

## EXECUTIVE SUMMARY

In accordance to the MS4 permit number MO-R040088, an annual report must be presented to MDNR no later than 7/28/11, for FLW to remain in compliance, this is our second annual report. The intent of this report is to provide information on the status of the six Minimum Control Measures (MCM) required by the MS4 permit. Under each of these MCM's there are Best Management Practices (BMPs). BMP's are sub topics that give a broad scope description about the main topics that need to be addressed. Another subtopic under the BMPs is Measurable Goals. There are 106 Measurable Goals that give more specific guidelines for what must be done to meet the MS4 permit requirements. Of those 106, for this second reporting year, there are four measurable goals that have not been completed this year. Two of last year's uncompleted measurable goals have been brought into green status (completed) this reporting cycle.

### Public Education and Outreach (MCM 1)

For this reporting cycle, a total of 54 outreach and educational activities were held with over 1,000 participants.

### Public Involvement/Participation (MCM 2)

Participation in local events and collaboration with existing programs such as the MO Stream Team increased the awareness of the program. Increased advertisement of events through the Guidon and MWR also increased public participation.

### Illicit Discharge Detection and Elimination (MCM 3)

High priority has been placed on the IDDE program, new and or improved methods of detection and tracking have been implemented. Additional contract support has increased visual screenings and inspections, identifying problem areas that would have gone undetected, otherwise.

### Construction Site Stormwater Runoff Control (MCM 4)

Improving existing procedures have been the primary focus for this reporting cycle. In addition, a new land disturbance layer has been added to GIS, enabling FLW to track current and terminated permits. This is a valuable tool for identifying areas of greater concern. A Notice Of Violation (NOV) for FLW should also be noted, and every effort is being made to ensure that this does not happen again. The reasons for the NOV are addressed in this report.

### Post-Construction Runoff Control (MCM 5)

To maintain compliance, collaboration between USACE personnel, DPW Master Planning and Design Branch personnel, Contractors, and the Environmental Branch personnel has been established to integrate a unified understanding of existing low impact development policies and procedures.

### Pollution Prevention/Good Housekeeping (MCM 6)

Embraces aspects of all the MCM's and has ongoing measurable goals to ensure compliance with the MS4 permit.

The MS4 program is fairly new, with this being only the second reporting cycle full compliance with every measurable goal is unexpected by both the MS4 Program Manager and by Missouri Department of Natural Resources (MDNR). In periodic meetings with MDNR, it has been noted that we are well above what is expected in the timeframe given to implement this program. While we realize there are shortcomings with our program, every effort is being given to correct or improve our standards.

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  - E4: GARRISON COMMAND POLICY #200-1

### LIST OF ACRONYMS AND ABBREVIATIONS

## INTRODUCTION

This report documents the activities required 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. Requirements include not only the permit requirements, but also the requirements outlined in the FLW's stormwater management plan (SWMP), which was prepared for the Municipal Separate Storm Sewer System (MS4) permit. This report provides documentation necessary to fulfill the second-year reporting requirements specified in Section 5.3 of the Permit for the period of June 13, 2010, through June 12, 2011. 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 and implement Stormwater management procedures and practices. This report gives the status of each measurable goal for the six minimum control measures (MCMs), as stated in the MS4 Permit.

## 1.0 PUBLIC EDUCATION AND OUTREACH (SWMP Section 7.1)

### 1. Implementation Status

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- a. General Summary: The goal of this MCM is to develop and distribute educational materials and perform outreach to inform residents, students, contractors, business owners and onsite civilian and military personnel about the impact of polluted Stormwater runoff discharges, and how their actions impact water quality at FLW.

In order to maximize the efficiency of our program and to reduce the release of pollutants into waterways as much as possible, sub-watersheds were analyzed to determine high priority areas. Each of our sub-watersheds were evaluated for pollutant release potential based on size, miles of intermittent and permanent flow, turbidity monitoring results, construction activities and land use. It was determined that the Smith Branch and the Dry Creek watersheds are the highest priority. Smith Branch watershed is home to the Army Engineer School heavy equipment operator training. Dry Creek is home to the Cantonment, which is the commercialized area, and the majority of the residential area. The Public Education and Outreach MCM correlates to Sections B & F of MDNR Form MO 780-2049.

FLW has implemented the required measureable 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: Inventory List of Distribution Materials, documents the numerous educational materials that have been, developed and distributed by FLW;
  - A2: Outreach Activities and Distributed Materials Log, contains details on the outreach activities that have occurred in the second reporting cycle;
  - A3: Educational Campaign Plans, contains educational campaign plans for each target audience; and
    - A3.1 Military and Civilian Personnel (including Contractors)
    - A3.2 Residential
    - A3.3 Businesses
    - A3.4 Students
  - A4: Effectiveness Evaluation for MCM 1 & 2, summarizes the efforts made this reporting cycle to evaluate the effectiveness of all of our outreach activities.
- 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 and second reporting cycle. Items in orange identify goals that are in progress during the current 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 1.
  - 2. Scheduled Goals Not Completed: Scheduled goals not completed and their explanations for this reporting cycle are included in Table 1.

## 2. *Overall Compliance with Permit Conditions and SWMP*

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- a. Assessment of BMP Appropriateness: The FLW community consists of a mixture of residents, students, contractors, business owners, and military personnel, which makes it important to have a diverse outreach program. The BMP's for MCM 1, are very appropriate for the following reasons:
  - 1. The goals are realistic and obtainable;
  - 2. Distributing educational materials is an important and impactful outreach tool; and
  - 3. Evaluating target audiences, target pollutant sources and most appropriate distribution methods for each targeted audience is efficient and effective because of the diverse population. This has helped us keep outreach focused and impactful.
- b. Progress towards Achieving the Statutory Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: To achieve 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.

To assess the reduction of pollutants due to outreach activities, this year we did a survey for residents. We asked people if they will change their behaviors based on the information they have received. At workshops, informal pre- and post- surveys give us immediate feedback on the effectiveness of the material and presentation. The results of the surveys indicate that most residents do not have the education or knowledge to protect water quality, but many are interested in learning more and willing to change their behavior. At this time, because our outreach and education program is so new, it is not possible to assess the reduction of pollutants, however the survey will serve as a foundation for documenting behavioral and perception changes over time so that we can evaluate pollutant reduction due to outreach more accurately.

### ***3. Results of Information Collected and Analyzed***

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A total of 54 outreach and education activities have been held between June 2010 and June 2011 with more than 1,000 participants actually engaged in the activities, and more than 600 receiving educational materials.

### ***4. Stormwater Activities Planned for the Next Reporting Cycle***

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Measureable goals for this MCM that will be undertaken during the next reporting cycle are presented in Table 1.

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

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- a. Changes to BMPs: No BMPs are proposed for change.
- b. Changes to Measurable Goals: Two measurable goals under BMP 1A need revisions to be made for this reporting cycle see Table 1 for details.

## 2.0 PUBLIC INVOLVEMENT/PARTICIPATION (SWMP Section 7.2)

### 1. Implementation Status

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- a. General Summary: The goal of this MCM is to provide opportunities for residents, students, contractors, and onsite civilian and military personnel to participate in volunteer water quality activities to assist program development and implementation of the SWMP.

The foundation for an effective public involvement and participation program has been established. A system is in place to keep track of participation numbers at meetings and community outreach events. A relationship has been established with the Missouri Stream Team Coordinators as well as the volunteer office on post, and a public involvement website campaign has been underway for over a year now. [www.wood.army.mil/dpwenv](http://www.wood.army.mil/dpwenv). The Public Involvement and Participation MCM correlates to Sections B of MDNR Form MO 780-2049

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

The following attachments are relevant to MCM 2:

- A1: Inventory List of Distribution Materials, documents the numerous educational materials that have been, developed and distributed by FLW;
- A2: Outreach Activities and Distributed Materials Log, contains details on the outreach activities that have occurred in the second reporting cycle;
- A3: Educational Campaign Plans, contains educational campaign plans for each target audience; and
- A3.1 Military and Civilian Personnel (including Contractors)
  - A3.2 Residential
  - A3.3 Businesses
  - A3.4 Students
- A4: Effectiveness Evaluation for MCM 1 & 2, summarizes the efforts made this reporting cycle to evaluate the effectiveness of all of our outreach activities.
- 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 and second 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***

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- a. Assessment of BMP Appropriateness: The BMPs for MCM 2 were compared to the permit, and it was determined that they are very well aligned with the permit.
- b. Progress towards Achieving the Statutory Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: At this time, it is not possible to accurately assess the reduction of pollutants obtained due to this minimum control measure. Our public involvement website campaign has been up and running for over a year now, but there is no mechanism in place to evaluate the effectiveness of it. However, we do know that dozens of bags of trash were removed from waterways due to public involvement activities.

## ***3. Results of Information Collected and Analyzed***

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A total of 54 outreach and education activities have been held between June 2010 and June 2011 with more than 1000 participants actually engaged in the activities, and more than 600 receiving educational materials.

## ***4. Stormwater Activities Planned for the Next Reporting Cycle***

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Measureable goals for this MCM that will be undertaken during the next reporting cycle are presented in Table 2.

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

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- a. Changes to BMPs: No BMPs are proposed for change.
- b. Changes to Measurable Goals: No Measurable goals are proposed for change.

### 3.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION (SWMP Section 7.3)

#### 1. Implementation Status

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- 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 most of the required measureable 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 is periodically updated to help locate and map outfalls, ponds, and structural pollution control devices;
  - B2: Typical Department of Defense (DoD) Installation Functional Areas and Processes is an inventory of processes that could potentially affect water quality;
  - B3: Illicit Discharge Reporting Procedure describes the appropriate communication channels and various reporting methods;
  - B4: FLW Illicit Discharge Reporting Procedure Flowchart is a dichotomous key of the process for illicit discharge reporting and subsequent corrective actions;
  - B5: The Illicit Discharge Report Log is list of illicit discharges and corrective actions taken. It includes all illicit discharges not already being tracked and reported by other MDNR permits; and
  - C: Continuum of Enforcement is a four-level procedure for corrective actions, which is also used for other MCMs.
- 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. 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.
- 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: Scheduled goals not completed and their explanations for this reporting cycle are included in Table 3.

## ***2. Overall Compliance With Permit Conditions and SWMP***

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- a. Assessment of BMP Appropriateness: The BMP's are appropriate; however, some measurable goals are vague or misplaced. Evaluating all outfalls is unmanageable and may not be attainable. It would be better to spend limited resources evaluating areas with potential risks such as motorpools, oil and water separators, and the airfield.
- b. Progress towards Achieving the Statutory Goal of Reducing the Discharge of Pollutants to the Maximum Extent Practicable: A slight increase in the number of suspected illicit discharges were reported in the second reporting cycle due to the implementation of new procedures and visual screenings. Development and implementation of a log for reported illicit discharges increased accountability and timely follow-up for corrective actions, thereby reducing non-stormwater discharges.

## ***3. Results of Information Collected and Analyzed***

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An increase in illicit discharge reports was observed during the second reporting cycle due to the addition of visual screening and inspections.

## ***4. Stormwater Activities Planned for the Next Reporting Cycle***

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Measurable goals for this MCM that will be undertaken during the next reporting cycle are presented in Table 3.

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

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- a. Changes to BMPs: No BMPs are proposed for change.
- b. Changes to Measurable Goals: In BMP #3C, measurable goals two and six are duplicated; therefore measurable goal six will be deleted in the next SWMP revision.

## 4.0 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL (SWMP Section 7.4)

### 1. Implementation Status

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

Construction Site Stormwater Runoff Control measures were a primary focus of year one activities, whereas the main focus for year two activities were to implement and improve upon established processes. One notable addition is a land disturbance Geographic Information System (GIS) layer, which tracks current and terminated permits. This is a valuable tool, which geographically and holistically displays the data, enables management of stormwater and water quality on a watershed basis. While FLW is making every effort to improve construction and post construction site runoff, deficiencies are still present. FLW received a Notice of Violation (NOV) in the spring of 2011 for the following reasons:

- Conducting land disturbance activities without adequate sediment and BMPs in place resulting in sediment leaving site and causing pollution to waters of the state;
- Conducting land disturbance activities, greater than one (1) acre without applying for and receiving an operating permit from the MDNR; and
- Conducting in-stream grading activities changing its physical and biological structure.

Immediate response was given to this notice and corrective action to stabilize the affected area began. A 404 permit application was submitted to MDNR and a permit was issued. A request for an extension of the deadline of 6/30/11 was submitted, allowing FLW time to execute contractual agreements for removal of the stockpiled material. Follow-up with a determination from MDNR as to the status of the NOV will be presented in the third reporting cycle. The Construction Site Stormwater Runoff Control MCM correlates to Sections C & F of MDNR Form MO 780-2049.

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

The following attachments are relevant to MCM 4:

- C: Continuum of Enforcement, a four-level procedure for corrective actions, which is also used for other MCMs; and
- D: Notice of Violation, occurred as a result of inconsistent policies and procedures, hence the effort to integrate existing low impact development policies and procedure with USACE personnel, Directorate of Public Works (DPW) Master Planning and Design Branch personnel and contractors.

- b. Program Element Revision: 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 4. 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.
- 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 4.
  - 2. Scheduled Goals Not Completed: Scheduled goals not completed and their explanations for this reporting cycle are included in Table 4.

## ***2. Overall Compliance with Permit Conditions and SWMP***

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- a. Assessment of BMP Appropriateness: While many of the pieces of an effective management plan were already in place, the BMPs for this MCM strengthen the existing sediment and erosion control practices, and are appropriate for protecting water quality at FLW.
- 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, new Leadership in Energy and Environmental Design (LEED) requirement and new 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 measurable.

## ***3. Results of Information Collected and Analyzed***

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There is nothing to report at this time.

## ***4. Stormwater Activities Planned for the Next Reporting Cycle***

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Measurable goals for this MCM that will be undertaken during the next reporting cycle are presented in Table 4.

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

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- a. Changes to BMPs: No BMPs are proposed for change.
- b. Changes to Measurable Goals: No Measurable Goals are proposed for change.

## 5.0 POST-CONSTRUCTION RUNOFF CONTROL

(SWMP Section 7.5)

### 1. Implementation Status

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- 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.

Collaboration with United States Army Corp of Engineers (USACE) personnel, DPW Master Planning and Design Branch personnel and contractors to integrate existing low impact development policies and procedures has been the primary focus of year two activity. The Post-Construction Runoff Control MCM correlates to Section F of MDNR Form MO 780-2049.

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

The following attachments are relevant to MCM 5:

- E1: EPA Factsheet: Technical Guidance on Section 438 of EISA gives guidance pertaining to predevelopment hydrology;
  - E2: DoD Memorandum: Implementation of Section 438 of EISA, instructs implementation of stormwater management using Low Impact Development;
  - E3: DA Memorandum: Managing Stormwater with Low Impact Development is an enforcement document requiring FLW to implement procedures to manage stormwater and LID while in the planning stages of development design; and
  - E4: Garrison Command Policy #200-1, issues the order to be better stewards of our environment, resources and to be involved in the installation-wide EMS.
- 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.
- 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***

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- a. Assessment of BMP Appropriateness: The BMPs developed for this MCM are quite appropriate. Even though there are existing policies, the BMPs strengthen those requirements by requiring implementation in 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: All 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. Since this is a new requirement, it will take some time to see an actual increase in water quality, but this is sure to improve water quality in the future as the current projects begin construction. There are still many items that need to be implemented by FLW in order to achieve the statutory goal of reducing the discharge of pollutants to the maximum extent practicable; however, FLW is committed to making these changes.

## ***3. Results of Information Collected and Analyzed***

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There is nothing to report at this time.

### ***i. Stormwater Activities Planned for the Next Reporting Cycle***

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Measureable goals for this MCM that will be undertaken during the next reporting cycle are presented in Table 5.

### ***ii. Proposed Changes to the Program Area and Documented SWMP***

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- a. Changes to BMPs: No BMPs are proposed for change.
- b. Changes to Measurable Goals: No Measurable goals are proposed for change.

## 6.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING (SWMP Section 7.6)

### 1. Implementation Status

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- a. General Summary: The goal of this MCM is to develop and implement a program to prevent or reduce pollutant runoff from facilities operation and maintenance activities. The program includes component education and/or training for all target audiences in pollution prevention measures and techniques.

Each MCM has been evaluated for their contribution to this reporting cycle, and each one has increased water quality awareness and has improved water quality. Education is the key to success of the MS4 program; therefore, an educational campaign for each targeted audience has been developed along with a method for evaluating the effectiveness. Several MCM's have newly developed systems for tracking information, for example, a system is in place to keep track of participation numbers at meetings and community outreach events; a method of tracking reported illicit discharges has been developed and implemented; and an additional land disturbance GIS layer was added to the database which enables tracking of current and terminated permits, and geographical data to manage stormwater and water quality. In addition, sub-watersheds have been analyzed to identify higher priority areas with greater pollutant release potential. Education, along with information tracking, and collaboration with key agencies to integrate existing policies and procedures are significant measures required to remain compliant with state enforced MS4 regulations. Pollution Prevention/Good Housekeeping MCM correlates to Section E of MDNR Form MO 780-2049.

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

The following attachments are relevant to MCM 6:

- A1: Inventory List of Distribution Materials, documents the numerous educational materials that have been, developed and distributed by FLW;
- A2: Outreach Activities and Distributed Materials Log, contains details on the outreach activities that have occurred in the second reporting cycle;
- A3: Educational Campaign Plans, contains educational campaign plans for each target audience; and
  - A3.1 Military and Civilian Personnel (including Contractors)
  - A3.2 Residential
  - A3.3 Businesses
  - A3.4 Students
- A4: Effectiveness Evaluation for MCM 1 & 2, summarizes the efforts made this reporting cycle to evaluate the effectiveness of all of our outreach activities.

- b. Program Element Revisions: No SWMP elements have been changed or refined for the second reporting cycle.
- c. Status of Measurable Goals: The status of the measurable goals for this MCM is present in Table 6. Items 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.
- d. Completion Dates and Goals Not Completed:
  - 1. Completion Dates: Completion dates for all measurable goals completed during this reporting cycle are included in Table 6.
  - 2. Scheduled Goals Not Completed: Scheduled goals not completed and their explanations for this reporting cycle are included in Table 6.

## ***2. Overall Compliance With Permit Conditions and SWMP***

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- 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).
- 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. With the addition of the new SWMP and measurable goals, we do expect pollutant discharge to be reduced.

## ***3. Results of Information Collected and Analyzed***

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There is nothing to report at this time.

## ***4. Stormwater Activities Planned for the Next Reporting Cycle***

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Measureable goals for this MCM that will be undertaken during the next reporting cycle are presented in Table 6.

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

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- a. Changes to BMPs: No BMPs are proposed for change.
- b. Changes to Measurable Goals: No measurable goals are proposed for change.

## LIST OF ACRONYMS AND ABBREVIATIONS

AAFES	Army and Air Force Exchange Service
BMP	Best Management Practice
CFR	Code of Federal Regulations
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	Geographic Information System
GPS	Global Positioning System
HWMP	Hazardous Waste Management Program
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	Stormwater Management Plan
USACE	United State 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
<b>BMP 1A - Implement a Storm Water Education Program (SWMP Section 7.1.1, page 17)</b>					
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	<b>Complete</b> 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	<b>Reviewed</b> No change.	Jun-11
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	<b>Complete</b> See Attachment A1, Inventory List of Distribution Materials for detailed information.	Jun-11
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	<b>Complete</b> 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
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	<b>Complete</b> This is being done as part of BMP 6B. See Attachment A1, Inventory List of Distribution Materials.	Jun-11
II. Residents 1) Identify targeted pollutant sources (BMP 1A-1) to focus educational messages for residents	4.2.1.1.1	1-5	1	<b>Complete</b> Targeted pollutant sources for residents are: fertilizers, solid waste, spills, household hazardous materials, and pesticides.	Sep-09
			2	<b>Complete</b> No Change. Targeted pollutant sources for this target audience remain the same.	Jun-11

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2) Identify and/or develop educational campaigns, brochures, and/or public workshops	4.2.1.1.3	1-5	1	<b>On-Going</b> 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	<b>Complete</b> 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) 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	<b>On-Going</b> 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	<b>Complete</b> 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
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	<b>Complete</b> Targeted pollutant sources for students are solid waste.	Apr-10
			2	<b>Reviewed</b> No Change.	Jun-11
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	<b>Complete</b> Refer to Attachment A3.4 , Educational Campaign Plan for Students.	Jun-11
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	<b>Amended</b> This was not planned to be complete in the second reporting cycle, nor will it be planned for the third reporting cycle.	Amended
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	<b>Complete</b> 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

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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	<b>Complete</b> 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	<b>Reviewed</b> 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
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	<b>On-Going</b> 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	<b>Reviewed</b> 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) 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	<b>Complete</b> Added reporting instructions to the stormwater web page.	Jun-11
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	<b>Complete</b> 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

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V. Businesses 1) Identify businesses at FLW impacted for each Minimum Control Measure	4.2.1.1.2	1	1	<b>Complete</b> 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	<b>Reviewed</b> Also see Attachment A3 , Educational Campaign Plan for each target audience.	Jun-11
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	<b>Complete</b> 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) 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	<b>Complete</b> 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
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	<b>Amended</b> 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	<b>Complete</b> 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

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<b>BMP 1B - Distribute Education Materials (SWMP 7.1.2, page 18)</b>					
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	<b>Complete</b> See Attachment C, Publications List. Survey of publications will be on-going and updated as new information becomes available.	Feb-10
			2	<b>Reviewed</b> 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
2) Determine the target audiences and best distribution route for each targeted pollution source's educational materials	4.2.1.1.5	1	1	<b>Complete</b> 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	<b>Reviewed</b> 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) Distribute selected pollutant source reduction materials to target audiences through identified distribution methods	4.2.1.1.5	1-5	1	<b>On-Going</b> 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	<b>Complete</b> 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

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<b>BMP 1C - Evaluate Success of Storm water Education (SWMP 7.1.3, page 19)</b>					
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	<b>Complete</b> This has been completed for residential target audience; businesses will be evaluated in the third reporting cycle.	Jun-11
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	<b>In Progress</b> Unfortunately, time and resources never became available to accomplish this goal, but it will be in the third reporting cycle.	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	<b>Complete</b> See Attachment A2, Outreach Activities and Distributed Materials Log.	Jun-11

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

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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
<b>BMP 2A - Comply with Public Notice Requirements (SWMP 7.2.1, page 20)</b>					
1) Issue public notices for all public meetings related to the SWMP	4.2.2.1	1-5	1	<b>On-Going</b> 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	<b>On-Going</b> Attachment B, MS4 Outreach Activities, from the first reporting cycle is now Attachment A2, Outreach Activities and Distributed Materials Log.	On-Going
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	<b>On-Going</b> 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	<b>On-Going</b> 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) Placement of SWMP in a location that has public access (ex: website, local library)	4.2.2.1	1-5		<b>On-Going</b> 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	<b>On-Going</b> No new activities required or performed.	On-Going
<b>BMP 2B - Solicit Public Input and Opinion on the SWMP (SWMP 7.2.2, page 20)</b>					
1) Participation numbers from SWMP related meetings and events	4.2.2.1.5	1-5	1	<b>On-Going</b> 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	<b>On-Going</b> No new activities required or performed.	On-Going
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	<b>On-Going</b> 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

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3) Accessibility of SWMP information, including the use of FLW Website, newsletter articles, and events	4.2.2.1.2	1-5	1	<b>On-Going</b> 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: <a href="http://www.wood.army.mil/dpwenv">http://www.wood.army.mil/dpwenv</a>	On-Going
			2	<b>On-Going</b> The SWMP is made available by the outreach coordinator at all participated events.	On-Going
<b>BMP 2C - Identify and Establish Volunteer Opportunities for SWPP Activities (SWMP 7.2.3, page 21)</b>					
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	<b>On-Going</b> 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	<b>On-Going</b> 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
2) Number of volunteers participating in FLW supported Storm Water Pollution Prevention activities	4.2.2.1.5	1-5	1	<b>On-Going</b> 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	<b>On-Going</b> 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

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<b>BMP 2D - Evaluate Success of Public Involvement/Participation Activities (SWMP 7.2.4, page 21)</b>					
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	<b>On-Going</b> A system is in place to track participation numbers at storm-water related meetings and events and community outreach events.	On-Going
			2	<b>On-Going</b> See Attachment A4, Effectiveness Evaluation for MCM 1 and 2 for summary.	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

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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
<b>BMP 3A - Storm Sewer System Map (SWMP 7.3.1, page 23)</b>					
1) Complete storm sewer system inventory and inspection map	4.2.3.1.1	1	1	<b>Complete</b>	Jun-10
			2	<b>Reviewed</b> Updated multiple GIS layers including: Oil water separators; wash racks; grit chambers; and watershed boundaries.	Jun-11
2) Establish process (i.e., Illicit Discharge Detection and Elimination Plan) to locate and map known outfalls	4.2.3.1.1	1	1	<b>Complete</b> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>	
			2	<b>Reviewed</b> No change to the IDDE plan.	Jun-11
3) Establish process to locate and map known ponds and structural pollution control devices	4.2.3.1.1	1	1	<b>Complete</b> <ul style="list-style-type: none"> <li>• The existing process for mapping ponds and structural pollution control devices at FLW will be used.</li> <li>• Speak with senior facility members regarding institutional knowledge of known locations of ponds and structural pollution control devices.</li> <li>• GIS database aerial photographs, and installation maps and records will be reviewed to identify known or potential locations.</li> </ul>	
			2	<b>Reviewed</b> No change in this process.	Jun-11
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	<b>Complete</b> <ul style="list-style-type: none"> <li>• Visual screening will be prioritized on problem areas as identified by smoke testing results, historical information, and public complaints.</li> <li>• 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.</li> <li>• Inspectors will be trained on how to identify a potential illicit discharge and how to document the discharge.</li> <li>• 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.</li> <li>• A complete list of illicit connection tests will be maintained along with a GIS database of discharge sites.</li> </ul>	
			2	<b>Reviewed</b> No change in this process. All processes have been implemented.	May-11

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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	<b>Complete</b> Online training, workshops and mentoring for appropriate personnel has occurred to meet the training requirement.	April - May 2011
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	<b>Complete</b> Visual screening of 27% of the post has been completed. Screening has been broken down by watershed. Watersheds Hurd 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
7) Update storm sewer system map	4.2.3.1.1	2-5	1	Planned to begin in second reporting cycle	
			2	<b>Complete</b> All data is current. See Attachment B1, FLW Storm Sewer System Map .	Jun-11
<b>BMP 3B - Regulatory Control and Enforcement Program (SWMP 7.3.2, page 24)</b>					
1) Creation of illicit discharge reporting procedure (ex contact flow chart)	4.2.3.1.2	1	1	<b>Complete</b> 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: <a href="http://www.wood.army.mil/dpwenv">http://www.wood.army.mil/dpwenv</a> . A reporting form showing needed information can also be found at the web address.	Sep-09
			2	<b>Reviewed</b> 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 ( <a href="http://www.wood.army.mil/dpwenv">http://www.wood.army.mil/dpwenv</a> );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

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2) Identification and reporting process established for enforcement actions	4.2.3.1.2	1	1	<b>Complete</b> 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	<b>Reviewed</b> 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) Implementation of illicit discharge reporting procedure	4.2.3.1.2	1-5	1	Planned to begin in second reporting cycle	
			2	<b>Complete</b> The reporting procedure is fully implemented.	Jan-11
<b>BMP 3C - Illicit Discharge Detection and Elimination Plan (SWMP 7.3.3, page 26)</b>					
1) Complete list of existing information on illicit connection tests performed to date	4.2.3.1.3	1	1	<b>On-Going</b> 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	On-Going
			2	<b>Complete</b> 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

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) Maintain records of illicit discharges identified, enforcement, and corrective actions	4.2.3.1.3	1-5	1	Spreadsheet under development.	In Progress
			2	<b>Complete</b> 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) Development of a reporting procedure (ex contacts flow chart) and continuum of enforcement	4.2.3.1.3	1	1	<b>Complete</b> 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	<b>Reviewed</b> Attachment E and Figure 3, have been replaced with Attachment C, FLW Continuum of Enforcement.	May-11
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	<b>On-Going</b> Online training, workshops and mentoring for appropriate personnel has occurred to meet the training requirement for the year two reporting cycle.	On-Going
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	<b>Complete</b> 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
6) Maintain records of illicit discharges identified, enforcement and corrective actions	4.2.3.1.3	1-5	1	Planned to begin in second reporting cycle	
			2	This is a duplicate of BMP 3C 2.) and will be removed during the next revision of the SWMP.	
<b>BMP 3D - Identification of Non-storm Water Discharges and Flows (SWMP 7.3.4, page 27)</b>					
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	<b>Complete</b> An evaluation of non-stormwater 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

TABLE 3  
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
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	<b>In Progress</b> Untaminated ground water infiltration and springs are potential non-stormwater discharges that may be significant contributors of pollutants. Further investigation is necessary to determining if an SOP is necessary and appropriate.	In Progress
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	
<b>BMP 3E - Evaluate the Illicit Discharge Detection and Elimination Program (SWMP 7.3.5, page 27)</b>					
1) Monitor completion of measurable goals outlined in BMP #'s 3A-3D	4.2.3.1.3.6	1-5	1	<b>Complete</b> 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	<b>On-going</b> 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
2) Decrease in the number of illicit discharges into the installation's storm water system	4.2.3.1.3.6	1-5	1	<b>On-Going</b> 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	<b>On-Going</b> Smoke testing of a portions of the sanitary sewer system was completed in April 2011. Results are being evaluated and therefore, it is not possible to accurately address this measureable 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

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  
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
<b>BMP 4A - Regulatory Mechanism and Enforcement Procedures (SWMP 7.4.1, page 28)</b>					
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	<b>Complete</b> SWPPP has been evaluated and amended.	Jun-11
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	<b>Complete</b> SWPPP has been evaluated and amended.	Jun-11
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	<b>On-Going</b> Implementation has begun, but this is an on-going effort that will take multiple years before fully implemented.	On-Going
<b>BMP 4B - Construction Site Implementation of Erosion and Sediment Control BMPs (SWMP 7.4.2, page 31)</b>					
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	<b>Complete</b> <ul style="list-style-type: none"> <li>•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.</li> <li>•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.</li> <li>•From July 2009 to June 2010 there were 22 permits submitted, with 19 approved and three pending approval.</li> </ul>	Jun-10
			2	<b>Reviewed</b> 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

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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	<b>On-Going</b> All submitted work plans are reviewed by DPW Environmental Branch to ensure compliance with the SWPPP.	On-Going
			2	<b>On-Going</b> No change from year one annual report.	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	<b>On-Going</b> <ul style="list-style-type: none"> <li>•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.</li> <li>•There were 731 inspections performed between July 2009 and June 2010.</li> <li>•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).</li> </ul>	On-Going
			2	<b>On-Going</b> 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
<b>BMP 4C - Waste Controls for Construction Site Operators (SWMP 7.4.3, page 31)</b>					
1) Maintain records of all construction site operator's approved permits and BMPs	4.2.4.1.7	1-5	1	<b>On-Going</b> Records of permits, permit applications, and SWPPPs (identifying BMPs to be implemented) are	On-Going
			2	<b>On-Going</b> 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
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	<b>On-Going</b> The SWPPP has been evaluated, however, it has not yet been revised. Planned for completion in second reporting cycle.	On-Going
			2	<b>Complete</b> SWPPP has been evaluated and amended.	Apr-11
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	<b>On-Going</b> Process has begun, but there is significant work to do for full implementation.	On-Going

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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
<b>BMP 4D -Procedure for Site Plan Reviews (SWMP 7.4.4, page 32)</b>					
1) Continue site reviews for projects >1 acre of land disturbance	4.2.4.1.3	1-5	1	<b>On-Going</b> 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	<b>On-Going</b> No changes	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	<b>Complete</b> 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) 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	<b>In Progress</b> This was postponed during second reporting year due to staff member's military deployment.	In Progress
<b>BMP 4E - Establishment of Procedures for Receipt and Consideration of Noncompliance (SWMP 7.4.5, page 33)</b>					
1) Create a SWPPP report mechanism (ex: phone line, webpage form) for public to report construction site complaints	4.2.4.1.4	1	1	<b>On-Going</b> 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	<b>Complete</b> 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
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	<b>Complete</b> The procedure for construction site complaints is the same procedure in place for spills. See Attachment B3 , FLW Discharge Reporting Procedure.	Feb-11

TABLE 4  
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
3) Create procedures to track information from construction site inspections and enforcement actions	4.2.4.1.7*	1-2	1	<b>Complete</b> 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	<b>Complete</b> In addition to the previous year's efforts, we have revised and improved the compliance tracking spreadsheet.	Feb-11
4) Maintain records for all inspections and enforcement actions for sediment and erosion control practices	4.2.4.1.6*	1-5	1	<b>On-Going</b> 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	<b>On-Going</b> No changes.	On-Going
<b>BMP 4F - Establishment of Procedures for Site Inspection and Enforcement (SWMP 7.4.6, page 33)</b>					
1) Maintain copies of all construction site operator's permits and BMPs within the installation	4.2.4.1.6*	1-5	1	<b>On-Going</b> Records of permits, permit applications, and SWPPPs (identifying BMPs to be implemented) are maintained at the DPW Environmental Branch.	On-Going
			2	<b>On-Going</b> No changes	On-Going
2) Develop tracking mechanism (ex database) for inspection and enforcement action records	4.2.4.1.6*	1-2	1	<b>Complete</b> 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	<b>Complete</b> No changes. Tracking spreadsheet revised with improvements.	Dec-10
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	<b>On-Going</b> 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

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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	<b>Complete</b> 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
<b>BMP 4G - Evaluate the Success of Construction Site Storm Water Runoff Control (SWMP 7.4.7, page 34)</b>					
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	<b>On-Going</b> 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	<b>On-Going</b> No changes	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  
 Post Construction Runoff Control Minimum Control Measure  
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
<b>BMP 5A - Regulatory Mechanism for Addressing Post-Construction Runoff (SWMP 7.5.1, page 35)</b>					
1) Develop command policy statement addressing post construction control requirements	4.2.5.1 4.2.5.1.2	2	1	<b>Complete</b> Garrison Command Policy No. 200-1, Fort Leonard Wood Environmental Management Strategy. See Attachment F for more details about this policy.	Jun-09
			2	<b>Complete</b> 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"> <li>• Attachment E1, EPA Factsheet: Technical Guidance on Section 438 of EISA</li> <li>• Attachment E2, DoD Memorandum: Implementation of Section 438 of EISA</li> <li>• Attachment E3, DA Memorandum: Managing Stormwater with Low Impact Development.</li> </ul>	Jun-11
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	<b>In Progress</b> 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) 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	<b>Complete</b> Implemented.	Aug-10
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	<b>On-Going</b> 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

TABLE 5  
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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
<b>BMP 5B - Development and Implementation of Structural and/or Nonstructural BMPs (SWMP 7.5.2, page 38)</b>					
1) Review and evaluate structural and 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) Develop/Identify standard specifications for selected structural BMPs			2	<b>In Progress</b> 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) Develop/Identify standard specifications for selected non-structural BMPs					
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	<b>Complete</b> 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
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	<b>Complete</b> 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
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	<b>Amended</b> This goal is incomplete and should have been scheduled for the fourth reporting cycle.	Amended
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.	
<b>BMP 5C - Long-term Operation and Maintenance of BMPs (SWMP 7.5.3, page 40)</b>					
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	<b>Complete</b> 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	<b>Reviewed</b> SWPPP is complete and now incorporates each of the six MCMs.	Jun-11
2) Develop tracking mechanism (ex database) for all implemented long-term structural and nonstructural BMPs, and inspection and	4.2.5.1.3	1-2	1	Planned for completion in second reporting cycle	
			2	<b>Complete</b>	Jun-11
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	<b>On-Going</b> Work has begun, but is not yet complete. This will likely be a process that will take several years to fully implement.	On-Going

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Measurable Goals	Permit Section	Year Required	Report Year	Measurable Goal Status	Completion Date
<b>BMP 5D - Evaluate the Success of Post-Construction Runoff Controls (SWMP 7.5.4, page 40)</b>					
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	<b>On-Going</b> This will not truly begin until the program is fully established and implemented.	On-Going
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	<b>On-Going</b> This will not truly begin until the program is fully established and implemented.	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
<b>BMP 6A - Municipal Operations and Maintenance Program (SWMP 7.6.1, page 41)</b>					
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	<b>Complete</b> 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 #200-1.	Apr-10
			2	<b>Reviewed</b> Attachment F, Garrison Command Policy #200-1 from the first reporting cycle is now Attachment E4.	Jun-11
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	<b>Complete</b> 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	<b>Reviewed</b> Attachment G, Typical DoD Installation Functional Areas and Processes, is now attachment B2.	Jun-11

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
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	<b>Complete</b> <ul style="list-style-type: none"> <li>•Street and parking lot cleaning occurs periodically without wash water;</li> <li>•Fuel dispensing areas are roofed;</li> <li>•Eco-friendly salt or alternatives are used to de-ice roads;</li> <li>•Spill kits are available at maintenance shops and operational areas;</li> <li>•Vehicle and equipment maintenance is conducted in approved maintenance shops, not in residential areas;</li> <li>•Used oil, antifreeze, batteries, solvents, etc are properly recycled; and</li> <li>•Parked equipment traps for fluid drips of are being provided and maintained.</li> </ul>	Jun-11
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	<b>Complete</b> Issues are reported to the Environmental Division. The treatment or disposal is determined by the waste issue.	Jun-11
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	<b>Complete,</b> 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
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	<b>Complete</b> The FLW SPRP has been implemented and remains in compliance.	Jun-11
<b>BMP 6B - Pollution Prevention/Good Housekeeping Training Program (SWMP 7.6.2, page 42)</b>					
1) Identify existing and available pollution prevention/good housekeeping materials from federal, state, and local sources	4.2.6.1.1	1	1	<b>Complete</b> See Attachment C (Publications List) for a listing of brochures and other materials available for distribution. Survey of publications will be on-going and updated as new information becomes available.	Feb-10
			2	<b>Complete</b> Attachment C, Publication List from the first reporting cycle is now Attachment A1, Inventory List of Distribution Materials.	Jun-11
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	<b>Complete</b> Distribution methods for each target audience are identified in AttachmentA3, Educational Campaign Plan, individual campaign plans for each target audience are also available in Attachments A3.1 through A3.4.	Jun-11
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	<b>On-Going</b> 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

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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	<b>On-Going</b> Postponed due to staff shortages and military deployments.	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	<b>On-Going</b> See Attachment A2, Outreach Activities and Distributed Materials Log.	On-Going
<b>BMP 6C - Evaluate the Success of Pollution Prevention/Good</b>					
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	<b>Complete</b> The six measurable goals in BMP 6A are fully implemented and adhered to.	Jun-11
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	<b>Complete</b> See Attachment A2, Outreach Activities and Distributed Materials Log.	Jun-11

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