

UNIVERSITY OF MARYLAND

*Department of Environmental Safety,
Sustainability, and Risk*

The background features a large, faint watermark of the University of Maryland seal. The seal is circular and contains the text 'UNIVERSITY OF MARYLAND' around the top and '1856' on the sides. In the center is a shield with a yellow and black checkered pattern on the left and a pink and white pattern on the right, topped with a red and white crest.

ILLICIT DISCHARGE DETECTION AND ELMINATION (IDDE) PLAN

July 2017

Updated September 2020

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SECTION 1: PURPOSE AND FACILITY DESCRIPTION

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 students, staff, and faculty of the University of Maryland (UMD) 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. 05-SF-5501).

This Illicit Discharge Detection and Elimination (IDDE) plan is designed to identify and effectively eliminate illicit discharges and connections to UMD's MS4. The University's IDDE program also includes municipal storm sewer mapping, policies, public education, reporting, recordkeeping, and staff training elements.

Illicit discharges 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.

1.2 Background Information and Site Description

Discharges from MS4s often include waste and wastewater from non-stormwater sources. A significant portion of dry weather flows are likely from illicit and/or inappropriate discharges and connections to a MS4.

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 cracked sanitary systems, spills collected by drain outlets, or chemicals dumped directly into a drain). This results in untreated discharges which could contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, and pathogens to receiving water bodies. Pollutant levels from these illicit discharges have been shown in USEPA studies to be high enough at times to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health. 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 house hold toxics. The UMD's IDDE program, along with public outreach and reporting, helps combat these potential illicit discharges. UMD treats some of its

stormwater discharges using various BMPs, including oil-water separators, retention ponds, swales, and stormceptors.

UMD was chartered in 1856 as an agricultural college and has gradually evolved into the distinct higher education system that it is today. The campus is located in a suburban area, bounded by a mixture of commercial and residential areas on all sides. UMD is bordered by University Boulevard to the north and west, Paint Branch Parkway to the east, and Knox Road to the south. Baltimore Avenue (Route 1) bisects the southeastern portion of the campus. The campus currently consists of numerous buildings on 1,335 acres of land. A site vicinity map is included in Appendix A.

The stormwater drainage system at UMD consists of intermittent surface flow and catch basins located throughout the campus. Approximately 40% of the campus is considered impervious. The campus maintains a MS4 that consists of approximately ninety (90) outfalls. The outfalls discharge to Campus Creek, Guilford Run, Paint Branch stream, as well as several unnamed tributaries. Water from these discharge points ultimately flows to the Anacostia River, which later empties into the Potomac River, a tributary of the Chesapeake Bay. The campus receives all of its potable water from the Washington Suburban Sanitary Commission (WSSC). The distribution system includes periodic flushing of fire hydrants for maintenance purposes.

The University discharges contact and non-contact cooling water, boiler blowdown and condensate from various buildings onsite to the MS4 in accordance with State Discharge Permit No. 08-DP-2618 (NPDES Permit No. MD0063801).

Additionally, UMD is authorized to discharge water from swimming pools in accordance with Maryland General Permit 12-SI-7192: General Permit for Discharges from Swimming Pools & Spas, including Baptismal Fonts (NPDES Permit No. MDG767192).

In addition to UMD, the University of Maryland - Institute for Bioscience and Biotechnology Research (IBBR) located at 9600 Gudelsky Dr, Rockville, MD 20850 is covered by UMD's MS4 permit and follows the regulations laid out in this IDDE plan. Located in Appendix G is the IBBR addendum containing IBBR's site specific description and maps.

1.3 Definitions

For the purposes of this program, the following shall mean:

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 US.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 Table 1.

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 UMD 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; non-hazardous 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

The development of a storm sewer system map is used to demonstrate a basic awareness of the intake and discharge areas of the system. It is needed to help determine the extent of discharge of dry weather flows, the possible sources of dry weather flows, and the particular water bodies these flows may be affecting. The availability of this map clearly demonstrates such awareness.

UMD and IBBR will utilize AutoCAD, GPS, and GIS technologies to map all conveyance systems and outfalls. All outfall locations will then be incorporated into UMD's mapping system and database. All outfalls will be photographed and numbered for reference purposes. Maps will be available to print for public review. A current site map and photo log is included in Appendix B. UMD is in the process of updating and enhancing its existing maps; site maps will be updated as needed. The photo log in Appendix B will be completed as each outfall is inspected as described section 4.1.1. of this plan.

SECTION 3: ORDINANCES

3.1 State Ordinances

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 Ordinances

There are currently no county ordinances that apply to UMD's IDDE. However, Prince George's County Code of Ordinances Subtitle 32, Division 3 encompasses its stormwater management ordinances. These ordinances can be found at:

https://www.municode.com/library/md/prince_george's_county/codes/code_of_ordinances

3.3 City Ordinances

{RESERVED}

3.4 University Policies

While the University of Maryland and University of Maryland - Institute for Bioscience and Biotechnology Research do not have a specific ordinance relating to illicit discharge detection and elimination, Section VI of the UMD Policies grants authority to the Department of Environmental Safety, Sustainability and Risk (ESSR), which was formerly known as the Department of Environmental Safety, to ensure compliance with all environmental regulations. Therefore, ESSR will implement this IDDE Plan since it is required by its NPDES General Permit for Discharges from Small MS4s (State Permit No. 05-SF-5501; NPDES Permit No. MDR05501). More details regarding this University Policy are included in Appendix C of this plan. The complete directory of the University of Maryland's Policies can be found at:

<https://www.president.umd.edu/administration/policies>

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. UMD and IBBR will not consider items listed in Table 1 as illicit discharges. If UMD determines any of these activities to be illicit discharges in the future, UMD 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	08-DP-2618 (MD0063801)
Air conditioning condensate	08-DP-2618 (MD0063801)
Steam Condensate	08-DP-2618 (MD0063801)
Contact / Non-contact cooling water	08-DP-2618 (MD0063801)
Swimming pool discharge	12-SI-7192 (MDG767192)

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 the illicit discharge hotline (Environmental Affairs Unit) at 301-405-3990. Reported spills will be tracked by Environmental Affairs in the Illicit Discharge Incident Tracking Sheet in Appendix D of this Plan.

Currently, in the event of an illicit discharge at IBBR, the discharge will be reported to the illicit discharge hotline at UMD. IBBR is currently working to fill the Environmental Director. Once the position is filled, all illicit discharges and investigations will be conducted by their Environmental Director.

Spill procedures regarding emergency actions, such as radiation, chemical, or biological, can be found at this link: <https://www.essr.umd.edu/documents>

4.3.2 Reporting

If an illicit discharge is identified during a routine inspection or while responding to a notification, ESSR will write a report for each illicit discharge and its location. ESSR will maintain a database that documents all activities associated with the UMD's IDDE Plan ranging from mapping, outfall screening, source identification, and photographs. Records of all illicit discharges and activities associated with this plan will be documented and submitted to Maryland Department of the Environment (MDE) with UMD's annual report.

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

4.4 Inspection Procedures

4.4.1 Outfall Inspections

The Outfall Inspection Form will be completed for at least 50% of the outfalls each year, as required by MDE. 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 conducts an 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, and chlorine. Basic field equipment needed for the inspections include: waders, a measuring tape, watch, camera, pH probe, ammonia test strips, chlorine meter, and sterile gloves. The Outfall Inspection Form is located in Appendix E. Based on field screening results, additional sampling and/or investigation may be conducted, as warranted.

Additionally, in accordance with UMD’s State Discharge Permit No. 08-DP-2618 (NPDES Permit No. MD0063801), each month the twelve (12) regulated outfalls (Outfalls 001-005, 007, 010, 012, 014, 016, 018, 019) will be tested for the required in-field parameters and laboratory analyses. These parameters can be found in Table 3. Additional inspections may be required depending upon the results of initial inspection. UMD will also conduct outfall inspections in response to community, student, and employee complaints, as deemed appropriate.

Table 3.
Water Quality Test Parameters and Uses

Water Quality Test	Permit Limitations	Method
Temperature	<90°F (32°C) *	In-field thermometer
pH	6.5-8.5	pH meter in field
Total Residual Chlorine	0.011 mg/l**	TRC meter in field
Discharge Flow	REPORT VALUE	Calculated in field
Total Copper	9.0 mg/l	Laboratory analysis
Total Nitrogen	REPORT VALUE	Laboratory analysis
Oil & Grease	15 mg/L***	Laboratory analysis
Total Phosphorus	REPORT VALUE	Laboratory analysis
Total Kjeldahl Nitrogen	REPORT VALUE	Laboratory analysis
Nitrate/Nitrite as N	REPORT VALUE	Laboratory analysis

*Temperature is only monitored in June, July and August.

**Total Residual Chlorine reporting limit of 0.01 is unattainable in field settings, so a value of 0.1 mg/l is used as the reporting limit.

***Oil and Grease is only tested on three (3) of the twelve (12) outfalls.

4.4.2 Source Identification

When identifying any illicit discharges or the source of any violations for their NPDES permit, ESSR 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. ESSR may opt to collect additional field and laboratory samples as he or she makes their way upstream or up-pipe in order to compare the outfall sample results with the in-line results in hope of identifying similarities between the sites. If, from following the drainage ditch or inspecting the manhole, ESSR can determine the direction from which the discharge originates, ESSR will then 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 ESSR 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 the University's Environmental Affairs Unit at (301)-405-3990 as soon as possible. The report should include: the location of the problem, time the problem was found, odor/color/turbidity/floatables, photo(s), and any other relevant information.

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

Spill procedures regarding emergency actions for various materials, such as chemical, radiological, or biological, can be found at this link:

<https://www.essr.umd.edu/documents>

4.6 *Investigation and 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 UMD ESSR staff from the general public;
- A report from a UMD staff member or student; or
- Results of outfall screening.

The determination of if an illicit discharge has occurred will be made by UMD ESSR staff. In all cases of an illicit discharge, the UMD Illicit Discharge Incident Tracking Form, found in Appendix D, 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

Based on the familiarity of the campus and its drainage areas, an initial field evaluation may easily identify the source of an illicit discharge. Once found, the source should be documented on the UMD Illicit Discharge Tracking Form. 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 UMD Illicit Discharge Tracking Form is completed in order to demonstrate that illicit discharges have been addressed.

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 the UMD outfall mapping to identify the drainage area of the illicit discharge. Cross reference the mapping with the UMD SWPPP mapping that indicates 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.

UMD 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 and to help identify the most likely source. 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, such as visual/video inspections, and dye or smoke tracer testing. 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 also include visual inspections of drainage structures and lines, dye testing, video inspection, indicator monitoring, smoke testing, and optical brightener monitoring traps. Other more elaborate approaches include using remote sensing tools to identify soil moisture, water temperature, and vegetation anomalies associated with illegal dumping activities.

4.7 *Recordkeeping*

The NPDES Phase II Permit requires UMD to keep records of all stormwater program activities and IDDE records for a minimum of five (5) years. UMD 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 UMD ESSR office. Electronic copies will be available on demand.

SECTION 5: CORRECTIVE ACTIONS & ENFORCEMENT

In order to maintain compliance with the permit, ESSR has the authority to notify entities within the UMD MS4 of deficiencies and/or illicit discharges and to require corrective action to be performed. In the case of faculty, staff, or students under the control of UMD, ESSR will work directly with the party/parties to address and correct any deficiencies and/or illicit discharges. In the event that tenants or other non-UMD entities are involved in the deficiencies and/or illicit discharges, ESSR 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. UMD's ESSR department will enforce compliance with the IDDE Plan and work with the party/parties to obtain compliance. ESSR, however, is not an "enforcement" entity in the traditional sense and, as such, will not impose fines, penalties, etc. If situations arise where an illicit discharge is determined to be willful and criminal in nature, the matter may be referred to the University of Maryland Police Department for further action, in conjunction with referral to MDE.

Deficiencies and/or illicit discharges at UMD construction sites will be handled differently; those will be reported to the Facilities Management Department by ESSR. The Facilities Management Department will then work with their construction contractors to undertake the necessary corrective action(s). If warranted, the Facilities Management Department and/or ESSR will refer the issue to the MDE for enforcement action.

SECTION 6: PUBLIC EDUCATION

6.1 Public Education and Outreach

UMD and IBBR 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 UMD'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);
and
9. How citizens and staff can contribute to UMD's stormwater management and IDDE program 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. Any other components deemed necessary to ensure adequate public outreach and education.

6.2 Public Involvement and Participation

UMD shall implement and maintain a public involvement and participation program. UMD 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. Additionally, UMD 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 in for faculty, staff, and students, and providing information sessions/material on request. UMD and IBBR 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

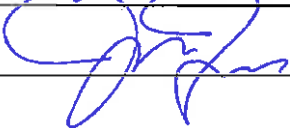
by the 12-SW General Permit for Stormwater Associated with Industrial Activity. UMD also participates in a storm drain inlet marking program.

SECTION 7: STAFF TRAINING

The MS4 Permit requires UMD and IBBR to provide annual training to applicable field personnel in recognition and reporting of illicit discharges. UMD 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. UMD ESSR 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, UMD ESSR 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 operating the IDDE hotline will be trained on how to respond to calls. Training will be provided annually to keep all staff members up-to-date. Training materials are available in Appendix F.

SECTION 8: IDDE 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 personnel 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 fine and imprisonment for knowing violations.

Name: JASON L. BAER Title: ASSISTANT DIRECTOR OF ENVIRONMENTAL AFFAIRS
Signature:  Date: 8/3/17

SECTION 9: IDDE EVALUATION AND MODIFICATIONS

Revision	Date	Details / Comments
Revision 00	July 2017	Original IDDE Plan
Revision 01	September 2020	Updated to include University of Maryland - Institute for Bioscience and Biotechnology Research under UMD's MS4 Permit and IDDE plan.
Revision 02	October 2020	Update to include the MFRI in the IDDE plan.

SECTION 10: REFERENCES

The following references were used to prepare this plan and contain supplemental information that may be helpful to City staff.

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/idd_manualwithappendices.pdf

New England Interstate Water Pollution Control Commission. *Illicit Discharge and Elimination Manual: A Handbook for Municipalities*. January 2003. Lowell, MA.
http://www.neiwpcc.org/neiwpcc_docs/iddmanual.pdf


APPENDIX A

SITE VICINITY MAP

University of Maryland

Site Vicinity Map

Legend

-  University of Maryland



Google Earth

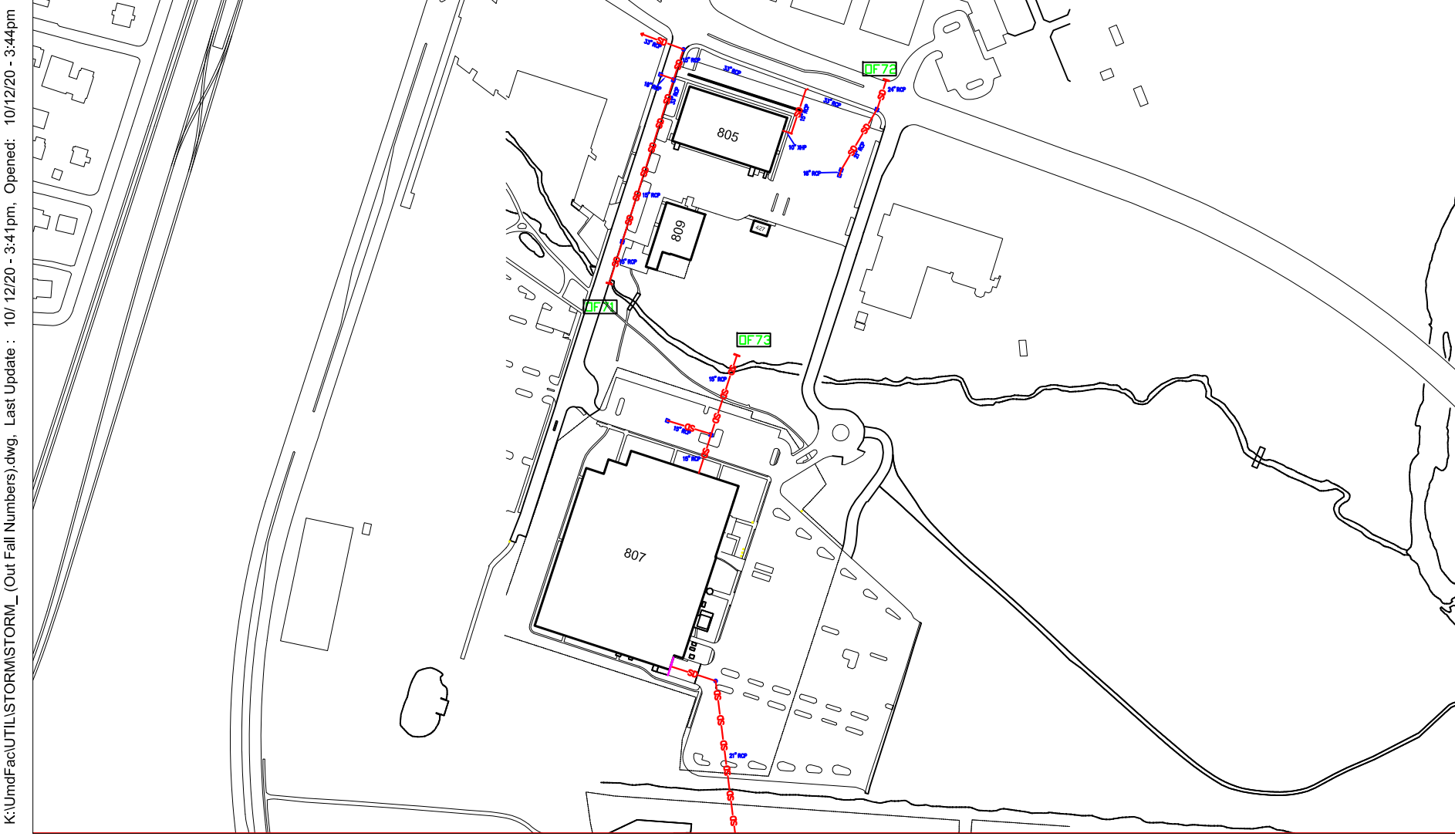
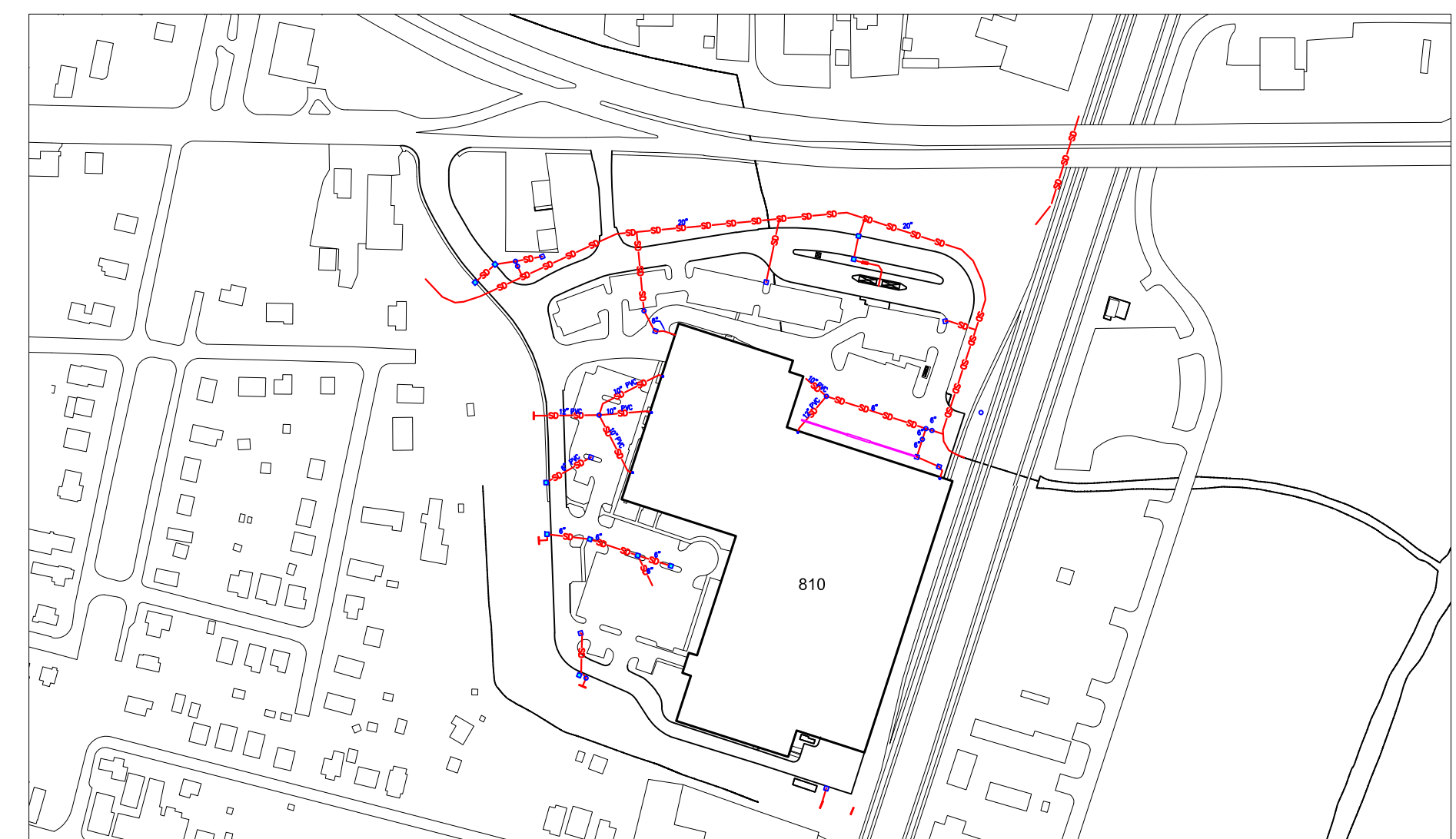
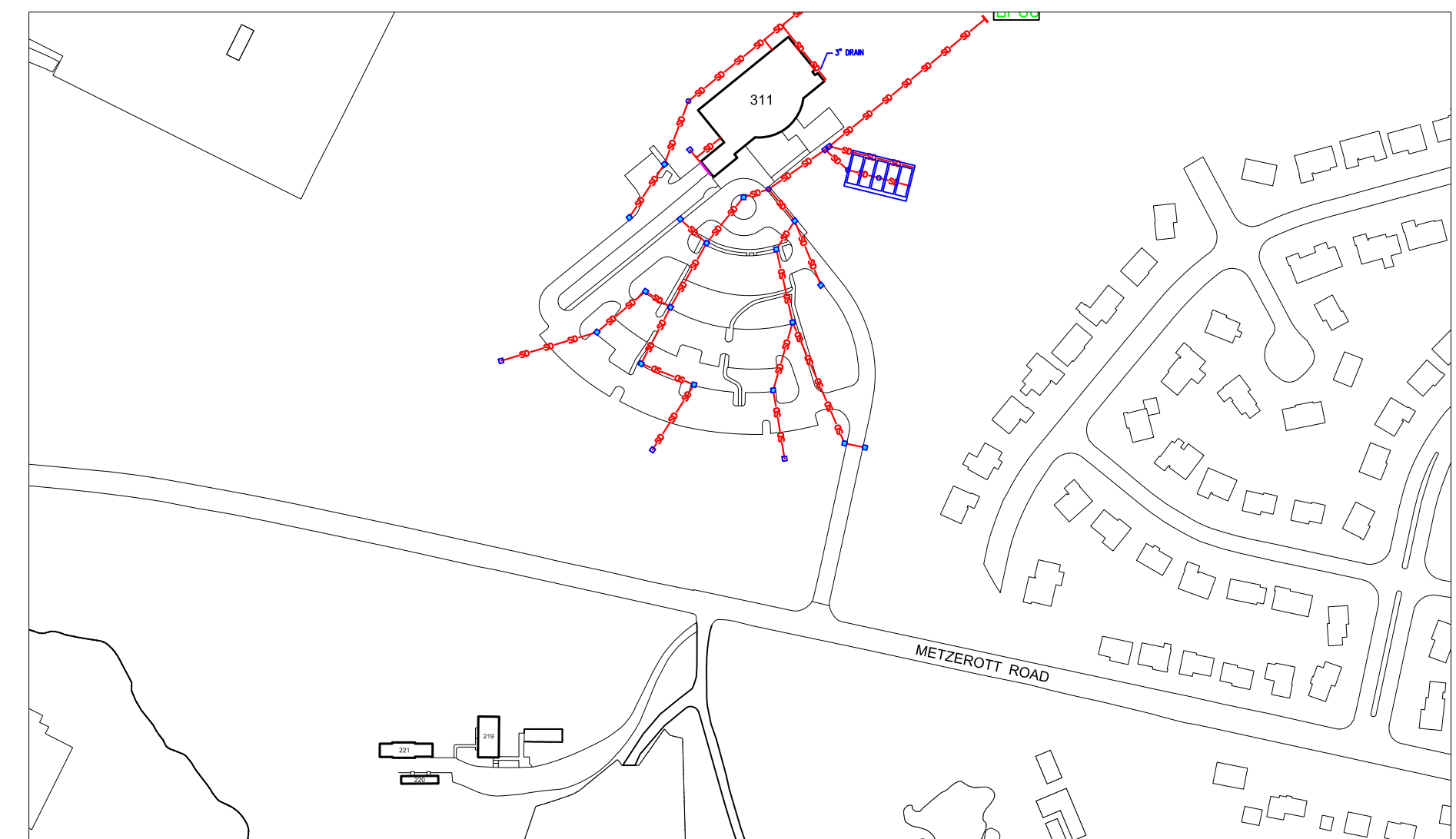
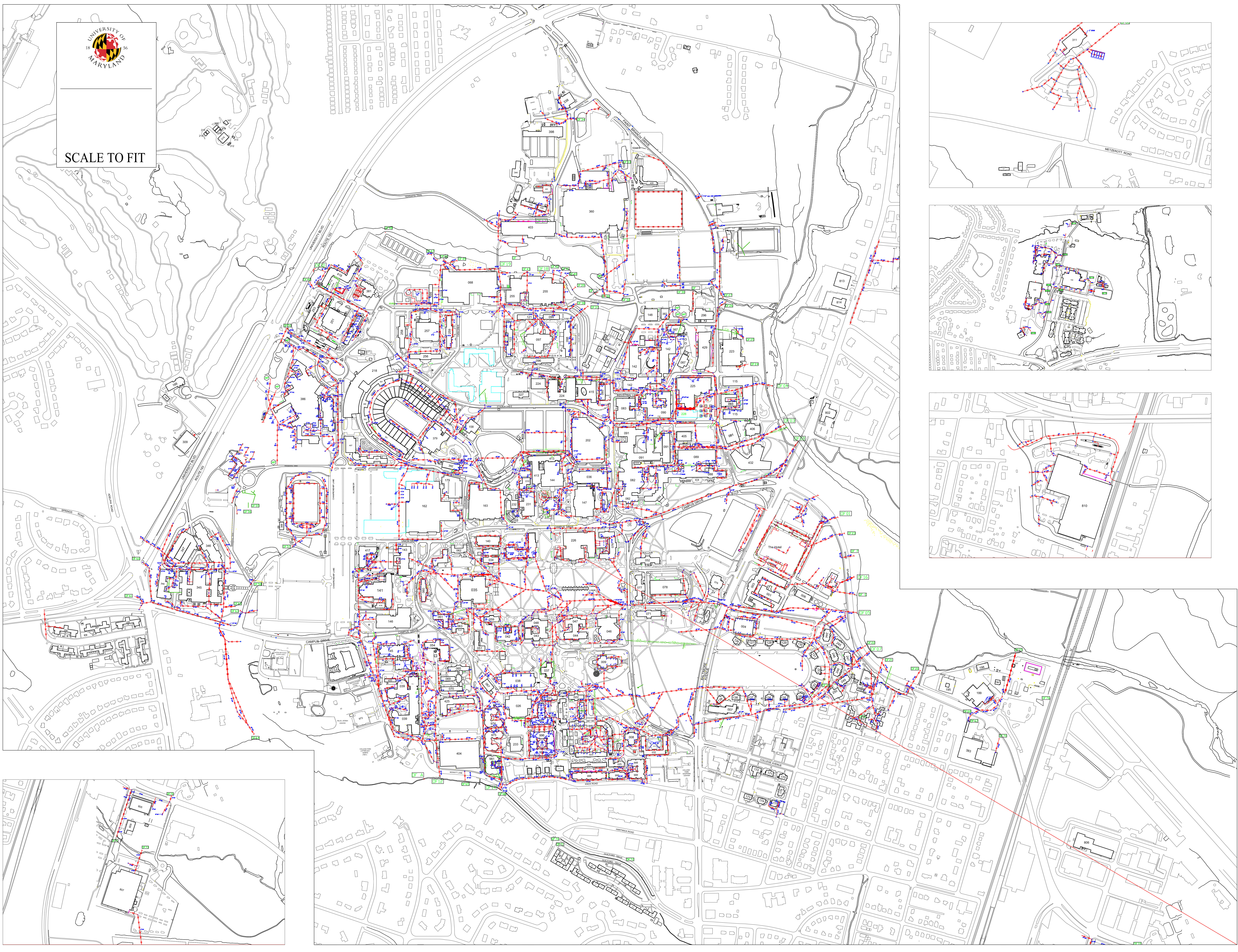
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APPENDIX B

SITE MAP



SCALE TO FIT



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APPENDIX C

UMD IDDE POLICIES

The University of Maryland Policies, Section VI: General Administration, Chapter 21.00(A): Policies and Procedures for Environmental, Safety and Health Management states:

A. *Department of Environmental Safety*

The Department of Environmental Safety (DES) is responsible for the administration of the campus policies and is accountable for the University's compliance with all environmental, safety and health regulations. It carries out this mission by providing technical, regulatory and related management services to the colleges/schools and departments who have a shared responsibility for operational accountability for regulatory compliance. DES assists the colleges/schools and departments in the development and implementation of programs, including training, emergency response, and analysis of specific problems so that compliance is practical at the unit level. DES is the unit responsible for all official University contact with external governmental regulatory agencies concerned with workplace health, safety and environmental compliance. In consultation with University legal counsel and, as required, representation by the Office of the Attorney General, DES shall coordinate all University responses to regulatory agencies' inquiries, complaints, lawsuits and other formal proceedings. By working with a Policy Committee, DES is instrumental in the design and implementation of an effective environmental safety program. DES reports to the Vice President for Administrative Affairs.

This policy grants the Department of Environmental Safety (DES) {recently changed to the Department of Environmental Safety, Sustainability, and Risk (ESSR)} the authority to maintain the University's compliance with environmental regulations. Therefore, ESSR will implement the IDDE requirements of the General Permit for Discharges from State and Federal Small Municipal Separate Storm Sewer Systems. With regards to illicit discharge detection and elimination, ESSR will implement the following requirements of their MS4 permit:

C. Illicit Discharge Detection and Elimination. Permittees shall develop, implement, and maintain a program to identify and eliminate illicit storm drain system connections and non-stormwater discharges to the maximum extent practicable. The program developed to satisfy this minimum control measure shall contain elements to field screen storm drain system outfalls, inspect the storm drain system for the purpose of identifying the source of any illicit discharges, eliminate any illegal connection or illicit discharge to the storm drain system, and enforce penalties where appropriate. The illicit discharge program shall also contain components to address illegal dumping and spills. This minimum control measure may be implemented and maintained by the permittee or by another responsible entity. Additionally, a permittee may coordinate its efforts to identify and eliminate non-stormwater discharges with those of the surrounding County performing similar activities under an individual NPDES municipal separate storm sewer system permit. If the responsibilities for complying with this minimum control measure are to be shared between the permittee and another responsible entity, the relationship and specific duties of all participating entities shall be outlined in the NOI submitted to MDE according to PART II of this

general permit. At a minimum, a program developed to implement illicit discharge detection and elimination to satisfy this control measure shall contain the following:

- 1. A map showing the extent of the storm drain system;*
- 2. The legal means to provide for entering onto private property to investigate and eliminate illicit storm drain system discharges;*
- 3. Procedures to field screen storm drain outfalls on a consistent basis;*
- 4. Inspection procedures for identifying the source of any suspected illicit discharges to the storm drain system;*
- 5. Enforcement and penalty procedures;*
- 6. Procedures to address spills and illegal dumping;*
- 7. Means to inform public employees, businesses, and the general public of illegal discharges and improper waste disposal; and*
- 8. Any other components deemed necessary to ensure that non-stormwater discharges to the municipal separate storm sewer system are either permitted by MDE under NPDES or eliminated.*

Regardless of whether a permittee develops its own program or relies on another responsible entity to satisfy this minimum control measure, the permittee shall cooperate regarding discharges entering or leaving its jurisdictional boundaries or Waters of the State. The intent of this program is to control non-stormwater discharges to and from municipal separate storm sewer systems. Therefore, it is essential that a permittee covered by this general permit cooperate actively in instances where storm drain systems are interconnected with entities covered under this or any other NPDES stormwater permit.

Additionally, in order to maintain compliance with the permit, ESSR has the authority to notify entities within the UMD MS4 of deficiencies and/or illicit discharges and to require corrective action to be performed. In the event that tenants or other non-UMD entities are involved in the deficiencies and/or illicit discharges, ESSR 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.

Deficiencies and/or illicit discharges at UMD construction sites will be handled differently; those will be reported to the Facilities Management Department by ESSR. The Facilities Management Department will then work with their construction contractors to undertake the necessary corrective action(s). If warranted, the Facilities Management Department will refer the issue to the Maryland Department of the Environment for enforcement action.

APPENDIX D

ILLICIT DISCHARGE INCIDENT TRACKING SHEET

Illicit Discharge Incident Tracking Sheet

Incident ID:				
Responder Information				
Call taken by:			Call date:	
Call time:			Precipitation (inches) in past 24-48 hrs:	
Reporter Information				
Incident time:			Incident date:	
Caller contact information (<i>optional</i>):				
Incident Location (<i>complete one or more below</i>)				
Latitude and longitude:				
Stream address or outfall #:				
Closest street address:				
Nearby landmark:				
Primary Location Description		Secondary Location Description:		
<input type="checkbox"/> Stream corridor (<i>In or adjacent to stream</i>)		<input type="checkbox"/> Outfall	<input type="checkbox"/> In-stream flow	<input type="checkbox"/> Along banks
<input type="checkbox"/> Upland area (<i>Land not adjacent to stream</i>)		<input type="checkbox"/> Near storm drain	<input type="checkbox"/> Near other water source (storm water pond, wetland, etc.):	
Narrative description of location:				
Upland Problem Indicator Description				
<input type="checkbox"/> Dumping		<input type="checkbox"/> Oil/solvents/chemicals	<input type="checkbox"/> Sewage	
<input type="checkbox"/> Wash water, suds, etc.		<input type="checkbox"/> Other: _____		
Stream Corridor Problem Indicator Description				
Odor	<input type="checkbox"/> None	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> Petroleum (gas)
	<input type="checkbox"/> Sulfide (rotten eggs); natural gas	<input type="checkbox"/> Other: Describe in "Narrative" section		
Appearance	<input type="checkbox"/> "Normal"	<input type="checkbox"/> Oil sheen	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Suds
	<input type="checkbox"/> Other: Describe in "Narrative" section			
Floatables	<input type="checkbox"/> None:	<input type="checkbox"/> Sewage (toilet paper, etc)	<input type="checkbox"/> Algae	<input type="checkbox"/> Dead fish
	<input type="checkbox"/> Other: Describe in "Narrative" section			
Narrative description of problem indicators:				
Suspected Violator (name, personal or vehicle description, license plate #, etc.):				

Investigation Notes

Initial investigation date:

Investigators:

No investigation made

Reason:

Referred to different department/agency:

Department/Agency:

Investigated: No action necessary

Investigated: Requires action

Description of actions:

Hours between call and investigation:

Hours to close incident:

Date case closed:

Notes:

APPENDIX E

OUTFALL INSPECTION FORM

IDDE OUTFALL INSPECTION FORM

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"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		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"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____ <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: _____	
<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	
Chlorine		mg/L	Probe	

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?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

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

APPENDIX F

IDDE TRAINING MATERIALS

Illicit Discharge Detection and Elimination (IDDE) Training

2017



Overview

- **What is an IDDE?**
- **Key terms**
- **Applications**
- **Key components**
- **Reporting processes**

What is an IDDE?

- A plan to identify and locate sources of non-storm water discharge into storm drains.



IDDE Applications

- ... to effectively **eliminate illicit discharges and connections** to UMD's Municipal Separate Storm Sewer System (MS4) permit.
- **Establish methods to control pollutants** entering the storm sewer system to comply with National Pollutant Discharge Elimination System (NPDES).



Key Terms: Illicit Discharge



- Any direct or indirect non-storm water discharge to the MS4.
 1. A storm drain with measurable flow during dry weather **containing pollutants and/or pathogens.**
 2. Has a unique **discharge frequency, composition,** and **mode of entry** into an MS4 system.
 3. Originates from “**generating sites**”, or specific sources areas.

Key Terms: Illicit Discharge (continued)



- **IMPORTANT:** Not all dry-weather storm drain flows are classified “Illicit discharges” ...
 - because they do not all contain pollutants/ pathogens.
- Field testing/ water quality sampling is needed to identify or confirm an illicit discharge.



Key Terms: Discharge Frequency

- **How often the illicit discharge occurs:**
 - **Continuous**
 - Occurs most to all the time, easy to detect
 - **Intermittent**
 - Occurs short time (few hours/day or days/year), harder to detect
 - **Transitory**
 - Occurs rarely (single event, spill), hardest to detect

Key Terms: Discharge flow type

- Dry discharges can contain one or more type of flow.
- Each flow type has a distinct chemical fingerprint:

Flow Type	Hardness (mg/L as CaCO ₃)	NH ₃ (mg/L)	Potassium (mg/L)	Conductivity (µS/cm)	Fluoride (mg/L)	Detergents (mg/L)
Sewage	50 (0.26)*	25 (0.53)*	12 (0.21)*	1215 (0.45)*	0.7 (0.1)*	9.7 (0.17)*
Septage**	57(0.36)	87 (0.4)	19 (0.42)	502 (0.42)	0.93 (0.39)	3.3 (1.33)
Laundry Washwater	45 (0.33)	3.2 (0.89)	6.5 (0.78)	463.5 (0.88)	0.85 (0.4)	758 (0.27)
Car Washwater	71 (0.27)	0.9 (1.4)	3.6 (0.67)	274 (0.45)	1.2 (1.56)	140 (0.2)
Plating Bath (Liquid Industrial Waste**)	1430 (0.32)	66 (0.66)	1009 (1.24)	10352 (0.45)	5.1 (0.47)	6.8 (0.68)
Radiator Flushing (Liquid Industrial Waste**)	5.6 (1.88)	26 (0.89)	2801 (0.13)	3280 (0.21)	149 (0.16)	15 (0.11)
Tap Water	52 (0.27)	<0.06 (0.55)	1.3 (0.37)	140 (0.07)	0.94 (0.07)	0 (NA)
Groundwater	38 (0.19)	0.06 (1.35)	3.1 (0.55)	149 (0.24)	0.13 (0.93)	0 (NA)
Landscape Irrigation	53 (0.13)	1.3 (1.12)	5.6 (0.5)	180 (0.1)	0.61 (0.35)	0 (NA)

* The number in parentheses after each concentration is the Coefficient of Variation; NA = Not Applicable
 ** All values are from Tuscaloosa, AL monitoring except liquid wastes and septage, which are from Birmingham, AL.
 Sources: Pitt (project support material) and Pitt et al. (1993)

Key Terms: Mode of entry

Direct

- Discharge directly connected to storm drain by a pipe.
 - Sewage cross-connections
 - Industrial/ commercial cross-connections
 - Straight pipe



Indirect

- Discharge enters via storm drain inlets or infiltrating into a pipe.
 - Groundwater seepage
 - Spills entering inlet
 - Direct dumping inlet
 - Outdoor washing
 - Non-target irrigation (landscaping)



Key components of an IDDE

1. Stormwater mapping
2. Ordinances
3. Detection procedures
4. Corrective action
5. Public education
6. Recordkeeping
7. Staff training

1. Stormwater mapping

Many communities lacked up-to-date mapping resources. It was found that mapping layers such as storm sewers, open drainage channels, waters of the U.S., outfalls, and land use were particularly useful to conduct and prioritize effective field investigations.

UMD utilizes GIS and CAD programs to keep up-to-date maps of the campus, along with multiple layers.

2. Ordinances

Table 8: Codes and Ordinances with Potential Links to IDDE

- Fire codes
- Hazardous wastes/spill controls
- Health codes
- Industrial storm water compliance
- Litter control regulations
- Nuisance ordinances
- Plumbing codes
- Pollution prevention permitting requirements
- Restaurant grease regulations
- Septic system regulations
- Sewer/drain ordinances
- Storm water ordinance
- Street/highway codes

To establish legal authority, communities will need to either develop a new IDDE ordinance or modify an existing ordinance that addresses illicit discharges. Language from existing ordinances that addresses illicit discharges should be incorporated or cross-referenced into any new IDDE ordinance to minimize conflicts and confusion. Furthermore, existing code ordinances may need to be amended or superseded to be consistent with the new IDDE ordinance.

3. Detection Procedures

- **Notification of Spills**
- **Reporting during routine inspections**
 - **Outfall Reconnaissance Inventory (ORI) will be conducted, at a minimum, once per permit term**
 - **Monthly inspections for NPDES permit**
 - **Quarterly inspections for Stormwater permit**
- **Source Identification**
 - **Tracking, field investigation, smoke test, dye test, etc.**

4. Corrective Action

- **University Ordinance should provide for escalating enforcement measures to notify operators of violations and to require corrective action.**
- **Most illicit discharge corrective actions involve some form of infrastructure modification or repair.**
 - **Direct discharges are those such as cross-connections, and piping.**
 - **Indirect discharges are those such as pump station failure or sewer break.**

4. Corrective Actions Continued

- Once the source of an illicit discharge has been identified, steps should be taken to fix or eliminate the discharge. The following four questions should be answered for each individual illicit discharge to determine how to proceed:
 1. Who is responsible?
 2. What methods will be used to fix it?
 3. How long will it take?
 4. How will removal be confirmed?

5. Public Education

- NPDES Phase II permits require public education and outreach and public involvement.
- Public education to advertise the hotline and training to educate employees across departments and agencies
- Dispersal of information brochures on UMD's IDDE
- Labeling storm drains and outfalls to make the public aware.

6. Recordkeeping

- The NPDES Phase II Permit requires UMD to keep records of all stormwater program activities and IDDE records for a minimum of five (5) years.
- UMD 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 UMD ESSR office. Electronic copies will be available on demand.

7. Staff Training

- **The MS4 Permit requires UMD to provide annual training (once a year) to applicable field personnel in recognition and reporting of illicit discharges.**
- **Sign in sheet for records**

Reporting Processes

- Reporting an incident
- Outfall inspections
- Investigation and Response Procedures

Reporting an incident-

1. Immediately notify the discharge hotline
2. Complete the Illicit Discharge Hotline Incident Tracking Sheet (left)
 - (located in Appendix D of the UMD IDDE plan).

Illicit Discharge Hotline Incident Tracking Sheet			
Incident ID:			
Responder Information			
Call taken by:		Call date:	
Call time:		Precipitation (inches) in past 24-48 hrs:	
Reporter Information			
Incident time:		Incident date:	
Caller contact information (optional):			
Incident Location (complete one or more below)			
Latitude and longitude:			
Stream address or outfall #:			
Closest street address:			
Nearby landmark:			
Primary Location Description		Secondary Location Description:	
<input type="checkbox"/> Stream corridor (In or adjacent to stream)		<input type="checkbox"/> Outfall	<input type="checkbox"/> In-stream flow
<input type="checkbox"/> Upland area (Land not adjacent to stream)		<input type="checkbox"/> Near storm drain	<input type="checkbox"/> Near other water source (storm water pond, wetland, etc.):
Narrative description of location:			
Upland Problem Indicator Description			
<input type="checkbox"/> Dumping		<input type="checkbox"/> Oil/solvents/chemicals	<input type="checkbox"/> Sewage
<input type="checkbox"/> Wash water, suds, etc.		<input type="checkbox"/> Other: _____	
Stream Corridor Problem Indicator Description			
Odor	<input type="checkbox"/> None	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rancid/Sour
	<input type="checkbox"/> Sulfide (rotten eggs); natural gas	<input type="checkbox"/> Other: Describe in "Narrative" section	
Appearance	<input type="checkbox"/> "Normal"	<input type="checkbox"/> Oil sheen	<input type="checkbox"/> Cloudy
	<input type="checkbox"/> Other: Describe in "Narrative" section		
Floatables	<input type="checkbox"/> None:	<input type="checkbox"/> Sewage (toilet paper, etc)	<input type="checkbox"/> Algae
	<input type="checkbox"/> Other: Describe in "Narrative" section		
Narrative description of problem indicators:			
Suspected Violator (name, personal or vehicle description, license plate #, etc.):			

Investigation Notes	
Initial investigation date:	Investigators:
<input type="checkbox"/> No investigation made	Reason:
<input type="checkbox"/> Referred to different department/agency:	Department/Agency:
<input type="checkbox"/> Investigated: No action necessary	
<input type="checkbox"/> Investigated: Requires action	Description of actions:
Hours between call and investigation:	Hours to close incident:
Date case closed:	
Notes:	

Reporting an incident- (continued)

Investigation Notes	
Initial investigation date:	Investigators:
<input type="checkbox"/> No investigation made	Reason:
<input type="checkbox"/> Referred to different department/agency:	Department/Agency:
<input type="checkbox"/> Investigated: No action necessary	
<input type="checkbox"/> Investigated: Requires action	Description of actions:
Hours between call and investigation:	Hours to close incident:
Date case closed:	
Notes:	

1. Immediately notify the discharge hotline
2. Complete the Illicit Discharge Hotline Incident Tracking Sheet (left)
 - **(located in Appendix D of the UMD IDDE plan).**

Outfall Inspections

- **Who?: Staff**
- **What?:**
- **Where?:**
- **When?:**

Outfall Inspections- Outfall 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 #:	
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 1: Background Data of the site/ outfall location

- Section 2: Description of outfall
 - (e.g. material, size, shape, etc.)

- Section 3: Quantitative characterization-

- (e.g. measuring flow, temperature, pH, and ammonia)
- Make sure to note the type of equipment!

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"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____ <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-cap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<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

PARAMETER	FIELD DATA FOR FLOWING OUTFALLS			EQUIPMENT
	RESULT	UNIT		
<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 Inspections- Outfall Form (continued...)

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/light, 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"/> Only <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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Canik dam

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

- Section 4: Physical indicators for flowing outfalls
 - (i.e. Odor, color, turbidity, floatables)
- Section 5: Physical indicators for BOTH flowing and non-flowing
 - anything unrelated to the outfall flow
- Section 6: Overall outfall characterization
 - pollution indicators present
- Section 7: Data Collection
 - describes sample collection
- Section 8: non- illicit discharge concerns
 - (e.g. issues surrounding outfall not pertaining to the actual flow/water)

(Located in Appendix E of the UMD IDDE plan)

Investigation and Response Procedures- IDDE Tracking form

IDDE TRACKING Form

Date Illicit Discharge Observed/Reported: _____ Outfall # (if applicable): _____

Description of IDDE: _____

Date of Investigation: _____

Was the Source found? Yes No

If "Yes", please describe: _____

Was IDDE Resolved? Yes No

If "Yes", please explain how it was resolved (Please include any personnel or outside parties contacted or involved):

If "No", please explain why it was not resolved: _____

Is any follow-up action required? Yes No

If "Yes", please explain: _____

Date investigation closed: _____

Attach photos to this form and retain for records.

- After an illicit discharge is suspected, UMD ESSR staff will confirm the discharge.
- Staff **must** fill out the IDDE tracking form
 - **(located in Appendix G of the UMD IDDE plan).**

Key References

- **For further information, refer to:**
 - **University of Maryland's IDDE plan**
 - **“Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments” by Center for Watershed Protection and Robert Pitt**

APPENDIX G

Institute for Bioscience and Biotechnology
Research (IBBR) Addendum

Institute for Bioscience and Biotechnology Research (IBBR) Addendum

IBBR was established by the University System of Maryland Board of Regents in 2010, building on the foundation of the Center for Advanced Research in Biotechnology (CARB) and the Center for Biosystems Research (CBR). IBBR Shady Grove is adjacent to The Universities at Shady Grove in the heart of the I-270 Bioscience Corridor. IBBR Shady Grove is easily accessible from Baltimore, College Park, and Gaithersburg. The campus is located in a suburban area, bounded by a mixture of commercial and institutional areas on all sides. IBBR is bordered by Darnestown Road to the north, Shady Grove Road to the east, and the Universities at Shady Grove (USG) to the west and south. The campus currently consists two (2) large connected buildings on 1,335 acres of land. A site vicinity map is included in this addendum.

The stormwater drainage system at IBBR consists of intermittent surface flow and catch basins located throughout the campus. Approximately 40% of the campus is considered impervious. The campus maintains a MS4 that consists of one (1) outfall that from a stormwater pond, which is shared with USG. The outfall discharges to an unnamed pond. Water from this discharge point ultimately flows to a tributary of the Watts Branch, which later empties into the Potomac River, a tributary of the Chesapeake Bay. IBBR receives all of its potable water from the Washington Suburban Sanitary Commission (WSSC). The distribution system includes periodic flushing of fire hydrants for maintenance purposes.

District: **04** Account Number: **03219568**



The information shown on this map has been compiled from deed descriptions and plats and is not a property survey. The map should not be used for legal descriptions. Users noting errors are urged to notify the Maryland Department of Planning Mapping, 301 W. Preston Street, Baltimore MD 21201.

If a plat for a property is needed, contact the local Land Records office where the property is located. Plats are also available online through the Maryland State Archives at www.plats.net (<http://www.plats.net>).

Property maps provided courtesy of the Maryland Department of Planning.

For more information on electronic mapping applications, visit the Maryland Department of Planning web site at www.mdp.state.md.us/OurProducts/OurProducts.shtml (<http://www.mdp.state.md.us/OurProducts/OurProducts.shtml>).

View Map		View GroundRent Redemption		View GroundRent Registration	
Account Identifier:		District - 04 Account Number - 03219568			
Owner Information					
Owner Name:	STATE OF MARYLAND OFF OF ATTY GEN-EDU AFFRS DIV		Use:	EXEMPT COMMERCIAL	
Mailing Address:	200 SAINT PAUL PL BALTIMORE MD 21202-2004		Principal Residence:	NO	
			Deed Reference:	/15534/ 00302	
Location & Structure Information					
Premises Address:		9636 GUDELSKY DR ROCKVILLE 20850-0000		Legal Description:	WICKHAMS PARK ETC
Map:	Grid:	Parcel:	Sub District:	Subdivision:	Section:
FR43	0000	P410		0001	
					Block:
					Lot:
					Assessment Year:
					2015
					Plat No:
					Plat Ref:
Special Tax Areas:			Town:	NONE	
			Ad Valorem:		
			Tax Class:	53	
Primary Structure Built	Above Grade Enclosed Area	Finished Basement Area	Property Land Area	County Use	
2016	233295		45.7100 AC	682	
Stories	Basement	Type	Exterior	Full/Half Bath	Garage
		PARKING STRUCTURE	CONCRETE		
					Last Major Renovation
Value Information					
	Base Value	Value	Phase-in Assessments		
		As of	As of	As of	
		01/01/2015	07/01/2016	07/01/2017	
Land:	3,982,200	4,579,500			
Improvements	73,330,400	74,768,900			
Total:	77,312,600	79,348,400	78,669,800	79,348,400	
Preferential Land:	0			0	
Transfer Information					
Seller: MONTGOMERY COUNTY		Date: 02/12/1998		Price: \$0	
Type: NON-ARMS LENGTH OTHER		Deed1: /15534/ 00302		Deed2:	
Seller:		Date:		Price:	
Type:		Deed1:		Deed2:	
Seller:		Date:		Price:	
Type:		Deed1:		Deed2:	
Exemption Information					
Partial Exempt Assessments:	Class	07/01/2016	07/01/2017		
County:	330	78,669,800.00	79,348,400.00		
State:	330	78,669,800.00	79,348,400.00		
Municipal:	330	0.00 0.00	0.00 0.00		
Tax Exempt:	Special Tax Recapture:				
Exempt Class:	NONE				
Homestead Application Information					
Homestead Application Status: No Application					



MD IMAP, DoIT



USG / IBBR Stormwater Network



0 0.0225 0.045 0.09 Miles

- | | |
|----------------|------------------------|
| ● Outfall | ⊕ Control Structure |
| ● Manhole | —▶ Pipe |
| ■ Inlet | — Hydraulic Connection |
| ● Head/Endwall | — Drain |
| ● Culvert | —▶ Ditch |



MD IMAP, DoIT



USG / IBBR BMP Locations



0 0.0225 0.045 0.09 Miles

BMP Type	
	Infiltration Berms
	Rainwater Harvesting
	Bioretention
	Green Roof
	Infiltration Trench
	Micro-Bioretenion
	Oil Grit Separator
	Retention Pond
	Sand Filter