- d. Completion Dates and Goals Not Completed:
 - 1. Completion Dates: The completion dates for all measurable goals for this reporting cycle are included in Table 2.
 - 2. Scheduled Goals Not Completed: All scheduled goals have been completed for this reporting cycle.

2. Overall Compliance With Permit Conditions and SWMP

- a. Assessment of BMP Appropriateness: The SWMP was re-written during this reporting year to meet the requirements of the new permit. During this process, BMPs were thoroughly reviewed/analyzed and revised in an effort to continue to improve the program and meet the ultimate goal of reducing pollution to the maximum extent practicable.
- b. Progress towards Achieving the Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: The two stream team events held during this reporting year resulted in the removal of 57 bags of trash, 28 tires, and two truckloads of miscellaneous trash.

3. Results of Information Collected and Analyzed

Outreach programs conducted during this reporting year reached several target audiences and they were deemed effective and appropriate. Prior to programs, questions were asked to assess the prior knowledge of the audience. Programs are designed for flexibility and to meet training requirements of students. Verbal assessments were conducted after the training program to determine if the audience's knowledge had increased. Programs conducted this reporting year have indicated a 100% increase in knowledge of stormwater pollution prevention practices.

4. Stormwater Activities Planned for the Next Reporting Cycle

Measureable goals for this MCM that will be undertaken during the next reporting cycle are outlined in the revised version of the SWMP.

5. *Proposed Changes to the Program Area and Documented SWMP*

- a. Changes to BMPs: BMPs that have changed for the next reporting cycle are outlined in the revised version of the SWMP.

- b. Changes to Measurable Goals: Measurable goals that have changed are outlined in the revised version of the SWMP.

3.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION (SWMP Section 7.3)

1. Implementation Status

- a. General Summary: The goal of this MCM is to develop and implement a plan to detect and eliminate non-stormwater discharges (illicit discharges) such as process water, wash water, chemical spills, and other non-rain water discharges to the storm drain system.

Prior to the MS4 permit issuance and subsequent establishment of the IDDE program, FLW already had many successful plans, procedures, policies and contracts in place. This includes, but is not limited to, the Spill Prevention and Response Program (SPRP), Capacity, Management, Operations and Maintenance (CMOM) Plan, and the Hazardous Waste Management Plan (HWMP). The success of the Illicit Discharge Detection and Elimination (IDDE) program will come from collaboration and coordination with these already established and successful programs. The IDDE MCM correlates to Section D of MDNR Form MO 780-2049.

FLW has completed all of the required measurable goals for each of the BMPs outlined in the SWMP for this MCM.

The following attachments are relevant to MCM 3:

- B1: *FLW STORM SEWER SYSTEM MAP*
- B2: *ILLICIT DISCHARGE FIELD SURVEY PROCEDURE*
- B3: *ILLICIT DISCHARGE CORRECTIVE ACTION PROCEDURE*
- C: *FLW CONTINUUM OF ENFORCEMENT*

- b. Program Element Revisions: No SWMP elements have been changed or refined for this reporting cycle.
- c. Status of Measurable Goals: The statuses of the measurable goals for this MCM are present in Table 3. All measurable goals were completed during this reporting cycle.
- d. Completion Dates or Goals Not Completed:
1. Completion Dates: The completion dates for all measurable goals for this reporting cycle are included in Table 3.
 2. Goals Not Completed: All measurable goals were met during this reporting cycle.

2. Overall Compliance With Permit Conditions and SWMP

- a. Assessment of BMP Appropriateness: A thorough review of all BMPs was conducted during this reporting cycle to determine if they are appropriate, feasible and achievable. It was determined that they were appropriate for the first permit cycle, however, while creating the revised SWMP for the upcoming permit cycle, many BMPs were updated to align with the more evolved, developed program. .
- b. Progress towards Achieving the Statutory Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: The IDDE Program was a major focus during this reporting year. Efforts were focused on re-evaluating and re-defining outfalls and inspecting 100% of the outfalls on FLW. New procedures, to include an Illicit Discharge Field Survey Procedure and an Illicit Discharge Corrective Action Procedure, were written. These procedures establish step by step guidelines to inspect and document outfalls, and also to the report, document, investigate and correct illicit discharges. In addition to the MS4 specific programs, additional programs such as the Hazardous Waste Program, the Solid Waste Program, the Spill Prevention and Response Program and the implementation of the Capacity, Maintenance, Operations and Management (CMOM) Plan are on-going. Collaborative efforts of all programs assist in meeting the goal of reducing the discharge of pollutants to the maximum extent practicable.

3. Results of Information Collected and Analyzed

Smoke testing results of sewer lines were re-analyzed during this reporting cycle and findings did not indicate a cross connection that would allow sewage into the storm water system.

4. Stormwater Activities Planned for the Next Reporting Cycle

Measureable goals for this MCM that will be undertaken during the next reporting cycle outlined in the revised version of the SWMP.

5. Proposed Changes to the Program Area and Documented SWMP

- a. Changes to BMPs: Revision of the SWMP was completed during this reporting cycle. BMPs that have changed are outlined in the revised version of the SWMP.
- b. Changes to Measurable Goals: As mentioned in paragraph 4a, the SWMP revisions were completed during this reporting cycle. Due to continued strides to improve the program and raise standards, best management practices as well as measurable goals were adjusted/revised to meet the higher standards that have been set in an effort to improve the program and meet/exceed the permitted requirements.

4.0 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL (SWMP Section 7.4)

1. Implementation Status

- a. General Summary: The goal of this MCM is to develop, implement, and enforce an erosion and sediment control program for construction activities.

During this reporting year, four Land Disturbance Permits were issued resulting in 21 open Land Disturbance Permits as of 11 June 2013. All opened construction sites have site specific SWPPP's, which are reviewed prior to the issuance of the permits and maintained at the site. The SWPPPs include waste, sediment and erosion control BMPs of this MCM. All construction sites are inspected to ensure compliance and those inspections are tracked on a Land Disturbance Tracking Spreadsheet, which is maintained by the Land Disturbance PM.

FLW has successfully implemented the required fourth reporting cycle measurable goals for each of the BMPs outlined in the SWMP for this MCM.

The following attachment is relevant to MCM 4:

C: FLW CONTINUUM OF ENFORCEMENT

- b. Program Element Revision: No SWMP elements have been changed or refined during this reporting cycle.
- c. Status of Measurable Goals: The status of the measurable goals for this MCM is presented in Table 4. Items that are highlighted in green identify goals that have either been completed or implemented during the RY4. All goals have been completed as required.
- d. Completion Dates and Goals Not Completed:
1. Completion Dates: The completion dates for all measurable goals for this reporting year are included in Table 4.
 2. Scheduled Goals Not Completed: All goals were completed during this reporting year.

2. Overall Compliance with Permit Conditions and SWMP

- a. Assessment of BMP Appropriateness: BMPs for the first permit cycle are appropriate; however, during the revision of the SWMP completed during this reporting year, BMPs were revised to allow for continued growth of the program.
- b. Progress towards Achieving the Statutory Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: Much progress has been made, and while there are opportunities for improvement, none are practical at this time. It is suspected that the new

turbidity law and new federal requirements for no net increase in runoff will result in a reduction of pollutants, but this change will take some time to realize and to be measureable.

3. Results of Information Collected and Analyzed

There is nothing to report at this time.

4. Stormwater Activities Planned for the Next Reporting Cycle

Activities for this MCM that will be undertaken during the next reporting cycle outlined in the revised version of the SWMP.

5. Proposed Changes to the Program Area and Documented SWMP

- a. Changes to BMPs: BMPs proposed to change are outlined in the revised version of the SWMP.
- b. Changes to Measurable Goals: Measurable Goals proposed to change are outlined in the revised version of the SWMP.

5.0 POST-CONSTRUCTION RUNOFF CONTROL (SWMP Section 7.5)

1. Implementation Status

- a. General Summary: The goal of this MCM is to develop, implement, and monitor a program to address discharges of post-construction Stormwater runoff from new development and redevelopment areas.

Training and BMP Implementation were the priorities for year four reporting period. Four DPW employees from various divisions, including Engineer, Environmental and Operations, attended a week-long training. Many BMPs that were in the design phase in the previous reporting year are now built. The Post-Construction Runoff Control MCM correlates to Section F of MDNR Form MO 780-2049.

FLW has completed most of the required measurable goals for each of the BMPs outlined in the SWMP for this MCM.

The following attachments are relevant to MCM 5:

- D1: *EPA FACTSHEET: TECHNICAL GUIDANCE ON SECTION 438 OF EISA*
- D2: *DOD MEMORANDUM: IMPLEMENTATION OF SECTION 438 OF EISA*
- D3: *DA MEMORANDUM: MANAGING STORMWATER WITH LOW IMPACT DEVELOPMENT*
- D4: *GARRISON COMMAND POLICY #2013-3: ENVIRONMENTAL POLICY*

- b. Program Element Revisions: No SWMP elements have been changed or refined for this reporting cycle.
- c. Status of Measurable Goals: The status of the measurable goals for this MCM is presented in Table 5. Items that are highlighted in green identify goals that have either been completed or implemented during the first and second reporting cycle. Items in orange identify goals that are in progress during the current reporting cycle and/or will be addressed during the next permit cycle.
- d. Completion Dates and Goals Not Completed:
1. Completion Dates: The completion dates for all measurable goals for this reporting cycle are included in Table 5.
 2. Scheduled Goals Not Completed: Scheduled goals not completed and their explanations for this reporting cycle are included in Table 5.

2. Overall Compliance With Permit Conditions and SWMP

- a. Assessment of BMP Appropriateness: The BMPs developed for this MCM are appropriate. Even though there are existing policies, the BMPs strengthen those requirements by institutionalizing all aspects of the installation operations, including planning, design, construction and maintenance. This is key to the long-term success and ability to improve water quality to the maximum extent practicable.
- b. Progress towards Achieving the Statutory Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: The majority of new development and redevelopment major construction projects at FLW are now being planned and designed according to EISA 2007, Section 438, which specifies no net increase in stormwater runoff on federal facilities. With at least five projects now built that incorporate LID methodologies, water quality improvements are being made, although they may not be measurable.

3. Results of Information Collected and Analyzed

There is nothing to report at this time.

4. Stormwater Activities Planned for the Next Reporting Cycle

Activities for this MCM that will be undertaken during the next reporting cycle are outlined in the revised version of the SWMP, which was submitted July of this year.

5. Proposed Changes to the Program Area and Documented SWMP

- a. Changes to BMPs: Changes to BMPs are reflected in the revised version of the SWMP.
- b. Changes to Measurable Goals: Changes to measurable goals are reflected in the revised version of the SWMP.

6.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING (SWMP Section 7.6)

1. Implementation Status

- a. General Summary: The goal of this MCM is to develop and implement a program, to include a training element, which consists of guidelines and procedures to prevent or reduce pollutant runoff from facilities operation and maintenance activities.

During this reporting cycle, a thorough review and analysis was conducted of all targeted audiences to identify personnel, i.e. Base Maintenance Personnel, Range Control personnel, Inspection Branch personnel and Directorate of Logistics Personnel whose operations directly affect the success of FLW's Operation and Maintenance Program. Once personnel were identified, Education Campaign Plans and job specific training slides were created to ensure that appropriate training on applicable MS4 BMPs is given to personnel.

FLW has successfully implemented the fourth reporting cycle required measurable goals for each of the BMPs outlined in the SWMP for this MCM.

The following attachments are relevant to MCM 6:

A1: *LIST OF PUBLICATIONS*

A2: *EDUCATIONAL CAMPAIGN PLANS*

A2.1 *MILITARY AND CIVILIAN PERSONNEL*

A2.1.1 *MILITARY/CIVILIAN: ENVIRONMENTAL COMPLIANCE OFFICERS*

A2.1.2 *MILITARY/CIVILIAN: DIRECTORATE OF LOGISTICS*

A2.1.3 *MILITARY/CIVILIAN: CONSTRUCTION*

A2.1.4 *CIVILIAN: DPW CONTRACTORS*

A2.1.5 *CIVILIAN: DPW INSPECTORS*

A2.1.6 *CIVILIAN: RANGE CONTROL*

A2.1.7 *CIVILIAN: STORMWATER PROFESSIONALS*

A2.2 *RESIDENTS*

A2.3 *BUSINESSES*

A2.4 *STUDENTS (SCHOOL AGE)*

A3: *2013 EDUCATIONAL CAMPAIGN REPORT AND EFFECTIVENESS EVALUATION FOR MCM 1 & 2*

D4: *GARRISON COMMAND POLICY #2013-3: ENVIRONMENTAL POLICY*

E1: *TYPICAL DEPARTMENT OF DEFENSE (DOD) INSTALLATION FUNCTIONAL AREAS AND PROCESSES*

E2: *POLLUTION PREVENTION/GOOD HOUSEKEEPING STANDARD OPERATING PROCEDURE*

- b. Program Element Revisions: No SWMP elements have been changed or refined for the fourth reporting cycle.
- c. Status of Measurable Goals: The status of the measurable goals for this MCM is present in Table 6. All measurable goals have been completed during this reporting year.

d. Completion Dates and Goals Not Completed:

1. Completion Dates: All measurable goals have been completed during this reporting year. Completion dates for all measurable goals completed during this reporting cycle are included in Table 6.
2. Scheduled Goals Not Completed: All goals have been completed during this reporting year.

2. Overall Compliance With Permit Conditions and SWMP

- a. Assessment of BMP Appropriateness: The Municipal Operations and Maintenance BMP's and measurable goals are very appropriate for FLW, however, BMP's 6B and 6C are redundant to BMP's found in MCM 1, (Public Education and Outreach) and will be deleted in the revised version of the SWMP being written this reporting year.
- b. Progress towards Achieving the Statutory Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: FLW already had many successful plans, permits and programs in place prior to issuance of this permit that led to reduction of pollutant discharges. The proven efforts of FLW Patrons to report spills and FLW's Department of Public Works and Environmental Division commitment to respond, investigate and implement immediate corrective action, it is certain that the overall goal to reduce discharges and improve water quality will be met.

3. Results of Information Collected and Analyzed

Not applicable during his reporting year.

4. Stormwater Activities Planned for the Next Reporting Cycle

Many measurable goals for MCM are ongoing and will continue during this reporting year. Activities that will be completed during the next reporting cycle are outlined in the revised version of the SWMP.

5. Proposed Changes to the Program Area and Documented SWMP

- a. Changes to BMPs: Changes to measurable goals are outlined in the revised version of the SWMP.
- b. Changes to Measurable Goals: Changes to measurable goals are outlined in the revised version of the SWMP.

LIST OF ACRONYMS AND ABBREVIATIONS

AAFES	Army and Air Force Exchange Service
BMP	Best Management Practice
CFR	Code of Federal Regulation
CMOM	Capacity, Management, Operations and Maintenance
DA	Department of the Army
DoD	Department of Defense
DPW	Directorate of Public Works
ECO	Environmental Compliance Officer
EISA	Energy Independence and Security Act
EMS	Environmental Management System
EPA	Environmental Protection Agency
FLW	Fort Leonard Wood
GIS	Geographical Information System
GPS	Global Positioning System
HWMP	Hazardous Waste Management Plan
IMCOM	Installation Management Command
MCM	Minimum Control Measure
MDNR	Missouri Department of Natural Resources
MS4	Municipal Separate Storm Sewer System
NoN	Notice of Non-Compliance
NPDES	National Pollutant Discharge Elimination System
SIC	Standard Industrial Classification
SPRP	Spill Prevention and Response Plan
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers

TABLE 1
Public Education and Outreach Minimum Control Measure
MS4 Annual Report
U.S. Army Installation Management Command and Fort Leonard Wood

Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 1A - Implement a Storm Water Education Program (SWMP Section 7.1.1, page 17)					
I. Military/Civilian Personnel 1) Identify civilian/ military personnel groups impacted and targeted pollution sources to address	4.2.1.1.1 4.2.1.1.2 4.2.2.1.2	1	1	Complete Identified groups and targeted pollution sources are: I. Military/Civilian Personnel - Solid Waste, Sediment and Spills; II. Residential - Fertilizers, Solid Waste, Pesticides, Spills, Household hazardous materials; III. Student (School Age) - Solid Waste; IV. Contractors - Solid Waste, Sediment, and Spills; and V. Businesses -Solid Waste and Spills. Target Audiences were identified in August 2009. Target Pollutant sources were identified in April 2010.	Audiences Aug-09 Pollutant Sources Apr-10
			2	Reviewed No change.	Jun-11
			3	Incomplete Due to an oversight in the Year 1 Report, this goal was not completed per the SWMP's intentions and will be accurately completed during the 4th reporting year. See Summary for details.	Pending
			4	Complete During this reporting year, a thorough review/analysis of all targeted audiences was conducted and the targeted audiences for civilian/military audiences were identified. Targeted audiences are outlined in the Educational Campaign Plans, Attachment A2.1.1 - A2.1.5 and the 2013 Educational Campaign Report and Effective Evaluation of MCM 1 and 2, Attachment A3	Nov-12
2) Identify and/or develop training materials for Pollution Prevention/Good Housekeeping, in accordance with BMP 6B	4.2.6.1.7	1-2	1	Planned for completion in second reporting cycle	
			2	Complete See Attachment A1, Inventory List of Distribution Materials for detailed information.	Jun-11
			3	Reviewed/Completed Inventory list of distribution materials has been reviewed and updated. See List of Publications, Attachment A1.	Mar-12
			4	Reviewed/Completed Inventory list of distribution materials were reviewed and updated during this reporting year. See List of Publications, Attachment A1.	Nov-12
3) Conduct training for impacted personnel regarding storm water pollution prevention	4.2.1.1.3	1-5	1	Planned to begin in second reporting cycle	
			2	Complete We are in the process of developing an MS4 Training Plan, which will account for all of the MS4 training needs, It is not yet complete, but will be next year. Upon completion, we will set up a regular training cycle to insure compliance with this requirements.	Jun-11
			3	Complete Training was conducted for Military and Civilian Personnel as well as Contractors. See 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A4.	Mar-12
			4	Complete Training was conducted for the Military and Civilian targeted audiences. See 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	May-13
4) Evaluate and revise educational materials as necessary to ensure compliance with MCM 6	4.2.6.1.7	1-5	1	Planned to begin in second reporting cycle	
			2	Complete This is being done as part of BMP 6B. See Attachment A1.	Jun-11
			3	Complete/Reviewed Education materials continue to be reviewed and revised as needed. See Attachment A1.	Jun-12
			4	Complete/Reviewed Educational materials were reviewed, evaluated and updated during this reporting year. All educational materials are outlined in the List of Publications, Attachment A1.	Jun-13
II. Residents 1) Identify targeted pollutant sources (BMP 1A-1) to focus educational messages for residents	4.2.1.1.1	1-5	1	Complete Targeted pollutant sources for residents are: fertilizers, solid waste, spills, household hazardous materials, and pesticides.	Sep-09
			2	Complete No change. Targeted pollutant sources for this target audience remain the same.	Jun-11
			3	Complete/Reviewed Targeted pollutant sources for this target audience remain the same.	Mar-12
			4	Complete Targeted pollutant sources were reviewed/analyzed during this reporting year and remain the same.	Nov-12

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2) Identify and/or develop educational campaigns, brochures, and/or public workshops	4.2.1.1.3	1-5	1	On-Going Task being tracked continuously in a spreadsheet that contains information regarding events held, dates, participants, and message, etc. (See Attachment B - MS4 Outreach Activities). A listing of brochures and other materials available for distribution is also found in Attachment C-Publications List. In addition, a 5-year storm water education program has been developed for FLW for the following groups: Military/Civilian Personnel, Contractors, Residential, Businesses, and School Groups. See Attachment A for more details.	
			2	Complete Attachment A, FLW Environmental Division 5-Year Storm Water Education Program, from the first reporting cycle has been incorporated into Attachment A3, Educational Campaign Plans. Attachment B, MS4 Outreach Activities, from the first reporting cycle is now Attachment A2, Outreach Activities and Distributed Materials Log. Attachment C, Publications List, from the first reporting cycle is now Attachment A1, Inventory List of Distribution Materials. Educational Campaign plans have been developed for residents, businesses, military and civilian personnel, and each of the campaign plans document purpose, targeted pollutant source, key messages, target audiences, goals, implementation mechanisms, and finally, evaluation of effectiveness (Attachment A3).	On-Going
			3	Complete Campaign plans have been revised this reporting year. See Attachment A3.	Apr-12
			4	Complete Campaign plans were thoroughly reviewed/analyzed and revised as deemed necessary during this reporting year. The revisions are reflected in the 2013 Educational Campaign Plans, See Attachment A2.1.	Nov-12
3) Evaluate effectiveness of campaigns, potentially through resident surveys and participation levels at FLW sponsored storm water pollution prevention events	4.2.1.1.6	1-5	1	On-Going Task being tracked continuously in a spreadsheet that contains information regarding events held, dates, participants, and message, etc. (See Attachment B, MS4 Outreach Activities). A feedback form is in development and will be used at future events. The feedback form is scheduled to be completed by August 2010.	On-Going
			2	Complete A summary for effectiveness evaluation of public education and outreach, and public involvement is available, see Attachment A3, Educational Campaign Plans, and Attachment A4, Effectiveness Evaluation of MCM 1 and 2. Note Attachment B is now Attachment A2.	Jun-11
			3	Reviewed/Complete The 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A4, summarizes accomplishments previously planned in the campaigns, and addressed the overall effectiveness.	Apr-12
			4	Complete Effectiveness of educational campaigns was analyzed during this reporting year. Results are outlined in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	Nov-12
III. Students 1) Identify targeted pollutant sources to focus educational messages for students	4.2.1.1.1 4.2.1.1.3	1-5	1	Complete Targeted pollutant sources for students are solid waste.	Apr-10
			2	Reviewed No change.	Jun-11
			3	Reviewed No change.	Mar-12
			4	Complete The targeted pollutant sources for this targeted audience were reviewed and remain the same.	Nov-13
2) Develop and/or adapt existing classroom curriculum for storm water pollution prevention	4.2.1.1.3	2-5	1	Planned to begin in second reporting cycle	
			2	Complete Refer to Attachment A3.4, Educational Campaign Plan for Students.	Jun-11
			3	Complete Educational Campaign Plan for Students, Attachment A3.4 has been revised and includes the plan for upcoming years. Classroom curriculum this reporting year has included interactive activities that engage and teach students about Storm Water Pollution Prevention. Activities conducted this year are included in the 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A4.	May-12
			4	Complete The classroom curriculum for students has remained the same during this reporting year, See Student Educational Campaign Plan, Attachment A2.4	Nov-12
3) Potentially develop a rewards program for students and teachers that participate in public storm water pollution prevention activities around FLW	4.2.1.1.4	2-3	1	Planned to begin in second reporting cycle	
			2	Amended This was not planned to be complete in the second reporting cycle, nor will it be planned for the third reporting cycle.	Amended
			3	Reviewed No change.	Mar-12
			4	Reviewed No change.	Nov-12

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4) Evaluate effectiveness of classroom education, potentially through testing and/or student participation levels in storm water pollution prevention activities	4.2.1.1.6	2-5	1	Planned to begin in second reporting cycle	
			2	Complete A process for evaluating effectiveness of outreach performed has been developed, although it will require continual modification as we learn how to do this effectively. See Attachment A4, Effectiveness Evaluation for MCM 1 and 2.	Jun-11
			3	Reviewed/Complete The 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A4, summarizes accomplishments previously planned in the campaigns, and addressed the overall effectiveness.	May-12
			4	Complete The 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2 outlines the effectiveness evaluation of classroom education given to students during this reporting year. See Attachment A3	May-13
IV. Contractor 1) Initial training/review to include erosion and sediment control requirements, impacts to water quality, BMPs, and inspection and enforcement procedures	4.2.1.1.3	1	1	Complete Pre-construction meetings are now conducted for all site operators performing work on permitted sites which highlights the enforcement procedures at FLW, permit requirements, termination requirements, and provides an overview of the FLW SWPPP. In addition, a 5-year storm water education program has been developed for FLW for the following groups: Military/Civilian Personnel, Contractors, Residential, Businesses, and School Groups. See Attachments A1-A4 for more details.	Jul-09
			2	Reviewed The FLW Environmental Division 5-Year Storm Water Education Program for contractors has been incorporated into Educational Campaign Plan for Contractors, and is now Attachment A3.1.	Jun-11
			3	Reviewed See Educational Campaign Plan for Military/Civilian Personnel; Attachment A3.1.	May-12
			4	Reviewed See Educational Campaign Plan: Civilian Personnel: DPW Contractors Attachment A2.1.3	May-13
2) Erosion and sediment control trainings will be conducted for all audiences as needed (ex. new projects or new personnel, refresher courses)	4.2.1.1.3	1-5	1	On-Going Pre-construction meetings are now conducted for all site operators performing work on permitted sites which highlights the enforcement procedures, permit requirements, termination requirements, and provides an overview of the FLW SWPPP. It is planned that additional materials relating to karst topography, losing/gaining streams, and FLW spill response procedures and contacts will be included in future pre-construction meetings as they are developed. In addition, a 5-year storm water education program has been developed for FLW for the following groups: Military/Civilian Personnel, Contractors, Residential, Businesses, and School Groups. See Attachment A for more details. It is a permit requirement that the permittee have a responsible person named in the site SWPPP and that records are kept by the permittee of training, inspections, or modifications to the SWPPP. These permitted sites are regularly inspected (weekly, bi-weekly, or monthly depending on the sites compliance status) to ensure they are in compliance and are properly maintaining records.	On-Going
			2	Reviewed Attachment A, FLW Division 5-Year Storm Water Education Program for personnel, is now Attachment A3.1, Military and Civilian Personnel (including Contractors), for the second reporting cycle.	Jun-11
			3	Reviewed Training plan for Contractors is outlined Attachment A.3.1; 2012 report in Attachment A4.	Mar-12
			4	Complete Erosion and sediment control training is given to contractors during Permit Issuance Meetings prior to beginning a construction project. Training given during this reporting year can be found in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	May-13
3) Develop procedure for public reporting of erosion and sediment problems	4.2.1.1.4 4.2.4.1.3	2-3	1	Planned to begin in second reporting cycle	
			2	Complete Added reporting instructions to the stormwater web page.	Jun-11
			3	Complete No change.	Mar-12
			4	Complete No change.	Nov-13
4) Annual review of inspection checklists, records, and enforcement action to determine effectiveness of training on specific audiences	4.2.1.1.6	1-5	1	Planned to begin in second reporting cycle	
			2	Complete Two additions were made, including the addition of a PowerPoint presentation for pre-construction meetings, as well as information of construction site BMPs that are appropriate for FLW.	Jun-11
			3	Complete See Attachment A4 - Effectiveness Evaluation of MCM 1 and 2.	Jun-12
			4	Complete A review of inspection records as well as a interview with Land Disturbance PM indicates that training for contractors has been effective during this reporting year. The results of the evaluation can be found in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	May-13

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V. Businesses 1) Identify businesses at FLW impacted for each Minimum Control Measure	4.2.1.1.2	1	1	Complete Identified businesses for the Minimum Control Measures are: 1) Army and Air Force Exchange Service (AAFES): Post Exchange, Frame Shop, Furniture Sales, Class Six, and Clothing Sales; 2) Restaurants: Burger King, Church's Chicken, Starbucks, Taco Johns, Baskin Robbins, Blimpies, Seattle's Best, O'Charleys, Pizza Hut, and Manchu Wok; 3) Medical: General Leonard Wood Army Community Hospital, Dental, Optical, and Vet Clinic; 4) Other Services: Mid Missouri Credit Union, Army National Bank, Post Office, Truman Education Center, Laundry Services (2 Facilities), Thrift Shop, Sunrise Communications, Mail Box It, and Forney Airfield; 5) MWR Services: Gas Stations (2 facilities), Auto Crafts/Car Wash, Swimming Pools (2 facilities), Pine Valley Golf Course, Miniature Golf Course, Recycling Center, Horse Stables, Outdoor Adventure Center, Movie Theaters (2 facilities), and Bowling Center.	Apr-10
			2	Reviewed Also see Attachment A3 , Educational Campaign Plan for each target audience.	Jun-11
			3	Reviewed No change.	Mar-12
			4	Reviewed No change.	Nov-12
2) Develop and/or adapt educational campaigns, brochures, and/or public workshop series for Businesses regarding pollution prevention and storm water management	4.2.1.1.3	1-5	1	Planned to begin in second reporting cycle	
			2	Complete Educational campaign plans have been developed for Military/Civilian Personnel, Contractors, Residents, Businesses, and School Groups. Each of the campaign plans document purpose, targeted pollutant source, key messages, target audience, goals, and implementation mechanisms, and finally , evaluation of effectiveness. List of brochures and other publications utilized for outreach and education is available. (Attachment A1, Inventory List of Distribution Materials).	Jun-11
			3	Complete Reviewed/No changes. See Attachment A3.3 Educational Campaign Plan.	Jun-13
			4	Complete Reviewed/No changes. See Attachment A2.3 Educational Campaign Plan	
3) Potentially develop a Green Partners program for businesses at FLW to encourage best management practices for storm water and other resource protection activities	4.2.1.1.4 4.2.2.1.3 4.2.2.1.4	2-3	1	Planned to begin in second reporting cycle	
			2	Complete Initiated communication with a local Big Piney River watershed group, but have not yet partnered with anyone. This is a desired action, that will be considered in the future as time and resources allows.	Jun-11
			3	Complete No change.	Mar-12
			4	Complete No change.	Nov-12
4) Conduct trainings and certification workshops for the Green Partners program, if program is implemented	4.2.1.1.4	3-4	1	Planned to begin in third reporting cycle	
			2	Amended This is no longer planned to be complete.	Amended
			3	Amended This is no longer planned to be complete.	Amended
			4	Amended This is no longer planned to be complete.	Amended
5) Evaluate effectiveness of business education through methods such as surveys, participation in FLW sponsored storm water pollution prevention events, and other methods not yet determined	4.2.1.1.6	1-5	1	Planned to begin in second reporting cycle	
			2	Complete A process for evaluating effectiveness of outreach performed has been developed, although it will require periodic modification as we learn how to do this effectively. See Attachment A4 , Effectiveness Evaluation MCM 1 and 2.	Jun-11
			3	Reviewed See Attachment A4, 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2.	May-12
			4	Complete Effectiveness of educational campaigns was analyzed during this reporting year. Results are outlined in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	Nov-13

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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 1B - Distribute Education Materials (SWMP 7.1.2, page 18)					
1) Complete survey of existing educational materials already developed by federal, state, and local organizations in relation to identified target pollutant sources and compile inventory list for distribution materials	4.2.1.1.5	1	1	Complete See Attachment C, Publications List. Survey of publications will be on-going and updated as new information becomes available.	Feb-10
			2	Reviewed This has been updated and expanded. The 'year published' field was added so that we can insure that only the most current material is being used. Expansion includes addition of online resources and videos. Attachment C is now Attachment A1, Inventory List of Distribution Materials.	Jun-11
			3	Reviewed Updated. See Attachment A1, List of Publications.	Mar-12
			4	Complete Educational materials were reviewed/analyzed and updated during this reporting year. See List of Publications, Attachment A1.	Nov-12
2) Determine the target audiences and best distribution route for each targeted pollution source's educational materials	4.2.1.1.5	1	1	Complete Target audiences and distribution routes are: School Age - Flyers, Posters, Signage, and Website (wood.army.mil/dpwenv); Residential - Flyers, Posters, Signage, and Website (wood.army.mil/dpwenv); Businesses - Signage; Military/Civilian Personnel - Environmental Compliance Officer's (ECO) Training Course, Pre-Construction Review Meetings, Website (wood.army.mil/dpwenv), and Signage; Contractors - ECO Training Course, Pre-Construction Review Meetings, Website (wood.army.mil/dpwenv), and Signage.	Apr-10
			2	Reviewed The effectiveness of these distribution routes will be periodically reviewed to determine the distribution route with the greatest impact. The most appropriate mechanism for reaching targeted audiences is being evaluated. The distribution routes identified in the first reporting cycle are effective for school age audiences; they may not be adequate for military/civilian personnel, residential, businesses and contractors.	Jun-11
			3	Reviewed Educational Campaign Plan has been modified to include appropriate and effective distribution methods. See Attachment A3.3.	Mar-12
			4	Complete Distribution routes were re-evaluated for each target audience during this reporting year and updated as deemed necessary. Distribution routes can be found in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	Nov-12
3) Distribute selected pollutant source reduction materials to target audiences through identified distribution methods	4.2.1.1.5	1-5	1	On-Going Task being tracked continuously in a spreadsheet that contains information regarding events held, dates, participants, and materials distributed, etc. (See Attachment B MS4 Outreach Activities).	On-Going
			2	Complete See Attachment A2, Outreach Activities and Distributed Materials Log, for detailed spreadsheet of materials that have been distributed. This attachment was previously Attachment B.	Jun-11
			3	Complete Distribution Methods are now included in the Education Campaign Plans, Attachment A3. Publications have been revised and are included in the List of Publications, Attachment A1.	Mar-12
			4	Complete Materials distributed during this reporting year can be found in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	Nov-12

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BMP 1C - Evaluate Success of Storm water Education (SWMP 7.1.3, page 19)					
1) Conduct post-educational event and/or campaign response mechanism (ex. survey) for each targeted audience intended	4.2.1.1.6	1-5	1	Planned to begin in second reporting cycle	
			2	Complete This has been completed for residential target audience; businesses will be evaluated in the third reporting cycle.	Jun-11
			3	Complete Due to the loss of our contractor whose primary function was Public Outreach, this goal was not completed during this reporting year. Plan to have complete during reporting year 4.	In Progress
			4	Complete Campaign response/feedback mechanisms were reviewed during this reporting year for each target audience. The mechanism used for each target audience can be found in the applicable 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2 Attachment A3.	Nov-12
2) Monitor adherence to policies and procedure compliance (ex. pollution prevention/good housekeeping practices within the installation)	4.2.1.1.6	1-5	1	Planned to begin in second reporting cycle	
			2	In Progress Unfortunately, time and resources never became available to accomplish this goal, but it will be in the third reporting cycle.	In Progress
			3	In Progress A thorough review and analysis of existing policies and procedures for effectiveness has begun during this reporting year. Results will be included in the 4th year Annual Report.	In Progress
			4	In Progress The MS4 PM is currently working for the DPW Inspection Branch whose primary goal is to inspect for compliance to pollution prevention/good housekeeping policies procedures.	In Progress
3) Track participation levels at FLW storm water related meetings, events, survey responses, etc. to determine whether target audiences are being reached and responding	4.2.1.1.6	1-5	1	Planned to begin in second reporting cycle	
			2	Complete See Attachment A2, Outreach Activities and Distributed Materials Log.	Jun-12
			3	Complete Outreach Activities and Distributed Materials Log has been replaced with the Educational Campaign Plans, Attachment A3, the List of Publications, Attachment A1 and the 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A4.	May-12
			4	Complete All materials distributed during this reporting year can be found in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A2.	Nov-12
Green shading indicates goal has been either completed or implemented					
Orange shading indicates goals in progress, or amended					
No shading indicates goals that will be implemented during future reporting cycles					

TABLE 2
Public Involvement/Participation Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 2A - Comply with Public Notice Requirements (SWMP 7.2.1, page 20)					
1) Issue public notices for all public meetings related to the SWMP	4.2.2.1	1-5	1	On-Going Task being tracked periodically in a spreadsheet that contains information regarding events held, dates, and how the event was advertised, etc. (See Attachment B - MS4 Outreach Activities). No public meetings held, to date.	On-Going
			2	On-Going Attachment B, MS4 Outreach Activities, from the first reporting cycle is now Attachment A2, Outreach Activities and Distributed Materials Log.	On-Going
			3	On-Going No SWMP public meetings were held during this reporting year.	On-Going
			4	Complete Public notices were posted in the FLW Newspaper, The Guidon and the FLW MWR Facebook page informing FLW Patrons of the SWMP public review. The revised version of the SWMP was posted on the FLW MS4 website and in the FLW library for review. Patrons were encouraged to comment in person, via e-mail, via phone or via the website.	Apr-13
2) Notify targeted audiences through various distribution methods to increase participation for public meetings, storm water activities and events	4.2.2.1.2	1-5	1	On-Going For Earth Day, targeted audiences notified through websites, radio, marquees, newspaper, and Garrison Commander's opening remarks. No public meetings held, to date.	On-Going
			2	On-Going Strategy has been to collaborate with existing programs that are well attended. For example, we partnered with MWR for the Earth Day/Easter Egg Hunt. We also assisted with a walk/run at Earth Day and sponsored the Earth Day e-cycling collection. The Stream Team workshop we hosted was well announced by MDC, and to supplement, we wrote an article for the FLW Guidon newspaper, and announced it on our website. We also participated in the Health and Safety Fair, Missouri Frog Fest, and more. See Attachment A2, Outreach Activities and Distributed Materials Log for more info.	On-Going
			3	On-Going Efforts continued this reporting year to join forces with sponsored activities on FLW. On Earth Day, we held an interactive stormwater activity for School Aged Children. We also collaborated with the local FLW School and conducted Storm Drain Stenciling with 3rd and 4th grade classes. A Complete review of all activities is annotated in Attachment A.4 of this Annual Report in the respective target audience areas.	On-Going
			4	On-Going During this reporting year, targeted audiences were notified of various participation events to include the "NO MO TRASH BASH" and Earth Day events via brochures, the FLW newspaper, Guidon as well as the FLW Stormwater Website.	On-Going
3) Placement of SWMP in a location that has public access (ex: website, local library)	4.2.2.1	1-5	1	On-Going SWMP will be placed on FLW's website and was available at the Earth Day event held 6/12/2010 along with comment cards for public feedback.	On-Going
			2	On-Going No new activities required or performed.	On-Going
			3	On-Going No new activities required or performed.	On-Going
			4	On-Going The revised version of the SWMP was placed on the FLW Stormwater website for public comment and review.	Apr-13
BMP 2B = Solicit Public Input and Opinion on the SWMP (SWMP 7.2.2m Page 20)					
1) Participation numbers from SWMP related meetings and events	4.2.2.1.5	1-5	1	On-Going Five copies of the SWMP were provided for public review in a booth at the Earth Day event. A box for public comments was also provided; however, none were received. The booth also provided information on non-point source pollution and water quality.	On-Going
			2	On-Going No new activities required or performed.	On-Going
			3	On-Going No new activities required or performed.	On-Going
			4	Complete Participation numbers are included in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2. Attachment A3.	Apr-13

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2) Results from surveys (if appropriate) for effectiveness of educational campaigns to targeted audiences	4.2.2.1.5	1-5	1	Planned to begin in second reporting cycle.	
			2	On-Going Implementing educational campaigns, see Attachment A3, Educational Campaign Plans. Effectiveness will be evaluated periodically, and is summarized in Attachment A4, Effectiveness Evaluation of MCM 1 and 2.	On-Going
			3	On-Going Educational Campaign Plans continued to be implemented during this reporting year, See Attachment A3, and the Effectiveness of the Program has been documented in the Effectiveness Evaluation of MCM 1 and 2, Attachment A4.	On-Going
			4	On-Going Not applicable for this reporting year.	On-Going
3) Accessibility of SWMP information, including the use of FLW Website, newsletter articles, and events	4.2.2.1.2	1-5	1	On-Going SWMP was available at the Earth Day event held 6/12/2010 along with comment cards for public feedback, MS4 fact sheets, and copies of the FLW permit. The SWMP is also available on the Environmental Division website: http://www.wood.army.mil/dpwenv	On-Going
			2	On-Going The SWMP is made available by the outreach coordinator at all participated events.	On-Going
			3	On-Going No change.	On-Going
			4	Complete The revised version of the SWMP was introduced via the FLW newspaper, Guidon and the FLW MWR facebook page; The SWMP was posted on the FLW stormwater website and displayed in the FLW Public Library.	Jun-13
BMP 2C - Identify and Establish Volunteer Opportunities for SWPP Activities (SWMP 7.2.3, page 21)					
1) Number of FLW supported opportunities identified and implemented for volunteers; such as community clean-ups, water quality monitoring, citizen watch groups, citizen panels, Missouri Stream Team formation, etc	4.2.2.1.3 4.2.2.1.4	1-5	1	On-Going Task being tracked periodically in a spreadsheet that contains information regarding events held, dates, and participant numbers, etc. (See Attachment A2, Outreach Activities and Distributed Materials Log). Four waterway cleanup events, one nature hike, one 5k walk/run, one teacher workshop, and one water quality monitoring class were held between 2009 and 2010.	On-Going
			2	On-Going Attachment B, MS4 Outreach Activities from the first reporting cycle, is now Attachment A2, Outreach Activities and Distributed Materials Log. Collaborating with the Army Community Service (ACS) Volunteer service to offer more volunteer opportunities for trash cleanup to military/civilian personnel. An article was published in the local newspaper to promote stream teams and the importance of water quality. Articles about environmental events such as World Water Day and National Cleanup Day are posted on the DPW Environmental website. Website has information for the public about how to get more involved.	On-Going
			3	On-Going Activities and outreach opportunities for all targeted audiences that were conducted during this reporting year are now listed in the 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A4.	On-Going
			4	On-Going Activities and outreach opportunities for all targeted audiences that were conducted during this reporting year are listed in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	On-Going
2) Number of volunteers participating in FLW supported Storm Water Pollution Prevention activities	4.2.2.1.5	1-5	1	On-Going Task being tracked continuously in a spreadsheet that contains information regarding events held, dates, and participant numbers, etc. (See Attachment B - MS4 Outreach Activities). Five waterway cleanup events were held between April 2009 and April 2010 with approximately 272 people participating. One water quality monitoring class was held that had 18 participants.	On-Going
			2	On-Going Waterway clean-ups were incorporated into both the Spring and Fall Cleanups, which incorporates military personnel from across the post. See Attachment A2, Outreach Activities and Distributed Materials Log for more information of the number of people were engaged in other activities.	On-Going
			3	On-Going The 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A4, lists all activities conducted during this reporting year as well as the targeted audience and the number of personnel who attended.	On-Going
			4	On-Going The 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3, lists all activities conducted during this reporting year as well as the targeted audience and the number of personnel who attended.	On-Going

TABLE 2
 Public Involvement/Participation Minimum Control Measure
 MS4 Annual Report
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 2D - Evaluate Success of Public Involvement/Participation Activities (SWMP 7.2.4, page 21)					
1) Track participation levels at FLW storm water related meetings, events, etc., to determine whether target audiences are being reached and responding	4.2.2.1.5	1-5	1	On-Going A system is in place to track participation numbers at storm-water related meetings and events and community outreach events.	On-Going
			2	On-Going See Attachment A4, Effectiveness Evaluation for MCM 1 and 2 for summary.	On-Going
			3	On-Going See Attachment A4, 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2.	On-Going
			4	On-Going See Attachment A3, 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2.	On-Going
Green shading indicates goal has been either completed or implemented					
Orange shading indicates goals in progress, or amended					
No shading indicates goals that will be implemented during future reporting cycles					

TABLE 3
 Illicit Discharge Detection and Elimination Minimum Control Measure
 MS4 Annual Report
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 3A - Storm Sewer System Map (SWMP 7.3.1, page 23)					
1) Complete storm sewer system inventory and inspection map	4.2.3.1.1	1	1	Complete	Jun-10
			2	Reviewed Updated multiple GIS layers including: Oil water separators; wash racks; grit chambers; and watershed boundaries.	Jun-11
			3	Reviewed Updated multiple GIS layers to include new spills; No new changes to Outfall Map. See Attachment B1	Oct-11
			4	Reviewed Updated storm sewer map to include updated outfalls and inspection points. See Attachment B1	Nov-12
2) Establish process (i.e., Illicit Discharge Detection and Elimination Plan) to locate and map known outfalls	4.2.3.1.1	1	1	Complete <ul style="list-style-type: none"> • The existing process for mapping outfalls at FLW will be used. GIS specialists are employed by the Engineering Design Branch to keep utility data current. • GIS database, aerial photographs, and installation maps and records will be reviewed to identify known or potential outfalls. Reservoir pipes will be included as outfall locations. Mapping of boundary outfalls and outlets is complete. 	
			2	Reviewed No change to the IDDE plan.	Jun-11
			3	Reviewed Staff has been allotted to review, update and improve process. Process has been documented and included in the written IDDE Procedure. See Attachment B3.	Feb-12
			4	Reviewed The current IDDE Procedure was reviewed and determined to be appropriate, but broad. A new IDDE Field Survey Procedure was written which outlines the steps that are taken to locate and inspect outfalls IAW the EPA Illicit Discharge Guidance Manual. See Attachment B4.	Nov-13
3) Establish process to locate and map known ponds and structural pollution control devices	4.2.3.1.1	1	1	Complete <ul style="list-style-type: none"> • The existing process for mapping ponds and structural pollution control devices at FLW will be used. • Speak with senior facility members regarding institutional knowledge of known locations of ponds and structural pollution control devices. • GIS database aerial photographs, and installation maps and records will be reviewed to identify known or potential locations. 	
			2	Reviewed No change in this process.	Jun-11
			3	Reviewed Process has been added to the written IDDE Procedure. See Attachment B3.	Feb-12
			4	Reviewed No changes in this process	Jan-13

TABLE 3
 Illicit Discharge Detection and Elimination Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
4) Establish and document a protocol for screenings, training for inspectors, and procedures for further investigation of illicit discharges such as monitoring, clean up, and enforcement.	4.2.3.1.1	1	1	Complete <ul style="list-style-type: none"> • Visual screening will be prioritized on problem areas as identified by smoke testing results, historical information, and public complaints. • Visual screenings will be documented through photographs of discharge along with written documentation regarding odor, appearance, and vegetation observations. GPS coordinates will be taken for the discharge site and added to a GIS database. • Inspectors will be trained on how to identify a potential illicit discharge and how to document the discharge. • Procedures for further investigation will involve the following: water sampling (if necessary); visual screening and/or sampling of known problem areas as staffing time allows or on a continual basis; continued smoke or dye testing; data review of land/building use, outfall locations, and smoke or dye testing results; and follow-up/periodic site visits to ensure discharge has been eliminated. 	
			2	Reviewed No change in this process. All processes have been implemented.	May-11
			3	Reviewed Protocol for screenings as well as procedures for investigations, monitoring, clean up , training and enforcement have been documented in the IDDE Procedure, See Attachment B3.	Jan-12
			4	Reviewed Protocol for screenings and procedures for investigations on illicit discharges were reviewed and updated in the Illicit Discharge Field Survey Procedure and the Illicit Dishcharge Corrective Action Procedure. See Attachment B4 amd Attachment B5.	Nov-13
5) Conduct training for appropriate personnel for locating structural pollution control devices, outfalls, and other system parameters	4.2.3.1.1	2	1	Planned to begin in second reporting cycle	
			2	Complete Online training, workshops and mentoring for appropriate personnel has occurred to meet the training requirement.	April - May 2011
			3	Reviewed No change	Feb-12
			4	On-Going Staff received comprehensive training during this reporting year to include training on outfall locations and inspections, mapping and the use of sampling instrumentation.	Jan-13
6) Visual screening at all outfalls over the life of the permit, with minimum of 25% of total area under MS4 screened annually to meet 100% screening requirement by end of 5-year permit cycle	4.2.3.1.1	2-5	1	Planned to begin in second reporting cycle	
			2	Complete Visual screening of 27% of the post has been completed. Screening has been broken down by watershed. Watersheds Hard Hollow, McCourtney Hollow and Quarry Hollow make up 16,731 of the 61,410 acres located here on FLW. In those three watersheds there are 3 outfall boundary points; 4 NPDES outfall points; and 21 discharges points identified, totaling 28 sites documented with field notes and pictures.	Jun-11
			3	In Progress Inspections were completed, however, due to circumstances beyond our control, hard copy reports were lost. Efforts have been made and will continue to be made to retrieve documents. In the event that they cannot be obtained, inspections will be re-done during this reporting year to the maximum extent	In Progress
			4	Complete During this reporting year, outfalls were reviewed, mapped and inspected. 100% of the post's outfalls by area were inspected and documented.	Dec-13

TABLE 3
 Illicit Discharge Detection and Elimination Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
7) Update storm sewer system map	4.2.3.1.1	2-5	1	Planned to begin in second reporting cycle	
			2	Complete All data is current. See Attachment B1, FLW Storm Sewer System Map .	Jun-11
			3	Reviewed All data is current. See Attachment B1, FLW Storm Sewer System Map .	Jan-12
			4	Reviewed Storm Sewer System Map has been reviewed and updated to include newly identified outfalls and inspection points. See Attachment B1.	Jan-13
BMP 3B - Regulatory Control and Enforcement Program (SWMP 7.3.2, page 24)					
1) Creation of illicit discharge reporting procedure (ex contact flow chart)	4.2.3.1.2	1	1	Complete Identification and Reporting process was outlined in the SWMP and the Spill Prevention and Response Plan. See Attachment D for more details. Flow charts were also created outlining the reporting procedure for two scenarios: non-hazardous discharges and discharges involving oil, hazardous waste, or hazardous substances (See Figures 1 and 2). Reports of illicit discharges can be initiated telephonically, on the Environmental Division website: http://www.wood.army.mil/dpwenv . A reporting form showing needed information can also be found at the web address.	Sep-09
			2	Reviewed Attachment D, Illicit Discharge Reporting Procedure, in the first reporting cycle, is now Attachment B3 , Illicit Discharge Reporting Procedure, and Figures 1 and 2 are combined into Attachment B4, FLW Discharge Reporting Procedure. Reports of illicit discharges are still initiated telephonically. Community members unfamiliar with DPW can report illicit discharges on the Environmental Division website (http://www.wood.army.mil/dpwenv);The Interactive Community Evaluation system is also available on-line or at kiosks located at community centers for the public to express environmental concerns.	May-11
			3	Reviewed Illicit Discharge reporting procedure has been fully established and incorporated in the written IDDE Procedure, See Attachment B2. Illicit Discharge Reporting Procedure Flow Chart is now Attachment B4.	Jan-12
			4	Reviewed The Illicit discharge reporting procedure flow chart has been replaced with a Illicit Discharge Corrective Action Procedure. The Illicit Discharge Corrective Action Procedure outlines how discharges are reported, responded to, investigated and corrected. Illicit Discharge Corrective Action Procedure is attached to the Annual Report, see Attachment B5.	Jan-13

TABLE 3
 Illicit Discharge Detection and Elimination Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
2) Identification and reporting process established for enforcement actions	4.2.3.1.2	1	1	Complete As outlined in the SWMP, a four-level Continuum of Enforcement consisting of a Verbal Warning, a Letter of Warning, a Notice of Non-Compliance, and Regulatory Notification will be used. See Attachment E - SWMP BMP #3B for greater detail regarding each level in the Continuum of Enforcement for storm water quality.	Sep-09
			2	Reviewed Attachment E, BMP #3B - Continuum of Enforcement Description, from the first reporting cycle has been replaced with Attachment C, Continuum of Enforcement PowerPoint slide.	Jun-11
			3	Reviewed There are no changes to this procedure. The identification and reporting process has been documented in the written IDDE Procedure, Attachment B2, The Continuum of Enforcement Description is incorporated by reference in the IDDE Procedure and included as Attachment C of this report.	Jan-12
			4	Reviewed The illicit discharge reporting procedure was outlined in the Illicit Discharge Corrective Action Procedure. See Attachment B5.	Jan-13
3) Implementation of illicit discharge reporting procedure	4.2.3.1.2	1-5	1	Planned to begin in second reporting cycle	
			2	Complete The reporting procedure is fully implemented.	Jan-11
			3	Reviewed There are no changes to this procedure.	Jan-12
			4	Reviewed The Illicit Discharge Corrective Action Procedure which includes the illicit discharge reporting, documenting, investigating and correcting procedures was written and implemented during this reporting year. See Attachment B5	Jan-13

TABLE 3
 Illicit Discharge Detection and Elimination Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 3C - Illicit Discharge Detection and Elimination Plan (SWMP 7.3.3, page 26)					
1) Complete list of existing information on illicit connection tests performed to date	4.2.3.1.3	1	1	On-Going The FLW Directorate of Public Works (DPW) has been responsible for the installation infrastructure since its inception and the work process, which DPW is responsible for reviewing and executing, has been in place for decades. FLW is currently developing a Scope of Work to conduct smoke testing of the sanitary sewer system. The results of this testing should reveal illicit storm water connections to the sanitary sewer system and also reveal possible leaks/breaks in the sanitary collection system. This measurable goal is scheduled for completion in the third reporting cycle.	On-Going
			2	Complete This measurable goal was incomplete for last reporting cycle, but is now complete. From October 1st - April 30th, 2011, 341,525 feet of existing sanitary sewer system pipes were smoke tested. Final results are being analyzed and will be available for the third reporting year, along with a plan for corrective actions if necessary. In addition, visual screenings were performed in accordance with BMP 3D, however no follow up field tests were necessary.	Apr-11
			3	Complete Findings of the smoke testing completed on 341,525 feet of existing sanitary sewer system pipes have been analyzed. The findings do not indicate any connections that will allow an illicit discharge of sewage into the storm water system. More information can be found on the Semi-Annual Inflow and Infiltration Report, Attachment B4.	Feb-12
			4	Complete A re-evaluation of the smoke testing results completed on 341,525 feet of existing sanitary sewer system pipes was conducted during this reporting year. It was confirmed during this analysis that there was no indication of any illicit connections that would allow an illicit discharge of sewage into the MS4.	Jan-13
2) Maintain records of illicit discharges identified, enforcement, and corrective actions	4.2.3.1.3	1	1	Spreadsheet under development.	In Progress
			2	Complete Sanitary sewer overflow records are maintained by the Wastewater Program Manager and submitted to the state as required by MO Permit # 0029742. Spill records are maintained at the Environmental Branch office. All spills are properly cleaned and occasionally require enforcement actions, however, some spills reported did not list corrective actions taken. This deficiency has been noted and will be addressed in the third reporting cycle.	May-11
			3	Reviewed The spill data base, which consists of spills, illicit discharges and sanitary sewer overflows is updated as instances occur. The data base includes type, amount and location of spills as well as corrective and preventive action. Sanitary sewer overflow records continue to be maintained by the Wastewater Program and submitted to the state per permitted requirements. Illicit discharges that were documented during the 2nd reporting year have been investigated and the corrective actions have been implemented and	Jun-12
			4	Reviewed The Illicit discharge spreadsheet was updated during this reporting year and accompanied by a Illicit Discharge Tracking Sheet which is utilized to document report and investigations of an illicit discharge. The current Illicit Discharge Spreadsheet and a example of the Illicit Discharge Tracking Sheet is included as an attachment to this report. See Attachment B6 and B7.	Jan-13

TABLE 3
 Illicit Discharge Detection and Elimination Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
3) Development of a reporting procedure (ex contacts flow chart) and continuum of enforcement	4.2.3.1.3	1	1	Complete The Continuum of Enforcement is outlined in Section 7.3.2 - BMP #3B of the SWMP (Attachment E). The MS4 Program Manager will ensure the appropriate enforcement action is taken in accordance with the SWMP. The proponent for each of the established enforcement actions is established in the SWMP and is as follows: Verbal Warning - Chief, Energy, Environment, and Natural Resources Division; Letter of Warning - Director of Public Works; Notice of Non-Compliance - Deputy Garrison Commander; and Regulatory Notification - Appropriate Regulatory Agency. A flow chart was also created outlining the reporting procedure for the continuum of enforcement (see Figure 3).	Sep-09
			2	Reviewed Attachment E and Figure 3, have been replaced with Attachment C, FLW Continuum of Enforcement.	May-11
			3	Reviewed The FLW Continuum of Enforcement Procedure, Attachment C is relevant to MCM 3,4 and 5 and has been incorporated into the written IDDE procedure, See Attachment B2. The Illicit Discharge Reporting Procedure, Attachment B3 is incorporated into the SOP and located on the FLW Storm Water Website.	Jan-12
			4	Reviewed The FLW Continuum of Enforcement, Attachment C is relevant to MCM 3, 4 and 5. The Illicit Discharge Corrective Action Procedure, Attachment B5 outlines the illicit discharge reporting procedure as well as steps that will be taken to find and fix the source of a illicit discharge.	Jan-13
4) Trainings for staff/targeted audiences for illicit discharge detection	4.2.3.1.3.1 4.2.3.1.3.5	2-3	1	Planned to begin in second reporting cycle	
			2	On-Going Online training, workshops and mentoring for appropriate personnel has occurred to meet the training requirement for the year two reporting cycle.	On-Going
			3	Reviewed/On Going Training for staff and targeted audiences have been identified and included in the MS4 Training Plan , See Attachment A6 and referred to in the written IDDE Program, See Attachment B2.	On-Going
			4	Reviewed/On Going The MS4 Training and Outreach Plan was updated during this reporting year. Illicit Discharge staff have received extensive training during this year to include inspection procedures, corrective action procedures, mapping procedures and sampling instrumentation training. Training is documented in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A3.	Sep-13
5) Conduct field tests for illicit discharge and connections for existing storm system	4.2.3.1.3	2-3	1	Planned to begin in second reporting cycle	
			2	Complete From October 1st - April 30th, 2011, 341,525 feet of existing sanitary sewer system pipes were smoke tested. Final results are being analyzed and will be available for the third reporting year, along with a plan for corrective actions if necessary. In addition, visual screenings were performed in accordance with BMP 3D, however no follow up field tests were necessary.	Apr-11
			3	Complete Findings of the smoke testing completed on 341,525 feet of existing sanitary sewer system pipes have been analyzed. The findings do not indicate any connections that will allow an illicit discharge of sewage into the storm water system.	Feb-12
			4	Complete No changes	Jan-13
6) Maintain records of illicit discharges identified,			1	Planned to begin in second reporting cycle	

TABLE 3
 Illicit Discharge Detection and Elimination Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
enforcement and corrective actions	4.2.3.1.3	1-5	2	This is a duplicate of BMP 3C 2.) and will be removed during the next revision of the SWMP.	
			3	This is a duplicate of BMP 3C 2.) and will be removed during the next revision of the SWMP.	Jan-12
			4	This is a duplicate of BMP 3C 2.) and will be removed during the next revision of the SWMP.	Jan-13
BMP 3D - Identification of Non-storm Water Discharges and Flows (SWMP 7.3.4, page 27)					
1) Conduct investigation and evaluation of non-storm water discharges and flows	4.2.3.1.4 4.2.3.1.6	1-2	1	Planned to begin in second reporting cycle	
			2	Complete An evaluation of non-storm water discharges that have the potential to be significant contributors of pollutants has been completed. Uncontaminated ground water infiltration, and springs were identified as potential sources of pollutants and require further investigation.	May-11
			3	On-Going Feasible mechanisms to assess local spring waters are being investigated by reviewing water quality data that has been made available. A Letter of Warning was issued in June 2010 referencing an inspection that was conducted that same year by the MO DNR. Letter of warning and FLW response is located in attachment D2 of this report.	Feb-12
			4	Complete No changes	Jan-13
2) Develop a standard operating procedure to address the impact of any non-storm water discharges or flows identified as significant contributors of pollutants to the system	4.2.3.1.4 4.2.3.1.6	1-2	1	Planned to begin in second reporting cycle	
			2	In Progress Uncontaminated ground water infiltration and springs are potential non-storm water discharges that may be significant contributors of pollutants. Further investigation is necessary to determining if an SOP is necessary and appropriate.	In Progress
			3	On-Going Water quality data of local springs is being analyzed to determine if a SOP is necessary.	On-Going
			4	Complete No changes	Jan-13
3) Implement the standard operating procedure for significant non-storm water discharges and flows	4.2.3.1.3.4 4.2.3.1.3.6	3-5	1	Planned to begin in third reporting cycle	
			2	Planned to begin in third reporting cycle	
			3	On-Going Water quality data of local springs is being analyzed to determine if a SOP is necessary.	On-Going
			4	On-Going No changes	Jan-13

TABLE 3
 Illicit Discharge Detection and Elimination Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 3E - Evaluate the Illicit Discharge Detection and Elimination Program (SWMP 7.3.5, page 27)					
1) Monitor completion of measurable goals outlined in BMP #'s 3A-3D	4.2.3.1.3.6	1-5	1	Complete BMP #3A - a storm sewer system inventory and inspection has been completed; BMP #3B - an illicit discharge reporting procedure has been developed (See Figures 1 and 2) and an identification and reporting process has been established for enforcement actions (see Attachments E); BMP #3C - a Continuum of Enforcement flowchart has been developed (see Figure3); and BMP #3D - planned to begin in second reporting cycle.	BMP #3A - 6/10/10; BMP #3B - 8/7/10; BMP #3C - 9/11/09; BMP #3D - On-Going
			2	On-going Figures 1 and 2, from the first reporting cycle, have been combined and replaced with Attachment B3, FLW Discharge Reporting Procedure. Attachment E, BMP #3B - Continuum of Enforcement Description, and Figure 3, from the first year reporting cycle, have been combined and replaced with Attachment C, FLW Continuum of Enforcement slide.	On-Going
			3	On-going An inspection procedure is currently being created to monitor/evaluate the success of the Best Management Practices and determine measures to improve the success of the IDDE Program. Plan to fully implement in 4th reporting year.	On-Going
			4	On-Going An internal audit was conducted during this reporting year to analyze the progress of the IDDE Program. Corrective action on procedures were determined to correct all deficiencies.	Jan-13
2) Decrease in the number of illicit discharges into the installation's storm water system	4.2.3.1.3.6	1-5	1	On-Going There has been no smoke testing to date so there is no data regarding decreases in the number of illicit discharges; however, two illicit discharges were found by contractors in January 2010 and were corrected by the base maintenance contractor. The FLW DPW has been responsible for the installation infrastructure since its inception and the work process, which DPW is responsible for reviewing and executing, has been in place for decades. FLW is currently developing a Scope of Work to conduct smoke testing of the sanitary sewer system. The results of this testing should reveal illicit storm water connections to the sanitary sewer system and also reveal possible leaks/breaks in the sanitary collection system.	On-Going
			2	On-Going Smoke testing of portions of the sanitary sewer system were completed in April 2011. Results are being evaluated and therefore, it is not possible to accurately address this measurable goal. Other than sewer system and spill issues, there were only a few reports of illicit discharges. They were investigated and determined to not be of significance.	On-Going
			3	On-Going Findings of the smoke testing completed on 341,525 feet of existing sanitary sewer system pipes have been analyzed. The findings do not indicate any connections that will allow an illicit discharge of sewage into the storm water system.	Feb-12
			4	On-Going No Changes	Jan-13
Green shading indicates goal has been either completed or implemented					
Orange shading indicates goals in progress, or amended					
No shading indicates goals that will be implemented during future reporting cycles					

TABLE 4
 Construction Site Runoff Control Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 4A - Regulatory Mechanism and Enforcement Procedures (SWMP 7.4.1, page 28)					
1) Complete evaluation of existing SWPPP in relation to the six minimum control measures	4.2.4.1.1	2	1	Planned for completion in second reporting cycle	
			2	Complete SWPPP has been evaluated and amended.	Jun-11
			3	In Progress After a review of SWPPP (amended 2011), FLW staff have determined that the amended SWPPP is inadequate and needs to be redone to be better aligned with MS4.	
			4	Complete The Installation SWPPP was completed this reporting year as planned.	Jun-13
2) Amend SWPPP, if necessary, to comply with MS4 permit conditions	4.2.4.1.1	2-3	1	Planned to begin in second reporting cycle	
			2	Complete SWPPP has been evaluated and amended.	Jun-11
			3	In Progress After a review of SWPPP (amended 2011), FLW staff have determined that the amended SWPPP is inadequate and needs to be redone to be better aligned with MS4.	
			4	Complete The Installation SWPPP was completed this reporting year as planned.	Jun-13
3) Implement administrative procedures/policies regarding the SWPPP, document inspections and enforcement procedures	4.2.4.1.1.1 4.2.4.1.1.3	2-5	1	Planned to begin in second reporting cycle	
			2	On-Going Implementation has begun, but this is an on-going effort that will take multiple years before fully implemented.	On-Going
			3	On-Going Procedures that outline inspection and documentation requirements are in place and fully implemented. Procedures for enforcement are in place, however, procedures for enforcement require further evaluation to ensure effectiveness. Plan to review and revise procedures have begun and will be put in place during the fourth reporting year.	On-Going
			4	On-Going Inspection procedures for industrial sites were reviewed and deemed inadequate. Changes are being implemented to address this compliance issue.	On-Going
BMP 4B - Construction Site Implementation of Erosion and Sediment Control BMPs (SWMP 7.4.2, page 31)					
1) Create a tracking system (ex database) that maintains records of all construction site operators' approved permits and BMPs implemented onsite	4.2.4.1.6	1	1	Complete <ul style="list-style-type: none"> •Two electronic databases have been implemented for tracking land disturbance activities at FLW. The first database maintains a record of construction site operators' approved permits. Within this database is all critical information such as permit number, project location, and project POC. •The second electronic database tracks the compliance status of each permit and stage of enforcement being taken. This tracking system includes results of inspections, which includes adherence to BMPs and legal requirements. •From July 2009 to June 2010 there were 22 permits submitted, with 19 approved and three pending approval. 	Jun-10
			2	Reviewed Approved permits are maintained in a spreadsheet, which is updated weekly. It includes the permit number, permit type, POCs and contact information, project location, as well as compliance status. In addition, a filing system for all site specific SWPPPs is maintained in the FLW Environmental Branch office, and is updated weekly.	Jun-11
			3	Reviewed One electronic database is in place that tracks construction sites, POCs, and all permit information. The data base is updated as needed. Compliance to established BMPs are tracked by conducted inspections of the construction sites.	Jun-12
			4	Reviewed No change	Jun-13

TABLE 4
Construction Site Runoff Control Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
2) Complete site plan reviews to ensure compliance with SWPPP	4.2.4.1.3	1-5	1	On-Going All submitted work plans are reviewed by DPW Environmental Branch to ensure compliance with the SWPPP.	On-Going
			2	On-Going No change.	On-Going
			3	On-Going No change.	On-Going
			4	On-Going No change	On-Going
3) Maintain records of on-going site inspections and enforcement actions for sediment and erosion control practices implemented onsite	4.2.4.1.5	1-5	1	On-Going <ul style="list-style-type: none"> •Records of site inspections and inspection reports are maintained in electronic and hardcopy formats. Compliance issues noted during inspections are recorded on the inspection report and compliance tracking database. •There were 731 inspections performed between July 2009 and June 2010. •There were three enforcement actions identified between July 2009 and June 2010. The three enforcement actions consisted of a warning letter from the DPW Environmental Branch Chief. The warning letters were issued due to an untimely response in addressing deficiencies observed during inspections for non-conformances with BMPs (i.e., silt fencing, ground cover). 	On-Going
			2	On-Going Site inspections are performed and tracked as required. In addition we have implemented a weekly compliance summary and warning system, to give the DPW and contractors a warning if their site is near non-compliance. Enforcement actions are not tracked in a database, but detailed records are kept.	On-Going
			3	On-Going Inspections are completed, documented and e-mailed to the Contractor upon completion. Deficiencies noted on the inspections are documented in the e-mail and a follow up inspection is completed within a week to ensure that they have been corrected.	On-Going
			4	On-Going No change	On-Going
BMP 4C - Waste Controls for Construction Site Operators (SWMP 7.4.3, page 31)					
1) Maintain records of all construction site operator's approved permits and BMPs	4.2.4.1.7	1-5	1	On-Going Records of permits, permit applications, and SWPPPs (identifying BMPs to be implemented) are maintained at the DPW Environmental Office.	On-Going
			2	On-Going Approved permits are maintained in a spreadsheet, which is updated weekly. It includes the permit number, permit type, POCs and contact information, project location, as well as compliance status. In addition, a filing system for all site specific SWPPPs is maintained in the FLW Environmental office, and is updated weekly.	On-Going
			3	On-Going Constructions site operator permits and permit required documents, to include the site specific SWPPPs, continue to be maintained on a spreadsheet and updated as needed.	On-Going
			4	On-Going No change	On-Going
2) Evaluate existing SWPPP in relation to the six minimum control measures and make necessary amendments for compliance with increased construction waste controls, if appropriate	4.2.4.1.2	1-2	1	On-Going The SWPPP has been evaluated, however, it has not yet been revised. Planned for completion in second reporting cycle.	On-Going
			2	Complete SWPPP has been evaluated and amended.	Apr-11
			3	In Progress After a review of SWPPP (amended 2011), FLW staff have determined that the amended SWPPP is inadequate and needs to be redone to be better aligned with MS4.	Jun-12
			4	Complete The Installation SWPPP (amended 2013) was completed this reporting year. After a review of the permitted requirements as well as the BMPs and this measurable goal, it was determined that BMPs for construction waste controls are more appropriate in construction site specific SWPPP. All construction site specific SWPPPs are reviewed prior the issue of construction site permit to ensure that waste controls BMPs are included.	Jun-13

TABLE 4
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
3) Inspect projects on FLW for construction waste control BMPs on a routinely scheduled basis, potentially integrated with erosion and sediment control inspection process	4.2.4.1.2	2-5	1	Planned to begin in second reporting cycle	
			2	On-Going Process has begun, but there is significant work to do for full implementation.	On-Going
			3	On-Going No change.	On-Going
			4	On-Going All construction projects are inspected and documented to ensure that waste control BMPs are implemented.	On-Going
BMP 4D -Procedure for Site Plan Reviews (SWMP 7.4.4, page 32)					
1) Continue site reviews for projects >1 acre of land disturbance	4.2.4.1.3	1-5	1	On-Going All projects >1 acre of land disturbance are reviewed. Between July 2009 and June 2010 there were 46 construction sites > 1 acre that required land disturbance permits and were inspected while the land disturbance permit was active.	On-Going
			2	On-Going No changes	On-Going
			3	On-Going During this reporting year, 19 Land Disturbance Permits have been issued. All sites are inspected and documented as required by the Industrial Permit.	On-Going
			4	On-Going During this reporting year, four Land Disturbance Permits were issued. All sites are inspected and documented.	On-Going
2) Review of current site review process and identification of policy changes, if needed	4.2.4.1.3	1-2	1	Planned for completion in second reporting cycle	
			2	Complete We now do site inspections following storm events, whereas previously it was a regularly scheduled time not associated with run-off events. In addition, DPW has taken ownership over permits for troop projects, because we discovered that troops were often unavailable to complete the project and weren't always available to perform inspections.	Jun-11
			3	Complete Inspections continue to be conducted as required. No policy changes have been put into place during this reporting year.	Jun-12
			4	Complete No change.	Jun-13
3) If determined appropriate, develop storm water project submittal checklist for storm water management and compliance with MS4 permit conditions for use during site review	4.2.4.1.3	2-3	1	Planned to begin in second reporting cycle	
			2	In Progress This was postponed during second reporting year due to staff member's military deployment.	In Progress
			3	Complete A review of this Measurable Goal was conducted during this reporting period and it was concluded that the current process in place are sufficient and a checklist is not necessary.	Jun-13
			4	Complete No change.	Jun-13
BMP 4E - Establishment of Procedures for Receipt and Consideration of Noncompliance (SWMP 7.4.5, page 33)					
1) Create a SWPPP report mechanism (ex: phone line, webpage form) for public report construction site complaints.	4.2.4.1.4	1	1	On-Going Not yet complete. Alternatives are being evaluated. The installation does have a system for public comments and it is still being determined if this system is appropriate for FLW.	On-Going
			2	Complete A stormwater reporting process was added to the website. In addition, FLW maintains an online reporting system for complaints of all sorts called Interactive Customer Evaluation (ICE).	May-11
			3	Complete No change.	Jun-12
			4	Complete No change.	Jun-13

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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
2) Create policy and procedures to track complaint reports from all installation construction site SWPPP non-compliance	4.2.4.1.4	1-2	1	Planned for completion in second reporting cycle	
			2	Complete The procedure for construction site complaints is the same procedure in place for spills. See Attachment B3 , FLW Discharge Reporting Procedure.	Feb-11
			3	Complete Procedure is still in place. See Attachment B3, FLW Discharge Reporting Procedure.	Jun-12
			4	Complete No change.	Jun-13
3) Create procedures to track information from construction site inspections and enforcement actions	4.2.4.1.7	1-2	1	Complete A procedure has been developed to utilize a standardized checklist when inspecting permitted land-disturbance sites. Inspection reports are generated for each site, and compliance information is added to the tracking database. Copies of site inspection checklists and inspection reports are retained for future reference.	Jul-10
			2	Complete In addition to the previous year's efforts, we have revised and improved the compliance tracking spreadsheet.	Feb-11
			3	Complete Inspections are completed, documented and forwarded to Contract POC via e-mail. Deficiencies are noted on inspection form with instruction to implement corrective action. Follow up inspections are conducted within a week ensure that corrective action was completed.	Jun-12
			4	Complete No change.	Jun-13
4) Maintain records for all inspections and enforcement actions for sediment and erosion control practices	4.2.4.1.6	1-5	1	On-Going Records of site inspections and inspection reports are maintained in electronic and hardcopy formats. Compliance issues noted during inspections are recorded on the inspection report and compliance tracking database. There were 731 inspections performed between June 2009 and June 2010.	On-Going
			2	On-Going No changes.	On-Going
			3	On-Going No changes. All inspections are conducted, documented and forwarded as stated in 4E 3	On-Going
			4	On-Going No Change.	On-Going
BMP 4F - Establishment of Procedures for Site Inspection and Enforcement (SWMP 7.4.6, page 33)					
1) Maintain copies of all construction site operator's permits and BMPs within the installation	4.2.4.1.6	1-5	1	On-Going Records of permits, permit applications, and SWPPPs (identifying BMPs to be implemented) are maintained at the DPW Environmental Branch.	On-Going
			2	On-Going No change.	On-Going
			3	On-Going No change.	On-Going
			4	On-Going No change.	On-Going
2) Develop tracking mechanism (ex database) for inspection and enforcement action records	4.2.4.1.6	1-2	1	Complete An electronic database has been developed which tracks new and repeated non-conformances identified at permitted sites along with the status of enforcement action, if any, that has been taken for each site.	Aug-09
			2	Complete No change.	Dec-10
			3	Complete Electronic data base remains to be updated as necessary and includes all permitted sites. Enforcement for non-compliance is tracked via inspection forms in which the deficiency is documented and forwarded to the Contract POC.	Jun-12
			4	Complete/Reviewed The tracking mechanism for inspection and enforcement actions was reviewed during this reporting year and found to be a appropriate and efficient way to track inspections and enforcement actions.	Jun-13

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3) Ensure inspectors for runoff control SWPPP and BMP evaluations have appropriate training	4.2.4.1.6	1-5	1	Planned to begin in second reporting cycle	
			2	On-Going Inspectors on DPW owned permits have obtained certifications. In addition, contractors and troops are not issued their permit until they attend the permit issuance meeting, where they are trained on enforcement procedures, proper inspections techniques, etc. In addition, we have added more training materials to the permit-issuance meeting, including a new presentation slide, as well as the distribution of materials to the contractor on sediment control techniques.	On-Going
			3	Complete/On-Going DPW inspectors have been trained and certified. Contractors and troops are trained as deemed appropriate during permit issuance meetings. A roster of employees who attended the meetings and are trained is maintained by the Land Disturbance Project Manager.	On-Going
			4	Complete/On-Going All DPW inspectors are appropriately trained prior to conducting inspections. Training includes classroom and on the job training.	On-Going
4) Development of administrative procedure for internal review, enforcement mechanisms and sanctions	4.2.4.1.6	1-3	1	Planned for completion in Year 2 (Spring 2011)	
			2	Complete DPW Staff is engaged with the permit holder, and performing internal review from the beginning to the end of the project. Letters for enforcement actions are complete, and include mechanisms for enforcement. This process will continue to evolve as our program matures.	Aug-10
			3	Complete DPW Staff continue to enforce sanctions to the maximum extent practicable.	Jun-12
			4	Complete No change.	Jun-13
BMP 4G - Evaluate the Success of Construction Site Storm Water Runoff Control (SWMP 7.4.7, page 34)					
1) Adherence to the SWPPP at each construction site, which is tracked through the inspection and enforcement reporting procedures	4.2.4.1.7	1-5	1	On-Going Records of site inspections and inspection reports are maintained in electronic and hardcopy formats. Compliance issues noted during inspections are recorded on the inspection report and compliance tracking database. In addition, it is a permit requirement that the permittee have a responsible person named in the site SWPPP and that records are kept by the permittee of training, inspections, or modifications to the SWPPP. These permitted sites are regularly inspected (weekly, bi-weekly, or monthly depending on the sites compliance status) to ensure they are in compliance and are maintaining records.	On-Going
			2	On-Going No change.	On-Going
			3	On-Going No change.	On-Going
			4	On-Going No change.	On-Going
Green shading indicates goal has been either completed or implemented					
Orange shading indicates goal that was scheduled for completion this reporting cycle but not completed					
No shading indicates goals that will be implemented during future reporting cycles					

TABLE 5
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 5A - Regulatory Mechanism for Addressing Post-Construction Runoff (SWMP 7.5.1, page 35)					
1) Develop command policy statement addressing post construction control requirements	4.2.5.1 4.2.5.1.2	2	1	Complete Garrison Command Policy No. 200-1, Fort Leonard Wood Environmental Management Strategy. See Attachment F for more details about this policy.	Jun-09
			2	Complete Attachment F, Garrison Command Policy #200-1 from the first reporting year is now Attachment E4. In addition to the Command Policy No. 200-1, Section 438 of the Energy Independence and Security Act (EISA) 2007 requires that development and redevelopment projects on federal facilities maintain predevelopment hydrology, or no net increase in runoff. Additional LID policies and directives are included in the attachments, including: <ul style="list-style-type: none"> •Attachment E1, EPA Factsheet: Technical Guidance on Section 438 of EISA •Attachment E2, DoD Memorandum: Implementation of Section 438 of EISA •Attachment E3, DA Memorandum: Managing Stormwater with Low Impact Development. 	Jun-11
			3	Complete No change.	Jun-12
			4	Complete Garrison Command Policy #200-1 has been updated and remaned Garrison Command Policy #2013-3: Environmental Policy. See Attachment D4	Jun-13
2) Review existing mechanisms for inspection and enforcement of post construction controls	4.2.5.1 4.2.5.1.2	1-2	1	Planned for completion in second reporting cycle	
			2	In Progress This measurable goal is quite involved and complicated. It was determined that the current contract language for major construction projects was inadequate, that design and construction needed to be completely overhauled, and that enforcement of new requirements was necessary throughout the entire project, from conceptual phase to construction and post construction. We are working with the USACE, who does all of our major construction projects, on updating the contract language. This should be fully implemented in contract language in the third reporting cycle. To enforce the new requirements during the planning and design phase, the stormwater program manager has been reviewing the engineering and design analyses of projects, attending planning and design Charettes for new construction projects, and making it clear that LID is required. During the next several years, we will continue to reinforce what we have established and work to improve our ability to inspect and enforce.	In Progress
			3	In Progress Contract language for major construction has been amended as planned, and enforcement is taking place to the maximum extent practicable as described in year two report. A thorough evaluation of measurable goals has determined that inspections are not feasible at the current state of program development. The Enforcement Procedure of both pre and post construction controls is currently being reviewed and revised and will be included in the revised edition of the SWMP.	In Progress
			4	Complete Procedures for inspections and enforcement of post construction controls were reviewed during the revision of the SWMP during this reporting year. Measurable goals for the next permit cycle address this issue and are addressed in the revised version of the SWMP.	Apr-13

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3) Implement inspection and enforcement policy addressing post construction controls	4.2.5.1 4.2.5.1.2	2-4	1	Planned to begin in second reporting cycle	
			2	Complete Implemented.	Aug-10
			3	Reviewed/In Progress Implementation and inspection elements cannot fully begin until Construction Phase and BMPs are fully developed and implemented. A inspection process and revised Enforcement Process is currently in the review and development phase and will be incorporated in the revised version of the SWMP.	Jun-12
			4	Reviewed/In Progress Implementation and inspection elements cannot fully begin until Construction Phase and BMPs are fully developed and implemented. A inspection process and revised Enforcement Process is currently in the review and development phase and will be incorporated in the revised version of the SWMP.	Jun-13
4) Train personnel/contractors on policies and procedure related to post construction controls	4.2.5.1 4.2.5.1.2	2-4	1	Planned to begin in second reporting cycle	
			2	On-Going FLW has submitted LID and MS4 permit requirement information to USACE, participated in a series of meeting with the FLW Master Planner to educate him on LID. In the future, we will continue to work closely with USACE on major construction projects.	On-Going
			3	On-Going USACE Personnel have been trained and acquired the skills to plan for and put into place post construction controls. 2 DPW Personnel will receive Low Impact Development Training during FY13.	On-Going
			4	On-Going DPW Personnel, to include personnel from Environmental, Engineering, and Operations Divisions, attended a one week Low Impact Development Training class in Austin Texas during this reporting year.	On-Going
BMP 5B - Development and Implementation of Structural and/or Nonstructural BMPs (SWMP 7.5.2, page 38)					
1) Review and evaluate structural and non-structural BMPs 2) Develop/Identify standard specifications for selected structural BMPs 3) Develop/Identify standard specifications for selected non-structural BMPs	4.2.5.1.4 4.2.5.1.6.2	1-2	1	Planned for completion in second reporting cycle	
			2	In Progress While this process has begun, it is still uncertain how to make structural and non-structural BMPs work in our landscape. Given the clay soils, steep slopes, and karst topography, we are still reviewing and investigating BMPs that are appropriate for our conditions. This measurable goal will likely not be complete, and should have been an ongoing goal instead of being scheduled for completion by the end of year two.	In Progress
			3	In Progress While we have made some progress since year 2 report, as we have numerous bio-retention basins as well as other BMPs installed. We are still actively working to find additional BMPs that are appropriate for FLW region and our maintenance capacity. USACE is in the process of developing standard details for several BMPs that we have deemed acceptable, and will continue to develop additional standard details as appropriate and acceptable BMPs are identified. As stated last year, this measurable goal should have been an on-going requirement, since making such drastic changes takes time.	In Progress
			4	In Progress LID requirements are now incorporated into the Design Guide and Specifications for Major military Construction Projects. This document was written by the US Army Corp of Engineers and is currently in draft form.	In Progress

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4) Ensure adequate training for impacted audiences (See 1A) on long-term BMP site planning, design, and implementation/construction	4.2.5.1.4 4.2.5.1.6.2	2-3	1	Planned to begin in second reporting cycle	
			2	Complete We have worked with USACE, and they are in the process of getting their personnel trained. Master Planner is attending LID training the last week of June, 2011. In addition, the installation has set up a series of meetings with USACE to evaluate stormwater technologies. Finally, the stormwater program manager is attending planning and design meetings and reviewing stormwater designs to help insure compliance with stormwater requirements.	Jun-11
			3	On-Going USACE Personnel have been trained and acquired the skills to plan for and put into place post construction controls. 2 DPW Personnel will receive Low Impact Development Training during FY13. The USACE have begun reviewing the APWA BMP Manual and are currently in the process of creating a BMP Manual that will be consistent with the FLW Region.	On-Going
			4	On-Going DPW Personnel, to include personnel from Environmental, Engineering, and Operations Divisions, attended a one week Low Impact Development Training class in Austin Texas during this reporting year.	On-Going
5) Incorporate post-construction structural and non-structural BMP requirements into site planning and review process	4.2.5.1.4 4.2.5.1.6.2	1-2	1	Planned for completion in second reporting cycle	
			2	Complete It has been incorporated into NEPA, in the process of putting it into contract language, and installation staff attend all planning and design meetings for all projects to enforce the requirements.	Jun-11
			3	Complete Installation staff continue to attend planning and design meetings and speak to all LID requirements and control measures. The current enforcement procedure is being reviewed and revised.	Jun-12
			4	Complete Contract language has been revised; and staff continues to attend planning and design meetings to oversee and enforce the requirements.	Jun-13
6) Develop inspection and operations and maintenance programs for long-term site BMPs	4.2.5.1.4 4.2.5.1.6.2	2	1	Planned for completion in second reporting cycle	
			2	Incomplete This goal is incomplete and should have been scheduled for the fourth reporting cycle.	
			3	Incomplete This measurable goal is deemed inappropriate for this permit cycle and will be a priority during the next permit cycle and the incorporate into the revised SWMP.	
			4	Incomplete No change.	
7) Implement inspection and operations and maintenance programs for long-term site BMPs	4.2.5.1.4 4.2.5.1.6.2	3-5	1	Planned to begin in third reporting cycle	
			2	This will likely not begin until the fifth reporting cycle.	
			3	Reviewed No change.	
			4	Reviewed No change.	

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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 5C - Long-term Operation and Maintenance of BMPs (SWMP 7.5.3, page 40)					
1) Evaluate existing FLW SWPPP and make revisions as necessary to provide for long-term operation and maintenance of BMPs and compliance with the FLW command policy statement for post-construction controls	4.2.5.1.3	1	1	Complete Completed a review of the FLW SWPPP evaluating it against the permit requirements of the Land Disturbance Permit, the MS4 Permit, minimum control measures in the SWMP, and the Industrial Permit (SIC code 9711). The review and evaluation included recommendations for changes to the SWPPP.	Apr-10
			2	Reviewed SWPPP is complete and now incorporates each of the six MCMs.	Jun-11
			3	Incomplete After a review of SWPPP (amended 2011), FLW staff have determined that the amended SWPPP is inadequate and needs to be redone to be better aligned with MS4.	Jun-13
			4	Incomplete Funding and staffing for the SWPPP was aquired during this reporting year; The revision of the SWPPP will begin in the next reporting year.	Jan-13
2) Develop tracking mechanism (ex database) for all implemented long-term structural and nonstructural BMPs, and inspection and enforcement actions on the installation	4.2.5.1.3	1-2	1	Planned for completion in second reporting cycle	
			2	In Progress Data base has been built and continues to improve as program develops.	Jun-11
			3	In Progress Data base continues to improve as program develops.	Jun-12
			4	Complete Development of database was completed during this reporting year. Currently 5 post construction buildings are being tracked to ensure that structural and non structural BMPs are in place and maintained as required.	Jun-13
3) Develop and implement program for inspection and maintenance of long-term control BMPs	4.2.5.1.3	2-5	1	Planned to begin in second reporting cycle	
			2	On-Going Work has begun, but is not yet complete. This will likely be a process that will take several years to fully implement.	On-Going
			3	Reviewed No change.	Jun-12
			4	Reviewed No change.	Jun-13
BMP 5D - Evaluate the Success of Post-Construction Runoff Controls (SWMP 7.5.4, page 40)					
1) Adherence to the Post Construction Runoff Control Regulatory Mechanisms established and implemented on the installation (identified in BMP 5A)	4.2.5.1.7	1-5	1	Planned to begin in second reporting cycle	
			2	On-Going This will not truly begin until the program is fully established and implemented.	On-Going
			3	On-Going No change.	On-Going
			4	On-Going No change.	On-Going

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2) Successful long-term operation and maintenance of structural and nonstructural BMPs, as identified in BMPs 5B and 5C	4.2.5.1.7	1-5	1	Planned to begin in second reporting cycle	
			2	On-Going This will not truly begin until the program is fully established and implemented.	On-Going
			3	On-Going No change.	On-Going
			4	On-Going No change.	On-Going
Green shading indicates goal has been either completed or implemented					
Orange shading indicates goal that was scheduled for completion this reporting cycle but not completed					
No shading indicates goals that will be implemented during future reporting cycles					

TABLE 6
Pollution Prevention/Good Housekeeping Minimum Control Measure
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
BMP 6A - Municipal Operations and Maintenance Program (SWMP 7.6.1, page 41)					
1) Review existing Pollution Prevention/Good Housekeeping policies on FLW and identify opportunities for incorporating storm water pollution prevention practices	4.2.6.1.1	1	1	Complete Completed a review of the FLW SWPPP evaluating it against the permit requirements of the Land Disturbance Permit, the MS4 Permit, minimum control measures in the SWMP, and the Industrial Permit (SIC code 9711). The review and evaluation included recommendations to create additional SWPPPs or develop Pollution Prevention and Good Housekeeping Guidance document for specific activities at FLW. In addition, the FLW Environmental Management Strategy, Garrison Command Policy #200-1 was signed by the Garrison Commander on June 9, 2009. See Attachment F for more details on Garrison Command Policy	Apr-10
			2	Reviewed Attachment F, Garrison Command Policy #200-1 from the first reporting cycle is now Attachment E4.	Jun-11
			3	Reviewed Garrison Command Policy #200-1 from the first reporting cycle is still in affect, See Attachment E4. The Capacity, Management, Operations and Maintenance (CMOM) was reviewed and incorporated by reference in Pollution Prevention/Good Housekeeping Procedure that has been written and is included in this report. See Attachment F2.	Mar-12
			4	Reviewed Garrison Command Policy #200-1 has been updated and remaned Garrison Command Policy #2013-3: Environmental Policy. See Attachment D4. The Capacity, Management, Operations and Maintenance (CMOM) and Department of Public Works (DPW) Base Maintenance Contract were thoroughly reviewed and analyzed during this reporting cycle to determine and ensure that pollution prevention and good housekeeping practices were in place.	Dec-13
2) Identify and create inventory of municipal operations and industrial facilities impacted by the operation and maintenance program BMP	4.2.6.1.1	1	1	Complete An Environmental Management System (EMS) was developed for FLW. The EMS is the part of the Installation's overall management system that integrates environmental concerns and issues in the organization's management processes. The EMS addresses organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing, and maintaining environmental policy. In developing the Installation's EMS, all operational activities on the Installation were reviewed to determine the risk of each for adverse environmental impacts, including impacts to water quality. A listing of the aspects and impact of those activities determined to have an associated environmental risk was then developed and incorporated into the EMS. An extract of those activities having a potential risk to water quality is included in this report as Attachment G.	Apr-10
			2	Reviewed Attachment G, Typical DoD Installation Functional Areas and Processes, is now Attachment B2.	Jun-11
			3	Reviewed Garrison Command Policy #200-1 from the first reporting cycle is still in affect, See Attachment E4. Typical Department of Defense Installation Functional Area and Processes has been created and reviewed. Attachment has been relocated from Attachment B2 to Attachment F1.	Jan-12
			4	Reviewed Garrison Command Policy #200-1 has been updated and remaned Garrison Command Policy #2013-3: Environmental Policy. See Attachment D4. Typical Department of Defense Installation Functional Area and Processes has been created and reviewed, see attachment D1. Base Maintenance Contract was reviewed and analyzed. Opportunities for improvement have been identified and will be fully addressed during the new permit cycle.	Dec-12

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3) Develop and implement controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, parking lots, maintenance and storage yards, fleet or maintenance shops and other operational areas operated by FLW	4.2.6.1.2 4.2.6.1.4	2-3	1	Planned to begin in second reporting cycle	
			2	Complete <ul style="list-style-type: none"> •Street and parking lot cleaning occurs periodically without wash water; •Fuel dispensing areas are roofed; •Eco-friendly salt or alternatives are used to de-ice roads; •Spill kits are available at maintenance shops and operational areas; •Vehicle and equipment maintenance is conducted in approved maintenance shops, not in residential areas; •Used oil, antifreeze, batteries, solvents, etc are properly recycled; and •Parked equipment traps for fluid drips of are being provided and maintained. 	Jun-11
			3	Reviewed The CMOM has been reviewed to ensure that the Department of Public of Works has implemented procedures IAW the permitted requirements. Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, parking lots, maintenance and storage yards, fleet or maintenance shops and other operational areas to include the CMOM have been developed and implemented and are incorporated by reference in in the Pollution Prevention/Good Housekeeping written procedure. See Attachment F1.	Mar-12
			4	Reviewed No changes	Dec-12
4) Develop and implement procedure for treatment and/or proper disposal of waste removed from the storm sewer system	4.2.6.1.5	2-4	1	Planned to begin in second reporting cycle	
			2	Complete Issues are reported to the Environmental Division. The treatment or disposal is determined by the waste issue.	Jun-11
			3	Reviewed The treatment or disposal of waste from the storm sewer system is included in the Hazardous Waste SOP and referenced to in the Pollution Prevention/Good Housekeeping written procedure, Attachment F1.	Jan-12
			4	Reviewed No changes	Jan-13
5) Develop and implement procedures to ensure that new and existing flood management projects are assessed for impacts on water quality or incorporation of water quality protection practices	4.2.6.1.6	2	1	Planned for completion in second reporting cycle	
			2	Complete Annex F (Natural Hazards Plan) of the IMCOM & FLW Emergency Operations Plan addresses all issues pertaining to flood management. In addition, a GIS layer is under development that documents all flood prone areas. Finally, we are now working with the USACE to improve our protection of navigable waterways.	Jun-11
			3	Reviewed The GIS Layer that documents flood prone areas is still under construction and plan to have completed during the 4th reporting year. The Pollution Prevention/Good Housekeeping SOP has been written and incorporates by reference Annex F (Natural Hazards Plan) of IMCOM and FLW Emergency Operations Plan and the CMOM which outlines the procedures for response and corrective action of Sewer Overflows. See Attachment F1.	Mar-12
			4	Reviewed The project to complete the GIS layer that documents flood prone area has been postponed to the next permit cycle.	Mar-13

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6) Continue compliance with FLW Spill Prevention and Response Plan	4.2.6.1.1	1-5	1	Planned to begin in second reporting cycle	
			2	Complete The FLW SPRP has been implemented and remains in compliance.	Jun-11
			3	Reviewed The FLW SPRP has been implemented and incorporated by reference in the Pollution Prevention/Good Housekeeping SOP. See Attachment F1.	Mar-12
			4	Reviewed No changes	Jan-13
BMP 6B - Pollution Prevention/Good Housekeeping Training Program (SWMP 7.6.2, page 42)					
1) Identify existing and available pollution prevention/good housekeeping materials from federal, state, and local sources	4.2.6.1.1	1	1	Complete See Attachment C (Publications List) for a listing of brochures and other materials available for distribution.	Feb-10
			2	Complete Attachment C, Publication List from the first reporting cycle is now Attachment A1, Inventory List of Distribution Materials.	Jun-11
			3	Complete Attachment A1, Inventory List of Publications has been reviewed and revised. The list includes training materials for each MCM and each targeted audience.	Mar-12
			4	Complete All training materials were reviewed, analyzed and updated during this reporting cycle. See Attachment A1, List of Publications.	Nov-12
2) Identify distribution methods to each targeted audiences (ex: workshops, posters, etc)	4.2.6.1	1-2	1	Planned for completion in second reporting cycle	
			2	Complete Distribution methods for each target audience are identified in Attachment A3, Educational Campaign Plan, individual campaign plans for each target audience are also available in Attachments A3.1 through A3.4.	Jun-11
			3	Complete The distribution methods for each targeted audience are outlined in the Educational Campaign Plans, Attachment A3.	Mar-12
			4	Reviewed/On-Going A Training and Outreach Plan for Year 4 was created during this reporting year. Distribution Methods for all targeted audiences were reviewed and are included in the Educational Campaign Plan for each audience. See Attachment A2.	On-Going
3) Conduct trainings for pollution prevention/good housekeeping practices	4.2.6.1.7	2-5	1	Planned to begin in second reporting cycle	
			2	On-Going Practices have been incorporated into the Land Disturbance Program and will be incorporated with into a new target audience or area each year.	On-Going
			3	On-Going See Attachment A3, Educational Campaign Plans and 2012 Educational Campaign Report and 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2,, Attachment A4 for a list of trainings that were conducted during this reporting year.	On-Going
			4	On-Going All Educational Campaign Plans for this reporting year which include all Pollution Prevention/Good Housekeeping training, have been updated. See Attachment A3	On-Going

TABLE 6
Pollution Prevention/Good Housekeeping Minimum Control Measure
MS4 Annual Report
U.S. Army Installation Management Command and Fort Leonard Wood

Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
4) Evaluate impact of trainings for pollution prevention/good housekeeping practices	4.2.6.1.7	2-5	1	Planned to begin in second reporting cycle	
			2	On-Going Postponed due to staff shortages and military deployments.	On-Going
			3	Complete The 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2, Attachment A4, outlines the evaluation of public outreach and involvement activities that have incorporated pollution prevention training.	Complete
			4	On-Going All training that was conducted was evaluated for effectiveness and documented in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2. See Attachment A3.	On-Going
5) Evaluate and revise educational materials as necessary to ensure target audiences are informed and complying with pollution prevention/good housekeeping practices	4.2.6.1.7	2-5	1	Planned to begin in second reporting cycle	
			2	On-Going See Attachment A2, Outreach Activities and Distributed Materials Log.	On-Going
			3	Complete Educational Materials for each MCM and targeted audience has been reviewed this reporting year. See Attachment A1, Inventory List of Publications.	May-12
			4	Complete Educational materials for each MCM and targeted audiences were reviewed, analyzed and updated during this reporting cycle. See Attachment A1, List of Publications.	Nov-12
BMP 6C - Evaluate the Success of Pollution Prevention/Good Housekeeping (SWMP 7.6.3, page 42)					
1) Adherence to the Municipal Operations and Maintenance Program established and implemented on the installation, identified in BMP #6A	4.2.6.1.8	1-5	1	Planned to begin in second reporting cycle	
			2	Complete The six measurable goals in BMP 6A are fully implemented and adhered to.	Jun-11
			3	Complete The six measurable goals in BMP 6A are fully implemented and adhered to.	Mar-12
			4	Complete No changes	Jan-13
2) Trainings held and number of attendees for the Pollution Prevention/Good Housekeeping Training Program, identified in BMP #6B	4.2.6.1.8	1-5	1	Planned to begin in second reporting cycle	
			2	Complete See Attachment A2, Outreach Activities and Distributed Materials Log.	Jun-11
			3	Complete Attachment A4, 2012 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2 lists all activities and training conducted during this reporting year for each targeted audience.	Mar-12
			4	Complete All training held during this reporting cycle are documented in the 2013 Educational Campaign Report and Effectiveness Evaluation of MCM 1 and 2. See Attachment A3.	Nov-12
Green shading indicates goal has been either completed or implemented					
Orange shading indicates goal that was scheduled for completion this reporting cycle but not completed					
No shading indicates goals that will be implemented during future reporting cycles					