

Marshall University

MS4 Annual Report 2012

Permit WVR030043



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Date

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Report Objective

This report is prepared to fulfill the annual requirements of the WV/NPDES General Permit No. WVR030043.

The purpose of this annual report is to summarize the University's permit responsibilities and activities and track compliance requirements for the first year of the permit's duration. The permit identifies several key areas of responsibility with various objectives, management measures, and measurable goals designed to assist the University in improving the quality of stormwater run-off while reducing the quantity of it. This report will address how the University has met the first-year requirements and goals and describe future plans for maintaining compliance and improving the program.

Information contained in this report covers activities beginning the effective date of the permit and continuing through September 29, 2012. The report will discuss program summary and assessment, the status of various management measures and goals, proposed changes to the stormwater management program or any implementation schedules, and successes, failures and milestone accomplishments of the management program.

Background

Marshall University currently holds a permit to discharge stormwater under the WV/NPDES General Permit No. WVR030043 that was issued September 29, 2011.

The University began implementation of the Stormwater Management Program (SWMP) to mitigate stormwater pollution impacts on the city's collection system and potentially the Ohio River. The SWMP activities include sediment and erosion control guidelines, installation and maintenance of both structural and non-structural best management practices (BMPs), stormwater discharges and water quality monitoring, storm sewer system mapping and education, outreach and public involvement.

The University's SWMP is being administered by the Environmental Health and Safety (EHS) Department. Other University departments such as Facilities, Operations, and Management; Athletics; and Physical Plant work in cooperation with the EHS to implement specific programs developed in accordance with the Permit requirements.

Objective

Marshall University will implement a public education program to educate the public on the impacts of stormwater discharges to water bodies. Students, employees, contractors, and the general public will be the groups targeted for education and outreach to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.

Best Management Practices

A. Stormwater Webpage-Create a webpage to provide information to students, faculty, staff, and the public on the impacts of stormwater run-off and what students, faculty, staff, and the public can do to reduce stormwater pollution.

Measurable Goal-A webpage was to be created within the first year of the permit which has been successfully completed. The web address is <http://www.marshall.edu/wpmu/stormwater>. The website was to be implemented within one year of final approval of the permit.

Activity-The website is always changing through updates and new activities occurring on campus. The number of hits or visits to the website as of September 24, 2012 is 800.

Tracking/Evaluation-The website has a counter on it so an instant tally can be gathered when needed. The website has been a great tool for getting people informed and aware of the SWMP and Marshall's commitment to the environment. As the program expands so will the website and the information it provides.

B. Curriculum-Include stormwater pollution and its impacts as part of the curriculum.

Measurable Goal- Track the number of classes and students enrolled in the classes incorporating stormwater pollution and its impacts. Curriculum was to be implemented within one year of final approval of the permit.

Activity-The College of Science and Integrated Science Department have hopes to insert stormwater curriculum into certain courses for the Fall Semester 2012 but will definitely have the material in courses by the Spring Semester 2013. The meeting took place on June 19, 2012 that involved the Dean of the College of Science and a professor in the Integrated Science Department, an additional meeting took place on June 25, 2012. The College of Liberal Arts has shown interest in this subject and has a desire to incorporate it in a Global Environmental Issues course. The conversation took place during the Earth Day celebrations (April 18, 2012) on campus at the stormwater booth.

Tracking/Evaluation-A survey or quiz will be given at the beginning and end of the curriculum to gauge changes in awareness. This will also assist in tracking the number of classes and the number of students enrolled in those classes incorporating stormwater pollution and its impacts as part of the curriculum. Implementation of this curriculum will fulfill the requirements of this permit.

C. Student Organizations-Provide information regarding recycling sustainability, waste management on the MU website and work with the campus student organizations to advance these issues.

Measurable Goals-Evaluate quantity of materials recycled each year and document sustainability measures adopted. Evaluate the number of meetings attended annually.

Activities-The Environmental Specialist specifically hired for stormwater management has been attending certain student organizations for the past year

Greening Marshall Committee-meets to review the activities of the Sustainability Department and to collaborate on possible upcoming events that help educate the campus on sustainability methods and environmental concerns. Faculty, staff, students, and community members make up this committee.

The Sustainability Department has installed two rain barrels on the south side of the Career Services building. The capacity of the rain barrels are approximately 55 gallons each and are used to water the raised bed gardens in the area.

Meetings Attended:

11/30/12-This meeting had an attendance of 13 individuals. The guest speaker at this meeting introduced Marshall's MS4 permit. The local collection system and how stormwater has the potential to impact the waterways were presented to the committee in addition to Marshall's goals to reduce the impact.

1/25/12-This meeting had an attendance of 14 individuals. The Sustainability Lecture Series was the main topic for this meeting. We discussed potential topics the lectures could be based on (stormwater being one) and the individuals that should be lecturing. Earth Day Celebration was also another big topic discussed. It was decided that another committee needed to be created to organize the activities. The EPA Food Challenge and Greenhouse renovations were brought up at this meeting.

2/29/12-A Rumpke representative was the guest speaker for this meeting to inform us of their recycling program.

3/28/12-Attendance was nine individuals. The meeting opened discussing the first lecture in the luncheon series. The pros and cons of the layout of the luncheon and the overall success were also discussed. We moved onto the Earth Day Celebration

activities. One activity scheduled was a rain barrel activity and the fate of a drop of water in Huntington presented by Marshall University. The EPA Food Recovery Challenge was the third topic on the agenda. Food has already been collected from the Student Center and is picked up daily to be taken to a farm for pig feed and composting purposes. This was the last meeting for the semester.

8/29/12-This was the first meeting for the fall semester. Twelve people were in attendance. The Sustainability Lecture Series are about to begin again and topics were discussed for the future lectures. The EPA Food Recovery Challenge results were in and with the success from last semester will begin within the first two/three weeks of school and may be expanded to additional dining halls. The student garden has overwhelmingly succeeded. The demand still exceeds growth but there has been now waste, which was the ultimate goal. There is an interest in a USGBC Student Chapter to start on campus. The recycling stats were presented in this meeting and had very impressive numbers. The topic of stormwater was brought up at this meeting to discuss the potential of creating a committee to open communication about planting different species of plants throughout campus for stormwater control and as an educational tool.

Greenhouse Committee-originated to discuss the unused potential the current campus greenhouse has. This building has been neglected for many years due to lack of interest. A new movement of interest has been brought about with the emergence of the Sustainability Department so a committee has been developed to get the greenhouse back to a working order. The Environmental Specialist is involved with this committee which includes faculty, staff, students, and community members.

Meetings Attended:

2/7/12-This was the first meeting for the Greenhouse Improvement Committee. This meeting was to figure out the usage of the greenhouse and how it can be improved. The Environmental Specialist was there to assist in the use of stormwater in the project.

3/6/12-This meeting's purpose was to see what information was gathered since the previous meeting. Dr. Harrison attended to talk about how the panels are cracking within two years of installation. There is concern it is a structural problem that cannot be fixed cost effectively. The Assistant Athletic Director was going to be contacted to see about how to order a wrap for the building. Cameras need to be installed to prevent vandalism. Old chemicals/fertilizers in the greenhouse needs disposed of so the EHS Department needs to determine method of disposal. There is to be an engineer on campus soon so there is hope to have him inspect the structure. This was the last meeting of the semester.

Earth Day Celebration Committee-initiated to organize the Earth Day activities on campus and in the surrounding community. The Environmental Specialist was part of

this committee which included faculty, staff, students, and community members.

Meetings Attended:

2/8/12-First meeting for this group. It was for brainstorming purposes to see what activities are appropriate and who could attend. Assignment was to bring ideas and contacts for activities that should be at an Earth Day event.

3/8/12-This meeting was to finalize the list of participants and to critique the online registration to ensure ease of use and adequacy.

Earth Day Celebration Activities-Earth Day was celebrated on Marshall University's campus on April 18, 2012. It was held on this date due to the possibility of low attendance because the actual Earth Day being on a weekend. The EHS Department presented with a presentation board with information regarding the impacts of stormwater and ways to prevent pollution, door hangers promoting only rain down the drain, coloring pages, crayons made from soy, WVDEP pamphlets, and a rain barrel for demonstrations. After the Earth Day at Marshall University ended the EHS Department joined the Earth Day celebrations at the Barnett Center on Hal Greer Boulevard in Huntington.

Sustainability Lectures-The lecture series was put together by the Sustainability department and Aetna, campus contract cleaning services. The objective of the series is to spread the knowledge and experience about green infrastructure and practices. Energy conservation, efficient HVAC, green cleaning products, rainwater harvesting, and sustainable designs have been topics for the lectures. Meetings that have been attended to date are as follows:

1/10/12-Luncheon series kick-off. Basic introduction of topics to be discussed and questionnaires were distributed to determine the direction the attendants would like to see the series follow.

3/22/12-Green Cleaning was the topic discussed. Questions concerning the myths associated with green cleaning products were answered.

4/19/12-DesignGroup presented at this lecture. They discussed what sustainability means and how it benefits society.

5/22/12-The guest speaker at this luncheon was Green City Resources. They spoke on the topic of rainwater harvesting.

6/19/12-The topic for this lecture was HVAC Systems and Energy Auditing.

EPA Food Challenge-initiated by the Sustainability Department to reduce the waste of food scraps. Instead of throwing away food scraps into the dumpster, which increases waste; potential for illicit discharges; and pests, the scrap is given to local farmers to use

as pig feed and compost. The goal of the program is to reduce the waste produced on campus from entering a landfill and to reuse as much as possible. The Environmental Specialist is involved with this committee which includes faculty, staff, students, and community members.

Meetings Attended:

2/6/12-First meeting of this group. This was to get the group together and to see what each individual had to offer to the group. The Environmental Specialist was there to ensure the food was not going to sit out in the rain waiting to be picked up, thus creating an illicit discharge.

3/12/12-Calculations were conducted to determine amount of food that would be generated each day from the Student Center. Logistics were figured for pick-up, drop-off, and remaining in compliance with the health department.

The students were able to collect for the Spring Semester 2012:

- 25.5 small bags of coffee grounds from Starbucks
- 16 large bags of shredded paper
- 1,727 pounds of prep food scrapes from 3/12-5/2/12

The EPA Food Challenge will be expanding to the other dining halls for the Fall Semester 2012. They will also be collecting composting from additional areas across campus and this material will be sent to a local farmer. Coffee grounds will be going to the student garden. Marshall has hopes to be a zero waste campus in the future.

Additional Activities-Marshall University's Recycling Program is a combined effort between students, faculty and staff. In each building on campus there are recycling containers where anyone can place the following recycling material: mixed paper, cardboard, aluminum and tin cans, and plastic bottles. The custodial staff takes the recyclables from the individual recycling containers and places them in a central place in each building. Student recyclers that are paid through the Sustainability Department take the recyclables from each of the central pickup locations and transport them to a compactor that is located on campus.

The compactor dumpster can hold up to 10 tons. When the container is full it is taken by Allied Waste to a Rumpke Recycling facility in Ironton, Ohio. Eventually the recyclables go to a Rumpke Recycling sorting facility in Columbus, Ohio and then sold to various vendors that purchase the recyclables for reuse.

2011 vs 2012 Recycling and Waste Comparison

	2011			2012		
	Waste*	Recycling*	Percentage	Waste*	Recycling*	Percentage
January	40.75	7.18	14.98%	48.64	8.61	15.04%
February	29.78	7.37	19.84%	26.36	7.65	22.49%
March	36.11	16.27	31.06%	48.99	6.27	11.35%
April	41.72	9.17	18.02%	41.37	7.88	16.00%
May	48.08	0	0.00%	18.83	6.94	26.93%
June	5.7	7.09	55.43%	17.11	9.8	36.42%
July	28.3	9.84	25.80%	24.25	7.89	24.55%
August	12.99	16.02	55.22%	45.36	13.51	22.95%
September	61.73	21.44	25.78%			
October	47.83	14.41	23.15%			
November	49.09	6.42	11.57%			
December	28.36	7.73	21.42%			
1st Quarter	106.6	30.82	22.42%	124	22.53	15.38%
2nd Quarter	95.5	16.26	14.55%	77.31	24.62	24.15%
3rd Quarter	103	47.3	31.47%	69.61	21.4	23.51%
4th Quarter	125.3	28.56	18.56%	0	0	
Yearly Totals	430.4	122.94	22.22%	270.9	68.55	20.19%

*Waste and Recycling are displayed in number of tons (1 ton = 2,000 pounds)

Tracking/Evaluation-These committees have a goal of meeting once a month during the months when students are on campus to achieve the highest attendance possible. The meetings attended will be tallied in the MCM #2 section. The Environmental Specialist will continue to meet with these committees and seek additional ones as they come available.

D. Public Awareness-Marshall will encourage and support articles in the student newspaper (Parthenon) regarding stormwater, pollution prevention, recycling, and sustainability. MU will provide information for newspaper articles.

Measurable Goal-Evaluate the number of articles appearing in the newspaper annually.

Activities-“Marshall gets greener with new environmental specialist” was printed November 29, 2011 in the Parthenon. The article talks about green infrastructure, construction practices, and stormwater impacts.

“Slogans help save the earth” was printed January 19, 2012 in the Parthenon. The purpose was to announce the winning participants of the slogan contest about stormwater that was performed for the Fall 2011.

“Environmental Department asks for help from students” was printed February 6, 2012 in the Parthenon. The article is advertising for posters to be created from the slogans submitted the semester before to help educate the student body about stormwater impacts.

“Students smell drains to keep campus safe” was printed February 8, 2012 in the Parthenon. The article discusses how students can report illicit discharges and how they are the biggest asset to preventing and correcting them.

“Students, local businesses, nonprofits gather to honor Earth Day” was printed April 19, 2012 in the Parthenon. The article was about Earth Day and its celebration on campus.

“The Barnett Center joins Earth Day celebration” was printed April 19, 2012 in the Parthenon. This article reported the activities at the Barnett Center, a community center for kids on Hal Greer.

“New environmental specialist hired at Marshall University” was released November 10, 2011 in Marshall University Communications.

“Marshall hosting poster contest” was printed in the Herald Dispatch February 19, 2012 announcing the contest being held on campus.

An announcement concerning the catchy slogan contest was distributed to the Residence Halls November 9, 2011.

An announcement concerning the catchy slogan or phrase was distributed through the campus exchange user program November 8, 2011.

Tracking/Evaluation-The articles are kept in a notebook to review for the annual report. Marshall feels that 10 articles within the first year is a sufficient amount of information distributed via newspaper.

E. Illicit Discharges-Marshall will publicize the physical plant telephone number for use by students and staff to report suspected illicit discharges or other pollution concerns. The telephone number will be published in articles in the Parthenon and will be posted on the stormwater website. Information will be provided to the student newspaper and website pertaining to when it is appropriate to contact the physical plant for suspected illicit discharges or

Activities-The physical plant contact information has been distribute in the Parthenon and is on the stormwater website on every page. It has also been published what an illicit discharge is and how reporting should be handled. At this time we have had two reports of illicit discharges. Both reports were from the staff.

Tracking/Evaluation-The physical plant number has been distributed and posted on the website within the first six months to maintain compliance with the permit. All calls about illicit discharges or pollution concerns will be entered into the Maximo work order software and directed toward the Environmental Specialist for review. The concern would then be observed within 48 hours of the complaint. As of September 24, 2012 there have been two reports concerning illicit discharges. Marshall University feels this type of concern is new but with distributing the contact information and awareness of these problems the reports may increase.

F. Contract Work-Educate contractors by placing an “educational stormwater page” in the contract document. This page will be disseminated to all procurement personnel who deal with contracts and contractors so they will know that this page is mandatory for placement in all contracts.

Measurable Goal-Educational stormwater page and to survey staff that will oversee the contractors on-site and ask specific stormwater questions regarding the actions of the contractor. Both were to be done within the first six months of the permit approval.

Activities-An “educational stormwater page” has been developed and inserted as Chapter 24 in the Contractors Environmental Health and Safety Program. The Construction Site Run-off (CSRO) Program has also been inserted into the Request for Proposal (RFP) packet that goes to all contractors bidding on a project.

A survey has been giving to all anticipated staff that could inspect a construction site for stormwater issues. A 10 question survey was given then reviewed if anyone had concerns or comments. The questions covered what the contractor should be preventing and some of the techniques to be successful.

Tracking/Evaluation-Both projects were completed within the allotted time frame for compliance. The educational stormwater page and CSRO program have been inserted in the appropriate documents for contractors to read and understand. As of September 24, 2012, 57 contractors have received these documents.

PUBLIC INVOLVEMENT & PARTICIPATION-MCM #2

Objective

Marshall University will provide opportunity for public involvement and participation in the implementation of the stormwater management program.

Best Management Practices

A. Marshall University will publish the facility's MS4 stormwater management program, plan, updates to the plan, and annual reports on the University's website. The website was to be posted within one year after the final approval of the permit.

B. Involve students as part of classroom activity/coursework to assist with the development of stormwater system inventory and mapping.

Measurable Goal #1-Marshall will track the number of hits or visits to the stormwater webpage. A quiz or survey will be placed on Marshall's stormwater website inviting students and staff to answer certain questions about the posters/flyers and what they have learned pertaining to stormwater management.

Activities-Marshall University has posted the Stormwater Management Program and is currently tracking the amount of visits to the website to report on an annual basis. The website also contains a survey for all visitors to participate in if they choose. The content of the survey does not include information from the posters/flyers due to the lack of participation for poster designs. Five individuals participated in the slogan contest that lasted until the end of the Fall Semester 2011. A city official, MU faculty, and a WVDEP representative were chosen to judge the slogans and were asked to choose the best three they felt represented stormwater and its potential impacts to the environment.

Tracking/Evaluation-The website and the survey both have a counter on them so a tally can be done. The total visits to the webpage for the 2011-2012 year is 800. The total surveys taken for the past year is 27. The slogan contest had minimal participation but the awareness of stormwater concerns shown was encouraging. The poster contest had no participation possibly due to the time and effort required. The slogan contest will be performed again during the Fall Semester 2012 but the poster contest will be revisited for evaluation. The posting of the website, SWMP, and survey allows Marshall University to fulfill certain requirements of the permit.

Measurable Goal #2-As time and opportunity allows, students will assist in developing the inventory of campus stormwater system. This information will be used to create a stormwater system map. Staff will attempt to involve students one year after final approval of the permit and beyond.

Activities-Marshall University has been able to use students for mapping inventory.

There are intentions to continue using students and potentially an entire class for inventory but this has not been approved by individual professors.

Tracking/Evaluation-Marshall University has met the one year time limit to implement this goal but does have intentions to continue to use students as much as possible in the future.

Measurable Goal #3-Marshall will track the slogans and the artwork from the contests to see how they are used in other outreach opportunities, such as flyers and website pages.

Activities-No artwork was submitted for the previous contest so no tracking or observation can occur. The slogans have been posted on the website and published in the campus newspaper but none of the slogans have been observed anywhere else.

Tracking/Evaluation-No artwork was submitted for the previous contest so no tracking or observation can occur. The slogans have been posted on the website and published in the campus newspaper but none of the slogans have been observed anywhere else. The idea of a poster contest will have to be revisited due to the time and efforts required. It may be too time consuming for students to do additional work. This contest will be re-evaluated before the beginning of the spring 2013 semester.

ILLICIT DISCHARGE DETECTION & ELIMINATION-MCM #3

Objective

Marshall University will develop, implement, and enforce a program to detect and eliminate illicit discharges.

Best Management Practices

A. Mapping-Updating and Maintaining

Measurable Goal-Evaluate stormwater map and inventory annually to determine areas where additional information is needed. Work with students, faculty, staff to collect information and update map was to begin within six months after final approval of the permit and continue until completed.

Activities-Marshall University has been conducting outfall/manhole reconnaissance twice per month in order to map the system for better validity and to observe any illicit discharges that may be occurring. The characteristics of the structures are also being documented in addition to incoming pipes, size of pipes, and direction of flow. The information is then entered into the campus mapping system and saved on a server. Additional information entered into the mapping system includes all priority areas, boundaries, flow direction, areas for potential green projects, stormwater controls, and good housekeeping sites. Marshall University has met its requirement to begin mapping within six months of the final approval of the permit.

Tracking/Evaluation-All new or updated information is entered into the mapping system and stored on servers to prevent loss of data. The information is entered as soon as possible and will be reviewed prior to the next inspection to ensure accuracy and clarity of the system. The stormwater system mapping is progressing well and shall continue until complete.

B. Conduct observations of stormwater system/outfalls for evidence of illicit discharges.

Measurable Goal #1- Marshall University staff will conduct dry weather observations in the stormwater system using visual observation, odor, and other indicators to identify possible illicit discharges.

Activities-Marshall University has been conducting outfall/manhole reconnaissance twice per month in order to map the system for better validity and to observe any illicit discharges that may be occurring. All areas are to be inspected once per year. As of September 24, 2012, 82 have been inspected and documented. All inspections are done during dry weather conditions so they may be screened for dry weather flow. The characteristics of the structure are also being documented in addition to incoming pipes,

size of pipes, and direction of flow.

Tracking/Evaluation-All inspections are signed and scanned for electronic copies. The original copies are inserted into a three ring binder and kept in the EHS Department. The electronic copies are kept in a virtual notebook for redundancy.

Measurable Goal #2-The prioritized list of locations will be developed by the end of 2011. Illicit discharge monitoring visits will be documented through the Physical Plant's Maximo work order system.

Activities-The permitted area has been surveyed to find 17 areas that need to be classified as priority areas. The classifications are based on the probability for contaminants to be introduced into the stormwater system and have been limited to nine (9) trash compactors/ dumpsters/used cooking oil tanks, seven (7) generators, and one (1) vehicle maintenance/grounds equipment oil area. The inspections began the first quarter of 2012 and will continue on a quarterly schedule. The Maximo work order system will be used to organize and track the inspections.

Tracking/Evaluation-All inspections are signed and scanned for electronic copies. The original copies are inserted into a three ring binder and kept in the EHS department. The electronic copies are kept in a virtual notebook for redundancy.

Measurable Goal #3-Track the number of illicit discharges investigated and eliminated through the Physical Plant's Maximo work order system.

Activities-All illicit discharge reports or concerns are directed to the physical plant. They will enter the concern into the Maximo work order system and send it to the EHS department. The concern should be checked within 48 hours of the report and a decision will be determined to correct the problem.

Tracking/Evaluation-Marshall University will maintain records of when and where observations were made and the number of illicit discharges detected or suspected through the Physical Plant's Maximo work order system.

There were two reports about potential illicit discharges within the reporting period. The first illicit discharge was found at the southwest corner of First Year Residence Hall South by the tennis courts in the grass area. The soil had become compacted from students walking across the yard causing the grass to die. It became a dirt path that rain would run across eroding the soil and draining into the nearest storm drain. The yard was tilled so the soil was not compacted then seeded and covered with straw.

The second illicit discharge area was on the west side of Holderby Hall. A small concrete pad was installed for a storage shed. The pad was at an elevated level so dirt was sloped to prevent a drop off hazard. The dirt surrounded the storm drain in the area

on three sides. After observation of the area and the concern was noted the site was corrected. A retaining wall was installed on one side of the storm drain and the other two sides were sloped less invasively, seeded and covered with straw. The site was visited shortly after an intense storm and no sediment or erosion was seen at the site.

Both sites were observed and work orders submitted by the staff.

C. Select and sample one representative discharge point.

The one representative discharge point that is described in the SWMP has been sampled twice for total nitrogen and total phosphorous. The results will be displayed later in this report but has been successfully submitted to the WVDEP eDMR system.

D. Additional Activity-Marshall University was to have an IDDE Plan of Action completed within one year after final approval of the permit. The IDDE Plan of Action was written and posted on the website within the one year requirement. It has been placed in the student handbook, the Environmental Health & Safety handbook that all new employees are to read, and on the stormwater website for all staff and faculty. The program prohibits non-stormwater discharges, illegal discharges, and/or dumping into the storm sewer system and the necessary procedures for evaluation, assessment, investigation and enforcement to prevent polluted stormwater discharges from entering the MS4 system. Checklists, inspection forms and written protocol used for the IDDE program were also to be developed within the first year. These items have been completed and found in the IDDE program and on the stormwater website.

The EHS Department held the annual training March 26-29, 2012 and April 20, 2012. The first two days of training in March were for new employees for the physical plant and housing and residence life departments. Three (3) employees were present. The following two days, March 28th and 29th, were for current employees. The March 28th training had 40 employees attend the meeting and the March 29th meeting had 35. The April 20th training had seven (7) attendants.

Stormwater was included as one of the major topics for this training and will continue annually. The employees were informed that Marshall University has received a MS4 permit and what that means to the University and to their work habits. They were told the goals and requirements of the permit and how the University was working to achieve those goals. Illicit discharges were stressed because the physical plant and housing and residence life departments are the ones on campus every day and need to know how to recognize and report illicit discharges if they should come upon one. Also, they have the responsibility to prevent them by altering the past practices and now making a conscious effort to deal with any type of water flow on campus. They now have a better understanding of how Marshall University's storm water collection system and their actions have the potential to impact the Ohio River.

CONSTRUCTION SITE RUN-OFF CONTROL-MCM #4

Objective

Marshall University will develop and implement a program to address stormwater runoff for construction projects that disturb 1 acre or more to minimize water quality impacts.

Best Management Practices

A. Marshall University will ensure that construction projects disturbing over one (1) acre of land have an approved registration under the WVDEP's General National Pollutant Discharge Elimination System (NPDES) Permit for stormwater associated with construction activities.

Measurable Goal-Verify that each construction project disturbing 1 acre or greater has an approved site registration prior to the commencement of construction.

Activities-All sites that disturb one acre or greater will have the WVDEP General Stormwater Permit for construction. It is Marshall University's responsibility to obtain this permit being the owner. Sites one acre but less than three will submit a Notice of Intent (NOI) and sites three acres or larger or longer than one year of construction will submit a Site Registration Application (SRA) and the corresponding fees.

Tracking/Evaluation-All copies of the NOIs, SRAs, and permits will be kept in the EHS department for the duration of the projects then filed in the stormwater annual report year corresponding to the year the permits originated.

B. Marshall University will review WVDEP stormwater requirements with contractors at the beginning of projects. If projects last longer than one year, a follow-up review will be conducted on a yearly basis.

Measurable Goal-Document that stormwater compliance will be addressed during a pre-construction conference with the contractor(s).

Activities-All construction projects have a pre-construction meeting to go over Marshall University's policies, procedures, and goals. The Office of Facilities, Planning, and Management is responsible for these meetings and is aware of the stormwater requirements. The Office of Facilities, Planning, and Management has asked the EHS Department to become an attendant of these meetings to discuss the requirements that the University must meet and what contractors must do to be in compliance with the stormwater contract requirements. A general contractor pre-bid meeting was held to discuss the requirements, goals, and expectations for the Applied Engineering Complex. Stormwater was specifically discussed to ensure the contractors knew what was expected of them before they would bid on the project.

Tracking/Evaluation-A sheet will be signed by all attendants of the meeting. The pre-

bid meeting had 57 attendants.

C. Marshall will prepare language for the contract documents describing the stormwater management responsibilities that the contractor must abide by.

Measurable Goal-Develop a Construction Site Runoff Control (CSRO) program within the first year after final approval of the permit.

Activities-Marshall University developed the Construction Site Runoff Control (CSRO) program. This written document has been inserted into the request for proposal (RFP) packet that all contractors receive to submit bids for construction projects. This packet will go to all contractors not just projects greater than 1 acre. The program explains the sediment and erosion concerns that are generated from construction sites and how they must follow the WVDEP BMP handbook for erosion and sediment control. It also explains the procedures for reviewing construction drawings prior to construction, escalating enforcement, inspections, waste control, site plan review, training, etc. This program has been developed and inserted into the appropriate documents within the first year after final approval of the permit and has fulfilled its requirements.

Tracking/Evaluation- There have been 57 RFPs released during the reporting period.

D. Marshall University will train staff on site review, inspection, and enforcement procedures. Staff will enforce requirements per the pre-determined guidelines set forth on the contract drawings.

Measurable Goal-Complete training of staff that will perform reviews, inspections, and enforcement at construction sites.

Activities-The EHS Department will be conducting construction site inspections when required. The Environmental Specialist was sent to Philadelphia, PA in May 2012 to become a Certified Stormwater Inspector by the National Stormwater Center. A survey with stormwater control requirements has also been sent out to other potential inspectors if the EHS Department is unavailable. Inspectors will inform the contractor that items need addressed verbally and the violation will be noted on the inspection sheet. If the contractor continues to not use BMPs correctly, he could become in default of the contract.

Tracking/Evaluation-No inspections have occurred due to no construction project greater than one acre has occurred within this reporting period. If there would have been projects warranting inspections the University would have evaluated the effectiveness by keeping record of the number of violations found on site. Inspectors would have noted the violations in their logs. If an excessive amount of violation were being reported additional education pertaining to the CSRO program would have been required for the

contractors.

E. Marshall University will develop lines of communication with contractors in case of spills or releases. Marshall will aid the contractor with resources needed to contain the spills or releases.

Measurable Goal-For each construction project, Marshall University will establish contact for quick reference by project team members for reporting and emergency response following spills or releases. Any spills or releases will be addressed per the Marshall University emergency management plan.

Activities-Each project has a specific project manager who oversees the activities and is designated as the point of contact. The project manager would be the first one notified of a spill and they will abide by the spill procedure the EHS Department has developed. EHS will be notified if additional assistance is needed.

Tracking/Evaluation-All spills or releases will be documented and kept at the EHS department as an illicit discharge if the spill reaches the storm sewer system.

F. Additional Activities-Marshall University has been authorized to operate under the WV/NPDES General Water Pollution Control Permit No. WV0115924 and the registration no. of WVR106254 for the Applied Engineering Complex.

CONTROLLING RUN-OFF FROM NEW DEVELOPMENT AND REDEVELOPMENT- MCM #5

Objectives

- A. Marshall University will develop and implement a program to evaluate new development and redevelopment projects for projects disturbing 1 acre or greater to minimize impacts to stormwater.
- B. Marshall University will attempt to reduce the amount of new impervious surfaces in future projects.
- C. Marshall University will use non-structural BMPs (i.e., minimization of disturbance and imperviousness, and maximization of open space) and structural BMPs (i.e., catch basins, trenches, grass swales, etc.) where applicable.
- D. Marshall University will continue communicating with the Huntington Sanitary Board regarding the discharge of stormwater into Huntington's combined sewer lines.
- E. Marshall University will attempt to manage the first one inch of rainfall on site when able. Marshall University will contact the WVDEP for further discussions when this cannot be achieved.

Best Management Practices

- A. Add post-construction stormwater management concepts and projects in planning documents.

Activities-A rough draft of a document has been created to add to planning documents but due to Marshall University being a newly permitted MS4 implementation of this MCM must begin within two years of SWMP approval so the document has not been reviewed or inserted into the planning documents.

Meetings attended:

11/16/12-This meeting was the initial meeting between the Environmental Specialist and the Director of Facilities, Planning, and Management. This was to communicate with the Director the requirements in the newly issued MS4 permit and the SWMP. Discussions about jurisdiction, responsibilities, meeting attendance, and open communications occurred at this meeting.

5/15/12, 6/13/12, and 6/18/12-These meetings included stormwater management in the design phase of the Applied Engineering complex to ensure the architects/engineers understood what was involved with the MS4 permit and Marshall's SWMP.

4/26/12, 4/27/12, 5/15/12, 5/17/12, and 6/6/12-These meetings included stormwater management in the design phase for the Athletic complexes to ensure the

architects/engineers understood what was involved with the MS4 permit and Marshall's SWMP.

Tracking/Evaluation-Applicable components of the MCM will be implemented by September 2013 and will be fully implemented by September 2015.

B. Develop a Plan of Action to define authority and procedures for Post-Construction Stormwater Management plan review, site inspections, and enforcement for all projects disturbing one acre or greater.

Activities-A rough draft of a document has been created to add to planning documents but due to Marshall University being a newly permitted MS4 implementation of this MCM must begin within two years of SWMP approval so the document has not been reviewed or inserted into the planning documents.

Tracking/Evaluation-Applicable components of the MCM will be implemented by September 2013 and will be fully implemented by September 2015.

C. Develop design guidelines and construction standards for new development and redevelopment, including the requirement to develop maintenance plans for new BMPs.

Activities-A rough draft of a document has been created to add to planning documents but due to Marshall University being a newly permitted MS4 implementation of this MCM must begin within two years of SWMP approval so the document has not been reviewed or inserted into the planning documents.

Tracking/Evaluation-Applicable components of the MCM will be implemented by September 2013 and will be fully implemented by September 2015.

D. Minimize the potential for new spots to discharge pollutants to the MS4 or surface waters.

Measurable Goal-Incorporate low impact design practices where feasible considering space utilization, cost, and function.

Activities-Marshall University does not directly discharge to a surface water so no "new spot" can be created for discharge. Marshall University does connect to Huntington's combined sewer system. All new developments and redevelopments will be separated but could potentially connect to the same city line due to it being a combined sewer line. Marshall University is attempting to manage the first 1" of rain on-site but if a rain event is larger than the design capacity the overflow on these systems will drain to the city's system.

Tracking/Evaluation-Applicable components of the MCM will be implemented by September 2013 and will be fully implemented by September 2015.

E. Train staff on Post Construction Stormwater management concepts and Plan of Action.

Activities-Although the Plan of Action has not been finalized, review of the plan and verbal communication with the individuals responsible for new development and redevelopment projects has allowed them to become familiar with the MS4 permit and the requirements. New development and redevelopment projects are already being designed to reduce stormwater pollutants and capture the first 1 inch of rain during the 24 hour period. Design meetings have been attended with the focus being strictly on stormwater requirements.

Tracking/Evaluation-Applicable components of the MCM will be implemented by September 2013 and will be fully implemented by September 2015.

F. Develop an inventory of existing impervious surfaces at Marshall's campus.

Activities-Mapping is an ongoing process and an inventory of existing impervious surfaces on Marshall's campus will be documented and mapped.

Tracking/Evaluation-Applicable components of the MCM will be implemented by September 2013 and will be fully implemented by September 2015.

POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS-MCM #6

Objective

Marshall University will develop and implement an operation and maintenance program with the ultimate goal of reduction or eliminating pollutant runoff from campus operations.

Best Management Practices

A. Review current activities performed by maintenance crews and the materials and methods utilized to identify operations on campus with the potential to cause pollution of surface water.

Measurable Goal-Marshall University will evaluate existing policies and guidelines on an annual basis.

Activities-Marshall University has reviewed current policies and guidelines and placed them into the new document now known as the "PPP/GH Guidance Document." This document will be reviewed annually to ensure that procedures are still applicable or to change procedures if necessary.

Tracking/Evaluation-An annual meeting will be conducted with the appropriate supervisors. The meeting will be documented and a sign-in sheet will be supplied.

B. Review existing policies and guidelines needed to ensure compliance.

Measurable Goal-Marshall University will develop and review the list of activities annually.

Activities-Marshall University has reviewed current policies and guidelines and placed them into the new document now known as the "PPP/GH Guidance Document." This document will be reviewed annually to ensure that procedures are still applicable or to change procedures if necessary.

Tracking/Evaluation-An annual meeting will be conducted with the appropriate supervisors. The meeting will be documented and a sign-in sheet will be supplied.

C. Educate and train employees on policies.

Activities-The EHS held the annual training March 26-29, 2012 and April 20, 2012. The first two days of training in March were for new employees for the physical plant and housing and residence life departments. Three (3) employees were present. The following two days, March 28th and 29th, were for current employees. The March 28th training had 40 employees attend the meeting and the March 29th meeting had 35. The

April 20th training had seven (7) attendants.

Stormwater was included as one of the major topics for this training and will continue annually. The employees were informed that Marshall University has received a MS4 permit and what that means to the University and to their work habits. They were told the goals and requirements of the permit and how the University was working to achieve those goals. Illicit discharges were stressed because the physical plant and housing and residence life departments are the ones on campus every day and need to know how to recognize and report illicit discharges if they should come upon one. Also, they have the responsibility to prevent them by altering the past practices and now making a conscious effort to deal with any type of water flow on campus. They now have a better understanding of how Marshall University's storm water collection system and their actions have the potential to impact the Ohio River.

Tracking/Evaluation-Marshall University will continue to inspect stormwater structures, priority areas, assess procedures, review all reported pollution concerns, etc. and present any findings at the next annual training.

D. Prioritize and/or develop new guidelines where needed, update guidelines and procedures as necessary.

Measurable Goal-Work will be completed as needs are identified.

Activities-Marshall University has reviewed current policies and guidelines and placed them into the new document now known as the "PPP/GH Guidance Document." This document will be reviewed annually to ensure that procedures are still applicable or to change procedures if necessary.

Tracking/Evaluation-An annual meeting will be conducted with the appropriate supervisors. The meeting will be documented and a sign-in sheet will be supplied.

E. Currently annual stormwater management training is provided to all trade supervisors and employees. All lab personnel and medical students are given training specifically addressing proper disposal methods and management of chemicals.

Measurable Goal-Employees will be trained on the procedures applicable to their work area annually.

Activities-The Environmental Health and Safety held their annual training March 26-29, 2012 and April 20, 2012. The first two days of training in March were for new employees for the physical plant and housing and residence life departments. Three (3) employees were present. The following two days, March 28th and 29th, were for current employees. The March 28th training had 40 employees attend the meeting and the March 29th meeting had 35. The April 20th training had seven (7) attendants.

Stormwater was included as one of the major topics for this training and will continue annually. The employees were informed that Marshall University has received a MS4 permit and what that means to the University and to their work habits. They were told the goals and requirements of the permit and how the University was working to achieve those goals. Illicit discharges were stressed because the physical plant and housing and residence life departments are the ones on campus every day and need to know how to recognize and report illicit discharges if they should come upon one. Also, they have the responsibility to prevent them by altering the past practices and now making a conscious effort to deal with any type of water flow on campus. They now have a better understanding of how Marshall University's storm water collection system and their actions have the potential to impact the Ohio River.

Tracking/Evaluation-Marshall University will continue to inspect stormwater structures, priority areas, assess procedures, review all reported pollution concerns, etc. and present any findings at the next annual training.

MONITORING RESULTS

October 2011-March 2012

Date	Permit Requirements	Analyses	Results (mg/L)	Method	Reporting Results (mg/L)
2/29/12	Total Nitrogen	Nitrate	0.67	E300.0	1.44
		Nitrite	ND	E300.0	
		TKN	0.77	E351.2	
2/29/12	Total Phosphorous	Phosphorous	0.03	E365.4	0.03

April 2012-September 2012

Date	Permit Requirements	Analyses	Results (mg/L)	Method	Reporting Results (mg/L)
7/17/12	Total Nitrogen	Nitrate	0.27	E300.0	0.96
		Nitrite	ND	E300.0	
		TKN	0.69	E351.2	
5/22/12	Total Phosphorous	Phosphorous	0.05	E365.4	0.05

FUTURE GOALS FOR 2012-2013 YEAR

MCM #1 & MCM #2

Marshall University will continue to attend meetings to improve the knowledge of stormwater pollution and its impacts on the receiving surface waters. The students, faculty and staff will be involved heavily on decisions made on campus and the goals Marshall needs to achieve collectively. An attempt to create a new organization made up of students, faculty, and staff is planned to be achieved in the 2012-2013 reporting year. This organization will be put together to accomplish biodiversity in plant species and stormwater controls through absorption and infiltration.

MCM #3

The storm sewer system will continue to be mapped and stormwater structures inspected to observe for illicit discharges. The EHS will begin attaching “Only Rain Down the Drain” badges to stormwater structures. These badges will have an identification number on them so if an illicit discharge is detected by a student, faculty, or staff they can call the Physical Plant number and easily pinpoint the concern by the number. The number will be looked up on the map and will be easily located. Storm drain filters will be installed where staff feels it would be beneficial to the stormwater system and for preventive measures. In order for an individual to obtain a parking pass they must complete an application so EHS will attach a flyer to the application discussing illicit discharges.

MCM #4

No major construction has taken place on campus requiring stormwater control during this reporting period. As construction begins the program will be tailored to increase effectiveness and efficiency.

MCM #5

Marshall University will continue to attempt to manage the first one inch of rain in a 24 hour period on new developments and redevelopments greater than 3000 ft². Marshall University will also begin to implement the Plan of Action for the six watershed protection elements. A rough draft of the Plan has been created but has not been implemented. Marshall University’s parking design follows the City of Huntington’s guidelines and new areas will be evaluated for stormwater controls if they are greater than 3000 ft².

MCM #6

Continue to train employees on the impacts of stormwater, proper disposal techniques, illicit discharge reporting, and pollution prevention. Signs will be posted at the facilities requiring a pollution prevention plan reminding staff of correct and incorrect actions at these sites.

EXPENDITURES

Expenditures

Employee-\$53,000

Certified Stormwater Inspector Training-\$1,200

Equipment (printer and ink \$300, manhole picks and pry bars \$100, dip cups \$15, computer \$1500, presentation board \$250, drill and accessories \$120)-\$2,285

Contract Camera Crew-\$1,100

Public Notifications & Illicit Discharge Prevention Supplies-\$514.00

Storm drain cleaning-\$50.00

Sampling-\$200.00

Total-\$57,349