

TOWN OF EMMITSBURG, MD



ILLICIT DISCHARGE DETECTION & ELIMINATION (IDDE) PLAN

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SECTION 1: PURPOSE & BACKGROUND INFORMATION

1.1 - Purpose of Illicit Discharge Detection & Elimination Plan

The purpose of this program is to provide for the health, safety, and general welfare of the Town's residents and its infrastructure, through the regulation and elimination of non-stormwater discharges to the storm sewer system to the Maximum Extent Practicable (MEP) as required by federal and state law.

This program establishes methods for controlling the introduction of pollutants into the storm sewer system in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges associated with the Municipal Separate Storm Sewer System (MS4) general permit (Permit No. 13-IM-5500).

This Illicit Discharge Detection and Elimination (IDDE) plan is designed to identify and effectively eliminate illicit discharges and connections to the Town of Emmitsburg MS4 infrastructure. This IDDE program also includes mapping, regulations/policies, public education/outreach, reporting, recordkeeping, and staff training elements.

Illicit discharges (A) are defined as a measurable flow containing pollutants and/or pathogens to a MS4 during dry weather. A storm drain with measurable flow but containing no pollutants or pathogens is simply considered a "discharge". NPDES regulates the discharge of stormwater under the authority of the Federal Clean Water Act. The United States Environmental Protection Agency (USEPA) designates authority to administer NPDES permits within the State of Maryland.

The Town of Emmitsburg has developed this IDDE program for the detection, elimination, and prevention of illicit discharges into the Town's regulated MS4s. The program includes the following:

1. The Town will identify priority areas with a higher likelihood of illicit discharges, illicit connections or illegal dumping. Priority areas within the Town include areas with older infrastructure, a concentration of high-risk activities, or past history of water pollution problems. These areas are generally related to outfalls in the industrial and commercial areas.
2. The Town of Emmitsburg will consider screening outfalls in priority areas during varying seasonal and meteorological conditions. The operation of the stormwater system is monitored by staff.
3. Procedures for identifying the source of an illicit discharge when a contaminated flow is detected at a regulated small MS4 outfall will be determined on a case-by-case basis and will follow published procedures (B).
4. The Process for eliminating an illicit discharge will be determined on a case-by-case basis and will follow published procedures (B).

- A. *40 CRF 122.26(b)(2) defines an illicit discharge as any discharge to an MS4 that is not composed entirely of stormwater, except allowable discharges pursuant to an NPDES Permit, including those resulting from firefighting activities.*
- B. *Reference for Published Procedures: Center for Watershed Protection and Robert Pitt. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments. October 2004. U.S Environmental Protection Agency. Washington, D.C.*

The IDDE program shall continuously be implemented and be re-evaluated annually. Records shall be kept of outfall inspections, flows observed, results of field screening and testing, and other follow-up investigation and corrective action work performed under this program and kept in annual files.

1.2 - Background Information & Site Description

Discharges from MS4s may include waste and wastewater from non-stormwater sources. A significant portion of dry weather flows are in most cases from springs, seeps, and groundwater sources; therefore illicit and/or inappropriate discharges and connections to a MS4 can become more challenging to locate/evaluate. Illicit discharges can enter a system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from failing sanitary systems, spills collected by drain outlets, or chemicals dumped directly into a drain). This results in untreated discharges that could contribute high levels of pollutants, including heavy metals, toxins, oil and grease, solvents, nutrients, and pathogens to receiving water bodies.

Examples of illicit discharges include: sanitary wastewater, effluent from septic tanks, car wash wastewater, improper oil disposal, radiator flushing disposal, laundry wastewaters, spills from roadway accidents, and improper disposal of auto and household toxins. The Town of Emmitsburg IDDE program, along with public outreach and reporting, helps combat these stormwater discharges using various BMPs, including oil-water separators, bio-retention, water quality swales, bio-filters and stormceptors.

The Town of Emmitsburg was founded in 1785 and is considered both rural and urbanized; comprised of a mixture of farms, open space, commercial and suburban/residential areas. The municipal boundary is shared with a significant amount of open space (municipal-owned property) to the west, which is depicted on the site vicinity map included in Appendix A.

Stormwater drainage systems present within the municipality consists of intermittent surface flows, catch basins, bio-filters, swales, infiltration areas, and other features located throughout the Town's MS4 boundary. The Town of Emmitsburg maintains an MS4 that consists of approximately eighty two (82) locations (51 outfalls and 31 BMPs). Existing BMP locations can be referenced on maps provided in Appendix A.

Outfalls within the Towns MS4 discharge to Turkey Creek, Toms Creek, Saint Marry Run, Stony Branch, Middle Creek, Little Owens Creek, Beaver Branch, as well as several unnamed tributaries. Water from these discharge points ultimately flows and conjoins with Toms Creek, which later empties into the Monocacy River, a tributary of the Chesapeake Bay.

The Town of Emmitsburg receives its potable water from five groundwater wells and one surface water source (Rainbow Lake). The distribution system includes periodic flushing of fire hydrants for maintenance purposes. The Town of Emmitsburg may also discharges contact and non-contact cooling water, boiler blowdown and condensate from various buildings to the MS4 in accordance with State General Discharge Permit No. 13-IM-500 (NPDES Permit No. MD055500).

1.3 – Definitions ⁽¹⁾

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act: The U.S. Water Pollution Control Act (33 U.S.C. §1251 et seq.), and any subsequent amendments thereto.

Construction Activity: Activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of one acre or more. Such activities include, but are not limited to, clearing and grubbing, grading, excavating, and demolition. Additionally, projects resulting in 5,000 square feet or more and 100 cubic yards or more require an approved sediment and erosion control plan.

Conveyance: Any structural process for transferring stormwater between at least two (2) points, including piping, ditches, swales, curbs, gutters, catch basins, channels, storm drains, and roadways.

Hazardous Materials : Any material, including any substance, waste, or combination threat which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge: Any direct or indirect non-stormwater discharge to the storm sewer system, except as exempted in section 4.1 of this document, prohibition of Illicit Discharges defined and as identified in Section 28-21 of MDE's approved Stormwater Management Ordinance of Frederick County as adopted in the *Town of Emmitsburg Ordinance No. 01-pu*.

Illicit Connections: An illicit connection is defined as either of the following:

- Any drain or conveyance, whether on the surface or subsurface that allows an illegal discharge to enter the storm drain system including, but not limited to, any conveyances that allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or:

- Any drain or conveyance connected from a commercial or industrial land use to the storm drain system that has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Municipal Separate Storm Sewer System (MS4): The system of conveyances (including sidewalks, roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned and/or operated by The Town of Emmitsburg and designed or used for collecting or conveying stormwater, and that is not used for collecting or conveying sewage.

National Pollutant Discharge Elimination System (NPDES) Permit: A permit issued by USEPA (or by a State under authority delegated pursuant to 33 USC§ 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-Stormwater Discharge: Any discharge to the storm drain system that is not composed entirely of stormwater.

Outfall: A point source where the MS4 discharges from a pipe, ditch or other discreet conveyance directly or indirectly to waters of the State of Maryland, or to another MS4.

Person: Any city utility, individual, contractor, student, staff, or faculty.

Pollutant: Anything that causes or contributes to pollution. Pollutants may include, but are not limited to, paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid, solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Spill Prevention Control & Countermeasure (SPCC) Plan: A document that describes procedures put in place to prevent and respond to oil and oil product spills.

Storm Sewer System: System of conveyances by which stormwater is collected and/or directed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Stormwater: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater Pollution Prevention Plan (SWPPP): A document that describes the BMPs and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the Maximum Extent Practicable.

Wastewater: Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

SECTION 2: STORMWATER MAPPING

Mapping of the Town of Emmitsburg's MS4, to include boundary, infrastructure, and BMP locations has been provided in Appendix A. Outfall locations have been mapped and provided in Appendix A. The Town of Emmitsburg shall update and maintain the storm sewer map(s) during each year of permit coverage. The Town of Emmitsburg will endeavor to have the map include the entire storm sewer collection system, including roads, inlets, piping, swales, catch basins, channels, basins, and any other features of the permittee's storm sewer system including municipal boundaries and/or watershed boundaries.

This report documents the percentage of impervious surfaces within the municipal boundary as well as information regarding the type, location, and water quality effectiveness of each BMP within the MS4.

SECTION 3: ORDINANCES

3.1 - State Ordinance

The Code of Maryland Regulations (COMAR) Title 26, Subtitle 4 identifies all of the State's ordinances for water management, specifically water pollution control and abatement. The ordinances can be online found at:

http://www.dsd.state.md.us/COMAR/subtitle_chapters/26_Chapters.aspx#Subtitle04

3.2 - County Ordinance

The Town adopted the County's MDE approved Stormwater Management Ordinance through Town Ordinance No. 01-18. Section 28-20 of the Stormwater Management Ordinance prohibits illicit discharges into the storm sewer system. Section 28-21 establishes legal means for gaining access to private property to investigate and eliminate illicit storm drain system discharges. Frederick Counties Stormwater Management Ordinance (Ordinance # 10-09-544) also provides maintenance responsibilities that are relative to stormwater BMPs. This ordinance can be found at:

<https://frederickcountymd.gov/DocumentCenter/View/15369/Ordinance-10-09-544?bidId=>

3.3 - Town Ordinance

The Town of Emmitsburg has ordinances available on their website. The Stormwater Management Ordinance can be found under the Town Code – Chapter 15, Section 20.010 below.

https://library.municode.com/md/emmitsburg/codes/code_of_ordinances?nodeId=TIT15BUCO

SECTION 4: DETECTION PROCEDURES

4.1 – Prohibition of Illicit Discharges

Illicit discharges, as defined by the USEPA, are defined as a storm drain that has measurable flow during dry weather containing pollutants and/or pathogens. This means any non-permitted discharge to a regulated MS4 or to waters of the State, that does not consist entirely of stormwater, except for naturally occurring floatables, such as leaves, tree limbs, or authorized non-stormwater discharges covered under a NPDES permit.

Illicit discharges can be categorized as either direct or indirect. Examples of direct illicit discharges include sanitary wastewater; piping directly connected from a home to the storm sewer; materials (e.g., used motor oil) that have been dumped illegally into a storm drain catch basin; or a cross-connection between the sanitary sewer and storm sewer systems. Examples of indirect illicit discharges include a damaged sanitary sewer line leaking into a storm sewer line, or a failing septic system leaking into a storm sewer line, or causing surface discharge into the storm sewer.

The MS4 general permit authorizes the following non-stormwater discharges provided the discharges have been determined unsubstantial contributors of pollutants, as stated in Part VI.C. The Town of Emmitsburg will not consider items listed in Table 1 (below) as illicit discharges. Items in Table 2 (below) reference discharges that are authorized by permits held by the Town of Emmitsburg. If the Town determines any of these activities to be illicit discharges in the future, they will update its IDDE Plan accordingly.

**Table 1.
Exempt Non-Stormwater Discharges**

Irrigation water	Springs
Uncontaminated pumped groundwater	Water from crawl space pumps
Diverted stream flows	Footing / foundation drains
Rising ground waters	Lawn watering runoff
Uncontaminated groundwater infiltration	Flows from riparian habitats and wetlands
Discharges from firefighting activities	Residual street wash water

**Table 2.
Non-Stormwater Discharges Authorized by Other Permits**

<u>Source</u>	<u>Permit Number</u>
Dechlorinated discharges from potable water sources	13-DP-2618 (MD055500)
Air conditioning condensate	13-DP-2618 (MD055500)
Steam Condensate	13-DP-2618 (MD055500)
Contact / Non-contact cooling water	13-DP-2618 (MD055500)
Swimming pool discharge	13-DP-2618 (MD055500)

4.2 – Prohibition of Illicit Connections

The construction, use, maintenance, or continued existence of illicit connections to the storm drain system is prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under laws or practices applicable or prevailing at the time of connection. A person is considered to be in violation of this program if the person connects a line conveying sewage to the MS4, or allows such a connection to continue. Improper connections in violation of this program must be disconnected and redirected, if necessary, to the sanitary sewer system.

4.3 – Procedure to Report an Incident

4.3.1 – Notification of Spills

Notwithstanding other requirements or laws, as soon as any person responsible for any known or suspected release of materials which are resulting or may result in an illicit discharge of pollutants into stormwater runoff, the storm sewer system, or water of the State, said person shall immediately take all necessary actions and measures to stop, contain, and cleanup such release. In the event of such a release of an illicit discharge, said person shall immediately notify Zachary R. Gulden, MPA (Town Planner) for the Town of Emmitsburg at (301-600-6309) , or if not available the next representative official at (301-600-6300). Reported spills will be tracked by The Town of Emmitsburg in the Illicit Discharge Incident Tracking Sheet in Appendix H of this Plan.

Additionally, for any illicit discharge, The Town or its designee shall contact the Compliance Program Chief at Hagerstown Regional Water and Science Administration Field Office at 301-689-1480 immediately upon discovery (or at a minimum within twenty-four hours).

4.3.2 – Reporting

If an illicit discharge is identified during a routine inspection or while responding to a notification, the municipality will write a report for each illicit discharge and its location. The Town of Emmitsburg will maintain a database that documents activities associated with the IDDE Plan ranging from mapping, outfall screening, source identification, and photographs.

Records of illicit discharges and activities associated with this plan will be documented and submitted to Maryland Department of the Environment (MDE) with the Town of Emmitsburgs MS4 annual report.

Any identified illicit discharges in violation of an SPCC and/or SWPPP will be reported as outlined within their respective plan(s).

4.4 – Inspection Procedures

4.4.1 – Outfall Inspections

The Town of Emmitsburg will use BMP inspection forms in the appendices for inspection of BMPs. The Town will follow up on deficiencies reported during inspection. The Code Official will provide letters and notifications regarding deficiencies and violations of ordinances to the property owners. The Town will record the number of enforcement actions taken during this reporting period.

The Outfall Inspection Form will be completed for 11 of the outfalls each year. The purpose of the inspections is to screen for any source of an illicit discharge and to eliminate any improper connection or illicit discharge to the storm drain system. The inspection sheets are used during dry weather to record descriptive and quantitative information about each outfall inspected in the field. Field staff will conduct each outfall inspection by photographing each outfall and characterizing its dimensions, shape and component material, and recording observations on basic sensory and physical indicators. Each outfall with a flow will have field measurements taken for temperature, pH, ammonia, phosphate, nitrate/nitrite, and chlorine.

Basic field equipment needed for the inspections include: temperature sensor, waders, measuring tape, watch, camera, pH probe, ammonia test strips, nitrate/nitrite test strips, phosphate test strips, chlorine test strips, and sterile gloves. The Outfall Inspection Form is located in the appendices. Based on field screening results, additional sampling and/or investigation may be conducted, as warranted.

Additionally, in accordance with The Town of Emmitsburg's State General Discharge (Permit No. 13-IM-5500) each year, it is proposed that at least 11 (20% of 51 total outfalls) of the outfalls will be tested for the required in-field parameters and laboratory analyses if required. The Town of Emmitsburg will also conduct outfall inspections in response to community complaints, as deemed appropriate.

MS4 outfalls will be screened during dry weather at least once during each permit coverage term. For areas where past problems have been reported or known sources of dry weather flows occur on a continual basis, outfalls will be screened annually.

For each outfall, if the screening reveals dry weather flow, the discharge from the outfall and the area around the outfall shall be inspected visually for color, turbidity, sheen, floating or submerged solids; for adverse effects on plants or animals in proximity to the outfall; and for odor. Where an outfall shows some sign of contamination, the outfall shall be screened with test strips and field screening methods. Field screening tests typically include ammonia, pH, chlorine, nitrate/nitrite, phosphorous, and temperature. If the outfall produces a concerning odor, or if the visual inspection or field testing shows any indication that the discharge may contain pollutants, then samples of the discharge shall be collected for lab testing of selected chemical and biological parameters as part of a process to determine if the dry weather flow is illicit. Common

parameters include pH, conductivity, E. Coli bacteria, fecal coliform bacteria, metals, suspended solids, dissolved solids, oils, ammonia, surfactants; chlorine; and fluoride. If an outfall does not have dry weather flow, then sampling and testing are not needed.

Below are the proposed methods to measure the flow rate at all flowing outfalls during dry weather conditions. Three methods from the Center for Watershed Protection are presented and are listed in priority preference:

- Method 1: Utilizing a graduated bucket or jug marked at 1 Liter and a stopwatch record the amount of time required to fill the jug to 1 Liter. Ensure you are capturing the entire flow. When the flow is only a trickle, use a smaller volume container and follow the same method. The following equation is used to calculate flow: Discharge = Volume filled (cu. ft.) x Time (sec). For pipes that are discharging larger volumes where it is not be possible to capture the volume in a graduated container, see *Method 2*.
- Method 2: This method should only be used with a free-flowing outfall (i.e., water drops out of the pipe and falls to the stream channel) and when the depth of flow is relatively uniform. Utilizing a tape measure, record the flow depth in the pipe at the deepest point and the total flow width. Then use the following equation: Discharge= 3.1 x wetted width (ft) x flow depth (ft) ^{1.5}
- Method 3: Using a tape measure record the width of the flow. Next measure and record the depth of the flow. Using a measuring tape, leaf or ping pong ball, and stop watch, record the length of time it takes to travel a known distance and. Repeat velocity measurement 3-5 times and average the results. Then use the following equations to calculate the flow rate and record the results on the appropriate Outfall Inspection Form:

$$\begin{aligned} \text{Area} &= \text{Wetted width (ft)} \times \text{flow depth (ft)} \\ \text{Velocity} &= \text{Length of ping pong ball run (ft)} / \text{Time (sec)} \\ \text{Discharge} &= \text{Area} \times \text{Velocity} \end{aligned}$$

The Town of Emmitsburg has prioritized outfall inspections according to the perceived chance of illicit discharges within the outfall's contributing drainage area. Observations of each outfall shall be recorded each time an outfall is screened, regardless of the presence of dry weather flow. Proper quality assurance and quality control procedures shall be followed when collecting, transporting or analyzing water samples.

All outfall inspection information shall be recorded on the Outfall Reconnaissance Inventory/Sample Collection field sheet (Appendix B). Adequate written documentation shall be maintained to justify a determination that an outfall flow is not illicit. If an outfall flow is illicit, the actions taken to identify and eliminate the illicit flow also shall be documented. The results of outfall inspections and actions taken to remove or correct illicit discharges shall be summarized in periodic reports. For instances where erosion issues are observed during outfall inspections field personnel are directed to the Outfall Maintenance / Erosion & Sediment Control Inspection Procedures, included as Appendix C.

The Town of Emmitsburg acknowledges and will consider conducting some outfall screenings during varying seasonal and meteorological conditions since it is possible for illicit discharges/connections to occur during different times of the year and during or just after rain events. Seasonal outfall screenings conducted during periods of both low and high groundwater conditions can be beneficial in identifying illicit discharges that can occur during these times.

4.4.2 – Non-Routine Inspections

If municipal staff observes evidence of an illicit discharge during the normal course of duties or an informal or non-routine inspection, he/she should collect as much information about the potential illicit discharge as possible then contact his/her supervisor or general office so that appropriate action can be taken.

It is important to collect as much information as possible at the time of initial observation because of the likelihood that a discharge may be transitory or intermittent. Initial identification of the likely or potential sources of the discharge is also very important. The employee should make a reasonable attempt collect information.

- The person observing the discharge can provide the information verbally to the supervisor or engineer who can then complete the Illicit Discharge Tracking Sheet;
- The person can log as much information as they can recall onto the form upon returning to the office; or
- A person dedicated to inspecting and tracing illicit discharges can be sent to the location as soon as possible where the potential illicit discharge was observed to collect the necessary information directly on the form.

The Town of Emmitsburg does not have the mechanism to establish formal stormwater pollution reporting (e.g., a complaint line with message recording) for the public to use to notify of illicit discharges, illegal dumping or outfall pollution. The Town of Emmitsburg will instead respond on a case by case basis to each report in a timely and appropriate manner. The Town of Emmitsburg is to document all responses, include the action taken, the time required to take the action, whether the complaint was resolved successfully.

4.4.2 – Source Identification

When identifying any illicit discharges or the source of any violations for their NPDES permit, The Town of Emmitsburg will locate the original discharge point by using a map of the storm sewer system and physically following a drainage ditch, or identifying the most up-pipe manhole with a junction. The Town of Emmitsburg may opt to collect additional field and laboratory samples or evaluate upstream or up-pipe drainage areas in order to compare the outfall sample results with the in-line results in attempt to identifying similarities between the sites.

If the inspector or representative official can determine the direction from which the discharge originates, the inspector shall continue upstream or to the next up-pipe manhole until he or she can pinpoint the source or the general vicinity from where the discharge is originating.

If The Town of Emmitsburg cannot identify the specific source through visual observation, a dye test, smoke test, or video inspection will be necessary to determine the source of the discharge.

4.5 – Immediate Response Procedures

All illicit discharges should be reported to Zachary R. Gulden, MPA (Town Planner) for the Town of Emmitsburg at (301-600-6309), or if not available the next representative official at (301-600-6300).

Reported spills will be tracked by The Town of Emmitsburg in the Illicit Discharge Incident Tracking Sheet in Appendix H of this Plan.

Any illicit discharges in violation of an SPCC and/or SWPPP will follow the reporting procedures as outlined within their respective documents.

4.6 – Investigation & Response Procedures

In the case of the identification of an illicit discharge, it is necessary to conduct an investigation to identify and eliminate the source of the discharge. An investigation may result from:

- A report to municipality from the general public;
- A report from a municipal staff member; or
- Results of outfall screening.

The determination of if an illicit discharge has occurred will be made by municipal staff. In all cases of an illicit discharge, an Illicit Discharge Incident Tracking Form, found in Appendix H, must be completed for MS4 permit annual reporting documentation purposes. An investigation of an illicit discharge may result in the source being easily identified or may be complex and should utilize the methods outline in Section 4.4.2 of this plan.

4.6.1 – Investigation Protocol

In the event initial field evaluation identifies a potential source of an illicit discharge. Once found, the source should be documented on the Town of Emmitsburgs Illicit Discharge Tracking Form (Appendix H). The remainder of the form shall be completed as appropriate to indicate the source has been eliminated, if applicable, and provide an ending date for the investigation. It is critical that the Town of Emmitsburg’s Illicit Discharge Tracking Form is completed in order to demonstrate that illicit discharges have been addressed and for submission with annual reporting.

If the source of an illicit discharge is not easily identified, further investigation may be necessary and should be guided by the following procedures:

- 1. Track the illicit discharge to its point of entry into the storm sewer. Tracking can be supplemented with review of BMP and outfall mapping to identify the drainage area of the illicit discharge. Cross reference the mapping with available SWPPP mapping for indications of areas most likely to be the source of pollutants.*

2. Conduct field inspection of the drainage area near the point of entry to identify the potential pollutant source. Document potential sources with photos, ensuring the photos give the appropriate context to the location of the source.

Municipal staff will primarily rely upon visual inspections of the areas in the storm sewer system above the outfall at which an illicit discharge is detected. Sampling and analysis can be performed as necessary to determine the characteristics of the illicit discharge. Improper connections and unpermitted cross-connections to the storm sewer system can be detected by utilizing a combination of methods to investigate non-stormwater discharges.

Dry-weather testing at a discharge point assists in identification of abnormal conditions such as sporadic or continuous discharge, which can facilitate tracking of the source. Tracking techniques include visual inspections of drainage structures/lines, dye testing, video inspection, indicator monitoring, smoke testing, and optical brightener monitoring traps.

4.7 – Record Keeping

The NPDES Phase II Permit requires The Town of Emmitsburg to keep records of all stormwater program activities and IDDE records for a minimum of five (5) years.

The Town of Emmitsburg will maintain a database of illicit discharges and investigation reports, citizen complaints, outfall inspections, and corrective actions. All paper copies will be stored in a file designated for illicit discharges and located in the Town of Emmitsburg, Town Office. Electronic copies will be available by request.

The Town of Emmitsburg shall develop, implement and maintain a written O&M program for all municipal operations and facilities that could contribute to the discharge of pollutants.

SECTION 5: CORRECTIVE ACTIONS & ENFORCEMENT

In order to maintain compliance with the permit, The Town of Emmitsburg has the authority to notify entities within the MS4 of deficiencies and/or illicit discharges and to require corrective action to be performed.

The Town of Emmitsburg will work directly to address and correct deficiencies and/or illicit discharges in accordance with the statutes and regulations set forth in this IDDE Manual and the Frederick County Stormwater Management Ordinance No. 01-18, sections 28-20 and 28-21, as adopted in the Town Code – Chapter 15, section 20.010. In the event that residents or other separate entities (Individual NPDES permit holders) are involved in the deficiencies and/or illicit discharges, the municipality will notify the party/parties of the required corrective actions and establish a timeframe for compliance. In the event that the party/parties do not comply, the incident will be referred to MDE for enforcement action. The municipality will enforce compliance with the IDDE Plan and work with the party/parties to obtain compliance.

If situations arise where an illicit discharge is determined to be willful and criminal in nature, the matter may be referred to the local or regional Police Department for further action, in conjunction with referral to MDE for environmental review.

SECTION 6: PUBLIC EDUCATION

6.1 – Public Education & Outreach

The Town of Emmitsburg shall implement and maintain a public education and outreach program to help reduce illicit discharges of pollutants. Public education and outreach can be coordinated with other portions of the municipality's stormwater management program, developed independent of other pollution control efforts, or implemented by an entity other than the permittee. At a minimum, the public education program shall contain information about the impacts of illicit discharges on receiving waters, why controlling these discharges is important, and what the public can do to reduce illicit discharge pollutants in stormwater runoff.

Examples of the information that should be considered by the permittee when developing a public education and outreach program include:

1. The types and causes of pollutants found in urban runoff;
 2. The importance of reducing, reusing, and recycling;
 3. The consequences of stormwater pollutants;
 4. Proper disposal of vehicle and equipment fluids;
 5. Outfall signage and storm drain stenciling;
 6. Residential car washing;
 7. Proper pet waste management;
 8. Increasing proper disposal of hazardous waste and household hazardous waste (HHW)
9. How residents and businesses can contribute to stormwater management and IDDE through the following:
- a. Proper disposal of vehicle fluids;
 - b. Lawn care and landscaping;
 - c. Hazardous material storage, use, and disposal (e.g., herbicides, pesticides, and fertilizers);
 - d. Spill and illegal dumping hotline; and
 - e. Other components deemed necessary to ensure adequate public outreach and education.

6.2 – Public Participation & Involvement

The Town of Emmitsburg shall implement and maintain a public involvement and participation program. The Town shall, at a minimum, comply with all State public notice requirements in actions or decisions made having to do with stormwater management and the IDDE program. The Town of Emmitsburg will provide educational outreach to target audiences about the program to

detect and eliminate illicit discharges. Information regarding the Town's MS4 program and additional stormwater management resources are available on the Town's website. Additionally, the Town will implement different programs to assist with prevention or and the identification of illicit discharges. This can include: stream cleanups, illicit discharge hotline, promoting educational programs for faculty, residents, and business, and by providing information sessions/material on request.

The Town of Emmitsburg requires stormwater training for staff involved in activities that are considered a high risk for potential stormwater pollution, such as those facilities that are covered by the 12-SW General Permit for Stormwater Associated with Industrial Activity. The Town also participates in a storm drain inlet marking program and a rain barrel program.

SECTION 7: STAFF TRAINING

The Town of Emmitsburg will assign staff to conduct outfall field screening, identify the source of any illicit discharges, and remove or correct any illicit discharges using procedures developed under this manual. Staff are encouraged to read the following document available through CWP or EPA at, however, this is not incorporated by reference into the Municipalities SWMP or IDDE Manual.

Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments (CWP, October 2004)

The MS4 Permit requires the Town of Emmitsburg to provide annual training to applicable field personnel in recognition and reporting of illicit discharges. The municipality may use guidance and training materials that are available from federal, state or local agencies, or other organizations including local organizations and other MS4s.

The Town of Emmitsburg requires stormwater training for staff involved in activities that are considered a high risk for potential stormwater pollution, such as those facilities that are covered by the 12-SW General Permit for Stormwater Associated with Industrial Activity.

The municipality will provide training for field staff and other employees on ways to identify and report non-stormwater discharges, spills, illicit connections, and illegal dumping. The field staff members will receive additional training in appropriate methods to identify, trace, and remove the source of an illicit discharge as well as effective methods to identify emergencies and contain spills. Additionally, the Town will provide training to other staff members in other departments who may come into contact with illicit discharge through their field work on illicit discharge identification and reporting procedures.

Any and all staff responding to IDDE calls/reporting will be trained on how to respond. Training will be provided annually to keep all staff members up-to-date.

Additional Guidance: According to MDE, the training requirements of this BMP can be met in various ways.

Training topics typically will include operation, inspection, maintenance and repair activities associated with any of the municipal operations / facilities identified under legal control of the

Municipality. Training is intended to cover all relevant parts of the permittee’s overall stormwater management program that could affect municipal operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.

Training can be:

- *Joint training events with other nearby operators of regulated small MS4s*
- *Formal or informal;*
- *Conducted on-site or off-site;*
- *Conducted on-the-job or during dedicated training periods;*
- *Conducted one-on-one or in a group setting (including with staff from other MS4s);*
- *Conducted by municipal staff or consultants or volunteers;*
- *Conducted via oral presentations/instructions and/or via written materials (e.g., SOP’s, guidance manuals, tests).*

Example Record Sheet:

Date of Training / Presenter	Training Topics Covered	Names of Attendees

Employee training will occur at least annually (i.e., during each permit coverage year) and will be documented in writing and reported in periodic reports. Documentation will include the date(s) of the training, the names of attendees, the topics covered, and the training presenter(s).

SECTION 8: CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified person properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

SECTION 10: REFERENCES

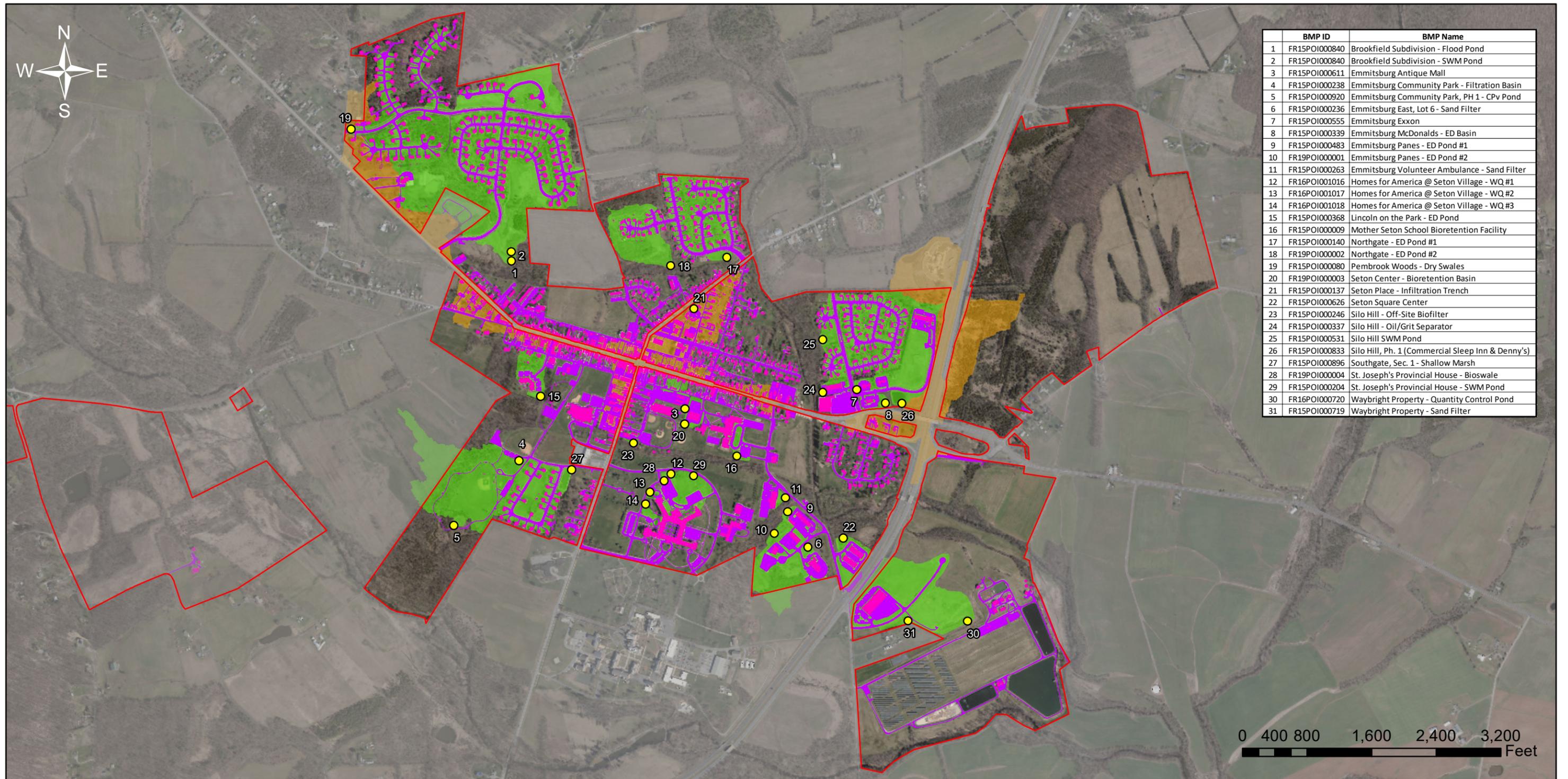
(1) IDDE Program Manuals:

Center for Watershed Protection and Robert Pitt. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*. October 2004. U.S Environmental Protection Agency. Washington, D.C.

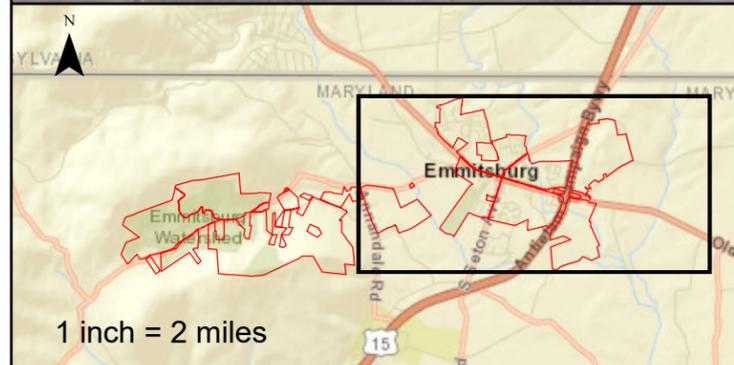
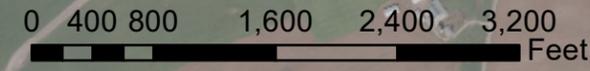
https://www3.epa.gov/npdes/pubs/idde_manualwithappendices.pdf

APPENDIX – A

**MS4 PERMIT BOUNDARY
& BMP MAP**



BMP ID	BMP Name
1	FR15POI000840 Brookfield Subdivision - Flood Pond
2	FR15POI000840 Brookfield Subdivision - SWM Pond
3	FR15POI000611 Emmitsburg Antique Mall
4	FR15POI000238 Emmitsburg Community Park - Filtration Basin
5	FR15POI000920 Emmitsburg Community Park, PH 1 - CPv Pond
6	FR15POI000236 Emmitsburg East, Lot 6 - Sand Filter
7	FR15POI000555 Emmitsburg Exxon
8	FR15POI000339 Emmitsburg McDonalds - ED Basin
9	FR15POI000483 Emmitsburg Panes - ED Pond #1
10	FR19POI000001 Emmitsburg Panes - ED Pond #2
11	FR15POI000263 Emmitsburg Volunteer Ambulance - Sand Filter
12	FR16POI001016 Homes for America @ Seton Village - WQ #1
13	FR16POI001017 Homes for America @ Seton Village - WQ #2
14	FR16POI001018 Homes for America @ Seton Village - WQ #3
15	FR15POI000368 Lincoln on the Park - ED Pond
16	FR15POI000009 Mother Seton School Bioretention Facility
17	FR15POI000140 Northgate - ED Pond #1
18	FR19POI000002 Northgate - ED Pond #2
19	FR15POI000080 Pembroke Woods - Dry Swales
20	FR19POI000003 Seton Center - Bioretention Basin
21	FR15POI000137 Seton Place - Infiltration Trench
22	FR15POI000626 Seton Square Center
23	FR15POI000246 Silo Hill - Off-Site Biofilter
24	FR15POI000337 Silo Hill - Oil/Grit Separator
25	FR15POI000531 Silo Hill SWM Pond
26	FR15POI000833 Silo Hill, Ph. 1 (Commercial Sleep Inn & Denny's)
27	FR15POI000896 Southgate, Sec. 1 - Shallow Marsh
28	FR19POI000004 St. Joseph's Provincial House - Bioswale
29	FR15POI000204 St. Joseph's Provincial House - SWM Pond
30	FR16POI000720 Waybright Property - Quantity Control Pond
31	FR15POI000719 Waybright Property - Sand Filter



Prepared by:



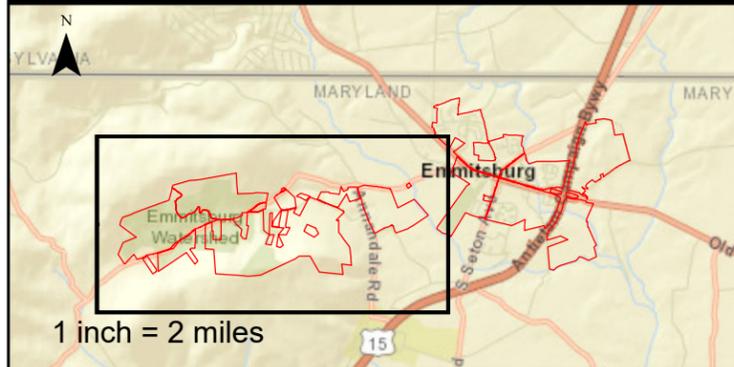
Emmitsburg Baseline Impervious Assessment

Municipal Boundary

General Discharge Permit No.
13-IM-5500
Frederick County, Maryland

Legend

- Emmitsburg BMPs
- Permit Area
- Impervious (pavement/surface)
- Impervious (structure)
- BMP drainage area
- SHA drainage area



Prepared by:



Emmitsburg Baseline Impervious Assessment

Additional Town Properties

General Discharge Permit No.
13-IM-5500
Frederick County, Maryland

Legend

-  Emmitsburg BMPs
-  Permit Area
-  Impervious (pavement/surface)
-  Impervious (structure)
-  BMP drainage area
-  SHA drainage area

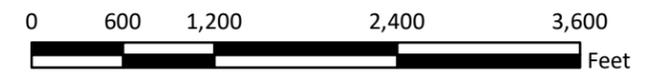


EXPLANATION:

- Outfall
- Stormwater Pipe
- ~ Town Responsible Stream
- ~ Stream
- Town Responsible Road
- Road
- Emmitsburg BMP
- Emmitsburg Parcel
- Town MS4 Responsible Area



Scale:



Notes:

1. Base map imported from digital files made available by ESRI.
2. Stream, road, and parcel data from Frederick County.
3. BMP, Outfall and Stormwater pipe data from the Town of Emmitsburg
4. This figure is integral to an electronically-mapped inventory of stormwater features and should only be used in that context.
5. This figure is not intended to be used for boundary verification or survey control purposes.

Client:

Town of Emmitsburg
PROJECT NO. FR8N003

Project:

**Stormwater System Mapping and
GIS Management Services**
Emmitsburg, Maryland



Figure 1:
**Emmitsburg
Outfall Locations**

October 14, 2019

Outfall Identification Report

I.D.	Outfall Name	Longitude	Latitude
1	CKD1	-77.325208	39.707694
2	CMR1	-77.317819	39.698855
3	CMR2	-77.318385	39.698864
4	CMR3	-77.320076	39.700011
5	CMR4	-77.320154	39.700067
6	CMR5	-77.309287	39.69673
7	CMR6	-77.322911	39.701562
8	CMR7	-77.320643	39.700289
9	CMR8	-77.308419	39.694814
10	CMW1	-77.320375	39.699792
11	CMW2	-77.32014	39.699103
12	CMW3	-77.320989	39.699067
13	CMW4	-77.320322	39.699557
14	CRC1	-77.336197	39.714252
15	ELA1	-77.324067	39.701899
16	ELA2	-77.327036	39.701793
17	ELA3	-77.327459	39.702015
18	EMS1	-77.319312	39.702788
19	EMS2	-77.318952	39.70273
20	ITC1	-77.325584	39.70941
21	ITD1	-77.325516	39.708516
22	ITR1	-77.327734	39.707553
23	MTW1	-77.330382	39.700488
24	MTW2	-77.330137	39.701021
25	NSA1	-77.323298	39.707914
26	PBC1	-77.337683	39.715586
27	PBC2	-77.337783	39.713675
28	PVP1	-77.322228	39.708398
29	PVP2	-77.322157	39.708336
30	PVP3	-77.323772	39.708287
31	PVP4	-77.322838	39.708423
32	PVP5	-77.32299	39.708174
33	SHP1	-77.315263	39.703712
34	SHP2	-77.315271	39.70323
35	SHR1	-77.318213	39.705432
36	SHR2	-77.318293	39.705711
37	SHR3	-77.318462	39.705649
38	SHR4	-77.317182	39.703815
39	SHR5	-77.319027	39.705468
40	STA1	-77.324131	39.701195

I.D.	Outfall Name	Longitude	Latitude
41	STA2	-77.326113	39.701544
42	TMR1	-77.332441	39.707956
43	TMR2	-77.332888	39.709425
44	TMR3	-77.3331	39.708588
45	TMR4	-77.33278	39.709607
46	TMR5	-77.33255	39.710625
47	WCC1	-77.327378	39.70767
48	WLA1	-77.330388	39.702796
49	WLA2	-77.330722	39.70251
50	WLA3	-77.331113	39.703429
51	WTC1	-77.332294	39.707523

APPENDIX – B IDDE – OUTFALL INSPECTION FORM

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.):	Last 24 hours:	Last 48 hours:
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial		<input type="checkbox"/> Open Space <input type="checkbox"/> Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____ In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	(Hatched area)
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
<input type="checkbox"/> Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? Yes No (If No, Skip to Section 5)

INDICATOR	CHECK IF Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint <input type="checkbox"/> 2 - Easily detected <input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle <input type="checkbox"/> 2 - Clearly visible in sample bottle <input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness <input type="checkbox"/> 2 - Cloudy <input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious <input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen) <input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? Yes No (If No, Skip to Section 6)

INDICATOR	CHECK IF Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

Unlikely Potential (presence of two or more indicators) Suspect (one or more indicators with a severity of 3) Obvious

Section 7: Data Collection

1. Sample for the lab? Yes No

2. If yes, collected from: Flow Pool

3. Intermittent flow trap set? Yes No If Yes, type: OBM Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

APPENDIX – C

**OUTFALL MAINTENANCE / EROSION &
SEDIMENT CONTROL INSPECTION PROCEDURES**

TOWN OF EMMITSBURG, MD



ILLICIT DISCHARGE DETECTION & ELIMINATION (IDDE) PLAN

OUTFALL MAINTENANCE / EROSION & SEDIMENT CONTROL INSPECTION PROCEDURES

Prepared for:

Town of Emmitsburg, MD
Town Office
300A South Seton Ave.
Emmitsburg, MD 21727
(P: 301-600-6300)

Prepared by:

Barton & Loguidice, D.P.C.
1912 Liberty Road, Suite 26
Eldersburg, MD 21784

Prepared: January – 2020

Revised:

Illicit discharges are defined as a measurable flow containing pollutants and/or pathogens to a MS4 during dry weather. Excessive erosion into the storm sewer system is considered a “discharge” and “pollutant” by definition under the requirements of the National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges associated with the Municipal Separate Storm Sewer System (MS4) general permit (Permit No. 13-IM-5500).

The purpose of this addendum is to examine the overall integrity, functionality, and to develop a general means of environmental due diligence and stewardship for the Town’s MS4 infrastructure. This addendum shall establish methods for examining and identifying the structural performance and individual environmental assessment of each outfall covered under the Town’s IDDE Plan and has been designed to specifically identify pre-mature wear, excessive erosion/environmental degradation, and to evaluate overall structural integrity/functionality of each outfall. This addendum shall also provide instruction on how to properly report and correct such problems if they are encountered.

The Town of Emmitsburg has developed the following steps to investigate, detect, and prevent environmental degradation by erosion and sedimentation due to inadequacy or failure of Outfall Devices and Outlet/Channel Protection to include the following:

METAL END SECTIONS:

- Inspect all metal end sections for undercutting around the bottom, top, and side edges especially at the bottom and sides where water would have followed along the pipe.
- Conduct a visual inspection for wear or failure (i.e. cracks, breaks, excessive abrasion/corrosion, separation, or other structural damage).

CONCRETE HEADWALLS:

- Inspect all concrete headwalls for undercutting around the bottom, top, and side edges especially at the bottom and sides of the wing walls where water would have made it past the outlet structure and followed along the length of the culvert/pipe.
- Conduct a visual inspection for wear or failure of any concrete outlet structures (i.e. cracks, breaks, separation, corrosion/excessive abrasion, spalling, or structural damage).

CULVERTS & PIPES:

- Inspect the inside (entry/exit) of the culvert or pipe to find and document any holes, excessive rust, cracks, corrosion, signs of

abrasive wear, material clogs, and the presence of any large sediment deposits as evidence of upstream erosion.

GRASS LINED SWALES:

- Inspect grassed swales/channels for erosion and lack of adequate plantings. The soil conservation district assumes a minimum of 70% cover required at all time by established vegetation.
- Inspect all swales/channels for failure or wear of any geo-textile turf reinforcement matting.
- Asses the channel for the presence of any bank cutting or bank erosion due to overflows during high water storm events.

CONCRETE CHANNELS:

- Conduct a visual inspection for pre-mature wear or failure of any concrete channels (i.e. cracks, breaks, corrosion/excessive abrasion, spalling and or structural damage.
- Conduct visual inspection for the presence of sediment deposition as a factor of upstream erosion.
- Asses the channel for the presence of any bank cutting or bank erosion due to overflows during high water storm events.

OUTLET PROTECTION:

- Inspect outlet protection and or rock filters for sediment accumulation or displacement of inlet protection.
- Rip-rap shall be temporarily removed and sediment/debris removed and restored as necessary.
- Inspect receiving channels for the integrity of any turf reinforcement matting and replace or restore as necessary. In the event excessive erosion is encountered the Town shall contact their representative engineer to determine the velocity of any erosive flows and design outlet protection accordingly.

EROSION & SEDIMENT CONTROL:

- Evaluate the site for sediment deposits to determine the presence of flows carrying high sediment loads during storm events. The natural deposition of gravel bars and sediment washout is common within manmade channels or in outfall receiving streams as a natural occurring function of stream character and sinuosity. However, the presence of sediment deposits shall be evaluated on a case-by-case basis and in the event excessive sediment deposits are encountered the town shall contact the Town's Engineer for further evaluation.

REPORTING MEASURES:

- In the event the outfall inspector encounters wear, outfall failure, damage, or issues related to erosion and sediment control the inspector shall document the event by conducting the following steps:
 - Record the outfall id #, date, and time and current conditions.
 - Record the type of structure (i.e. headwall, pipe/culvert, channel, etc.)
 - Document a brief description of the issue (i.e. crack, clog, sediment deposit, excessive erosion, failure of rip-rap or geotextile, etc.)
 - Take photographs documenting the issue if possible and safety will allow.
 - Contact the Town's Engineer to determine the appropriate steps in correction (i.e. design/permitting) through the appropriate regulatory agency.

APPENDIX – D

BMP INSPECTION FORM
BIO-SWALE & FILTER STRIPS

Town of Emmitsburg, MD
Stormwater Bioswale/Filter Strip BMP Inspection

Date _____ Time _____ Investigator(s) _____	
Project Name _____	
BMP ID _____	Date Installed _____
Coordinates _____	GPS Point(s) _____
Address _____	Contact _____
_____	Phone _____
Photo(s) _____	

II. Bioswale/Filter Strip BMP Checklist

	Condition Satisfactory			Comments
	Good	Moderate	Poor	

Inlet/Outlet Pipes Structural Integrity

Structural integrity of inlet/outlet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inlet/outlet clear of debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Erosion control at inlet in place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Erosion control at outlet in place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

BMP Surface

Sedimentation in BMP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Debris in BMP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Erosion present	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Vegetative cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Flow diverts around BMP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Overall Functionality

Swale/filter strip function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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III. Notes

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APPENDIX – E

BMP INSPECTION FORM
DETENTION AREAS

APPENDIX – F

BMP INSPECTION FORM
BIORETENTION AREAS

APPENDIX – G

BMP INSPECTION FORM
INFILTRATION AREA

APPENDIX – H
RECORD KEEPING