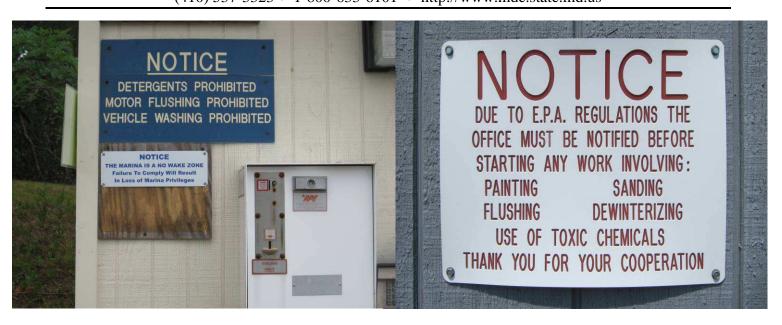
#### MARYLAND DEPARTMENT OF THE ENVIRONMENT

Water Management Administration • Wastewater Permits Program **1800 Washington Blvd.** • **Suite 455 • Baltimore Maryland 21230** (410) 537-3323 • 1-800-633-6101 • http://www.mde.state.md.us





# Developing your Storm Water Pollution Prevention Plan

Guidance for permittees of the General Permit No. 16-MA: Discharges from Marinas including Boat Yards and Yacht Basins



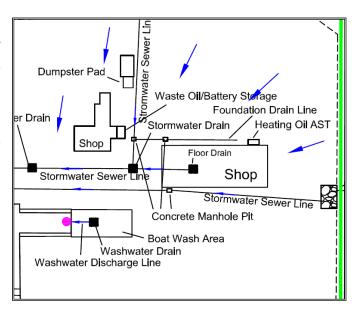
As per requirements detailed in the Maryland General Permit No. 16-MA for Discharges from Marinas including Boat Yards and Yacht Basins, each Storm Water Pollution Prevention Plan (SWPPP) must include facility specific information regarding potential pollutant sources as well as Best Management Practices (BMPs) to prevent storm water pollution. This document outlines elements to be considered by the permittee to document the selection, design, and installation of storm water pollution prevention measures.

Specific requirements of the SWPPP are addressed in the permit language. This document is intended for guidance only. Each facility covered by this permit must evaluate their individual exposures and operations on a site-by-site basis.

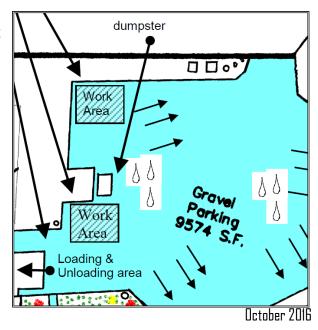
#### A. Administrative requirements:

Be sure to sign the SWPPP. Make sure there is a year-round contact. Ensure the most recent date of the SWPPP is on the front cover, and update as necessary. Makes sure the electronic was received by the state (e.g., CD, USB, DVD, email, website, etc.)

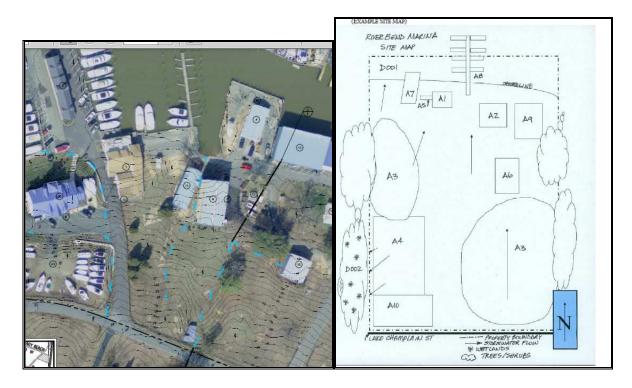
- **B. Site Plans.** Create a site plan of the marina. The site plan should include the following information and remain legible and as up to date as possible.
  - Identify significant structures and impervious surfaces; including buildings and other permanent structures such as ramps, comfort stations, boatels, etc. This also includes areas for storage or disposal of significant materials, such as fuel storage tanks, pump out locations, etc. Also include secondary containment structures, such as sheds containing used fuel or oil, paints, etc. Be sure to provide identification of the structures contents.



2. Identify the location where activities take place with the potential of storm water exposure (during or post activity). This would include areas where maintenance activities are performed including any surface preparation of the boat like soda blasting, sanding, and grinding. This also includes other maintenance activities like painting or oil changes. If these are performed in many areas, be sure to write this out in the narrative of the plan.

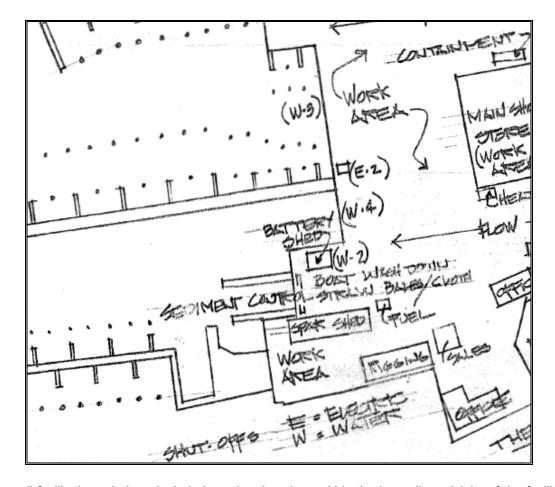


3. Stormwater Flow – Identify the direction of storm water flow on site (using arrows). If the site has considerable topography changes, use a Topographic Map (http://www.digital-topo-maps.com).

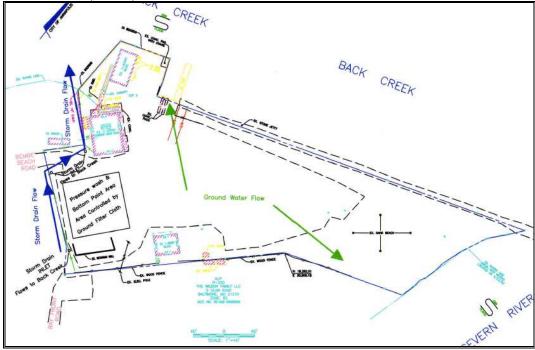


**4.** Outfalls - Identify the location of outfalls associated with permitted discharges (e.g., a pipe or a channel delivering the discharge of wash water to the river). Provide a unique identifier for each outfall and ensure no discharge co-mingles (e.g., Outfall 001, Bottom Wash Water; Outfall 002, Bilge Water).





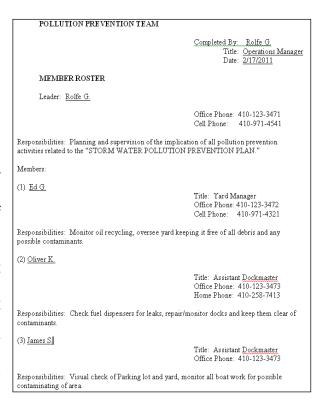
5. Overall facility boundaries - Include boundary locations within the immediate vicinity of the facility <u>receiving</u> water(s), streets, etc. Identify any storm water controls such as ditches or swales, riprap or sediment traps, storm water inlets or outfalls (provide unique identifiers as to not confuse between the waste water discharges). Outline the drainage area contributing to the inlets/outfalls or, if none, the general direction of the storm water flow (see #4)



#### C. Pollution Prevention Team

Your stormwater pollution prevention team is responsible for assisting in developing and revising the facility's SWPPP as well as maintaining control measures and taking corrective actions where required.

Determine key staff that will be responsible for managing the SWPPP. Revise the plan as needed to reflect staff changes. Be sure to include staff members title or name and ensure they posses the knowledge and skills to assess conditions and activities that could impact the storm water quality at the facility. They should also be able to evaluate the effectiveness of any storm water best management practices (e.g., how effective is the signage for oil filters, etc.). If more than one team member, identify each member's individual responsibility. If you are an individual who runs the property, you must identify yourself as the team; however, any training you receive should be identified on your plan.



Another component of the Pollution Prevention Team is to provide training on pollution prevention. This may include topics such as: used oil management, spent solvent management, disposal of spent abrasives, disposal

of vessel wastewaters. spill prevention and control, fueling procedures. general good housekeeping practices, painting and blasting procedures, used batterv and management. training schedule must identified be and maintained in the SWPPP.

Completed by: Dan Sweeney		Title: General	Manager
Date: 2/25/2011		and the falls visua tonics (as a	unitable to the
facility). Training should be do	es must be trained twice per calendar yea ocumented using this worksheet (make con ractors and customers about pollution pre	pies of the original as need	led for future use).
Training Topic	Brief Description of Training Materials (i.e., film, fact sheet, discussion)	Dates of Training (required twice per year)	Staff Names or Initials
Used oil management	Discussion & review of the clean marina guidelines	Quarterly	DFS, RDP CJC
Used solvent and paint management	Discussion & review of the clean marina guidelines	Quarterly	DFS, RDP CJC
Disposal of used abrasives	N/A	Quarterly	DFS, RDP CJC
Disposal of vessel wastewater	Discussion & review of the clean marina guidelines	Quarterly	DFS, RDP CJC
Spill prevention and control	Discussion & review of the clean marina guidelines	Quarterly	DFS, RDP CJC
Fueling procedures	N/A	Quarterly	DFS, RDP CJC
General good housekeeping	Discussion & review of the clean marina guidelines	Quarterly	DFS, RDP CJC
Painting and blasting procedures	Discussion & review of the clean marina guidelines	Quarterly	DFS, RDP CJC
Jsed battery management	Discussion & review of the clean marina guidelines	Quarterly	DFS, RDP CJC
Disposal of sacrificial anodes (i.e.,	Discussion & review of the clean marina guidelines	Quarterly	DFS, RDP CJC

#### **Employee Training:**

- Employee training records will be checked quarterly to ensure all appropriate personnel are trained. This will be documented on the Quarterly SWPPP Compliance Inspection Form.
- Employee performance should be evaluated to determine if alternate personnel require training.

# D. Summary of Potential Pollutant Sources

1. List activities which may have the potential for exposure of toxic materials to storm water (e.g., chemical stripping, paint storage areas, etc.) and the mechanisms employed to prevent their exposure.

Activity	Pollutant Source	Pollutant
Pressure washing	Wash water	Paint solids, heavy metals, suspended solids, debris
Surface preparation, paint removal, sanding	Sanding, mechanical grinding, abrasive blasting, paint stripping	Spent abrasives, paint solids, heavy metals, solvents, dust, debris
Painting	Paint and paint thinner spills, overspray, paint stripping, sanding, and paint cleanup	Paint solids, spent solvents, heavy metals, dust, debris
Drydock operation and maintenance	Sanding, mechanical grinding, abrasive blasting, paint stripping, building materials	Spent abrasives, paint solids, heavy metals, solvents, dust, low density waste (floatables)
Engine maintenance and repairs	Parts cleaning; waste disposal of greasy rags, used lubricants, coolants, and batteries; fluid spills; fluid replacement	Spent solvents, oil, heavy metals, ethylene glycol, acid/alkaline wastes, detergents, rags, batteries, loose parts
Material handling: Transfer	Fueling: spills, leaks, and hosing area	Fuel, oil, heavy metals
Storage Disposal	Liquid storage in above ground storage: spills and overfills, external corrosion, failure of piping systems	Fuel, oil, heavy metals, material being stored
	Waste material storage and disposal: paint solids, solvents, trash, and spent abrasives and petroleum products	Paint solids, heavy metals, spent solvents, oil, trash
Shipboard processes improperly discharged to storm sewer or into receiving water	Process and cooling water, sanitary waste, bilge and ballast water	Biochemical oxygen demand (BOD), bacteria, suspended solids, oil, fuel, trash

2. Describe Best Management Practices (BMPs) utilized to prevent or contain exposure of pollutants to precipitation.

Pollutant Source	BMPs
Surface preparation,	☐ Collect spent abrasives routinely and store under a cover to await proper disposal.
sanding, and paint removal (continued)	<ul> <li>Store and re-use/recycle used strippers. Solvent strippers, particularly stripping baths, can generally be reused several times before their effectiveness is diminished.</li> </ul>
	☐ Use environmentally-sensitive chemical paint strippers.
	☐ Inspect the area regularly to ensure BMPs are implemented.
	☐ Train employees on waste control and disposal procedures.
Painting	<ul> <li>Confine activities to designated areas outside drainage pathways and away from surface waters.</li> </ul>
	<ul> <li>Enclose, cover, or contain painting activities to the maximum extent practical to prevent overspray and related debris/equipment from reaching surface waters.</li> </ul>
	☐ Hang plastic barriers or tarpaulins during blasting or painting operations to contain debris
	☐ Prohibit uncontained spray painting activities over open water.
	$\begin{tabular}{ll} \hline \square & Prohibit spray painting activities during windy conditions which render containment in effective. \\ \hline \end{tabular}$
	☐ Use spray equipment that delivers more paint to the target and less overspray.
	<ul> <li>Mix paints and solvents in designated areas away from drains, ditches, piers, and surface waters, preferably indoors or under cover.</li> </ul>
	☐ Have absorbent and other cleanup items readily available for immediate cleanup of spills.
	☐ Allow empty paint cans to dry before disposal.
	☐ Store paint and paint thinner away from traffic areas to avoid spills.
	☐ Recycle paint, paint thinner, and solvents.
	☐ Establish and implement effective inventory control to reduce paint waste, including tracking date received and expiration dates.
	<ul> <li>Store waste paint, solvents, and rags in covered containers to prevent evaporation to the atmosphere.</li> </ul>
	<ul> <li>Use solvents with low volatility and coatings with low VOC content; use high transfer efficiency coating techniques such as brushing and rolling to reduce overspray and solvent emissions.</li> </ul>
	☐ Train employees on proper painting and spraying techniques.

### E. Spills and Leaks

List any significant spills and/or leaks exposed to precipitation. This ensures that spills and leaks have been handled. If at time of application for permit the facility has no record ensure that records are kept and maintained for three years.

Date Occurred	Spill Location	Type of	Amount	Cause	Cleanup
		Material	Spilled	of Spill	Actions
There have been	no past reportabl	le spills at the	site.		

# F. Best Management Practices

Develop a description of storm water management controls appropriate for the facility, and implement controls. This includes but is not limited to the following activities

1. Good Housekeeping: Identify how to your site employs good housekeeping procedures. For example, if you provide garbage cans indicate how often you empty them - is it more frequent during holidays? If you state you have a garbage can onsite for boaters to use - you're not addressing a procedure.

Yard is regularly cleaned up and maintained. Lumber is stacked neatly in a pile along with concrete blocks, and jack stands. We compost most yard waste, (leaves, sticks, pine needles). Waste from projects is disposed of properly and any material than can be recycled is recycled at the local transfer station or stored until proper disposal is available, (shrink wrapping, kayak packaging, and old kayaks).

(EAMVIFLE LANGUAGE)

Good Housekeeping – Effective as of the date of this plan, all outdoor areas will be kept clean and orderly. All waste materials outdoors will be kept under cover and on impervious surfaces. All vehicles will be stored in a designated area. Good housekeeping requires the maintenance of areas in a clean orderly manner, which may contribute pollutants to stormwater discharges.

All stored and containerized materials (fuels, paints, solvents, oil, antifreeze, batteries) must be labeled and stored in a protected, secure location away from floor drains.

**2. Maintenance of Equipment and Facility**. Identify how often you inspect your site equipment to ensure they are maintained, tested and repaired in order to prevent leaks, spills and other releases of pollutants.

Each quarter, we inspect the entire facility as required by the discharge permit, and check the non-structural controls and re-stock as necessary.

3. Maintenance Activities. Identify how your site ensures maintenance activities are contained in order to minimize comingling with precipitation. If a filter cloth is placed beneath a boat prior to painting, how is it disposed, how long after the activity is completed, where is the paint held before, during and after, how are the brushes cleaned, etc.

Vessel Sanding & Painting		
BMP	Implementation Date	Responsible Party
Bottom paint sanding debris will be swept up throughout the job process and will be done on an impervious surface. Dustless sanders will be used to minimize dust.	10/01/09	Maintenance Supervisor
Sand blasting on hull bottoms will be done witha skirt off the bottom of the vessel to keep the sand and blasting debris contained.	06/01/09	Maintenance Supervisor
Determine whether or not blast debris is a hazardous waste and dispose of properly.	06/01/09	Maintenance Supervisor

Activity/Source	Brief Description of Storm Water Management Practice	Plan for Proper Maintenance of Storm Water Practice (e.g., clean sediment traps, change filters) "Permittees must regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid situations that may result in releases (spills, leaks) of pollutants in storm water discharging to receiving waters."
Bottom Washing Area  Note: When not in use, prevent any storm water from entering the treatment system for boat bottom washing if you have one.	Filter cloths are deployed under each vessel with a raised perimeter before work begins. When dry, debris is bagged and then disposed of properly.	We regularly inspect our filter cloths for rips, tears, or holes and replace as necessary.

**4. Material Handling Areas** Identify methods for eliminating the contamination of precipitation or surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels).

Fueling Station					
BMP	Implementation Date	Responsible Party			
We now visually inspect all tanks on a weekly basis. We pay particular attention to the tank's foundation, connections, coatings, welded joints, and all piping systems.	04/06/09	Joe Smith			
All fueling areas are now equipped with Spill Kits and all staff are trained in spill response.	04/06/09	Joe Smith			
Fueling instructions and emergency response phone numbers are posted at every fueling area.	03/12/08	Joe Smith			
We provided roofed secondary containment (110%) structures to minimize the potential amount of rainwater collected and snow damage to all our aboveground tank fueling stations.	06/30/07	Joe Smith			
BMP	Implementation Date	Responsible Party			
All spills will be cleaned up immediately using dry methods. Spill areas are never washed down with water.	09/1990	Sally Jones			
When unloading fuel or other liquids, we always have a spill kit and a trained employee on-hand.	07/01/05	Joe Smith			
Spring inspection will occur to check snow melt areas and to clean-up any left over debris.	03/01/10	Sally Jones			

## 5. Engine Maintenance and Repair Areas

Engine Repair & Maintenance

BMP	Implementation Date	Responsible Party		
Any engine repair or maintenance will be performed indoors when possible.	April 28, 2009	Chief Mechanic		
If work must be done outdoors, tarps or fuel/oil absorbent pads will be placed in the work area. Should an unexpected leak occur, additional absorbent pads will be used.	April 28, 2009	Chief Mechanic		

# **6. Drydock Activities:** This may not be applicable if you do not have a DRY dock.

Pollutant Source	RIVIPS
Drydock maintenance	Clean and maintain drydock on a regular basis to minimize the potential for pollutants in the stormwater runoff.
	<ul> <li>Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding.</li> </ul>
	Collect wash water to remove solids and metals for disposal by a licensed waste disposal company.
	☐ Clean the remaining areas of the dock after a vessel has been removed and the dock raised.
	Remove floatable and other low-density waste (wood, plastic, insulations, etc), and place in closed containers for disposal.
	Have absorbent materials and oil containment booms readily available to contain/cleanup any spills.
Drydock activities	Use plastic barriers beneath the hull, between the hull and drydock walls for containment.
	<ul> <li>Use plastic barriers hung from the flying bridge of the drydock, from the bow or stern of the vessel, or from temporary structures for containment.</li> </ul>
	<ul> <li>Weight the bottom edge of the containment tarpaulins or plastic sheeting during a light breeze.</li> </ul>
	When sandblasting (scuppers, railings, freeing ports, ladders, and doorways), use plywood and/or plastic sheeting to cover open areas between decks.
	Install tie rings or cleats, cable suspension systems, or scaffolding to make implementation containment easier.
	☐ Inspect the maintenance area regularly to ensure BMPs are implemented.
	Train employees on waste control and disposal procedures

# 7. Marine railway: This may not be applicable if you do not have a railway.

Pollutants that fall onto the railway surfacing must be cleaned up and properly disposed of on a frequent basis. Cleanup of the surface must commence should rainfall be imminent. Hosing of the railway underpaying is not an acceptable cleanup technique and should not be performed unless a collection treatment system is employed.

Marine railway facilities should have an impervious, smooth surface underlying and surrounding the railway structure to the greatest extent possible. This surface may be in the form of concret or asphalt pavement. Instead of paving the area around the railway, a system of temporary target placed in a manner to trap trash and pollutant materials removed from the vessel may be employed but should not extend into the water. Design and construction of the marine railway undersurfaces must follow generally accepted and approved engineering practices.

Before the marine railway is lowered, cleanup of the railway support flooring should be completed. Hose spraying of water should not be used to clean off the underlying railway surface unless a collection and sediment treatment system is utilized. Boatyard personnel shou maintain records of each railway cleaning. With compliance with other BMPs, the railway floowill be generally dry and the blast abrasive easier to clean up. Various types of mechanical vacuum equipment are available to aid in this process.

**8. Erosion and Sediment Controls**: Identify areas which have a high potential for significant soil erosion. Identify measures used to control soil erosion and sedimentation.

Structure:	Grade parking area to prevent unnecessary run-off.
Date of Implementation:	April 15, 2010
Discharge point:	D002
Area(s) treated:	Customer/client parking area
Pollutants removed:	Sediment, fuels
Maintenance required:	Re-grade as necessary. Inspect for run-off into wetlands. Do not
	allow any vehicle maintenance in this area.
Frequency:	Every spring and fall (or more as needed)

9. Spill Prevention and Response Procedures Identify measure to be taken in order to prevent storm water exposure to any spills or leaks. These measures may already be identified in the Spill Prevention, Control and Countermeasure (SPCC) Plan (as a requirement of 40 CFR § 112), Pollution Incident Prevention Plan (PIPP) or by requisite requirements set forth by NFPA 30 Flammable and Combustible Liquids Code. If further methods are to be addressed, identify in the SWPPP.

#### Spill Response

The SWPPP will be modified within 14 days of knowledge of a spill to include information regarding the nature, date, and cause of the release. The plan will be modified with measures to prevent reoccurrence and to improve response. The following spill fact sheet will be referred to when reporting and responding to spills:

http://www.mde.state.md.us/programs/CrossMedia/EnvironmentalEmergencies/EmergencyResponse/ResourcesforEmergencyResponders/Documents/www.mde.state.md.us/assets/document/emergency/mdespillreport.pdf Specifically, we will follow the following procedure:

#### 6.a. Initial Response

For spills that can be safely managed without assistance:

- Stop the spill at its source;
- Prevent spilled material from entering storm drains, waterways, drainage ditches, etc;
- Contain spilled material using a barrier (absorbent pads or socks), temporary dike or trench. For all other spills, a cleanup contractor will likely need to be hired since they have the training and

equipment necessary to safely respond to dangerous hazardous material spills.

#### 6.b. Reporting the Spill

Any hazardous material spill to the land or water that meets the following criteria must be immediately reported to the Maryland Department of the Environment's Emergency Response by calling the 24-hour Hotline at 1-866-633-4686. If there is any question about whether a spill is reportable, call

Identify any measures you take to prevent accidental discharges of bilge water from dry docked boats. Identify measures you take to prevent discharges of antifreeze at the beginning of the boating season.

**G.** Inspection / Reporting Plan – Describe appropriate procedures and schedules for required inspections. Maintain a record of inspections and corrective actions in the SWPPP to document inspections. Note the date and time, person performing inspection, comments and any corrective actions taken.

#### 6 FACILITY MONITORING PLAN

Visual inspections of all storm sewer inlets will be made quarterly during dry weather conditions for evidence of nonstorm water discharges. The visual inspection will be completed by an employee under the SWPPP Coordinators' direction. The dry weather inspections will verify the site is not discharging sanitary or process water to storm sewers. Information recorded on the annual inspection log shall include: date of inspection, storm sewer inlet location, inspection results, and potential significant sources of non-storm water discovered through testing. Blank dry-weather inspections forms can be found in Appendix A of this SWPPP.

Magent's Marina will perform quarterly visual inspections of all storm sewer inlets during rain events to look for evidence of storm water contamination. Inspections will be conducted within the first thirty minutes of discharge or soon thereafter, but not exceeding 60 minutes. The visual inspection shall include any observations of color, odor, durbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. Information recorded during the quarterly inspection shall include date of inspection, storm sewer inlet location, inspection results, and potential significant sources of storm water contaminants if discovered. Blank quarterly inspections forms can be found in Appendix A of this SWPPP.

An annual storm water compliance inspection will be conducted approximately one year following implementation of this SWPPP and annually thereafter. The inspection will determine if the <u>BMPs</u> have been implemented and will assess their effectiveness. The inspection will also determine if site operations have changed since development of this SWPPP. If operational changes have been made, the SWPPP Coordinator will determine if those changes will impact storm water quality and develop new <u>BMPs</u> to address the change. All operational changes and new <u>BMPs</u> will be recorded in this SWPPP. Additionally, the inspection date, the inspection personnel, the scope of the inspection, major observations, and any needed revisions will be recorded. Revisions to the plan will occur within fourteen days after the annual inspection. Blank annual compliance inspections forms can be found in Appendix A of this SWPPP.

was reviewed using the visual monitoring form. Make sure to describe general industrial activities conducted in the drainage area of each sample location.

Identify where all records are retained. Make available to all necessary personnel, including the Department, as necessary.

	tv						Pern	nit ID: 10-	MA		
Outfa	•		Examiner's Name 8	k Ti	itle						
Quart	er / Year:		Date / Time Collecte	ed: Date / Time Examined:							
Rainf	all Amount:		Qualifying Storm?	١,	Yes	No	Runoff	Source:	Rainf	all S	Snowmelt
Pa	rameter		eter Description					neter Char			
I. Co	lor	Does the stor any color? Yes	m water appear to hav	ve	Othe		scribe:	Yellow E	Brown	Red	Gray
2. Cla	rity	Is the storm w			clari	y of th	he storm	water?	-		scribes the
		Yes	No		Othe	r:		Milky/CI		Opaq	ue
3. Oil	Sheen		a rainbow effect or water surface? No			bow s		es the she loating oil		s	
4. Od	ог	Does the sam Yes	ple have an odor? No			age		Chemical Milk Oil/F	Musty Petroleu		otten Eggs
5. Flo	ating	Is there anyth the sample? Yes	Is there anything on the surface of the sample? If Yes, describe: Suds Oily Film Gar Sewage Water Fowl Excrement					Garbage			
	spended lids	Is there anything suspended in the sample?									
		Yes	No	mi	nutes	***					
7. Set	tled Solids	Is there something settled on the bottom of the sample?    Settled on the bottom of the sample?   Settled on the bottom of the sample?   Settled material)				ote type,					
		Yes	No								
3. Fo	am		or material forming or sample surface? No	1	Des	cribe:	(shake t	oottle genti	y, is the	ere fo	am?)
		s, corrective ac	tions taken and any of e if there are visible in						t in the	samp	le. This

## H. Suggested sites to aid developing BMP and SWPPP (note: some files may be very large):

- Maryland's Department of Natural Resources "Maryland Clean Marina Initiative" (http://dnr2.maryland.gov/Boating/Pages/cleanmarina/home.aspx)
- EPA's Guide: "Developing Your Storm Water Pollution Prevention Plan" (https://www.epa.gov/npdes/industrial-stormwater-guidance)
- EPAs Guide: "Industrial Stormwater Monitoring and Sampling Guide" (<a href="https://www.epa.gov/npdes/industrial-stormwater-guidance">https://www.epa.gov/npdes/industrial-stormwater-guidance</a>)
- International Storm Water BMP Database (http://www.bmpdatabase.org/)
- EPA National Menu of Storm Water Best Management Practices
   (https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater-documents)
- National Oceanic and Atmospheric Administration (https://coast.noaa.gov)
- EPA's NPDES site for Industrial Fact Sheet Series:
- Sector Q (http://www.epa.gov/npdes/pubs/sector\_q\_watertransportation.pdf)
- Sector R (http://www.epa.gov/npdes/pubs/sector r shipbuilding.pdf)
- Boat US Foundation "Foundation Findings" (http://www.boatus.org/findings)