FORT CAMPBELL MILITARY RESERVATION
STORMWATER MANAGEMENT PLAN

Prepared by:

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Directorate of Public Works
Fort Campbell, KY 42223

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GLOSSARY

BMP	Best Management Practices
BOID	Business Operations/Integration Division
CADD	Computer Aided Design and Drafting
CAM REG 200-1	Fort Campbell Regulation 200-1
CWA	Clean Water Act
DOD	Department of Defense
DPW	Directorate of Public Works
EQO	Environmental Quality Officer
GIS	Geographic Information Systems
KDOW	Kentucky Division of Water
KPDES	Kentucky Pollutant Discharge Elimination System
LID	Low Impact Development
MCM	Minimum Control Measures
MILCON	Military Construction
MS4	Municipal Separate Storm Sewer System
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
PE	Professional Engineer
PAO	Public Affairs Office
SWPPP	Storm Water Pollution Prevention Plan
TDG	Technical Design Guide
TDWR	Tennessee Division of Water Resources
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

Fort Campbell, as a permitted Phase Municipal Separate Storm Sewer System (MS4), is required to maintain permit conditions for stormwater runoff discharges to the waters of the United States (WOUS) and the states, Kentucky and Tennessee. The permits are structured around six minimum measures, which include 1) Public Education, 2) Public Involvement/Participation, 3) Illicit Discharge Detection and Elimination (IDDE), 4) Construction Site Stormwater Runoff Control, 5) Post-construction Stormwater Management, and 6) Pollution Prevention and Good Housekeeping for Municipal Operations. Minimum measures 1 and 2 are directly implemented by the Fort Campbell Stormwater/Water Quality Program. Minimum measures 3 through 6 are overseen by the Stormwater Program but have requirements for many other activities on Fort Campbell. The Fort Campbell Stormwater Management Plan**,** as referenced in CAM REG 200-1, is intended to provide a regulatory mechanism for the Fort Campbell MS4.

This document shall apply to all Department of the Army/Department of Defense (DA/DoD) activities, all DA/DoD contracted construction and operational activities, all privatized activities (including Military Housing /Campbell Crossing, natural gas distribution, the privatized Exterior Electrical System, and Wastewater Treatment/Collection Systems/ Water Treatment/Distribution Systems), and all tenant/lease activities on the Fort Campbell Military Installation. Each activity is responsible for complying with stormwater requirements in a manner consistent with their Chain of Command or existing contractual obligations. Responsibilities include obtaining coverage under applicable stormwater permits and developing supporting documentation, such as project specific Storm Water Pollution Prevention Plans (SWPPPs). All installation activities, including privatized entities, fall under the jurisdiction of the installation's permitted MS4, are subject to inspection, and must meet runoff treatment standards as set forth in this document.

Many activities on Fort Campbell have the potential to pollute stormwater runoff. Sites with this potential must follow requirements under state National Pollutant Discharge Elimination System (NPDES) programs. Land development projects have a high potential for discharging pollutants, especially sediment. Development Projects typically start with a design process, a contract award, the construction period, and turnover to the user, along with a warranty period. All construction projects require an internal National Environmental Policy (NEPA) review prior to construction or the request for proposal for outside contractors. This NEPA review includes identifying NPDES and other Clean Water Act permitting requirements. As a permitted MS4 in both Kentucky and Tennessee the installation has development requirements for Construction Site Runoff Control (Section 2.4); and Low Impact Development and Permanent Storm Drainage

Systems (Section 2.5). Designers should understand all stormwater design and construction phase requirements as early as possible in the design timeline. This document details Fort Campbell's specific requirements and also gives applicable federal and state references.

The Fort Campbell Stormwater Management Plan is intended to be posted on the Fort Campbell Environmental Division web site. The Compliance Branch, DPW Environmental, will be the point-of-contact for questions and comments.

1.0 INTRODUCTION

Fort Campbell, Ky., is named in honor of Brig. Gen. William Bowen Campbell. The post is located between Hopkinsville, Ky., and Clarksville, Tenn. The site was selected on July 16, 1941, with construction beginning Feb. 4, 1942. In April 1950, the post became a permanent installation and was re-designated as Fort Campbell. Fort Campbell supports the 3rd largest military population in the Army and the 7th largest in the Department of Defense. Fort Campbell is also home to approximately 28,000 active duty personnel; 45,000 family members; 4,600 civilian employees; and 4,000 contractor employees. Over 123,000 military retirees and family members live in the vicinity, taking advantage of lifelong installation shopping and health care privileges. To maintain the required level of mission readiness, military training takes priority for land use on Fort Campbell. Fort Campbell occupies approximately 107,000 acres spread over portions of four counties, namely Christian and Trigg Counties in Kentucky, and Montgomery and Stewart Counties in Tennessee (Figure 1). Therefore the installation has to comply with stormwater regulatory requirements from both states. Fort Campbell is located between Hopkinsville Kentucky, (off I-24) and Clarksville Tennessee. Essentially, both MS4 general permits require that the installation implement and enforce a Phase II Stormwater Management Program to reduce the discharge of pollutants in storm water runoff from the installation's cantonment (**urbanized)** areas (approximately 15,000 acres as shown in Figure 1-2) to the "maximum extent practicable" to:

1. Protect water quality; and
2. Satisfy the appropriate water quality requirements of the Clean Water Act (CWA).

Fort Campbell streams near the cantonment area are part of the Red River Watershed, and ultimately flowing to the Lower Cumberland River. Streams on the western edge of the installation's training area also flow to the Cumberland River. Below are Fort Campbell's 303 (d) listed streams.

Fort Campbell Streams on Kentucky 303 (d): List Lower Cumberland River Basin

Waterbody	River Mile	Segment Length	County	Impaired Use(s)	Pollutants	Suspected Source
Dry Fork Creek	5.0 to 5.8	0.8	Christian	Aquatic Life Nonsupport	Siltation	Unknown
Skinner Creek	0.0 to 5.8	5.8	Trigg	Aquatic Life Nonsupport	Unknown	Unknown
Casey Creek	0.0 to 3.6	3.6	Trigg	Aquatic Life Partial Support	Siltation	Sources Outside State Jurisdiction or Borders

Fort Campbell Streams on Tennessee 303 (d) List: Red River Basin

Waterbody	Segment Length	County	Pollutants	Suspected Source
Noah's Spring Branch	2.8	Montgomery	Unknown Toxicity	Undetermined Source. Source in Other State
Little West Fork	9.9	Montgomery		NPS Pollution from Military Base

Other streams on the installation currently meeting designated uses include: Fletcher's Fork/Raccoon Branch, Piney Fork, Elk Fork, Jordan Creek, Moss Creek, and Saline Creek. Fletcher's Fork takes drainage from the Fort Campbell cantonment area and Sabre Army Airfield.

The Phase II program is required to include management practices, control techniques and systems, and design and engineering methods, as applicable, for the implementation of six (6) **minimum control measures** (MCMs) namely,

(1) Public Education and Outreach; (2) Public Involvement/ Participation; (3) Illicit Discharge Detection and Elimination; (4) Construction Site Stormwater Runoff Control; (5) Post-Construction Stormwater Management in New Development and Redevelopment; (6) Pollution Prevention/Good Housekeeping for Municipal (Installation) Operations.

1.1 PHASE II MANAGEMENT APPROACH

Fort Campbell, being a military post, possesses unique characteristics that set it apart from an urban municipality. The population base, for example, consists of:

1. The 101st Airborne Division (Air Assault), which is formed of a Division Headquarters, three Brigade Combat Teams, the Division Artillery (DIVARTY), the 101st Combat Aviation Brigade, 101st Sustainment Brigade and several separate commands.
2. Major DOD tenants, the 5th Special Forces Group (Airborne), 160th Special Operations Aviation Regiment (ABN), U.S. Army Medical Activity, TN Valley District, Veterinary Command and U.S. Army Dental Activity which perform functions associated with the nation's defense,
3. Other DOD tenants such as the AMC Logistics Assistance Office; Field Office, 31st MP Detachment and 502nd MP Battalion, U.S. Army Criminal Investigation Division Command; 86th Combat Support Hospital (CORPS); 52nd EOD Group; Defense Logistics Agency; the U.S. Army Trial Judiciary, 1st Judicial Circuit; and the 902nd Military Intelligence Group. This group also includes the two U.S. Air Force groups, the 19th Air Support Operation Squadron and two detachments from Weather Squadrons, supporting the installation's primary mission of providing defense capability. ARMY/AIR FORCE EXCHANGE SYSTEM, Defense Commissary Agency
4. Non-DOD tenants such as those that perform specialized functions such as operating mess halls, restaurants and fast food franchises, gas stations, supermarkets, etc.,
5. Dependents of DOD tenants that live on-post,
6. Transient DOD personnel such as the National Guard Units, training missions, and
7. Civilian and contractor employees.
8. The Fort Campbell Garrison organization, which falls under the U.S. Army Installation Management Command (IMCOM). The Garrison manages and maintains the "municipal" functions of Fort Campbell.

The installation has the ability to issue plans and procedures, now incorporated into Fort Campbell Regulation (CAM REG) 200-1 and the Fort Campbell Technical Design Guide (TDG), that are enforceable across the installation, in lieu of ordinances.

1.2 HISTORY OF STORMWATER MANAGEMENT PROGRAMS AT FORT CAMPBELL

The installation initially implemented a stormwater management program which included a "Phase I" Program, a Sediment & Erosion Control Program, and a Class V Injection Well Program. The comprehensive Phase II Rule covers all urbanized portions of the installation and therefore, all three components of the previous storm water management program are in effect subsets of the larger Phase II program.

1.2.1 Phase I Program/Industrial Activity Stormwater

The existing Phase I stormwater management program, begun in the 1990's at Fort Campbell, sought to achieve and maintain compliance with the requirements of the states' stormwater permitting processes, which became the Kentucky Storm Water Discharges Associated with Other Facilities General Permit (KYR00) and the Tennessee Multi-Sector General Permit (TNR050000). These permits applied to certain industrial activities and to construction disturbances five acres or greater. This program remains implemented at selected industrial activity centers located on the installation. A site-specific Storm Water Pollution Prevention Plan (SWPPP) has been developed and is implemented for each industrial site.

Fort Campbell's Industrial Stormwater program is managed by the DPW. Specific activities conducted under this program include:

1. Quarterly site inspections of selected industrial activity centers and their drainage basins.
2. Quarterly visual examination of storm water samples collected from selected outfalls.
3. Annual Comprehensive Site Compliance Evaluation Inspections.
4. Non-storm Water Discharge Control.
5. Storm water monitoring at designated storm outfalls at intervals specified in the KPDES KYR00 Permit for industrial activities and the TN Multi-Sector General Permit.
6. Special site investigations.
7. Periodic training and refreshers as needed.
8. Record Keeping and Reporting.
9. Updating site-specific SWPPPs (quarterly and annually) and Comprehensive SWPPPs (Summary Documents) (annually).

Additional details about the installation's Industrial Stormwater program are referenced in

separate documents, such as the Comprehensive Tennessee and Kentucky SWPPP Summary Documents.

1.2.2 Erosion Prevention and Sediment Control Program

The installation has developed and implemented an installation-wide erosion prevention and sediment control (EPSC) program. Requirements were previously implemented in the "Fort Campbell Policy for Stormwater Erosion and Sediment Control at Construction Projects." Current requirements are spelled out in the following documents: CAM REG 200-1 (referencing this document), this document, the attached Fort Campbell Stormwater Management Plan Development/Construction Project Deliverables and Requirements Checklist in Appendix B, and the installation's Technical Design Guide (TDG). Under this program, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) is required for all construction sites one acre or greater across the installation. Depending on the type of development, construction activities less than one acre in disturbance require simple SWPPPs or erosion prevention/sediment control plans. The objective of this program is to ensure that applicable state regulations dealing with sediment and erosion control are appropriately implemented.

1.3 PLAN IMPLEMENTATION RESPONSIBILITY

The Environmental Division of the Fort Campbell Directorate of Public Works (DPW), which oversees all environmental compliance issues at the installation, has been charged with management of the Phase II program. Management is through the Fort Campbell Water Quality (or Stormwater) Program. The program implements the MCMs through the identification and establishment of **best management practices** (BMPs) that are appropriate to the source and location.

2.0 PHASE II STORMWATER QUALITY MANAGEMENT PROGRAM

The Phase II Storm Water Quality Management Program seeks to achieve and maintain compliance with the requirements of the Kentucky and Tennessee MS4 General Permits. Fort Campbell, being a military reservation, differs significantly from a typical urban municipality. Measures being managed under the Phase II program have been selected with consideration to the installation's uniqueness and are fully expected to achieve the goals of the Phase II program. They are also fully compatible with the Army's stated goal, which is "*to integrate environmental values into the Army mission in order to sustain readiness, improve the soldier's quality of life, strengthen community relationships and provide sound stewardship of resources.*"[1]

As required by the permit, under this Phase II program, the installation will monitor, and enforce, as needed, tailored best management practices to achieve compliance with the six recommended minimum control measures (MCMs).

2.1 STORMWATER EDUCATION AND OUTREACH

The installation education and outreach program focuses on stormwater discharges that can directly pollute Fort Campbell waterways. Efforts are targeted to appropriate audiences and locations on the installation that are most likely to have contaminants that can affect water quality and stream health. The target audience includes Soldiers, civilian employees, contractors, and Family Members. The education and outreach program measures understanding of its educational campaign and behavior adaptation by administering a survey to the public.

Fort Campbell has a Public Information and Education Plan (PIE) that details specific goals and specific public information events/activities that will occur over the remainder of the permit cycle. The PIE shall incorporate components from outreach campaigns and one on one communications and shall incorporate a mode to evaluate the plan's effectiveness so adjustments can be made (if necessary) The PIE includes targeted educational campaigns addressing the following issues:

a. General public awareness on the impacts on water quality from general housekeeping maintenance/activities.

b. Privatized Housing and other operators of permanent BMPs for awareness of the importance

[1] Installation Environmental Program Management Guide. Prepared by the United States Army Environmental Center. 2002.

of maintenance activities.
c. Fort Campbell development community (Army Corps of Engineers designers, DPW designers, contractors, and military units) awareness of the stormwater regulations, and guidance materials related to long-term water quality impacts.
d. Fort Campbell engineering, development, and construction community awareness of stormwater ordinances, regulations and guidance materials related to construction phase water quality impacts;
e. General public and DPW Pest Control section applicators awareness on the proper storage, use, and disposal of pesticides, herbicides, and fertilizers use.
f. Soldier, general public, Garrison (municipal) employee, and contractors' awareness on the proper storage, use, and disposal of oil and other automotive-related fluids.
g. General public, Soldier, and Garrison employees on the awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc. and
h. Garrison Soldiers and civilian employee/contractor awareness of water quality impacts from daily operations

See Appendix C for the PIE.

2.1.1 Best Management Practices (BMPs)

The installation manages the following types of BMPs:

Educational Materials and Handouts – The installation manages the use of relevant and appropriately designed printed educational materials to supplement the storm water website. Examples of educational material include:

- Seminars and workshops for groups such as DOD and non-DOD tenants, transient DOD units, civilian employees, and contractors to share information about Stormwater Management.
- Replacement of existing storm drain inlet covers in areas of high visibility with new covers that bear an embossed message relating to storm water protection.
- Brochures and fact sheets targeted at specific audiences such as DOD and non-DOD tenants transient DOD units, civilian employees, personnel associated with utility operations, troop equipment maintenance facilities, aircraft maintenance shop personnel, schools, hospital workers, on-post housing residents, on-post social support groups, etc.

- Alternative information sources, such as bumper stickers, refrigerator magnets, pens and pencils, posters, restaurant placemats, etc.
- Library of educational materials for use by on-post residents, civilian utility employees, school groups, etc.
- Event participation with educational displays at relevant community gatherings such as Earth Day Events.
- Educational programs for school-age children.
- "Green Eagle" smartphone app for general awareness of environmental media issues and contact phone numbers of Subject Matter Experts (SMEs).

Training Sessions and Meetings – The installation education and outreach program offers a variety of training classes to groups of people who are identified as an appropriate audience. These people include military personnel, DPW municipal workers, contractors, design engineers, students, residents, and others. Examples of the training sessions include:

- Seminars and workshops for groups such as DOD and non-DOD tenants, transient DOD units, civilian employees, and contractors to share information about Stormwater Management. (moved from the above bulleted list)
- Educational programs for school-age children. (moved from the above bulleted list)
- Environmental Quality Officer (EQO) training which provides environmental contacts for each unit, office, or business on the installation.

Event Sponsorship and Attendance – This program will attend, or sponsor when possible, community events that provide opportunities to disseminate educational materials and handouts. These community gatherings occur in the housing communities, town center, recreational areas, educational institutions, in the units, and in conjunction with on post organizations.

Reaching Target Audiences – Efforts continue to be made to identify groups within the DOD and non-DOD tenant population that need education on specific aspects of storm water protection so that the outreach efforts can be targeted towards such groups. For example, the US Army Corps of Engineers (USACE) and construction contractors working at the installation are provided training on sediment and erosion control.

Reaching Diverse Audiences – The installation's education and outreach program utilizes a mix of local strategies to address needs of audiences other than individuals permanently stationed or

employed at the post such as transient military and National Guard units, visitors, etc. If deemed appropriate, posters and brochures could be printed in more than one language.

Internet website –Stormwater awareness information is listed on the Fort Campbell Environmental Division website. The web site is used to disseminate information to on-post schools, libraries, on-post housing residents, etc, and is updated periodically.

The installation will maintain documentation to exhibit compliance and assist in tracking progress.

2.1.2 Suggested Measurable Goals

The installation will strive to achieve the following measurable goals for this MCM.

Target Date	*Milestones Completed*
Dec 2021	▪ Conduct a minimum of six storm water awareness training events for DOD and non-DOD tenants. Also, presentations on water quality and storm water issues are conducted in school classrooms, SYNERGY meetings, Family Readiness Groups, Scout Groups and School Age Services. ▪ Printed educational materials developed and a minimum of 2,500 will be distributed annually and as needed to DOD and non-DOD tenants, civilian employees, school groups, libraries, soldiers, veterinary treatment facility, temporary visitors, and on-post family housing residents, using appropriate means such as the Soldier and new employee onboarding process, event participation, etc. ▪ Continue to update existing website to disseminate information related to the Phase II program. Track number of webpage hits monthly. ▪ Update and conduct survey for target populations. ▪ Storm water awareness and water quality information will be aired on the installations Channel 9, displayed on the community bulletin board, displayed on the mobile sign at gates and printed in The Courier. ▪ Ensure that all storm drain grates are embossed or decaled with a message. Coordinate with groups such as Housing Coordinators and school environmental clubs for storm drain marking projects.

Target Date	*Milestones Completed*
Dec 2022	▪ Conduct a minimum of six storm water awareness training events for DOD and non-DOD tenants. Also, presentations on water quality and storm water issues are conducted in school classrooms, SYNERGY meetings, Family Readiness Groups, Scout Groups and School Age Services. ▪ Printed educational materials developed and a minimum of 2,500 will be distributed annually and as needed to DOD and non-DOD tenants, civilian employees, school groups, libraries, soldiers, veterinary treatment facility, temporary visitors, and on-post family housing residents, using appropriate means such as the car registration process, event participation, etc. ▪ Continue to update existing website to disseminate information related to the Phase II program. ▪ Use surveys to fine tune messages to target audiences. ▪ Storm water awareness and water quality information will be aired on the installations Channel 9, displayed on the community bulletin board and printed in The Courier. ▪ Ensure that all storm drain grates are embossed or stenciled with a pollution prevention message. Coordinate with groups such as Fort Campbell Family Housing Coordinators, SYNERGY and school environmental clubs for storm drain marking projects.
Dec 2023	▪ Conduct a minimum of six storm water awareness training events for DOD and non-DOD tenants. Also, presentations on water quality and storm water issues are conducted in school classrooms, SYNERGY meetings, Family Readiness Groups, Scout Groups and School Age Services. ▪ Printed educational materials developed and a minimum of 2,500 will be distributed annually and as needed to DOD and non-DOD tenants, civilian employees, school groups, libraries, soldiers, veterinary treatment facility, temporary visitors, and on-post family housing residents, using appropriate means such as the car registration process, event participation, etc. ▪ Continue to update existing website to disseminate information related to the Phase II program.

	▪ Storm water awareness and water quality information will be aired on the installations Channel 9, displayed on the community bulletin board and printed in The Courier. ▪ Ensure that all storm drain grates are embossed or stenciled with a pollution prevention message. Coordinate with groups such as Fort Campbell Family Housing Coordinators, SYNERGY and school environmental clubs for storm drain marking projects.
Dec 2024	▪ Conduct workshops for United States Army Corps of Engineers (USACE), DPW, and construction contractor representatives. ▪ Conduct a minimum of six storm water awareness training events for DOD and non-DOD tenants. Also, presentations on water quality and storm water issues are conducted in school classrooms, SYNERGY meetings, Family Readiness Groups, Scout Groups and School Age Services. ▪ Brochures developed and a minimum of 2,500 will be distributed annually and as needed to DOD and non-DOD tenants, civilian employees, school groups, libraries, soldiers, veterinary treatment facility, temporary visitors, and on-post family housing residents, using appropriate means such as the car registration process, event participation, etc. ▪ Continue to update existing website to disseminate information related to the Phase II program. ▪ Storm water hotline to provide education information established. ▪ Storm water awareness and water quality information will be aired on the installations Channel 9, displayed on the community bulletin board and printed in The Courier. ▪ Ensure that all storm drain grates are embossed or stenciled with a pollution prevention message. Coordinate with groups such as Fort Campbell Family Housing Coordinators, SYNERGY and school environmental clubs for storm drain marking projects.
Dec 2025	▪ Measured improvement in overall storm water quality being discharged from the installation. ▪ Conduct workshops for United States Army Corps of Engineers (USACE), DPW, and construction contractor representatives.

	▪ Conduct a minimum of six storm water awareness training events for DOD and non-DOD tenants. Also, presentations on water quality and storm water issues are conducted in school classrooms, SYNERGY meetings, Family Readiness Groups, Scout Groups and School Age Services. ▪ Brochures developed and a minimum of 2,500 will be distributed annually and as needed to DOD and non-DOD tenants, civilian employees, school groups, libraries, soldiers, veterinary treatment facility, temporary visitors, and on-post family housing residents, using appropriate means such as the car registration process, event participation, etc. ▪ Continue to update existing website to disseminate information related to the Phase II program. ▪ Storm water awareness and water quality information will be aired on the installations Channel 9, displayed on the community bulletin board and printed in The Courier. ▪ Ensure that all storm drain grates are embossed or stenciled with a pollution prevention message. Coordinate with groups such as Fort Campbell Family Housing Coordinators, SYNERGY and school environmental clubs for storm drain marking projects.

2.2 PARTICIPATION AND INVOLVEMENT

Fort Campbell is a federal military facility whose primary mission is to provide support for the nation's defense. Public participation and involvement is not always consistent with this mission. Fort Campbell will therefore limit the involvement and participation of non-DPW entities in any kind of program management. To satisfy the requirements of this MCM, the installation will develop and implement a program to ensure that DOD and non-DOD tenants, civilian employee, on-post family housing resident, etc. are kept adequately informed regarding the development, implementation, review, and enforcement of the installation's Stormwater Management Program. The Fort Campbell uses the following advertising methods for Public Participation and Involvement to keep interested groups informed on the progress made by the program:

- Fort Campbell Environmental Division Website, https://home.army.mil/campbell/index.php/about/Garrison/dpw/environmental

- Fort Campbell Courier Newspaper, Fort Campbell cable Channel 9, Campbell Connection e-mail announcement system, questionnaires and surveys, and meetings and presentations to schools, residents, Soldiers, and civilian workers.

The installation facilitates opportunities for involvement when possible and markets these events. Events include clean up days and events where educational booths are set up. The program will encourage the installation to practice environmentally conscientious behaviors in regards to water quality at their individual homes and locations.

The installation will maintain documentation to exhibit compliance and assist in tracking progress.

2.2.1 Best Management Practices

One or more of the following practices are used:

- Meetings and presentations to groups interested in being informed of about the installation's storm water management policies and BMPs.
- Recruitment of DOD and non-DOD tenants, school groups, and on-post family housing residents to participate in installation-wide events where storm water issues are presented.
- Conduct clean-up days along local waterways and around storm drains.
- Mechanisms to receive reports of potential for storm water pollution from tenants and residents.
- Promotion of the "Adopt A Storm Drain" programs to encourage school groups and on-post family housing residents to take proactive steps in keeping storm drains free of debris.
- Recruitment of contact information of military personnel and citizens who wish to join the Volunteer Database and be directly informed of pertinent stormwater issues, events, clean-ups, and meetings.

2.2.2 Measurable Goals

The installation will strive to achieve the following measurable goals for this MCM:

Target Date	*Milestones Completed*
Dec 2021	▪ Publish presentation for DOD and non-DOD tenants, civilian employees, etc. on website to inform them about the Phase II program. ▪ Identification of professional and social groups interested in storm water issues. ▪ Project Clean Streams, Operation Eagle Pride, Earth Day, and Volunteer to Adopt a Storm Drain are programs that have been implemented to conducted annual installation wide clean ups along waterways, urbanized areas and around storm drains. ▪ Improved storm water surveys to determine the areas where public involvement may be focused.
Dec 2022	▪ Update presentation for DOD and non-DOD tenants, civilian employees, etc. on website to inform them about the Phase II program. Annual events will be organized to inform interested groups on progress that have been made. ▪ Continued identification of professional and social groups interested in storm water issues. ▪ Conduct storm water awareness training for DOD and non-DOD tenants. ▪ Conduct education program for civilian contractor employees. ▪ Conduct installation wide environmental clean up programs. ▪ Conduct Storm water survey. ▪ Measure increase in participation in events where storm water issues are discussed.
Dec 2023	▪ Update presentation for DOD and non-DOD tenants, civilian employees, etc. on website to inform them about the Phase II program. ▪ Continued identification of professional and social groups interested in storm water issues. ▪ Tenant representative will be requested to participate in installation wide events conducted each year where storm water issues are discussed. ▪ Conduct storm water awareness training for DOD and non-DOD tenants. ▪ Conduct education program for civilian contractor employees.

Target Date	*Milestones Completed*
	▪ Conduct installation wide environmental clean up programs. ▪ Conduct Storm water survey. ▪ Measure increase in participation in events where storm water issues are discussed..
Dec 2024	▪ Conduct an installation-wide meeting or presentation for DOD and non-DOD tenants, civilian employees, etc. to inform them about the Phase II program. Annual events will be organized to inform interested groups on progress that have been made. ▪ Continued identification of professional and social groups interested in storm water issues. ▪ Tenant representative will be requested to participate in installation wide events conducted each year where storm water issues are discussed. ▪ Conduct storm water awareness training for DOD and non-DOD tenants. ▪ Conduct education program for civilian contractor employees. ▪ Conduct installation wide environmental clean up programs. ▪ Conduct Storm water survey. ▪ Measure increase in participation in events where storm water issues are discussed.
Dec 2025	▪ Update presentation for DOD and non-DOD tenants, civilian employees, etc. on website to inform them about the Phase II program. ▪ Continued identification of professional and social groups interested in storm water issues. ▪ Conduct storm water awareness training for DOD and non-DOD tenants. ▪ Conduct education program for civilian contractor employees. ▪ Conduct installation wide environmental clean up programs. ▪ Conduct Storm water survey. ▪ Measure increase in participation in events where storm water issues are discussed.

2.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION PLAN

Fort Campbell prohibits, through the FC Regulation 200-1, non-storm water discharges (except as below) into the storm sewer system and has implemented appropriate tracking and enforcement procedures. Discharging concrete wash-out, oils, paints, yard debris and other pollutants to the storm water system (including ditches and off-site grounds) shall be expressly prohibited.

To satisfy the requirements of this MCM, the installation undertakes the following:

1. Prohibits, through CAM REG 200-1, Paragraph 13r, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions.
2. Continues to update the installation's storm sewer system map to show all urbanized areas including location of all outfalls and sink holes and the names and location of all waters of the state/United States that receive discharges from those outfalls. The map shall also include stormwater contribution points such as inlets and catch basins, and a general depiction of runoff flow.
3. Informs through the education and outreach MCM DOD and non-DOD tenants, civilian employees, businesses, on-post family housing residents, and the other interested groups of the hazards associated with illegal discharges and improper disposal of waste.
4. Continues to evaluate the following categories of non-storm water discharges or flows (i.e., illicit discharges) to determine if they are a significant source of pollution to the storm sewer system:
   - water line flushing,
   - landscape irrigation,
   - diverted stream flows,
   - rising ground waters,
   - uncontaminated ground water infiltration,
   - uncontaminated pumped ground water,
   - discharges from potable water sources,
   - foundation drains,
   - air conditioning condensation,
   - irrigation water
   - springs,

- water from crawl space pumps,
- footing drains,
- lawn watering,
- individual residential car washing,
- flows from riparian habitats and wetlands,
- dechlorinated swimming pool discharges,
- street wash water,
- Discharges or flows from fire fighting activities, and
- charity car washes.

Note that discharges or flows from fire fighting activities, which are excluded from the effective prohibition against non-storm water, will be addressed **only** where they are identified as significant sources of pollutants to surface water bodies.

5. Continues to detect illicit discharges in hotspots, or priority areas, where it is more likely for contaminants to contribute to impairment. Priority areas include retail locations, food service establishments, and military unit maintenance areas

The installation will maintain documentation to exhibit compliance and assist in tracking progress. The Stormwater Program has a standard report format to record incidents.

2.3.1 IDDE Procedure

The Fort Campbell Stormwater Program uses the following procedure for IDDE:

1. Provides IDDE training to units and activities through the Environmental Quality Officer Course and through individual unit training sessions. Awareness education is also achieved through event handouts, posters, marquee boards, and Fort Campbell Channel 9 advertisements.

2. Identifies illicit discharges.

a. Fort Campbell inspects at a minimum 20 percent annually of MS4 Outfalls during dry weather periods (48 hours with no precipitation). Visual inspection for indicators of pollutants includes odor; oil sheen; discoloration; or high degree of siltation or aquatic plant growth.

Outfall inspection forms are filled out in the field and maintained at the Stormwater Program office.

b. Observation during daily routine driving and site visits on the installation.

c. Reporting from Soldiers, Civilians, and Family Members through 911, to the Environmental Division Spill Program, or to the Stormwater Program at 270-798-9586/7470/9858.

> "Call 911 if you believe the matter is an urgent water quality concern such as something unusual in a ditch or waterway such as unusually colored water, the appearance of a fuel slick or a suspicious material on the land that could wash in to the storm drain system. If you notice something that is not urgent (it can wait until the next day), please call (270) 798-9586/9858."

3. Finds the Source and Responsible Party

The Program investigates to find the source of the discharge, work to get it cleaned up if practical, reports the violation to the applicable chain of command or through the contract process, and advises on corrective action and future prevention. The Program personnel will attempt to investigate the same day as the initial report is received (during normal duty days) and stop the discharge as soon as possible. Generally Fort Campbell Environmental Division personnel will make the decisions to report water quality impairments deemed severe or urgent to the Kentucky Department for Environmental Protection's environmental hotline, Tennessee Division of Water Resources' environmental hotline, or the National Response Center.

4. Monitoring

Program personnel will continue to monitor the site of the incident until resolution is achieved.

5. Documentation

Documentation is maintained at the Stormwater Program office.

2.3.2 Best Management Practices

- **Updating the Map** – Fort Campbell is continually updating the installation's storm water system map. All "urbanized areas" of the installation are surveyed so that they can be accurately depicted on the storm water system map. The upgraded Phase II storm water map will also show all known storm water conveyances including sewer lines, outfalls, and sink holes (Class V injection wells) that receive storm water runoff.

- **Non-storm Water Discharge Control** – The installation currently prohibits discharge of non stormwater sources of pollutants, such as POL products and paint, into the installations stormwater conveyance system.

- The installation's current plan will be reviewed and modified as required to ensure that it contains updated information to adequately address the following four areas:

  1. Procedures for identifying and locating priority areas for non-storm water discharge screening and inspections.
  2. Methods for determining the source.
  3. Actions to be taken to remove/correct illicit connections.
  4. Procedure for documenting actions taken/Record Keeping.
  5. Work with contracted sanitary collection system/WWTP operator to identify and prevent ex-filtration to the Fort Campbell MS4.

- **Monitoring** – All storm water outfalls will be monitored periodically through dry-weather screening to inspect for evidence of non-storm water discharges. Generally twenty percent of representative outfalls will be evaluated annually and discussed in the annual report. Two outfalls are located in one of the firing range areas and are generally inaccessible. An outfall inspection program and checklist is being developed.

- **Spills and illicit discharges are tracked and are summarized in the annual reports to the states.**

- **Education and Outreach** – Tailored modules are used in the installation's education & outreach program to educate soldiers, tenants, civilian employees, businesses, on-post residents. Educational outreach efforts include one or more of the following:

1. Awareness training for DOD and non-DOD tenants, transient DOD units, and civilian employees to educate them on hazards of illegal dumping.
2. Developing informative brochures and guidance for specific audiences such as DOD and non-DOD tenants, civilian employees that operate auto repair shops, motor pools and aircraft maintenance shops, and school curricular and/or extra-curricular programs.
3. A program publicizing and facilitating reporting of illicit discharges and illegal dumping.

4. Site specific training for staff, including stormwater (MS4) program personnel and other relevant Directorate of Public Works Employees.
5. Reinforcing and expanding (where necessary) current recycling programs for commonly dumped wastes, such as motor oil, antifreeze, paints, and pesticides. Household Hazardous Waste materials are accepted at the Fort Campbell convenience center.

2.3.3 Measurable Goals

The installation will strive to achieve the following measurable goals for the illicit discharge detection and elimination MCM:

Target Date	*Milestones Completed*
Dec 2021	▪ Urban areas of the installation surveyed as appropriate. ▪ Review Storm Sewer system map on an annual basis. ▪ Provide training on a regular basis on all relevant aspects of storm water issues to individuals associated with industrial activities that have potential for stormwater contamination. ▪ Update Enforcement Response Plan ▪ Maintain Illicit Discharge Log. ▪ Conduct visual monitoring and inspections of major outfalls to detect illicit discharges or illegal dumping. (Goal twenty percent annually) Samples can be taken to identify suspected pollutants. ▪ Prepare tailored modules to train tenants, and on post residents on the impacts associated with illegal dumping and improper waste disposal. ▪ The installation currently has a Recycling Program which includes a Recycling and Convenience Center where DoD and non DoD tenants, USACE representatives, civilian and contract employees and residents of on

Target Date	*Milestones Completed*
	post housing are encouraged to take recyclable goods and household hazardous wastes for proper disposal. ▪ Update revised protocol for Installation residents, civilian and contract workers to phone the Storm Water office to report illicit discharges and illegal dumping. After hours reporting is to on post 911.
Dec 2022	▪ Review updates of CAM –REG 200-1 prohibiting illicit discharges. ▪ Review Storm Sewer system map on an annual basis. ▪ Provide training for DPW Employees in identification and reporting of illicit discharges. ▪ Continue to identify and confirm locations of major outfalls. ▪ Conduct visual monitoring and inspections of twenty percent of major outfalls to detect illicit discharges or illegal dumping. Samples can be taken to identify suspected pollutants. ▪ Develop more robust training for DOD and non-DOD tenants, civilian employees, on-post family housing residents. ▪ Maintain documentation, identification, and rectification of sources of illicit discharges. ▪ Maintain illicit discharge log to document, identify and rectify sources of illicit discharges. ▪ Continue to promote the use of the Recycling and Convenience Centers.
Dec 2023	▪ Review Storm Sewer system map on an annual basis. ▪ Maintain illicit discharge log to document, identify and rectify sources of illicit discharges. ▪ Maintain documentation of DOD and non-DOD tenant participation in hazardous waste collection efforts. ▪ Continue to promote the use of the Recycling and Convenience Centers. ▪ Conduct visual monitoring and inspections of twenty percent of major outfalls to detect illicit discharges or illegal dumping. ▪ Provide training for DPW and other Employees in identification and reporting of illicit discharges.
Dec 2024	▪ Review Storm Sewer system map on an annual basis. ▪ Maintain illicit discharge log to document, identify and rectify sources of illicit discharges. ▪ Maintain documentation of DOD and non-DOD tenant participation in

Target Date	*Milestones Completed*
	hazardous waste collection efforts. ▪ Continue to promote the use of the Recycling and Convenience Centers. ▪ Conduct visual monitoring and inspections of twenty percent of major outfalls to detect illicit discharges or illegal dumping. ▪ Provide training for DPW and other Employees in identification and reporting of illicit discharges.
Dec 2025	▪ Maintain illicit discharge log to document, identify and rectify sources of illicit discharges. ▪ Maintain documentation of DOD and non-DOD tenant participation in hazardous waste collection efforts. ▪ Continue to promote the use of the Recycling and Convenience Centers. ▪ Conduct visual monitoring and inspections of twenty percent of major outfalls to detect illicit discharges or illegal dumping. ▪ Review Storm Sewer system map on an annual basis. ▪ Provide training for DPW and other Employees in identification and reporting of illicit discharges.

2.4 CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

The intent of this MCM is to ensure that all construction projects at the installation are managed in a manner that will minimize contamination of stormwater run off from the site and prevent degradation of water quality in water bodies that receive such discharges. At Fort Campbell, the Louisville District of the US Army Corps of Engineers (USACE) is responsible for overseeing all large military construction (MILCON) activities. USACE coordinates its efforts through the DPW to ensure timely and effective implementation of this MCM and obtains required Construction General Permit (CGP) coverage for MILCON and other USACE projects. DPW provides construction oversight on most small construction projects and generally obtains required Kentucky and Tennessee CGP coverage (through the Water Quality Program). Certain development projects are managed by tenant organizations (AAFES, Defense Commissary, etc) that fall under commands other than IMCOM and are not managed by the Garrison. These tenant organizations and the privatized and leased activities such as Water Supply and Distribution; Sanitary Wastewater; natural gas; and housing (subdivision) shall obtain their own CGP permitting while following Fort Campbell MS4 requirements. Requirements for sediment runoff and erosion control on construction projects are also detailed in the Fort Campbell Stormwater Management Plan Development/Construction Requirements and Deliverables (Appendix B).

DPW maintains a Technical Design Guide (TDG), which contains mandatory criteria, policies, and procedures that apply to all design and construction projects at Fort Campbell. To satisfy the requirements of this MCM, the installation TDG includes the following:

1. Requirements for construction site operators to implement appropriate erosion prevention and sediment control and waste control BMPs.
2. Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse water quality impacts.
3. Procedures for pre-construction site plan reviews of construction plans that consider potential water quality impacts. The SWMP requires submittal of the site specific Storm Water Pollution Prevention Plan for review. Once the project proponent/manager submits a Notice of Intent (NOI) to the applicable state and obtains a Notice of Coverage (NOC) (or obtains through the Water Quality Program), the Water Quality Program receives a copy and issues a Fort Campbell EPSC Permit/project number.

The Technical Design Guide will be updated as required to include the following:

1. Reference to this document for specific requirements.
2. Procedures for site inspection and enforcement of control measures.
3. Inclusion of an Enforcement Response Plan (ERP) which will be the procedure detailing the mechanism of enforcement actions, including listing the types of actions, responsible installation officials, and the escalation of enforcement actions.
4. Additional requirements for projects discharging to High Quality Waters and Cold Water Aquatic Habitats.

2.4.1 Best Management Practices

Under the current program, Fort Campbell inspects all construction projects irrespective of the size of the land area impacted. Specific BMPs that have been implemented under this MCM include:

- **Construction Site Plan Reviews for all Proposed Projects** – To ensure that all proposed construction projects on post adequately address recommended sediment, erosion, and construction-waste control practices, the existing procedures for reviewing construction site projects start in the NEPA process. See below for requirements on construction site permitting, Storm Water Pollution Prevention Plans (SWPPPs), and EPSC measures. Plan reviewers should have certification in the TN Design Principles for Erosion Prevention/Sediment Control at Construction Projects, Level 2.

- **Inspections and Penalties** – To ensure that site-specific BMPs are properly installed and maintained at all construction sites, the installation has procedures for periodic site inspections. Trained inspectors conduct these inspections, which focus on ensuring that sediment and erosion control and waste control BMPs have been appropriately implemented and maintained. Sites are rated "Green, Amber, Red", with "Amber" for minor deficiencies and "Red" for major deficiencies. Results of inspections at out of compliance sites are briefed at the monthly DPW Line Item Review to the Director of Public Works. The inspection program provides input, if deficiencies and operator inaction warrant, for enforcement of control measures to deter infractions, detailed in the ERP.

- **Training for Construction Site Personnel** – Working in cooperation with the USACE and DPW the installation assists with access to training for construction site personnel and

familiarizes them with the installation's policy on construction site storm water management. Site operators are required to have an inspector certified by the Tennessee Division of Water Pollution Control in Erosion Prevention and Sediment Control.

- **Mechanism to Deal with Information Submitted by Tenants and On-post Residents** – The installation has implemented a procedure for receiving and tracking, both written and verbal, feedback from tenants and on-post residents regarding stormwater impacts due to local construction activities. The information received will be forwarded to construction site inspectors for possible follow-up action.

- **Construction Stormwater Permitting**

All ground disturbance projects must comply with state NPDES requirements. If the proposed project disturbs one acre of land or greater, compliance with the applicable state Construction General Permit, including a Stormwater Pollution Prevention Plan (SWPPP), is required. Each project proponent must obtain project specific permit coverage through submittal of a Notice of Intent (NOI) and SWPPP to the applicable state or apply through the Water Quality Program. Forms are available at https://www.tn.gov/content/tn/environment/permit-permits/water-permits1/npdes-permits1/npdes-stormwater-permitting-program/npdes-stormwater-construction-permit.html. for Tennessee and http://water.ky.gov/permitting/Documents/GPWeb/KYR10PermitPage.pdf. for Kentucky.

Stormwater permitting and compliance at Fort Campbell generally proceeds in the following sequence:

1) At Project Charrettes and other initial design meetings specific EPSC and permitting requirements will be addressed.

2) Project designers will develop the SWPPP. Following project design review the project designer or contractor submits the SWPPP through the contracting agency to DPW Environmental Division for initial review (See attached TN NOI/SWPPP Checklist).

3) For MILCON projects a Notice of Intent (NOI) and the SWPPP, signed by an official at the COE District (or the designer of record/contractor), will be submitted to the applicable state by the COE District office. NOIs for Tennessee projects are sent to the Nashville Environmental Field Office (EFO); the state review and approval process may require 30 days. Tennessee NOI

submissions include fees paid by the project. Kentucky NOIs are submitted through the Kentucky Division of Water website and require about seven days for state review and approval.

4) For Garrison contracted projects the Water Quality Program Manager will assist in submitting the NOI and SWPPP to the Tennessee Division of Water Resources or Kentucky Division of Water (as applicable) under Garrison Commander signature and, if obtainable, contractor signatures. In some cases NOIs and SWPPPs on projects with sufficient design work may be submitted to the state prior to award. Supplemental NOIs with contractor signature would be submitted after award. Fort Campbell DPW will pay the Tennessee NOI fee.

5) Non-garrison and privatized activities will submit their own NOIs and SWPPPs to the applicable state. These activities shall allow the FC Water Quality Program to review the SWPPP prior to submittal.

6) When permit coverage is obtained a pre-construction meeting is held to resolve all questions and issues. Contractor agrees to implement the requirements of the approved SWPPP. DPW Environmental retains a copy of the project's NOI, Notice of Coverage (NOC) and SWPPP. A Fort Campbell EPSC Permit with project number is issued by the Water Quality Program. This is required before ground disturbance can begin.

7) Upon achieving final 95 percent stabilization and project completion the site operator (COE, DPW, or other activity) submits a Notice of Termination (NOT) to the applicable state. Upon state concurrence a copy is provided to DPW Environmental for final closure.

Small Construction Sites (Less than One Acre)

Projects that disturb less than one acre, in most cases, do not require state permitting. (The exception would be two or more projects occurring simultaneously in the same activity location, where total disturbance is one acre or greater. The states define this as a "common plan of development". The Water Quality Program will make this determination during the planning and design process.). Such projects may still require a SWPPP and a Fort Campbell Permit. Steps 1-2 and 6-7 apply. Clearing or grubbing, not in the vicinity of a stream, which disturbs less than 5,000 square feet of land area and less than 100 cubic yards of earth would only require a simple EPSC drawing.

Storm Water Pollution Prevention Plans (SWPPPs)

The project proponent, the contract management agency, or the contractor is required to develop a comprehensive site specific plan and strictly following the outlines presented in the appropriate Tennessee NPDES Construction General Permit (follow the Tennessee NOI/SWPPP checklist) or Kentucky KPDES General Permit for Construction Activities. The SWPPP indicates the manner in which the project operators will comply with the permit. The SWPPP shall be a stand-alone plan which will be submitted to the DPW Environmental Division through the appropriate contracting agency for review prior to submittal to the state regulatory agency. In Tennessee the narrative portion of the SWPPP must be prepared by a person that successfully completed the Level II Design Principles for Erosion Prevention and Sediment Control at Construction Sites or a professional engineer or architect licensed in the state of the project site (Kentucky or Tennessee). A professional engineer or architect licensed in the state where the project is sited (Kentucky or Tennessee), and qualified by education and experience to perform the necessary hydrologic and hydraulic calculations shall be used for designs of temporary sediment basins or detention ponds, or any permanent stormwater feature, such as infiltration trenches, rain gardens, permeable pavements, bio-retention basins, etc., wherever such features are required. The SWPPP designer is advised to make site visits in order to develop an accurate and effective SWPPP.

Site-specific design drawing depicting the erosion and sediment control plan for the construction project are required. Drawing sets for sites five acres and above must cover three phases of construction: initial grading, interim activities, and final grading (See 3.5.2, TN CGP TNR100000). Smaller projects must have at least initial and final erosion prevention/sediment control drawings.

For each outfall receiving drainage totaling five or more acres (disturbed and undisturbed) a site assessment shall be performed within a month of construction commencing by individual(s) with at minimum the Level II Course completion or with a professional engineer license in the state where the project is located.

Note: The SWPPP is a living document and will need revision and updating due to changing site conditions and requirements for improvement of BMPs. Redlining the SWPPP and associated plan drawings is acceptable.

- **Erosion Prevention and Sediment Control (EPSC) Requirements**

BMPs shall be designed, constructed, and maintained according to accepted engineering practices. The Tennessee Erosion and Sediment Control Handbook (2012) is to be used as references for BMP design and details. Both structural and non-structural measures, otherwise known as Best Management Practices (BMPs), shall be employed at sites to reduce the potential for stormwater pollution.

New construction , including clearing and grubbing, shall not be allowed until NPDES permit coverage is obtained and properly designed temporary or permanent erosion prevention and sedimentation control management practices have been installed and are operational. Erosion due to various land clearing and development activities must be controlled on-site. Off-site sedimentation is not allowed. Boundaries of a construction site should be delineated on the project plans.

Discharging concrete wash-out, oils, paints, yard debris and other pollutants to the storm water system (including ditches and off-site grounds) shall be expressly prohibited.

Erosion prevention and sedimentation control practices shall ensure properties that drain to sensitive drainage ways or sinkholes are adequately protected. The water quality treatment standard shall be the same as for surface discharges.

The construction site operator is responsible for sediment and other pollutants leaving the construction site. The Prime Contractor shall also have the responsibility to ensure all sub-contractors performing work on their project either meet the requirements of their SWPPP or have submitted an additional SWPPP for their work. All site operators must comply with grading, drainage, erosion and stormwater quality plans for the development they are building.

For discharges to Impaired, TN Exceptional or KY High Quality Streams the following requirements must be met:
Discharges into impaired, Cold Water Aquatic habitat, exceptional, or high quality water streams require additional erosion and sediment controls. Construction activities near or adjacent to an impaired or high quality stream will require protection of a minimum of 60-foot natural riparian buffer zone between the stream and the disturbed construction area. In addition, for an outfall in a drainage area of a total of 5 or more acres, a temporary (or permanent) sediment basin that

provides storage for a calculated volume of runoff from a 5-year, 24-hour storm and runoff from each acre drained, or equivalent control measures, shall be provided until final stabilization of the site.

2.4.2 Measurable Goals

The installation will strive to achieve the following measurable goals for this MCM:

Target Date	*Milestones Completed*
Dec 2021	▪ Update of the Fort Campbell Stormwater Management Plan and CAMREG 200-1 in accordance with TN EPSC Handbook. ▪ Update protocol for permitting process with USACE, DPW, and tenant activities. ▪ Update Enforcement Response Plan. ▪ All construction sites are officially inspected on a monthly/quarterly basis. Priority sites are identified and are re-inspected frequently. Inspection log sheets are used to document the findings of the inspections and corrective actions. ▪ Host TN EPSC training and conduct as needed EPSC training for USACE and DPW representatives and civilian and construction site personnel to familiarize them with the installations policy. ▪ The TDG will be updated to include new permit requirements. ▪ Installation residents are able to phone the Storm Water Program Manager, or Storm Water Office to report potential storm water runoff coming from construction sites. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Begin implementation of new MS4 Permit Requirements.
Dec 2022	▪ Complete update of the TDG. ▪ Measured increase in rate of compliance achieved by construction operators. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Conduct annual or as needed EPSC training for USACE and DPW representatives and civilian and construction site personnel to familiarize them with the installations policy. ▪ Storm water hotline is available for use by the Fort Campbell public to

	comment or make complaints on storm water related issues.
Dec 2023	▪ Complete update of the TDG to incorporate policy dealing with construction site runoff control. ▪ Measured increase in rate of compliance achieved by construction operators. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Conduct annual or as needed Erosion Prevention and Sediment Control training for USACE and DPW representatives and civilian and construction site personnel to familiarize them with the installations policy. ▪ Storm water hotline is available for use by the Fort Campbell public to comment or make complaints on storm water related issues.
Dec 2024	▪ Complete update of the TDG to incorporate policy dealing with construction site runoff control. ▪ Measured increase in rate of compliance achieved by construction operators. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Conduct annual or as needed Erosion Prevention and Sediment Control training for USACE and DPW representatives and civilian and construction site personnel to familiarize them with the installations policy. ▪ Storm water hotline is available for use by the Fort Campbell public to comment or make complaints on storm water related issues.
Dec 2025	▪ Complete update of the TDG. ▪ Measured increase in rate of compliance achieved by construction operators. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Conduct annual or as needed EPSC training for USACE and DPW representatives and civilian and construction site personnel to familiarize them with the installations policy. ▪ Storm water hotline is available for use by the Fort Campbell public to make complaints on storm water related issues. ▪ Measure improvements in overall stormwater quality being discharged from the installation.

2.5 POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

To achieve compliance with this MCM, the installation has developed and enforces a program to reduce pollutants in post-construction runoff to the sewer system from new development and redevelopment projects that result in the land disturbance of greater than or equal to 1 acre. Key elements of this program include:

1. Incorporation of strategies into the installation's Technical Design Guide (TDG) to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre including projects of less than one acre that are part of a larger common plan of development or sale.
2. Reduce pollutants in stormwater runoff to the maximum extent practicable and treating the water quality volume or "first flush".
3. Follow Army and DoD policy in regard to Low Impact Development and EISA Section 438.
4. Requirements to protect and maintain riparian buffer zones in areas of new development and redevelopment.
5. Determining appropriate structural and/or non-structural best management practices (BMPs). Ensure adequate long-term operation and maintenance of controls and ensure a functional stormwater management system that will not result in excessive maintenance costs;
6. Maintain the Post Construction BMP (Inventory and Inspection) Database used to identify and monitor needs.

Specifications shall be implemented for all new storm drainage system construction within the cantonment area of the Installation. Specifications are found in the 2014 Fort Campbell TDG, Section 33 40 00.

All projects must address the 2007 Energy Independence and Security Act, Section 438, which requires 'Federal facility projects over 5,000 square feet must "maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."' This is a requirement of Federal Regulation and is not a permit condition under NPDES Clean Water Act Permits. The area's karst geology must be considered when evaluating technologies to achieve Section 438 goals.

The policy of Fort Campbell (and DoD) is reduction of stormwater peak runoff rates during the design storm event to predevelopment (pre-project) levels. Green site predevelopment levels are defined herein as the peak rate of runoff that would be produced by the design storm event from native grassland indigenous to the area. New project construction and storm water system design features shall be implemented to insure that post-development storm water runoff does not exceed pre-development runoff levels.

Rainfall/Design Storm Event

Fort Campbell utilizes the NRCS method based on a 24-hr storm event with various time distributions, depending on the watershed location. The Type II storm distribution is a "typical" time distribution developed by the NRCS from historical rainfall records and will be used for rainfall calculations at Fort Campbell. Complete rainfall records can be found at http://hdsc.nws.noaa.gov/hdsc/pfds/. Fort Campbell looks at the two, 10 and 100 year storms.

Runoff Factor/Curve Number (CN)

Fort Campbell soils are comprised of mostly Pembroke series soils. The Pembroke soils fall into soil group B of the NRCS Hydrological Soils Classification system. The pre- developed land use of the Post for green space has been defined as native pastures in fair condition and a CN of 61 (for native grassland in good condition with 75% cover) shall be used to calculate the pre-development runoff levels. For re-development, the CN of the pre-project land use area shall be determined.

Numerous low impact development (LID) measures relative to stormwater management have been developed nationally to control the rate and quantity of runoff and improve water quality. Each project shall incorporate specific LID strategies in order to implement the policies adopted at Fort Campbell and to achieve water quality and reduced runoff rate objectives. While no one technology may be appropriate or applicable to all projects, some measures will be required for all projects. Fort Campbell encourages the implementation of those measures that require minimal operation and maintenance effort. Some infiltration technologies may not be appropriate for Fort Campbell's Karst topography. Certain designs may also fall under Class V UIC regulations.

2.5.1 Best Management Practices

*Specific B*MPs that will be considered for implementation will include Low Impact Development (LID) practices such as:

Non-Structural BMPs

- **Updated Planning and Procedures –** As deemed necessary, the installation's planning procedures are modified to include adoption of post-construction storm water management BMPs such as promoting use of buffer strips, riparian zone preservation, minimization of disturbance and imperviousness, and maximization of open space. Specific requirements for buffers in riparian zones are specified in the Fort Campbell Integrated Natural Resource Management Plan.

Water quality buffer means a setback from the top of water body's bank of undisturbed vegetation, including trees, shrubs and herbaceous vegetation; enhanced or restored vegetation; or the re-establishment of native vegetation bordering streams, ponds, wetlands, springs, reservoirs or lakes, which exists or is established to protect those water bodies. The goal of the water quality buffer is to preserve undisturbed vegetation that is native to the streamside habitat in the area of the project. Vegetated, preferably native, water quality buffers protect water bodies by providing structural integrity and canopy cover, as well as stormwater infiltration, filtration and evapotranspiration.

At Fort Campbell, 100-foot wide, vegetated buffers are maintained along each side of perennial streams (first-order and larger), lakes, and ponds. For first- and second-order streams, the buffer area is measured from the center of the stream. For larger streams (third-order and higher) and rivers, the 100-foot buffer is measured from the stream bank. The 100-feet criterion for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than 50 feet at any measured location. Every attempt should be made for development and redevelopment activities not to take place within the buffer zone. A 50-foot wide, vegetated buffer is maintained along each side of intermittent streams. With approximately 62 miles of perennial streams and 115 miles of intermittent streams, Fort Campbell has approximately 2,897 acres of riparian management areas. Stream classification and the associated riparian buffer are maintained within the GIS database.

Structural BMPs

- **Use of Runoff Storage Practices –** The installation requires incorporation of BMPs such as wet ponds, dry basins, pervious pavement, or multi-chamber catch basins that store or detain storm water in new development site plans. Runoff stored will be released slowly to receiving waters or drainage systems, as appropriate. Peak discharge rates are not to exceed predevelopment (pre-project) levels.
- **Treatment of Water Quality Volume-** The summation of all storm water features combined must treat the first flush runoff or Water Quality Volume (WQV) of the 85th percentile storm event (1.1 inches of precipitation over the entire contributing area). The WQV must be treated for at least 80 percent removal of Total Suspended Solids (TSS). This calculated volume must be discussed in the design notes.
- **Promoting Use of Green Infrastructure –** The installation promotes and encourages incorporation of green infrastructure in new development site plans. Examples are bioswales, filter strips, and rain gardens. Adoption of green infrastructure practices result in reduced storm water quantity and reduced mobilization of pollutant, maintain/improve natural site hydrology, promote healthier habitats, and increase aesthetic appeal. Some infiltration may be achievable, but due to clay soils and karst features, underdrains tied to existing storm sewer system must be considered.
- **Promoting run off volume curtailing practices –** The installation promotes practices that lead to reduced peak flow and total runoff from built-up areas.
- **Post Construction Site Maintenance Plan–** All post construction maintenance for Best Management Practices (BMP) designed to mitigate pollutants in storm water runoff will be managed by the Directorate of Public Works (DPW) Environmental Division, Storm Water Program through the process of monthly and yearly inspections. All new construction on the installation is warranted for a period of twelve (12) months, once the warranty period has expired, all maintenance becomes the responsibility of the DPW. Structures will be assessed by a professional engineer at least once every five years. Once a deficiency has been identified and assessed during an inspection, procedures for corrective actions are submitted through the DPW utilizing the installation work order section. All work orders are monitored by the Storm Water Manager until completion. Under the installation's Phase I Storm Water Management Plan, procedures have been established to identify both baseline and Advanced BMPs. Advanced storm water management practices are techniques, equipment, structures, or construction practices that prevent hazardous materials or wastes from reaching the environment in storm runoff. Implementation of new advanced practices or maintenance and

upkeep of existing advanced practices managed under the installation work order section as well.

Requirements are summarized in the Fort Campbell Stormwater Management Plan Development/Construction Project Deliverables and Requirements document.

Use the following references-

The December 2014 *Tennessee Permanent Stormwater Management and Design Guidance Manual shall be used in site design. This manual is available at*. http://tnpermanentstormwater.org/manual.asp.

U.S. Army LID Technical Users Guide, found at: https://www.usace.army.mil/Portals/2/docs/Sustainability/Hydrology_LID/Army_LID_Technical_User_Guide_January2013.pdf.

Other control measures are described in professional journals and accepted design manuals of state and federal agencies. The designer is encouraged to select those measures that will work best within the constraints of their development and site conditions of Fort Campbell.

2.5.2 Measurable Goals

The installation will strive to achieve the following measurable goals for this MCM:

Target Date	*Milestones Completed*
Dec 2021	▪ Strategies developed that include implementation of structural and/or non-structural LID BMPs for control of post-construction storm runoff from new and redevelopment projects. ▪ Incorporate remaining additional Water Quality requirements for areas discharging to High Quality Waters. ▪ Developed protocol/planning guidance that incorporates the TN *Permanent Stormwater Management and Design Guidance Manual* in design of future projects. ▪ Pilot program or workshop with a unit on maintaining plants in bio-basin

	(Adopt a Basin). ▪ Develop protocol for implementing maintenance procedures on permanent stormwater management features, including plants in bio-basins (grounds maintenance contract?) Evaluate plants during monthly inspections. ▪ The TDG updated to incorporate strategies to address storm water runoff from new developments and redevelopments. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Measured improvement in overall storm water quality being discharged from the installation. ▪ Maintain post construction BMP database. The purpose of this database is to identify and make recommendations for BMP improvements, vegetative practices, runoff pretreatment practices, on-lot treatments etc. ▪ Inspect and provide maintenance as appropriate to grassed channels, inlets and outlets, detention and retention basins. ▪ Begin implementation of new MS4 Permit Requirements.
Dec 2022	▪ Update of TDG as appropriate. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Draft sampling plan for representative major outfalls. ▪ Measured improvement in overall storm water quality being discharged from the installation. ▪ Conduct inspections for maintenance or repairs.
Dec 2023	▪ Update of TDG as appropriate. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Measured improvement in overall storm water quality being discharged from the installation. ▪ Conduct inspections for maintenance or repairs.
Dec 2024	▪ Update of TDG as appropriate. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Measured improvement in overall storm water quality being discharged from the installation. ▪ Conduct inspections for maintenance or repairs.
Dec 2025	▪ Update of TDG as appropriate. ▪ Improved clarity and reduced sedimentation of local water bodies. ▪ Measured improvement in overall storm water quality being discharged

	from the installation. ▪ Conduct inspections for maintenance or repairs.

2.6 POLLUTION PREVENTION/GOOD HOUSEKEEPING

The intent of this MCM is to ensure that installation-wide housekeeping operations are performed in ways that will minimize contamination of storm water discharges. Examples of such operations include landscaping (including use of fertilizers and pesticides), storm drain cleaning and maintenance, street salting, utilities maintenance, etc. At Fort Campbell, most of these operations are performed either by contractors or by civilian utility employees.

To achieve compliance with this MCM the installation has incorporated the following:

1. Development of an operation and maintenance program (and written O&M Plans) with the ultimate goal of preventing or reducing pollutants runoff from installation housekeeping operations into the storm sewer system.
2. Maintain a utility and contractor employee training program which focuses on methods that incorporate pollution prevention/good housekeeping techniques into routine maintenance operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

2.6.1 Best Management Practices

Specific BMPs that have been incorporated includes:

- Evaluating existing projects for incorporation of additional water quality protection devices or practices.
- Identifying ways to ensure that new flood management projects assess impacts on water quality.
- Developed and managing utility employee training programs.
- Identification and management of maintenance activities, maintenance schedules, and long term inspection procedures for structural and non-structural controls to reduce floatable and other pollutants discharged from the separate storm sewers.
- Instituting program for ensuring that structural controls, such as grates on outfalls to capture floatables are cleaned and inspected periodically.
- Instituting controls for reducing or eliminating the discharge of pollutants from areas such as

roads and parking lots, maintenance and storage yards (including salt, sand, mulch, and gravel storage areas), and waste transfer stations. Such controls could include programs that promote recycling (to reduce litter), minimize pesticide use, and ensure the proper disposal of animal waste.

- Developing and implementing procedures for the proper disposal of waste removed from the separate storm sewer systems including dredge spoil, accumulated sediments, floatable, and other debris.

2.6.2 Measurable Goals

The installation will strive to achieve the following measurable goals for this minimum control measure:

Target Date	*Milestones Completed*
Dec 2021	▪ Regular street sweeping. ▪ Reinforce installation-wide recycling program. ▪ Conduct evaluation of existing housekeeping practices to identify ways to incorporate additional water quality protection devices or practices. ▪ Conduct evaluation of existing flood management practices and identify ways to incorporate additional flood management practices as deemed necessary. ▪ Conduct good housekeeping training for training for DPW and other garrison representatives and civilian site personnel to familiarize them with the installations policy. ▪ Identification and implementation of maintenance activities, schedules, and inspection procedures for structural and non-structural controls to reduce floatables and other pollutants to the storm water system. ▪ Conduct periodic inspections to ensure that structural controls such as storm grates are in good condition and clean. ▪ Institute controls for reducing or eliminating discharge of pollutants from roads, storage yards etc. ▪ Begin implementation of new MS4 Permit Requirements.
Dec 2022	▪ Conduct good housekeeping training for training for DPW and other garrison representatives and civilian site personnel to familiarize them with the installations policy. ▪ Develop Operations and Maintenance (O & M) Program and written plan for

	Directorate of Public Works and other municipal activities. ▪ Conduct periodic inspections to ensure that structural controls such as storm grates are in good condition and clean. ▪ Institute controls for reducing or eliminating discharge of pollutants from roads, storage yards etc. ▪ Have Roads and Grounds track street sweeping and debris cleanup.
Dec 2023	▪ Maintenance schedule for BMPs established and implemented.
Dec 2024	▪ Measured increase in compliance with maintenance schedules for BMPs. ▪ Controls in place for all areas of concern. ▪ Conduct good housekeeping training for training for DPW representatives and civilian site personnel to familiarize them with the installations policy. ▪ Conduct periodic inspections to ensure that structural controls such as storm grates are in good condition and clean. ▪ Institute controls for reducing or eliminating discharge of pollutants from roads, storage yards etc.
Dec 2025	▪ Conduct good housekeeping training for training for DPW representatives and civilian site personnel to familiarize them with the installations policy. ▪ Conduct periodic inspections to ensure that structural controls such as storm grates are in good condition and clean. ▪ Institute controls for reducing or eliminating discharge of pollutants from roads, storage yards etc. ▪ Measured improvement in overall storm water quality being discharged from the installation.

3.0 PHASE II PROGRAM MANAGEMENT

The Environmental Division of the Fort Campbell DPW is responsible for ensuring that the installation achieves and maintains compliance with the general permit. Specific responsibilities of the Division include:

- Coordinating with the Kentucky Division of Water and the Tennessee Division of Water Resources to seek appropriate permit coverage;
- Maintain an installation Stormwater Management Plan;
- Manage a team to oversee the Fort Campbell Stormwater Management Plan;
- Maintaining the Plan;
- Monitoring the progress made in achieving the objectives of the MS4 Permit; and
- Reporting to the external agencies and internal command, on an as needed basis.

3.1 PROGRAM MANAGEMENT TEAM

The installation currently has a stormwater management team in place to assist the Water Quality Program Manager in achieving and maintaining compliance with the requirements of the KYG20 and TNS000 MS4 General Permits. This team forms the core of the Phase II Program management team. Member of this team are identified as follows:

1. A certified environmental specialist to oversee the management of the six MCMs
2. Four stormwater inspectors with the daily responsibility of conducting data management, site inspections, monitoring, etc.

Team member responsibilities are described in Table 3-1. Figure 3-1 is an organization chart showing the composition of the team.

Table 3-1 Stormwater MS4 Program Management Team

Title	Responsibilities
DPW Environmental Division Water Program Manager	▪ Oversees the management of the entire program. ▪ Provides guidance and information as requested. ▪ Performs annual regulated facility compliance assessments and overall Storm Water Management Program evaluation.
Stormwater Support Manager	▪ Responsible for assisting in all Phase II MCMs. ▪ Coordinating with non-DPW entities on storm water issues. ▪ Responsible for tracking the Illicit Discharge Detection & Elimination and Good Municipal Housekeeping MCMs. ▪ Oversees hydrological studies as needed and mapping requirements. ▪ Responsible for implementing the construction site storm water control and post construction storm water runoff MCMs. Conduct training for tenants, contractors, civilians, and on-post housing residents.
MS4 Coordinator	▪ Coordinates the implementation of the six MCMs throughout the installation and across disciplines. ▪ Responsible for plan Reviews and Updates, Record Keeping, and Reporting. ▪ Oversees Training, Site Inspections, and Monitoring.. ▪ Prepares Annual Progress Reports. ▪
Stormwater Inspectors	▪ Responsible for developing a database to capture numeric and narrative data dealing with Phase II implementation. ▪ Providing CADD and GIS support, as needed. ▪ Conducting industrial site inspections. ▪ Conducting construction site inspections. ▪ Conducting stormwater monitoring. ▪ Conduct training for tenants, contractors, and civilians, as necessary.
Unit EQOs/Facility Managers	▪ Oversee implementation of the SW management program at the regulated facilities. Oversee implementation of housekeeping and preventive maintenance. ▪ Ensure facility Spill Plans are developed and maintained. Serve as emergency spill coordinators. ▪ Assign specific tasks to facility personnel. ▪ Inform Senior EQOs of problems and equipment and training needs.
Unit /civilian employees	Responsible for implementing good housekeeping and preventive maintenance practices, and containing spills at each unit.

FIGURE 3-1

3.2 PLAN REVIEWS AND UPDATES

- The Phase II storm water management team will perform an annual review of the Phase II storm water management program concurrent with the preparation of the annual progress report mentioned in Section 3.3.3.
- Changes (additions but not subtractions or replacements) in components, controls, or requirements to the Phase II program will be made in consultation with the appropriate regulatory agency.
- Changes in replacing an ineffective or unfeasible BMP specifically identified in the implementation plan will be undertaken only upon seeking approval from the concerned regulatory agency.

3.3 MONITORING, RECORD KEEPING, AND REPORTING

3.3.1 Monitoring

- Storm water monitoring at representative locations will be conducted to evaluate compliance, appropriateness of BMPs and progress towards achieving identified measurable goals.

3.3.2 Record Keeping

- The installation will maintain all records relating to management of the Phase II program including monitoring records for a period of at least five years (duration of the two permits).
- Records will be submitted to the appropriate agency upon request.

3.3.3 Reporting

The installation submits an **annual system-wide report** to the Kentucky Division of Water by 15 April for the previous reporting year and to the Tennessee Division of Water Resources by September 30th for the July to June reporting year. Each progress report will include the following:

a. An overall evaluation of the stormwater quality management program developments and progress including: major findings such as water-quality improvements or degradation, major accomplishments, overall program strengths/weaknesses; and future direction of the program. Fort Campbell shall state an overall assessment of the effectiveness of the SWMP

taking into account water quality/watershed improvements;
b. An explanation of how the program evaluated the effectiveness of each of the program elements;
c. The status of the implementation and proposed changes to the stormwater quality management program including assessment of controls and specific improvements or degradation to water quality;

d. A summary of inspections and enforcement actions for regulatory programs;

e. The implementation status of the public education programs;

f. Any improvements in water quality due to watershed activities.

g. The Annual Report shall be submitted to:

1. Kentucky Division of Water Surface Water Permits Branch via the Kentucky Business One Stop Portal

2. Tennessee Division of Water Resources
   Nashville Environmental Field Office
   711 R.S. Gass Blvd
   Nashville, Tennessee 37243

If upon evaluation of the program, improved controls are identified as necessary, the installation will revise the mix of BMPs to provide for a more effective program. Such a change, and an explanation of the change, will be documented in a written report to the appropriate agency.

3.4 MANAGEMENT SCHEDULE

The installation will strive to fully develop, implement, and enforce the Stormwater Quality Management Plan according to the timelines of the KYG20 and TNS000000 permit dates.

Appendix A
Fort Campbell Regulation 200-1

Appendix B

Fort Campbell Stormwater Management Plan Development/Construction Project Deliverables and Requirements Checklist

Fort Campbell Stormwater Management Plan
Development/Construction Project Deliverables and Requirements Check List

Fort Campbell, per CAM REG 200-1, as a permitted Municipal Separate Storm Sewer System (MS4) in Kentucky and Tennessee, has jurisdiction over compliance with all stormwater runoff requirements. These requirements shall apply to all of the following activities within the boundaries of the Installation: Department of the Army/Department of Defense (DA/DoD) activities; all DA/DoD contracted construction and operational activities; all privatized activities (including Military Housing /Campbell Crossing, natural gas distribution, and Wastewater Treatment/Collection Systems and Water Treatment/Distribution Systems); and all tenant/lease activities.

Design Requirements:

The December 2014 *Tennessee Permanent Stormwater Management and Design Guidance Manual shall be used in site design. This manual is available at.* http://tnpermanentstormwater.org/manual.asp.

Proponents for all land disturbing projects must submit a Storm Water Pollution Prevention Plan (SWPPP) for that project to the Fort Campbell Water Quality/Stormwater Program. This plan must include erosion prevention/sediment control (EPSC) drawing(s). Construction activities, not in the vicinity of a stream, which develop a footprint less than 5,000 square feet of land area are exempt. Exempt projects must use effective best management practices to control sediment transport off-site and produce a simple EPSC plan drawing.
Projects disturbing between 5000 square feet and one acre of soil will generally require a simple SWPPP, which includes a narrative of the following: The purpose of the project and the sequence of activities; a description of site drainage; a description of BMPs to be

installed and maintained; and the name of the project inspector. A site location map and erosion prevention/sediment control drawing are to be attached.

For projects one acre or greater, Storm Water Pollution Prevention Plans (SWPPPs) and application for coverage under the state NPDES Construction General Permit must be submitted. SWPPPs must meet requirements of Tennessee or Kentucky NPDES Construction General Permit as applicable. The SWPPP preparer should have at a minimum completed and be certified in the Tennessee Level 2 Design Principals for Erosion Prevention and Sediment Control (EPSC) at Construction Sites Course.

SWPPP - Less than 5 acres: Initial and Final Phase EPSC Plan Drawings

SWPPP- 5 acres or greater: Initial, Intermediate, and Final Phase EPSC Plan Drawings (PE stamp on designs including sediment basins and other engineered structures)

Note: Projects less than one acre usually do not require state permitting. Contact the Fort Campbell Water Quality Program with questions.

Work in streams will require 401 and 404 permits (TN ARAP, KY Stream Construction/WQ, COE Permit, etc.)

Best Management Practices (BMPs) design per 2012 Tennessee EPSC Handbook

Low Impact Development (LID) and Permanent Storm Drainage Systems

- **Water Quality Volume Treatment for first 1.1 Inches of rainfall**
- **Water Quantity- maintain pre-development peak discharge rates for 2 year and 10 year design storms**
- **Energy Independence and Security Act of 2007, Section 438 Pre-development (pre-project) Hydrology maintained (projects 5000 SF or more). Documentation on meeting this requirement must be provided to Fort Campbell.**
- **Green Infrastructure is encouraged**

Complete review of SWPPP by Fort Campbell Water Quality Program and contracting agency
Submittal of Notice of Intent and SWPPP to applicable state by site operator (TN allow 30 days for approval; KY 2-7 days typical).
For MILCON Projects and other COE managed construction the NOI and SWPPP will be signed and submitted by the Corps of Engineers. The documents will also be signed by the prime contractor and known sub-contractors.
For DPW and other Garrison Projects the NOI and SWPPP will be signed by the Garrison Commander as owner and by the contractor. The package will be submitted to the applicable state by the Fort Campbell Water Quality Program.

All other activities will generally submit their own permit applications to the applicable state.
Submittal of application(s) for TN Aquatic Resource Alteration Permit (ARAP); or Kentucky Stream Construction Permit and Corps of Engineers 404 Permit (If applicable to project). MILCON and other COE projects will submit the permit applications. DPW Project applications will be submitted by the Fort Campbell Water Quality Program.

<u>Deliverables to Environmental Division before construction starts:</u>

Storm Water Pollution Prevention Plan (SWPPP)

Notice of Coverage under applicable state NPDES Construction General Permit if one acre or greater

Letter(s) of coverage under TN Aquatic Resource Alteration Permit (ARAP); or Kentucky Stream Construction Permit and Corps of Engineers 404 Permit (If applicable to project)
Projects less than one acre only require a SWPPP with EPSC Plan drawing and a Fort Campbell EPSC Permit.

<u>Construction Phase Requirements:</u>

Following review of SWPPP (or EPSC drawing) and Pre-Construction Meeting, site

operator obtains Fort Campbell EPSC Permit and project number from Stormwater/Water Quality Program

Site operator EPSC Inspector must have Certification from TN 8 Hour EPSC Fundamentals Course

Effective BMPs must be in place before breaking ground

Twice Weekly (72 Hours Apart) EPSC Inspections using approved form (Site operator responsibility)

Monthly Oversight Inspections by Fort Campbell MS4, Results briefed to Director of Public Works and Corps Resident Engineer

30 Day Quality Assurance PE Inspection for Large Projects (Tennessee requirement, site operator responsibility)

Enforcement Procedures (Should be in contract)

Construction Site Temporary and Final Stabilization Specifications- Portions of the construction site not currently worked and portions reaching final grade must be stabilized by the 14th day using permanent or temporary methods as outlined in the TN Handbook. Stabilization on Fort Campbell is defined as 95 percent coverage. Remove all temporary BMPs when stabilization is complete.

Routine maintenance projects with minimal ground disturbance may be exempted from documentation and permit requirements. Pre-project vegetation must be restored. Contact the Fort Campbell Water Quality Program with questions.

<u>Project Close:</u>

95 percent site stabilization agreement by Contract COR, MS4 (Env Div) on final assessment

Functioning Permanent Stormwater Management System

Maintenance Plan for LID features of Stormwater Management System
Notice of Termination received and accepted by applicable state agency

Permitted Industrial Activities and Garrison Activities

Illicit Discharge Detection and Elimination System

Links

Tennessee Permitting-
http://tennessee.gov/environment/permits/conststrm.shtml

Aquatic Resource Alteration Permit

http://tn.gov/environment/permits/arap.shtml.

2012 Tennessee EPSC Handbook-
http://tnepsc.org/handbook.asp.

Kentucky Permitting-

http://water.ky.gov/permitting/General%20Permit%20Fact%20Sheets/FinalPermitKYR10000RTC_2_.pdf

https://dep.gateway.ky.gov/eForms/default.aspx?FormID=7

Inspector Training and Certification-
http://www.tnepsc.org/

Kentucky Stream Construction

http://water.ky.gov/floodplain/Pages/FloodplainConstructionForms.aspx.

Corps of Engineers 404 Permit

http://www.lrn.usace.army.mil/Missions/Regulatory/ObtainaPermit.aspx.

Appendix C

Public Information and Education Plan (PIE)

Appendix D

Enforcement Response Plan

Fort Campbell MS4 Enforcement Response Plan

The Clean Water Act and the implementing state NPDES stormwater regulations and MS4 permits require Fort Campbell to develop, implement and enforce a storm water management program designed to reduce the discharge of pollutants from its Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable to protect water quality. The program must implement control measures, including illicit discharges (dumping), construction site stormwater runoff control, and post-construction stormwater management in new development and redevelopment.

Installation staff, tenants, activities, contracting offices, and contractors must comply with all the requirements outlined in the Fort Campbell Stormwater Management Plan (SWMP) as referenced in CAM REG 200-1. These requirements address elimination of illicit discharges, construction site runoff control, and post-construction site runoff control. Compliance with all Clean Water Act permits requirements is mandatory Failure to comply with these requirements will result in appropriate actions being taken against violator(s) as appropriate.

Fort Campbell will enforce stormwater requirements in CAM REG 200-1 and the Fort Campbell Stormwater Management Plan through inspections, contractor oversight, and project planning. Fort Campbell Stormwater Program staff has the authority to conduct inspections of site activities as needed to ensure compliance with Clean Water Act permits. Reporting of violations will be made through the appropriate chain of command. For construction sites and other contractor activities contracting agencies will enforce this plan by incorporating a reference to CAM REG 200-1 and the SWMP in all applicable contract language. Contracting Officer's Representatives (CORs) must initiate appropriate actions to correct deficiencies and bring the site back into permit compliance.

The Water Quality Program conducts regular monthly construction site assessments using a standard checklist. Compliance ratings are given in the Green, Amber, Red format. Sites are rated "Green" for full compliance, "Amber" for minor deficiencies and "Red" for major deficiencies. Rating are first discussed with the project COR for resolution. Results of inspections at out of compliance sites are briefed at the monthly DPW Line Item Review to the Director of Public Works. The inspection program provides input, if deficiencies and operator inaction warrant, for enforcement of control measures to correct deficiencies and deter

infractions,

The Water Quality Program, in conjunction with the Directorate of Public Works and the applicable contraction authority, will use the following progressive enforcement policy, escalating response when violations are not addressed in a timely manner:

1) Verbal communication by the Fort Campbell inspector to the COR and site operator on deficiencies found. A copy of the inspection checklist is provided to the COR/site operator. The site operator will be given an opportunity to correct deficiencies and schedule re-inspection.
2) Final Rating of site by Water Quality inspector after consultation with the Water Quality Program Manager.
3) Reporting of non-compliant sites to the Director of Public Works at the monthly DPW Line Item Review.
4) Letters or E-mails of Concern (Including e-mail) to the government project manager/COR/contracting agency;
5) Request by the Program Manager for Stop-work order(s) issued by the contracting agency for the entire project until violations have been rectified;

Further actions that can be taken by the contracting agency include the following:
Contract payment withholding, liquidated damages, setoff, or equitable adjustment;
Indemnification of Government costs due to regulator enforcement and litigation
Consideration in past performance evaluations in award of future contracts including suspension or debarment from bidding or working on future contracts; and/or Contract termination.

Violations by Soldiers and DoD Civilians will be addressed through the appropriate chain of command.