

Attachment A Annual Report Databases

As part of the NPDES annual reporting process, permittees are required to complete databases for storm drain systems, urban best management practices, impervious surfaces, watershed restoration, monitoring site locations, chemical monitoring, pollutant load reductions, biological monitoring, illicit discharge detection, erosion and sediment control responsible personnel training, quarterly grading permit summaries, and fiscal analyses. For compatibility purposes, databases should be submitted in Access or Excel. Any file in a format other than Access or Excel is to be submitted in a “*.dbf” format. Examples of databases and definitions for each category are provided below. If there are any questions regarding the compatibility of databases, please contact the Water Management Administration’s Sediment, Stormwater, and Dam Safety Program at (410) 537-3543.

MDE is now utilizing Environmental System Research Institute (ESRI) Arc Geographic Information System (ArcGIS) technologies to track and update all collected datasets and integrate them spatially. GIS datasets shall be submitted in an ESRI Geodatabase or shapefile format, (i.e., “*.shp”). The first annual report submittal shall include the entire collection of mapped datasets (i.e., databases corresponding to tables A, B, C, D, E, G,H, I, and K below). In subsequent annual reports, only new or additional information needs to be submitted (i.e., new BMP structures, retrofits, removed impervious surfaces, etc.). All datasets shall conform to the Maryland State Geographic Information Committee standard – North American Datum (NAD), 1983 Maryland State Plane Coordinate System in “meter” units. Location information collected by global positioning systems (GPS) for the purposes of populating the GIS datasets shall be accurate to the sub-meter (+/- 1 meter) level for acceptable mapping. Additionally, each table below requires a “unique identifier” which is necessary for linking GIS mapping locations to datasets with further descriptions (i.e., outfall dimensions, BMP type, chemical results, etc.).

A. Storm Drain System Mapping (PART III.C.1.) Associated with GIS Coverage

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
OUTFALL_ID	TEXT	15	Unique outfall ID
MD_NORTH	NUMBER	10	Maryland grid coordinate (NAD 83 meters) Northing
MD_EAST	NUMBER	10	Maryland grid coordinate (NAD 83 meters) Easting
DIM_OUTFL	NUMBER	5	Outfall Dimensions in inches
WTRSHD_CODE	NUMBER		Maryland 8-digit hydraulic unit code
TYPE_OUTFL	TEXT	3	Outfall Type (RCP,CMP, PVC)
DRAIN_AREA	NUMBER	5	Drainage area to outfall (acres) ¹
LAND_USE	TEXT	3	Predominant land use ²

¹ GIS shapefile required

² Use attached Maryland Office of Planning land use codes.

B. Urban Best Management Practices (BMP) (PART III.C.2.) Associated with GIS Coverage

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
STRU_ID	TEXT	10	Unique structure ID
PERMIT_NO	TEXT	50	Unique permit number
STRU_NAME	TEXT	60	Structure name
ADDRESS	TEXT	50	Structure address

CITY	TEXT	15	Structure address
STATE	TEXT	2	Structure address
ZIP	TEXT	10	Structure address
MD_NORTH	NUMBER	9	Maryland grid coordinate (NAD 83 meters) Northing
MD_EAST	NUMBER	9	Maryland grid coordinate (NAD 83 meters) Easting
ADC_MAP	TEXT	5	ADC map book coordinate (optional if BMP has MD Northing\Easting)
WATERSHED_CODE	TEXT	20	Maryland 8-digit hydraulic unit code
STRU_TYPE	TEXT	10	Identify structure or BMP type ³
LAND_USE	TEXT	3	Predominant land use ²
DRAIN_AREA	NUMBER	8	Structure drainage area (acres) ¹
TOT_DRAIN	NUMBER	5	Total site area (acres)
RCN	NUMBER	5	Runoff curve number (weighted)
ON_OFF_SITE	TEXT	3	On or offsite structure
APPR_DATE	DATE/TIME	8	Permit approval date
BUILT_DATE	DATE/TIME	8	Construction completion date
GEN_COMNT	TEXT	60	General comments (e.g., redundant controls)
LAST_CHANGE	DATE/TIME	8	Date last change made to this record

¹ GIS shapefile required

² Use attached Maryland Office of Planning land use codes

³ Use attached urban BMP type code

C. Impervious Surfaces and Watershed Restoration Associated with GIS Coverage (PART III.C.3.)

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
WATERSHED_CODE	NUMBER	20	Maryland 8-digit hydrologic unit code
IMP_ACREAGE	NUMBER	10	Total impervious acreage in watershed ¹
IMP_CONTROLLED	NUMBER	10	Impervious acreage treated by BMPs (before NPDES restoration) ¹
RESTORATION_P	NUMBER	10	Impervious acreage proposed for watershed restoration ¹
RESTORATION_UC	NUMBER	10	Impervious acreage under construction for watershed restoration ¹
RESTORATION_C	NUMBER	10	Impervious acreage completed (since program inception) ¹

¹ GIS shapefile required

D. Watershed Restoration Project Locations Associated with GIS Coverage (PART III.C.5.)

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
PRJCT_NAME	TEXT	30	Unique project ID
PRJCT_CATEG	TEXT	25	New BMP, retrofit, education, maintenance, etc.
DESCRIPTION	TEXT	60	Brief description of the project
PRJCT_TYPE	TEXT	10	Identify structure or BMP type ³
WATERSHED_CODE	NUMBER	20	Maryland 8-digit hydrologic unit code
MD_NORTH	NUMBER	10	Maryland grid coordinate (NAD 83 meters) Northing
MD_EAST	NUMBER	10	Maryland grid coordinate (NAD 83 meters) Easting
DRAIN_AREA	NUMBER	8	Drainage area in acres ¹
IMPERVIOUS_AREA	NUMBER	10	Impervious acreage in drainage area restored ¹
LAND_USE	TEXT	5	Predominant land use ²
PRJCT_STATUS	TEXT	20	Proposed, under construction, completed

¹ GIS shapefile required

² Use attached Maryland Office of Planning land use codes.

³ Use attached urban BMP type code.

E. Monitoring Site Locations Associated with GIS Coverage (PART III.C.4.)

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
STATION	TEXT	30	Unique station ID
TYPE	TEXT	10	Outfall or instream station
WATERSHED_CODE	TEXT	20	MD 8-digit hydraulic unit code
MD_NORTH	NUMBER	10	Maryland grid coordinate (NAD 83 meters) Northing
MD_EAST	NUMBER	10	Maryland grid coordinate (NAD 83 meters) Easting
DRAIN_AREA	NUMBER	8	Drainage area in acres ¹

¹ GIS shapefile required

E.1. Monitoring Site Locations - Use for Multiple Land Use Values in the Drainage Area

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
STATION	TEXT	30	Name of station (associated with unique station ID in section E.)
LAND_USE_RANK	NUMBER	8	Ranking of land use from predominant to least
LAND_USE	TEXT	8	Identify land use ²
DRAIN_AREA	NUMBER	8	Drainage area in acres ¹

¹ GIS shapefile required

² Use attached Maryland Office of Planning land use codes

E.2. Monitoring Site Locations - Use for Multiple Stormwater BMPs in the Drainage Area

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
STATION	TEXT	30	Name of station (associated with unique station ID in section E.)
BMP_RANK	NUMBER	5	Ranking of BMPs from predominant to least
BMP_TYPE	TEXT	10	Identify structure or BMP type ³
BMP_DESCRIPTION	TEXT	60	Brief description of BMP
BMP_DRAIN AREA	NUMBER	5	Drainage area in acres treated by BMP ¹

¹ GIS shapefile required

³ Use attached urban BMP type code.

F. Chemical Monitoring (PART III.H.1.)

Column Name	Data Type	Length	Description
JURISDICTION	TEXT	50	Monitoring jurisdiction name
EVENT_DATE	DATE/TIME	8	Date of storm event
EVENT_TIME	DATE/TIME	8	Time monitoring begins
STATION_NAME	TEXT	30	Station name (associated w/ unique station ID in section E.)
OUTFALL_OR_INSTREAM	TEXT	10	Outfall or instream
STORM_OR_BASEFLOW	TEXT	10	Storm or base flow sample
DEPTH	NUMBER	5	Depth of rain in inches
DURATION	NUMBER	5	Duration of event in hours and minutes
INTENSITY	NUMBER	5	Intensity = depth/duration
TOTAL_STORM_FLOW_VOLUME	NUMBER	5	Total storm flow volume in gallons
WATER_TEMP	NUMBER	5	Flow weighted average of water temperature (Fahrenheit)

pH	NUMBER	5	Flow weighted average of pH
BOD_dt	NUMBER	5	Biological Oxygen Demand detection limit used in analysis
BOD_EMCO	NUMBER	5	EMC for Biological Oxygen Demand in mg/l using (0)*
BOD_EMCO_dt	NUMBER	5	EMC for Biological Oxygen Demand in mg/l using (dt)**
TKN_dt	NUMBER	5	Total Kjeldahl Nitrogen detection limit used in analysis
TKN_EMCO	NUMBER	5	EMC for Total Kjeldahl Nitrogen in mg/l using (0)*
TKN_EMCO_dt	NUMBER	5	EMC for Total Kjeldahl Nitrogen in mg/l using (dt)**
NITRATE_dt	NUMBER	5	Record Nitrate + Nitrite detection limit used in analysis
NITRATE_EMCO	NUMBER	5	Enter EMC for Nitrate + Nitrite in mg/l using (0)*
NITRATE_EMCO_dt	NUMBER	5	Enter EMC for Nitrate + Nitrite in mg/l using (dt)**
TOTAL_PHOSPHORUS_dt	NUMBER	5	Record Total Phosphorus detection limit used in analysis
TOTAL_PHOSPHORUS_EMCO	NUMBER	5	Enter EMC for Total Phosphorus in mg/l using (0)*
TOTAL_PHOSPHORUSEMCO_dt	NUMBER	5	Enter EMC for Total Phosphorus in mg/l using (dt)**
TSS_dt	NUMBER	5	Total Suspended Solids detection limit used in analysis
TSS_EMCO	NUMBER	5	EMC for Total Suspended Solids in mg/l using (0)*
TSS_EMCO_dt	NUMBER	5	EMC for Total Suspended Solids in mg/l using (dt)**
TOTAL_COPPER_dt	NUMBER	5	Record Total Copper detection limit used in analysis
TOTAL_COPPER_EMCO	NUMBER	5	Enter EMC for Total Copper in ug/l using (0)*
TOTAL_COPPER_EMCO_dt	NUMBER	5	Enter EMC for Total Copper in ug/l using (dt)**
TOTAL_LEAD_dt	NUMBER	5	Record Total Lead detection limit used in analysis
TOTAL_LEAD_EMCO	NUMBER	5	Enter EMC for Total Lead in ug/l using (0)*
TOTAL_LEAD_EMCO_dt	NUMBER	5	Enter EMC for Total Lead in ug/l using (dt)**
TOTAL_ZINC_dt	NUMBER	5	Record Total Zinc detection limit used in analysis
TOTAL_ZINC_EMCO	NUMBER	5	Enter EMC for Total Zinc in ug/l using (0)*
TOTAL_ZINC_EMCO_dt	NUMBER	5	Enter EMC for Total Zinc in ug/l using (dt)**
HARDNESS_dt	NUMBER	5	Record detection limit used in analysis
HARDNESS_EMCO	NUMBER	5	Enter EMC for Hardness in ug/l using (0)*
HARDNESS_EMCO_dt	NUMBER	5	Enter EMC for Hardness in ug/l using (dt)**
TPH_dt	NUMBER	5	Record detection limit used in analysis
TPH_EMCO	NUMBER	5	EMC for Total Petroleum Hydrocarbons in mg/l using (0)*
TPH_EMCO_dt	NUMBER	5	EMC for Total Petroleum Hydrocarbon in mg/l using (dt)**
ENTROCOCCI_dt	NUMBER	5	Record detection limit used in analysis
ENTROCOCCI_EMCO	NUMBER	5	EMC for entrococci in MPN/100 using (0)*
ENTROCOCCI_EMCO_dt	NUMBER	5	EMC for entrococci in MPN/100 using (dt)**
ECOLI_dt	NUMBER	5	Record E. Coli detection limit used in analysis
ECOLI_EMCO	NUMBER	5	Enter EMC for E. Coli in MPN/100ml using (0)*
ECOLI_EMCO_dt	NUMBER	5	Enter EMC for E. Coli in MPN/100ml using (dt)**
LOCAL_CONCERN1_dt	NUMBER	5	Record detection limit used in analysis
LOCAL_CONCERN1_EMCO	NUMBER	5	Enter EMC for in mg/l using (0)*
LOCAL_CONCERN1_EMCO_dt	NUMBER	5	Enter EMC for in mg/l using (dt)**
LOCAL_CONCERN2_dt	NUMBER	5	Record detection limit used in analysis
LOCAL_CONCERN2_EMCO	NUMBER	5	Enter EMC for in mg/l using (0)*
LOCAL_CONCERN2_EMCO_dt	NUMBER	5	Enter EMC for in mg/l using (dt)**
LOCAL_CONCERN3_dt	NUMBER	5	Record detection limit used in analysis
LOCAL_CONCERN3_EMCO	NUMBER	5	Enter EMC for in mg/l using (0)*
LOCAL_CONCERN3_EMCO_dt	NUMBER	5	Enter EMC for in mg/l using (dt)**
COMMENTS	TEXT	50	Monitoring comments/documentation

key: mg/l = milligrams per liter ug/l = micrograms per liter MPN = most probable number per 100 milliliters

* **EMC (0)** = Flow weighted averages for three discrete samples representative of a storm using zero (0) for any discrete samples recorded less than the detection limit.

** **EMC (dt)** = Flow weighted averages for three discrete samples representative of a storm using the detection limit value (dt) for any discrete samples recorded less than the detection limit.

G. Pollutant Load Reductions Associated with GIS Coverage (PART III.H.1. and PART III.J.)

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
WATERSHED_CODE	NUMBER	20	MD 8-digit hydrologic unit code
TKN_RUNOFF	NUMBER	10	TKN load before treatment (lbs/year)
TKN_CONTROLLED	NUMBER	10	TKN treated by BMPs (lbs/year)
TP_RUNOFF	NUMBER	10	TP load before treatment (lbs/year)
TP_CONTROLLED	NUMBER	10	TP treated by BMPs (lbs/year)
TSS_RUNOFF	NUMBER	10	TSS load before treatment (lbs/year)
TSS_CONTROLLED	NUMBER	10	TSS treated by BMPs (lbs/year)

G.1. Additional Pollutants - Use for Multiple Pollutant Entries

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
WATERSHED_CODE	NUMBER	20	MD 8-digit hydrologic unit code
POLLUTANT	TEXT	20	Identify additional pollutants for impaired water (TMDLs)
WLA_RUNOFF	NUMBER	10	WLA for an approved TMDL before treatment (lbs/year)
WLA_CONTROL	NUMBER	10	Waste load for an approved TMDL treated by BMPs (lbs/year)

H. Biological and Habitat Monitoring (PART III.H.1.)

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
STATION	TEXT	30	Unique station ID
WATERSHED_CODE	TEXT	20	MD 8-digit hydrologic unit code
MD_NORTH	NUMBER	5	Maryland grid coordinate (NAD 83 Meters) Northing
MD_EAST	NUMBER	5	Maryland grid coordinate (NAD 83 Meters) Easting
DRAIN_AREA	NUMBER	5	Drainage area in acres
BIBI	NUMBER	4	Benthic index of biological indicators
EMBEDDEDNESS	NUMBER	4	Rapid bioassessment protocol score for embeddedness
EPIFAUNAL	NUMBER	4	Rapid bioassessment protocol score for epifaunal
HABITAT	NUMBER	4	Rapid bioassessment protocol score for habitat
LAND_USE	TEXT	8	Predominant land use ²

² Use attached Maryland Office of Planning land use codes.

I. Illicit Discharge Detection and Elimination (PART III.E.3)

Column Name	Data Type	Length	Description
YEAR	TEXT	4	Annual report year
OUTFALL_ID	TEXT	15	Unique outfall ID used in Section A. database
SCREEN_DATE	DATE/TIME	8	Field screening date
TEST_NUM	NUMBER	5	Initial screening, follow-up test, 3rd, etc.
LAST_RAIN	DATE/TIME	8	Date of last rain > 0.10"
TIME	DATE/TIME	8	Field screening time

OBSERV_FLOW	TEXT	3	Was flow observed? (yes/no)
CFS_FLOW	NUMBER	5	Flow rate in cubic feet per second (CFS)
WAT_TEMP	NUMBER	5	Water temperature (Fahrenheit)
AIR_TEMP	NUMBER	5	Air temperature in (Fahrenheit)
CHEM_TEST	TEXT	3	Was chemical test performed? (yes/no)
pH	NUMBER	5	pH meter reading
PHENOL	NUMBER	5	Milligrams per Liter (mg/L)
CHLORINE	NUMBER	5	mg/L
DETERGENTS	NUMBER	5	mg/L
COPPER	NUMBER	5	mg/L
ALGAEGROW	TEXT	3	Was algae growth observed? (yes/no)
ODOR	TEXT	2	Type of odor ⁴
COLOR	TEXT	2	Discharge color ⁴
CLARITY	TEXT	2	Discharge clarity ⁴
FLOATABLES	TEXT	2	Floatables in discharge ⁴
DEPOSITS	TEXT	2	Deposits in outfall area ⁴
VEG_COND	TEXT	2	Vegetative condition in outfall area ⁴
STRUCT_COND	TEXT	2	Structural condition of outfall ⁴
EROSION	TEXT	2	Erosion in outfall area ⁴
COMPLA_NUMBER	TEXT	3	Is screening complaint driven? (yes/no)
ILLICIT_Q	TEXT	3	Was illicit discharge found? (yes/no)
ILLICIT_ELIM	TEXT	3	Was illicit discharge eliminated? (yes/no)

⁴ Use Attached Pollution Prevention Activities Codes

J. Responsible Personnel Certification Information (PART III.E.2.b.)

Column Name	Data Type	Length	Description*
PREFIX	TEXT	2	Mr., Ms.
FIRSTNAME	TEXT	15	First name
LASTNAME	TEXT	15	Last name
ADDRESS	TEXT	50	Full address
CITY	TEXT	35	City
STATE	TEXT	2	State
ZIP	NUMBER	9	Zip code
DATE	DATE/TIME	8	Date of class
PHONE	NUMBER	10	Phone number
CERTNUM	NUMBER	6	Certification number as provided by MDE
COMPANY	TEXT	30	Employer
INSTRUCTOR	TEXT	20	Instructor's last name

* Do not use all caps

K. Quarterly Grading Permit Information Associated with GIS Coverage (PART III.E.2.c.)

Column Name	Data Type	Length	Description
SITE_NAME	TEXT	60	Construction site name
SITE_OWNER	TEXT	60	Construction site owner
OWNER_ADDRESS	TEXT	50	Owner address
OWNER_CITY	TEXT	15	Owner address
OWNER_ZIP_CODE	NUMBER	5	Owner zip code
SITE_ADDRESS	TEXT	50	Site address
SITE_CITY	TEXT	15	Site address

SITE_ZIP_CODE	NUMBER	5	Site zip code
MD_NORTH	NUMBER	10	Maryland grid coordinate (NAD 83 meters) – site
MD_EAST	NUMBER	10	Maryland grid coordinate (NAD 83 meters) – site
WTRSHD_CODE	NUMBER	20	MD 8-digit hydrologic unit code
DIST_AREA	NUMBER	5	Disturbed area of site in acres ¹
GRAD_PERM	TEXT	10	Local grading permit number
APPR_DATE	DATE/TIME	8	Grading Permit approval date
LAND_USE	TEXT	8	Predominant land use ² (built)

¹ GIS shapefile required

² Use attached Maryland Office of Planning land use codes

L. Fiscal Analyses (PART III.1.)

Permit Condition	Data Type	Length	Description
YEAR	TEXT	13	Annual report year
LEGAL_AUTH	TEXT	13	Total annual cost for legal authority
SOURCE_ID	TEXT	13	Total annual cost for source ID
SW MANAGEMENT	TEXT	13	Total annual cost for stormwater management
EROS_SED_CON	TEXT	13	Total annual cost for erosion and sediment
ILLICIT_DET/ELIM	TEXT	13	Total annual cost for illicit det/elimination
TRASH_ELIM	TEXT	13	Total annual cost for trash elimination
PROP_MANAGE	TEXT	13	Total annual cost for property management
INLET_CLEAN	TEXT	13	Total annual cost for inlet cleaning
STRT_SWEEP	TEXT	13	Total annual cost for street sweeping
RD_MAINT_OTHER	TEXT	13	Total annual cost for road maintenance - other
PUB_EDUCATION	TEXT	13	Total annual cost for public education
WTRSHD_ASSESS	TEXT	13	Total annual cost for watershed assessment
WTRSHD_RESTOR	TEXT	13	Total annual cost for watershed restoration
CHEM_MON_ASSESS	TEXT	13	Total annual cost for chemical monitoring
BIO_MON_ASSESS	TEXT	13	Total annual cost for biological monitoring
PHYS_STRM_ASSESS	TEXT	13	Total annual cost for physical assessment
MANUAL_MON	TEXT	13	Total annual cost for design manual monitorin
TMDL_ASSESS	TEXT	13	Total annual cost for tmdl assessment
TOTAL_NPDES_FUNDS	TEXT	13	Total annual cost for total npdes program

² 1997 MdOP Land Use/Land Cover

10 Urban Built-up

- **11 Low Density Residential** – Detached single family/duplex dwelling units, yards, and associated areas. Areas of more than 90 percent single family/duplex dwelling units, with lot sizes less than five acres but at least one-half acres (.2 dwelling units/acre to 2 dwelling units/acre).
- **12 Medium Density Residential** – Detached single family/duplex, attached single unit row housing, yards, and associated areas. Areas of more than 90 percent single family/duplex units and attached single unit row housing, with lot sizes of less than one-half acre but at least one-eighth acre (2 dwelling units/acre to 8 dwelling units/acre).
- **13 High Density Residential** – Attached single unit row housing, garden apartments, high rise apartments/condominiums, mobile home and trailer parks. Areas of more than 90 percent high density residential units, with more than 8 dwelling units/acre.
- **14 Commercial** – Retail and wholesale services. Areas used primarily for the sale of products and services, including associated yards and parking areas.
- **15 Industrial** – Manufacturing and industrial parks, including associated warehouses, storage yards, research laboratories, and parking areas.
- **16 Institutional** – Elementary and secondary schools, middle schools, junior and senior high schools, public and private colleges and universities, military installations (built-up areas only, including buildings and storage, training, and similar areas) churches and health facilities, correctional facilities, and government offices and facilities that are clearly separable from the surrounding land cover.
- **17 Extractive** – Surface mining operations, including sand and gravel pits, quarries, coal surface mines, and deep coal mines. Status of activity (active vs. abandoned) is not distinguished.
- **18 Open Urban Land** – Urban areas whose use does not require structures, or urban areas where non-conforming uses characterized by open land have become isolated. Included are golf courses, parks, recreation areas (except associated with schools or other institutions), cemeteries, and entrapped agricultural and undeveloped land within urban areas.
- **191 Large Lot Subdivision (Agriculture)** – Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of open fields or pasture.
- **192 Large Lot Subdivision (Forest)** - Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of deciduous, evergreen or mixed forest.

20 Agriculture

- **21 Cropland** – Field and forage crops.
- **22 Pasture** – Land used for pasture, both permanent and rotated: grass.
- **23 Orchards/Vineyards/Horticulture** – Areas of intensively managed commercial bush and tree crops, including areas used for fruit production, vineyards, sod and seed farms, nurseries, and green houses.

- **24 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals, and commercial fishing areas (including oyster beds).
- **241 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals.
- **242 Agricultural Building** – Breeding and training facilities, storage facilities, built-up areas associated with a farmstead, small farm ponds, and commercial fishing areas.
- **25 Row and Garden Crops** – Intensively managed track and vegetable farms and associated areas.

40 Forest

- **41 Deciduous Forest** – Forested areas in which the trees characteristically lose their leaves at the end of the growing season. Included are such species as oak, hickory, aspen, sycamore, birch, yellow poplar, elm, maple, and cypress.
- **42 Evergreen Forest** - Forested areas in which the trees are characterized by persistent foliage throughout the year. Included are such species as white pine, pond pine, hemlock, southern white cedar, and red pine.
- **43 Mixed Forest** – Forested areas in which neither deciduous or evergreen species dominate, but in which there is a combination of both types.
- **44 Brush** – Areas that do not produce timber or other wood products but may have cut-over timber stands, abandoned agriculture fields, or pasture. These areas are characterized by vegetation types such as sumac, vines, rose, brambles, and tree seedlings.

50 Water – Rivers, waterways, reservoirs, ponds, bays, estuaries, and ocean.

60 Wetlands – Forested and non-forested wetlands, including tidal flats, tidal and non-tidal marshes, and upland swamps and wet areas.

70 Barren Land

- **71 Beaches** – Extensive shoreline areas of sand and gravel accumulation, with no vegetative cover or other land use.
- **72 Bare Exposed Rock** – Areas of bedrock exposure, scarps, and other natural accumulations of rock without vegetative cover.
- **73 Bare Ground** – Areas of exposed ground caused naturally, by construction, or other cultural processes.

³ Glossary of Stormwater BMP Structure Types and Practices Reported to MDE

Structure Name	Structure Code	Structure Function	CBP Urban Stormwater Workgroup (USWG) Categories
Artificial Wetlands	SM	See Shallow Marsh Structures	Wet Pond & Wetlands
Attenuation swale or dry swale	AS	Open drainage channel designed to detain and promote the filtration of stormwater runoff through underlying fabricated soil media (see Grassed Swale or SW)	Filtering Practice
Bio-retention	BIO or BR	Landscape designed such that stormwater runoff collects in shallow depressions before filtering through fabricated planting soil media	Filtering Practice
Check Dam	CD	A small dam constructed in a gully or other small waterway to decrease flow velocity (by reducing the channel gradient), minimize scour, & promote deposition of sediment	Filtering Practice
Detention Structure (Dry Pond)	DP	Designed to store runoff without a permanent pool	Dry Detention Ponds & Hydrodynamic Structure
Dry Well	DW	An infiltration trench variant designed to exclusively accommodate rooftop runoff	Infiltration Practice
Exemption	EXEMPT	Land development activities that are not subject to the stormwater management requirements	Not a SWM BMP
Extended Detention Structure (Two types): 1) Extended Detention Structure, Dry 2) Extended Detention Structure, Wet	ED EDSD EDSW	Designed to temporarily detain a portion of runoff for 24 hrs after a storm using a fixed orifice to regulate outflow at a specific rate, allowing solids & associated time to settle out Designed for the temporary storage of runoff associated with at least a 24 hr 1-year storm without creating a permanent pool of water Designed for the storage of runoff associated with at least a 24 hr 1-year storm. The detained water drains partially & the remaining portion creates a permanent pool	Dry Extended Detention Pond Dry Extended Detention Pond Depending upon structure design, this could be classified as a Dry Extended Detention Ponds or Wet Pond & Wetlands
Filter Strip	FS	Vegetated land designed to intercept sheet flow from upstream development	Filtering Practice
Flow Splitter (Only Montgomery County reports this practice)	FISp	Hydraulic structure designed either to divert a portion of stream flow to a BMP located away from a channel, direct stormwater to a parallel pipe system or bypass a portion of base flow around a pond	
Flood Management Area	FLOOD	10 year storm overbank flood protection	Not a WQ BMP
Forebay	FOREBAY	Storage structure adjoining a SWM BMP inlet designed to trap coarse sediments and thereby lessen their accumulation in the main treatment area *	Dry Detention Ponds & Hydrodynamic Structure

Gabion	GABION	A large rectangular box made of heavy gauze wire mesh which holds cobbles and boulders for changing stream flow patterns, bank stabilization, and erosion control.	Filtering Practice
Grass Swale	SW	Open vegetated channel used to convey runoff and provide treatment by filtering pollutants and sediment	Filtering Practice
Hydrodynamic Structure aka: 1) Oil_grit separator 2) Bay Saver© 3) Stormceptor©	OGS BS SC	An engineered structure used to separate sediments and oils from stormwater runoff using gravitational separation and/or hydraulic flow	Dry Detention Ponds & Hydrodynamic Structure
Infiltration Basin	IB	Designed to allow stormwater to infiltrate into permeable soils. It differs from a retention structure in that it may include a back-up underdrain pipe to ensure eventual removal of standing water	Infiltration Practice
Infiltration Trench (Three types): 1) Complete Exfiltration 2) Partial Exfiltration 3) Water Quality Exfiltration	IT ITCE ITPE ITWQE	An excavated trench that has been backfilled with exposed or unexposed stones to form an underground reservoir (Also see Dry Well) Runoff can only exit the trench by exfiltrating through the stone reservoir into the underlying ls Runoff exits the trench by exfiltrating a) through the stone reservoir into the underlying soil, and b) via a perforated underdrain at the bottom of the trench that diverts runoff to a central outlet Storage volume is set to receive only the first ½” of runoff (first flush) from an impervious area of the watershed	Infiltration Practice
Landscape	LANDSCAP E	Impervious area reduction (Only Prince Georges County has reports this SWM practice thus far)	Filtering Practice
Level Spreader	LS	A device for distributing stormwater uniformly over the ground surface as sheet flow to prevent concentrated, erosive flow and promote infiltration	Not a SWM BMP – Level Spreader
Micropool (Reported by jurisdictions before standardization of codes)	MP	A smaller permanent pool used in stormwater pond to mitigate the thermal impacts of a larger pond, impacts on existing wetlands, or compensate for lack of topographic relief	Wet Pond & Wetlands
Observation well	OBS_WELL	A test well installed in an infiltration trench to monitor draining time after installation	Not a SWM BMP – Observation Well

Other	OTR	Self-explanatory. Describe practice in Field 20, GEN COMNT (e.g., rain barrel, trash collectors, etc.)	Variable
Porous Pavement	PP	A porous asphalt surface designed to have bearing strength similar to conventional asphalt but provides a rapid conduit for runoff to reach a subsurface stone reservoir	Not a SWM BMP – Porous Pavement (MDE Non-Point Program experts do not regard this as a BMP)
Sand Filter	SF	A bed of sand to which the first flush of runoff is diverted. Water leaving the filter is collected in underground pipes & returned to a waterway. A layer of peat, limestone, and/topsoil may be added to improve removal efficiency	Filtering Practice
Shallow Marsh	SM	A structure with a permanent shallow pool planted with wetland vegetation often designed to provide extended detention	Wet Pond & Wetlands
Underground Storage	UGS	Vault like structure designed for the temporary storage of storm flow	Dry Detention Ponds & Hydrodynamic Structure
Variance	VARIANCE	A modification of the minimum stormwater management requirement if site conditions are such that strict adherence to the Guidelines would impose unnecessary hardship on the applicant without fulfilling the intent of the Guidelines	Not a SWM BMP
Vegetated Buffer	VB	A vegetated protective zone of variable width located along both sides of a waterway	Filtering Practice
Waiver	WAIVER	Exemption from stormwater management requirements granted to an applicant for a specific project based a review by MDE	Not a SWM BMP
Water Quality Inlet	OGS	See Hydrodynamic Structure-Oil_Grit Separator	Dry Detention Ponds & Hydrodynamic Structure
Wet Pond	WP	A structure with a permanent pool of water for treating incoming storm runoff	Wet Pond & Wetlands

⁴Pollution Prevention Activities Codes

- 21. ODOR:** None(N), Sewage (SE), Sulfur (S), Oil (IL), Gas (G), Rancid-Sour (RS), Other (O)
- 22. COLOR:** Clear (C), Yellow (Y),Brown (B), Green (GR), Red (R), Gray (G), Other (O)
- 23. CLARITY:** Clear (C), Opaque (OP), Cloudy (CD), Other (O)
- 24. FLOATABLES:** None (N), Oil Sheen (OS), Sewage (SE), Trash (T), Other (O)
- 25. DEPOSITS:** None (N), Sediment (S), Oil (IL), Other (O)
- 26. VEG_COND.:** Normal (N), Excessive Growth (EG), Inhibited Growth (IG), Other (O)
- 27. STRUCT_COND:** Normal (N), Concrete Cracking (CC), Concrete Spalling (SP), Other (O)
- 28. EROSION:** None (N), Moderate (M), Severe (S)