
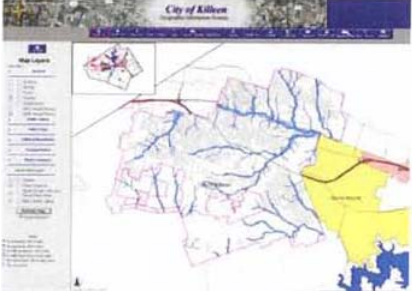




STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	STORM DRAIN SYSTEM MAPPING	ID-1
	<p>BMP DESCRIPTION</p> <p>The City of Killeen has implemented a city-wide GIS system. Precise locations of the outfalls will be recorded through the use of a Global Positioning System (GPS) or through field verification. This map will be a living document and will be supplemented on an as needed basis. During the first MS4 Permit, the City mapped all major tributaries in the MS4. During this permit the City will add data on smaller watercourses and new developments that have been accepted by the City.</p> 	
<p>Responsible Authority * Public Works Information Technology</p>	<p>RATIONALE FOR SELECTION</p> <p>The storm drain system map is a required component of this minimum control measure and must identify the location of all outfalls to the MS4 and the names and locations of the surface waters to which they drain. The City of Killeen currently has a GIS mapping program that includes the drainage system and other feature classes.</p>	
<p>Applicability</p> <p>Residents</p> <p>Visitors</p> <p>x Public Service Employees</p> <p>Businesses</p> <p>Commercial/Industrial</p> <p>Construction</p>		
YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOAL
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> • QA/QC of previously recorded data 	<ul style="list-style-type: none"> • Map of Tributaries added • Updated GIS Database
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> • Digitize available data • Input data from plans and GPS updates • Add collected data to GIS database 	<ul style="list-style-type: none"> • Map of Tributaries added • Updated GIS Database
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> • Digitize available data • Input data from plans and GPS updates • Add collected data to GIS database 	<ul style="list-style-type: none"> • Map of Tributaries added • Updated GIS Database
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> • Digitize available data • Input data from plans and GPS updates • Add collected data to GIS database 	<ul style="list-style-type: none"> • Map of Tributaries added • Updated GIS Database
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> • Digitize available data • Input data from plans and GPS updates • Add collected data to GIS database 	<ul style="list-style-type: none"> • Map of Tributaries added • Updated GIS Database
<p>REFERENCES N/A</p>		


STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	ILLICIT DISCHARGE ORDINANCE	ID-2
	<p>BMP DESCRIPTION</p> <p>The City of Killeen will modify existing ordinances or implement new ordinances as needed to prohibit illicit discharges and illegal connections to the MS4, as well as sanctions to ensure compliance, to the extent allowable under state and local law.</p> <p style="text-align: center;">Chapter 32 MUNICIPAL DRAINAGE UTILITY SYSTEM</p> <p>Art. I. Municipal Drainage Utility System, §§ 32-1--32-19 Art. II. Illicit Discharge Prevention and Storm Water Protection, §§ 32-20--32-34 Div. 1. In General, §§ 32-20--32-24 Div. 2. Specific Prohibitions and Requirements, § 32-25 Div. 3. Compliance and Enforcement, §§ 32-26--32-34 Art. III. Erosion and Sediment Control Ordinance, §§ 32-35--32-42 Art. IV. Post-construction Storm Water Control Ordinance, §§ 32-43--32-63</p>	
<p>Responsible Authority * Public Works City Attorney</p>		
<p>Applicability</p> <p><input checked="" type="checkbox"/> Residents</p> <p>Visitors</p> <p><input checked="" type="checkbox"/> Public Service Employees</p> <p><input checked="" type="checkbox"/> Businesses</p> <p><input checked="" type="checkbox"/> Commercial/Industrial</p> <p><input checked="" type="checkbox"/> Construction</p>	<p>RATIONALE FOR SELECTION</p> <p>Since the Phase II TPDES regulations require the establishment of a regulatory mechanism, the City will review and update its existing ordinances on illicit discharges and illegal connections to the MS4. The City will continue to enforce these ordinances and track the enforcement actions that are taken.</p>	
YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOAL
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> ● Track enforcement actions; ● Review and update Ordinances as needed 	<ul style="list-style-type: none"> ● List of Illicit Discharge investigations (ILD); ● List of enforcement actions ● Copy of Ordinance changes (if any)
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> ● Track enforcement actions; ● Review and update Ordinances as needed 	<ul style="list-style-type: none"> ● List of Illicit Discharge investigations (ILD); ● List of enforcement actions ● Copy of Ordinance changes (if any)
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> ● Track enforcement actions; ● Review and update Ordinances as needed 	<ul style="list-style-type: none"> ● List of Illicit Discharge investigations (ILD); ● List of enforcement actions ● Copy of Ordinance changes (if any)
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> ● Track enforcement actions; ● Review and update Ordinances as needed 	<ul style="list-style-type: none"> ● List of Illicit Discharge investigations (ILD); ● List of enforcement actions ● Copy of Ordinance changes (if any)
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> ● Track enforcement actions; ● Review and update Ordinances as needed 	<ul style="list-style-type: none"> ● List of Illicit Discharge investigations (ILD); ● List of enforcement actions ● Copy of Ordinance changes (if any)
<p>REFERENCES N/A</p>		



STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	REDUCE ILLEGAL DUMPING	ID-3
	<p>BMP DESCRIPTION</p> <p>The reduction and elimination of illegal dumping in Killeen will depend on the successful implementation of many of the previously discussed BMPs. Killeen will rely heavily on public education by utilizing utility bill inserts, public service announcements and brochures to inform citizens of the environmental concerns and legal implications of illegal dumping.</p>	
<p>Responsible Authority * Public Works Code Enforcement</p>		
<p>Applicability</p> <p>x Residents Visitors</p> <p>x Public Service Employees</p> <p>x Businesses</p> <p>x Commercial/ Industrial</p> <p>x Construction</p>	<p>RATIONALE FOR SELECTION</p> <p>As programs to address illegal dumping are also specifically required for all Phase II cities, Killeen will continue a targeted public education program, using several of the recommended BMPs for the public education minimum control measure. The Code Enforcement Division will continue to be used to investigate and enforce illegal dumping violations.</p>	
YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOAL
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> Distribute educational materials Track enforcement of illegal dumping ordinance 	<ul style="list-style-type: none"> Number of inserts and brochures distributed List of Investigations
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> Distribute educational materials Track enforcement of illegal dumping ordinance 	<ul style="list-style-type: none"> Number of inserts and brochures distributed List of Investigations
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> Distribute educational materials Track enforcement of illegal dumping ordinance 	<ul style="list-style-type: none"> Number of inserts and brochures distributed List of Investigations
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> Distribute educational materials Track enforcement of illegal dumping ordinance 	<ul style="list-style-type: none"> Number of inserts and brochures distributed List of Investigations
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> Distribute educational materials Track enforcement of illegal dumping ordinance 	<ul style="list-style-type: none"> Number of inserts and brochures distributed List of Investigations
<p>REFERENCES N/A</p>		



STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	HOUSEHOLD CHEMICAL COLLECTION AND RECYCLING	ID-4
<p>BMP DESCRIPTION</p> <p>The city of Killeen currently operates and maintains the Killeen Recycling Center at 111 E. Avenue F. which accepts used motor oil, antifreeze and batteries as well as paper, cans and glass. Additionally, the City participates in annual household hazardous waste collection days for the proper disposal of items such as paints, pesticides, fertilizers and other household chemicals.</p> <p>City of Killeen used oil collection sites are located at:</p> <ul style="list-style-type: none"> • Solid Waste Transfer Station at SH 195, and • Killeen Recycling Center (KRC) at 111 East Avenue F 		
<p>Responsible Authority * Public Works</p>		
<p>x Residents</p> <p style="padding-left: 20px;">Visitors</p> <p>x Public Service Employees</p> <p>x Businesses</p> <p>x Commercial/Industrial</p> <p>x Construction</p>	<p>RATIONALE FOR SELECTION</p> <p>Household chemicals are an important issue for the City of Killeen, as the improper disposal of these materials into the sanitary sewer or storm drain system can pose significant risks to human health and the environment. This BMP was recommended by the Stakeholders' Group, and was the third highest priority voluntary BMP for Illicit Discharge Detection and Elimination.</p>	
YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOAL
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> • Continue to promote the Recycling Center and Local & Regional Collection Days; • Document quantity of materials collected 	<ul style="list-style-type: none"> • Copy of promotional material • List of Material Collected
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> • Continue to promote the Recycling Center and Local & Regional Collection Days; • Document quantity of materials collected 	<ul style="list-style-type: none"> • Copy of promotional material • List of Material Collected
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> • Continue to promote the Recycling Center and Local & Regional Collection Days; • Document quantity of materials collected 	<ul style="list-style-type: none"> • Copy of promotional material • List of Material Collected
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> • Continue to promote the Recycling Center and Local & Regional Collection Days; • Document quantity of materials collected 	<ul style="list-style-type: none"> • Copy of promotional material • List of Material Collected
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> • Continue to promote the Recycling Center and Local & Regional Collection Days; • Document quantity of materials collected 	<ul style="list-style-type: none"> • Copy of promotional material • List of Material Collected
<p>REFERENCES N/A</p>		




STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	ELIMINATE SANITARY SEWER OVERFLOWS	ID-5
Responsible Authority * Public Works	BMP DESCRIPTION The City will continue to work towards eliminating sanitary sewer overflows (SSOs). These overflows can be caused by a number of factors including temporary blockages, flooding, and insufficient sewer capacity. Investigations have been conducted by the City and its consultants to determine the causes of the SSOs and great progress has been made in reducing these overflows.	
		
Applicability x Residents Visitors x Public Service Employees x Businesses x Commercial/Industrial x Construction	RATIONALE FOR SELECTION The detection and correction of sanitary sewer overflows is a mandatory requirement for all Phase II cities. Fortunately, the City of Killeen has already been addressing this issue and has a Sanitary Sewer Overflow Initiative (SSOI) agreement with the Texas Commission of Environmental Quality. Over the past several years the City has utilized various inflow detection techniques and has been successful in locating and correcting many problems. The City will continue this program to eliminate SSO's. The Storm Water Stakeholders Group recommends that the City continue its existing program.	
	YEAR	IMPLEMENTATION ACTIVITY
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> • Cleaning of sanitary sewer systems • TV inspection of sanitary sewer mains 	<ul style="list-style-type: none"> • Clean 350,000f ft/year • TV 12,000 ft/year
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> • Cleaning of sanitary sewer systems • TV inspection of sanitary sewer mains 	<ul style="list-style-type: none"> • Clean 350,000f ft/year • TV 12,000 ft/year
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> • Cleaning of sanitary sewer systems • TV inspection of sanitary sewer mains 	<ul style="list-style-type: none"> • Clean 350,000f ft/year • TV 12,000 ft/year
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> • Cleaning of sanitary sewer systems • TV inspection of sanitary sewer mains 	<ul style="list-style-type: none"> • Clean 350,000f ft/year • TV 12,000 ft/year
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> • Cleaning of sanitary sewer systems • TV inspection of sanitary sewer mains 	<ul style="list-style-type: none"> • Clean 350,000f ft/year • TV 12,000 ft/year
REFERENCES N/A		



STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	DRY WEATHER SCREENING	ID-6
<p>Responsible Authority * Public Works</p>	<p>BMP DESCRIPTION</p> <p>City staff will walk creeks during dry weather periods to make visual inspections and perform limited chemical analysis with field test kits to monitor for the presence of certain chemicals or pollutants. If the chemical analysis indicates a concentration of pollutant that is above the allowable threshold limits, further investigation will be required. GPS equipment will be used to document the location of the field tests, allowing them to be related to locations on the GIS storm drain system map for future reference and to document precise locations if environmental concerns are identified.</p> 	
	<p>Applicability</p> <ul style="list-style-type: none"> x Residents Visitors x Public Service Employees x Businesses x Commercial/Industrial x Construction 	<p>RATIONALE FOR SELECTION</p> <p>Dry weather screening was the highest recommended BMP by the Stakeholders' Groups and will provide the initial level of detection for illegal connections to the MS4 from industrial or business wastewater sources. This type of screening can be readily implemented by the City staff and can enhance public involvement by potentially performing screening in areas identified through citizen input via the Drainage Utility Response Line (Hotline) or on-line Citizen Relationship Management (CRM).</p>
YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOAL
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> • Update Screening Map 	<ul style="list-style-type: none"> • Updated screening map(s) • List of results • List of actions pending or taken
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> • Update Screening Map • Add South Nolan Creek Tributaries to dry weather screening 	<ul style="list-style-type: none"> • Updated screening map(s) • List of results • List of actions pending or taken
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> • Update Screening Map • Add Nolan Creek Tributaries to dry weather screening 	<ul style="list-style-type: none"> • Updated screening map(s) • List of results • List of actions pending or taken
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> • Update Screening Map • Add Little Nolan Creek Tributaries to dry weather screening 	<ul style="list-style-type: none"> • Updated screening map(s) • List of results • List of actions pending or taken
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> • Update Screening Map • Add Trimmier Creek Tributaries to dry weather screening • Add Additional Tributaries to dry weather screening 	<ul style="list-style-type: none"> • Updated screening map(s) • List of results • List of actions pending or taken
<p>REFERENCES N/A</p>		


STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	ILLICIT DISCHARGE INVESTIGATION	ID-7
Responsible Authority * Public Works	<p>BMP DESCRIPTION</p> <p>Fluorescent dye testing is a method of detecting illegal connections through the flushing of colored or fluorescent dye into drain water in suspect pipes. The presence of this dye in storm drain discharges would confirm the presence of an illegal connection.</p> 	
Applicability	<p>Smoke testing involves the injection of non-toxic zinc chloride smoke in sewer manholes. Observations of smoke escaping through storm drain inlets indicate illegal connections.</p> 	
x Residents Visitors	<p>Remote TV Camera inspections are used more commonly to detect illegal connections of business wastewater to the storm drain system. This method can detect improper connections such as cross-connections and also allows city employees to examine the physical conditions of the manholes and storm sewer lines.</p>	
x Public Service Employees	<p>RATIONALE FOR SELECTION</p> <p>The City of Killeen is currently using all three of these techniques for illicit discharge detection investigations. City staff has the ability to perform fluorescent dye testing and remote TV camera inspection, while smoke testing services are contracted. The Storm Water Stakeholders Group recommended that the city continue to use these methods on an as needed basis to track down illegal connections to the MS4, utilizing the method that is most appropriate for each situation encountered.</p>	
x Businesses		
x Commercial/Industrial		
x Construction		
YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOAL
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> Conduct investigations as needed based on dry weather screening and citizen complaints (CRM and Drainage Utility Response Line) List of priority areas 	<ul style="list-style-type: none"> List of investigation types and locations
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> Conduct investigations as needed based on dry weather screening and citizen complaints (CRM and Drainage Utility Response Line) List of priority areas 	<ul style="list-style-type: none"> List of investigation types and locations
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> Conduct investigations as needed based on dry weather screening and citizen complaints (CRM and Drainage Utility Response Line) List of priority areas 	<ul style="list-style-type: none"> List of investigation types and locations
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> Conduct investigations as needed based on dry weather screening and citizen complaints (CRM and Drainage Utility Response Line) List of priority areas 	<ul style="list-style-type: none"> List of investigation types and locations
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> Conduct investigations as needed based on dry weather screening and citizen complaints (CRM and Drainage Utility Response Line) List of priority areas 	<ul style="list-style-type: none"> List of investigation types and locations
REFERENCES		
N/A		

STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	REDUCE FAILING SEPTIC SYSTEMS	ID-8
<p>Responsible Authority * Public Works</p> <p>Applicability</p> <p><input checked="" type="checkbox"/> Residents</p> <p>Visitors</p> <p><input checked="" type="checkbox"/> Public Service Employees</p> <p><input checked="" type="checkbox"/> Businesses</p> <p><input checked="" type="checkbox"/> Commercial/Industrial</p> <p>Construction</p>	<p>BMP DESCRIPTION</p> <p>Bell County Public Health District (BCPHD) is responsible for the permitting and regulation of the septic systems within Bell County. Killeen will reduce failing septic systems by promoting proper care and maintenance through public education BMPs. In the past, the City has supported the Stillhouse Hollow Clean Water Steering Committee with the distribution of information on proper septic system maintenance. The City also maps the locations of septic systems within the city limits and ETJ for planning and prioritization of areas targeted for its septic tank elimination program.</p>	
	<p>RATIONALE FOR SELECTION</p> <p>Septic systems in the City of Killeen must comply with the TCEQ's On Site Sewage Facility (OSSF) program. The City can use many of the public education BMPs to educate the public on proper care and maintenance. The City also has an ongoing program to eliminate septic systems within its jurisdiction by connecting areas to the sanitary sewer. The City installs the sewer mains to an area and the resident pays a tap fee for connection.</p> <p>The Stakeholders' Group selected this BMP as the fifth highest priority voluntary BMP for Illicit Discharge Detection and Elimination. This BMP was also selected due to water quality impairments noted for South Nolan Creek. TCEQ has listed the South Nolan Creek on its impaired water list (i.e., 3030(d) list) and may schedule a Total Maximum Daily Load analysis in the future if water quality does not meet State Standards.</p>	
YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOAL
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> Update map of new sewers conversions Continuation of septic tank elimination program Develop written procedures for coordination with BCPHD 	<ul style="list-style-type: none"> Map of septic system conversions # of septic system tie-ins
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> Update map of new sewers conversions Continuation of septic tank elimination program Develop written procedures for coordination with BCPHD 	<ul style="list-style-type: none"> Map of septic system conversions # of septic system tie-ins Copy of Written procedures
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> Update map of new sewers conversions Continuation of septic tank elimination program Track joint investigations with BCPHD 	<ul style="list-style-type: none"> Map of septic system conversions # of septic system tie-ins List of joint BCPHD investigations
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> Update map of new sewers conversions Continuation of septic tank elimination program Track joint investigations with BCPHD 	<ul style="list-style-type: none"> Map of septic system conversions # of septic system tie-ins List of joint BCPHD investigations
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> Update map of new sewers conversions Continuation of septic tank elimination program Track joint investigations with BCPHD 	<ul style="list-style-type: none"> Map of septic system conversions # of septic system tie-ins List of joint BCPHD investigations
REFERENCES		
N/A		

STORM WATER MANAGEMENT PROGRAM

	MCM 2	
	TRACKING OF ILLICIT DISCHARGES	ID-9
	<p>BMP DESCRIPTION</p> <p>The City of Killeen has an existing illicit discharge ordinance which requires prevention, inspection, sampling, testing, analysis, monitoring, compliance action, mitigation, enforcement, follow up and reporting. The Environmental Services Division works with Code Enforcement, Hazmat, Legal, Municipal Courts & the Police Department to respond to, investigate and enforce illicit discharge violations. The City currently utilizes as its baseline guidance the TCEQ's previously approved QAPPs for testing within the City when securing samples, testing, and performing follow up procedures. The City will review & update its procedures as necessary during the course of the permit.</p>	
<p>Responsible Authority * Public Works</p>		
<p>Applicability</p> <p>x Residents Visitors</p> <p>x Public Service Employees</p> <p>x Businesses</p> <p>x Commercial/Industrial</p> <p>x Construction</p>		
<p>RATIONALE FOR SELECTION</p> <p>Per Part III Section B.2 of the TPDES General Permit TXR040000, The City shall develop & implement procedures for responding to, tracing and removing illicit discharges. This BMP will allow for consistency across the City when responding to illicit discharges.</p>		
YEAR	IMPLEMENTATION ACTIVITY	MEASURABLE GOAL
12/13/2013 TO 9/30/2014	<ul style="list-style-type: none"> Develop written procedures for responding to, tracing, and removing illicit discharges. 	<ul style="list-style-type: none"> Copy of Written Procedures
10/01/2014 TO 9/30/2015	<ul style="list-style-type: none"> Implement written procedures for responding to, tracing, and removing illicit discharges Provide training for all response personnel Review and update written procedures as needed 	<ul style="list-style-type: none"> Copy of Updated Written Procedures (if changed) List of Investigations Copy of sign-in sheet
10/01/2015 TO 9/30/2016	<ul style="list-style-type: none"> Track compliance with procedures Provide training for all response personnel Review and update written procedures as needed 	<ul style="list-style-type: none"> Copy of Updated Written Procedures (if changed) List of Investigations Copy of sign-in sheet
10/01/2016 TO 9/30/2017	<ul style="list-style-type: none"> Track compliance with procedures Provide training for all response personnel Review and update written procedures as needed 	<ul style="list-style-type: none"> Copy of Updated Written Procedures (if changed) List of Investigations Copy of sign-in sheet
10/01/2017 TO 12/13/2018	<ul style="list-style-type: none"> Track compliance with procedures Provide training for all response personnel Review and update written procedures as needed 	<ul style="list-style-type: none"> Copy of Updated Written Procedures (if changed) List of Investigations Copy of sign-in sheet
<p>REFERENCES N/A</p>		