

Maryland Department of the Environment



Meeting TMDL Requirements in the Industrial Stormwater Program

2018 National Stormwater Roundtable





TMDLs require identification of all sources.



Complex models are developed to anticipate actual loads and potential reductions.















Permit Approach for TMDLs

Maryland has issued several individual and general permits with TMDL requirements included.

- Individual and WWTP Permits require monitoring and verification of certain wasteload allocations established by a TMDL.
- Industrial General Permits follow EPA MSGP format.
- MS4 Stormwater Permits address treatment to the MEP.

We will cover specific examples of how General Permits are used to address the Chesapeake Bay and local TMDLs.





Most stormwater loads are identified in aggregate, not on a site by site basis. However the permit provides site specific requirements.

2.2.2 Discharges to Water Quality-Impaired Waters.

If you discharge to an impaired water with an EPAapproved or established TMDL, EPA will inform you whether any additional measures are necessary for your discharge to be consistent with the assumptions and requirements of the applicable TMDL and its wasteload allocation, ...

We address this by site specific registration letters.





- •1235 Operators Industrial (SW)
 - Larger Facilities require <u>Additional</u> work.
- •312 Operators Mineral Mine, Asphalt and Concrete Plants (MM)
 - Process Water with WLA for Some Sites
- •190 Operators Marina (MA)
- •41 Operators Coal Mine (CM)
- •22 Operators Seafood Processors (SE)





General Permits with dewatering have numeric limits for TSS.

- At the time of registration, we assign specific monitoring and limits (tons/year) for a facility to ensure they do not exceed their WLA.
- If there is no WLA, we ensure we have monitoring and flow data that allows us to monitor their operation.





Outfalls Information: (Attach a separate list if necessary)

List all of outfalls fro Each outfall must be i unique 3-digit ID (e.g.	om your facility. dentified by a 001, 002).	Benchmark	Table(s)	Effluent Limit Table(s)	ations
Outfall ID	001	🔲 A-1	E-2	A-3	E-5
Latitude (decimal)		🗌 A-2	🗌 J-1	AD.C-1	🗌 J-2
Longitude (decimal)		🔲 C-1	🗌 L-1	C-3	🗌 J-3
* Identical Outfalls		D-1	🗌 L-2	D-2	🔄 J-4
* Flow (GPD)		E-1		E-3	J-5
				E-4	🔄 J-6
Outfall ID		🗌 A-1	E-2	A-3	E-5
Latitude (decimal)		A-2	🔲 J-1	AD.C-1	🗌 J-2
Longitude (decimal)		🔲 C-1	🗌 L-1	C-3	🗌 J-3
* Identical Outfalls		D-1	🗌 L-2	D-2	🔄 J-4
* Flow (GPD)		E-1		E-3	J-5
, ,				E-4	📙 J-6
Outfall ID		🗌 A-1	E-2	A-3	🗌 E-5
Latitude (decimal)		A-2	🔲 J-1	AD.C-1	J-2



Multipage Registration Letter



02/7/2018

COLLIN SUMPTER, RESOURCE MANAGER LAUREL SAND & GRAVEL, INC.T/A S.W. BARRICK & SONS PO BOX \$50 LAUREL, MD, 20725

RE: General Discharge Permit 15MM: Discharges from Mineral Mines, C Concrete and Asphalt Plants – NPDES Permit NO. MDG491429 - Registratio

Page 2 of 5

Dear COLLIN SUMPTER:

The Maryland Department of the Er the general permit for discharges fro that your NOI has been accepted.

In signing the NOI, you have certifiits operations located at 11609 Legg discharge, under Registration Numb until <u>April 30, 2022</u>.

Covered Discharges

- The permit provides a complete list • Non-stormwater discharges testing)
- Non-stormwater discharges leaks of toxic or hazardous
- Non-stormwater discharges have been applied in accord
- Non-stormwater discharges and any dislodged paint chi
- Non-stormwater discharges compressors and from the o
 Non-stormwater discharges
- Non-stormwater discharges
 Non-stormwater discharges
- Non-stormwater discharges process materials
 Non-stormwater discharges
- Non-stormwater discharges rooftops or adjacent portion (e.g., "piped" cooling tower

Control Measures and Non-Num

Re: Registration Number 15MMI429 Page 3 of 5

Table J-1 Sector J1 Benchmarks S	Sand and Gravel	Mining (SIC 1-	42-1446) and Ston	e and Minerals (SIC
Parameter	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100	mg/L	1/guarter	Grab

Table J-2 Numeric Limits for dewatering and/or process water discharges at crushed or broken limestone mining facilities (SIC 1422)

Parameter	Effluent Limit	Units	Frequency	Sample Ty
Flow	REPORT monthly avg, and daily maximum	gpd	1/month	Measured Re: Regis Page 4 of 1
pH (daily maximum)	6.0 - 9.0	s.u.	1/month	
pH (monthly average)	6.5 - 8.5	S.U.	1/month	Due to th
Total Suspended Solids (TSS) - Dewatering Only	15 monthly avg, 31 daily maximum	mg1.	1/month	a water in condition
Total Suspended Solids (TSS) - Dewatering and Process Water	17 monthly avg, 37 daily maximum	mgiL	1/month	- The cale Within 3
Temperature - Summer	REPORT	٩F	1/month	condition
Temperature Difference	0 maximum	*F	1/month	Discharg

Note

- Notes; (a) Monthy average limits apply to every facility that discharges three or mo A discharge beginning one day and lasting into a second day is consider determining whether or not the monthly average limit applies.
- (b) For discharges to Use III or Use IV streams during June, July, August an be taken at the beginning of discharge and midway through discharge.
- (c) Temperature Difference is determined by following the steps below until demonstrating compliance or noncompliance.
- if the effluent temperature <= 68F (Use III) or <= 75F (Use IV), then re Difference" = 0, demonstrating compliance. Otherwise proceed to the ii) Calculate "Temperature Difference" = effluent - receiving water temper discharge. If the result is "<= 0" then report the value which is complia
- discharge. If the result is "<= 0" then report the value which is complia the next step. iii) Calculate "Temperature Difference" = edge of mixing zone temperatur
- discharge) [68F (Use III) or <= 75F (Use IV)]. If the result is "<= 0" th is compliant. If it is ">0" proceed to the next step.
- iv) Calculate "Temperature Difference" = edge of mixing zone temperatur discharge) - receiving water temperature upstream of the discharge. If report the negative value which is compliant. If it is ">0" then report the permit violation.

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termine the annual fee to be \$2300.

es at the facility, such as new outfalls or new types of processes, require a new NOI so that the facility e valuated for continued general permit eligibility. If you have any questions, please do not hesitate to our Mining General Permit website, found at http://Soil.at.ND-MMGP. or call the department at 410-

Registration Number 15MM1429

Due to the average flow rate of discharge identified in your NOI from Outfalls 001 to Upper <u>Monoracy</u> River, <u>water</u> impaired for Total Suspended Solids, coverage under this permit must meet the following special ordifion(s)

The calendar year load of total suspended solids shall not exceed 11.4 tons per year

Within 30 days of this letter, submit anotice signed by an authorized person (per Part III.D.2 of the permit) certifying S.W. <u>Barrick</u> and Sons, Inc. - <u>Barrick</u> Quarry's acceptance of the aforementioned special condition(s), withdraw your application, or the Department may have to deny coverage under this General Discharge Permit and require you to obtain coverage under an individual NPDES permit.

The most recent version of Title 40CFR, Part 136 – "Guidelines Establishing Test Procedures for Analysis of Pollutars" can be found online at <u>www.ecft.gppacess.gov</u>. Unless otherwise specified, these guidelines are to be used for the analyses required by this permit.

You must summarize and submit discharge monitoring reports (DMRs) electronically using NetDMR. for each outfall subject to monitoring requirements, for each reporting period. DMRs shall be submitted to the Department in accordance with the requirements of the permit, to include periods during which there is no discharge from the facility. Specific requirements regarding submittal of data using NetDMR are described below:

NetDMR is a U.S. EPA tool allowing regulated Clean Water Act permittees to submit monitoring reports electronically via a secure Internet application. You must apply for access to NetDMR at www.epageoinetdmr and register for a NetDMR Webmar. Before you can submit official DMRs using NetDMR you must attend the training Webmar and successfully set-up and submit test monitoring results electronically.

You may be eligible for a temporary waiver by MDE from NPDES electronic reporting requirements if you have no current internet access and are physically located in a geographic area (e., e., pro dob that is identified as under-served for broadband internet access in the most recent National Broadband Mag from the Federal Communications Commission (FCC), or if you can demonstrate that such electronic reporting of the monitoring data and reports would pose an unreasonable burden or expense to the NPDES permitted facility. Waiver requests must be submitted in writing to the Department for written approval at least 120 days prior to the date you would be required under this permit to begin using NEDMR. This demonstration shall be valid for up to five (5) years from the date of the Department approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to the Department turless the permittes submits a renewed waiver request and sub-request ig approved by the Department. All waiver requests and subsequent hardcopy DMRs should be sent to the following address with "Atm. DMRs":

> Maryland Department of the Environment LMA - Mining Program 1800 Washington Boulevard, Suite 655 Baltimore, MD 21230 Phone: 410-537-3557

As part of your monitoring requirements, you will be measuring or calculating the daily quantity of effluent discharged. The accuracy of this figure is important, as it will determine your annual fee. Because we intend to use the flow provided in the NOI, we urge you now to review that information as soon as possible and, if it is incorrect, provide adequate documentation to support a revised figure. Unless you advise us otherwise, we

1800 Washington Boulevard | Baltimore. MD 21230 | 1-800-633-6101 | 410-537-3000 | TTY Users 1-800-735-2258



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documentation should be kept available w scottgogs referenced in <u>Permit Appendix</u>: Corrective Action Requirements In certain situations you must take specifi <u>PartIV</u>. If any of the triggering condition installation, and implementation of your c eliminated and will not be repeated. If your requirements. Inspections, Monitoring and Reporting Your registration requires certain inspecti

Your registration requires certain inspecti specific requirements to conduct three typ a Comprehensive Ste Compliance Evaluation, and Quarterly Visual Inspections using Quarterly Visual

Re: Registration Number 15MMI429

You must implement the elements of the

Exposure; Good Housekeeping; Maintena

Controls: Management of Runoff: Salt Sta

Garbage and Floatable Debris; and Dust C

also consider any sector specific controls :

You must eliminate non-stormwater disch

Your registration requires a Stormwater P

SWPPP must be kept updated, on-site, and

your initial selection, design, and installati

Stormwater Pollution Prevention Team: S

Description of Control Measures to Meet

Requirements. The permit also has Requi

SWPPP Requirements

Monitoring Form in <u>Permit Appendix B</u>. The permit provides for various exceptions from monitoring including inactive and Unstaffed Sites and Substantially identical outfalls Exceptions to Routine Facility Inspections. Your monitoring results must be submitted quatterly via electronic Discharge Monitoring Report (<u>NetOMRs</u>) (see <u>Permit Part V.B.</u>).

Impairments

Your facility discharges into a watershed which is impaired for the following categories: Bacteria, Nutrients, Stream Modifications and Sediments. Based on this status you must evaluate your control measures to ensure you are minimizing your facility discharges relating to these impairments during each annual comprehensive site compliance evaluation.

Your registration is subject to Benchmark Monitoring and Numeric Limits as specified below. If you need to

The facility is registered for the following discharges:

Outfall Specific Benchmark Monitoring and/or Limits for Outfall 001:

update these, send in an updated NOI and a new registration letter will be provided



Ke: Kegistration Number 151/11/1429 Page 3 of 5

The facility is registered for the following discharges:

Outfall Specific Benchmark Monitoring and/or Limits for Outfall 001:

Your registration is subject to Benchmark Monitoring and Numeric Limits as specified below. If you need to update these, send in an updated NOI and a new registration letter will be provided.

Table J-1 Sector J1 Benchmarks Sand and Gravel Mining (SIC 1442-1446) and Stone and Minerals (SIC 1411, 1422-1429, 1481, 1499)

Parameter	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab

Table J-2 Numeric Limits for dewatering and/or process water discharges at crushed or broken limestone mining facilities (SIC 1422)

Parameter	Effluent Limit	Units	Frequency	Sample Type
Flow	REPORT monthly	gpd	1/month	Measured
	avg, and daily			
	maximum			
pH (daily maximum)	6.0 - 9.0	s.u.	1/month	Grab
pH (monthly average)	6.5 - 8.5	s.u.	1/month	Grab
Total Suspended Solids (TSS)	15 monthly avg, 31	mg/L	1/month	Grab (a)
- Dewatering Only	daily maximum			



Registration w/Specific Load

1800 Washington Boulevard Baltimore. MD 21230 1-800-633-6101 410-537-3000 TTY Users 1-800-735-2258 www.mde.maryland.gov
Re: Registration Number 15MM1429 Page 4 of 5
Due to the average flow rate of discharge identified in your NOI from Outfalls 001 to Upper Monocacy River, a water impaired for Total Suspended Solids, coverage under this permit must meet the following special condition(s)
- The calendar year load of total suspended solids shall not exceed 11.4 tons per year
<u>Within 30 days of this letter</u> , submit a notice signed by an authorized person (per Part III.D.2 of the permit) certifying S.W. Barrick and Sons, Inc Barrick Quarry's acceptance of the aforementioned special condition(s), withdraw your application, <u>or</u> the Department may have to deny coverage under this General Discharge Permit and require you to obtain coverage under an individual NPDES permit





•The Chesapeake Bay Program extensively modeled urban runoff, and determined loading for segments of the watershed.

•Treatment using approved stormwater BMPs was found to reduce nitrogen, phosphorus and sediments with specific removal efficiencies.

•A 20% restoration (of untreated impervious surfaces) was initially implemented as **MEP** in MS4 permit, as a pace to achieve TMDL goal.

•We mirrored this requirement for industrial stormwater.





Impervious Acres (Total 343,895 Acres)





Restoration Requirement.

- This was implemented on facilities larger than 5 total acres (about 30% of facilities).
- This requires a calculation of impervious surfaces and evaluation of existing stormwater treatment.
- This then requires restoration of 20% of the untreated surfaces.



Restoration Options

•Accounting Guidance Practices (Draft or 2014)

–Most Popular Examples: Street Sweeping, replacing pavement with green space or Retrofiting Existing Stormwater Ponds.

•Design Manual or Proprietary Practices

-Examples: Green Roof or Cisterns

•Equivalent control measures

-Achieve reduction of 5.4 lbs total nitrogen (TN) per year is equivalent to restoration of one acre of impervious surface area.

–New controls required for erosion and sediment control or reduced use of fertilizer.

-New controls to achieve the benchmarks for nitrogen

-Reducing an existing TN load allocation (Important for WWTP)





Facility SWPPP Map Example







- Clear Status Reporting for significant number of facilities.
- Complex concepts = Compliance Assistance Burden.
- Compliance options.
- Consideration of trading.
- Evaluating potential next steps.





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