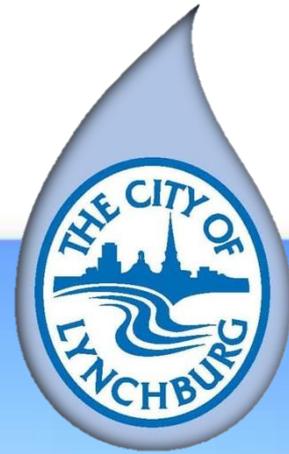


MUNICIPAL SEPARATE STORM SEWER SYSTEM [MS4]

PROGRAM PLAN

JUNE 2014



DEPARTMENT OF WATER RESOURCES
STORMWATER DIVISION
525 TAYLOR STREET LYNCHBURG VA 24501
434-455-4250

MS4 PROGRAM PLAN
JUNE 2014

Prepared by



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ACRONYMS & ABBREVIATIONS

BMP	BEST MANAGEMENT PRACTICE
DEQ	DEPARTMENT OF ENVIRONMENTAL QUALITY
ESC	EROSION AND SEDIMENT CONTROL
HUC	HYDROLOGIC UNIT CODE
IDDE	ILLICIT DISCHARGE DETECTION AND ELIMINATION
MS4	MUNICIPAL SEPARATE STORM SEWER SYSTEM
NMP	NUTRIENT MANAGEMENT PLAN
PY	PERMIT YEAR
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
TMDL	TOTAL MAXIMUM DAILY LOAD
VSMP	VIRGINIA STORMWATER MANAGEMENT PROGRAM

INTRODUCTION

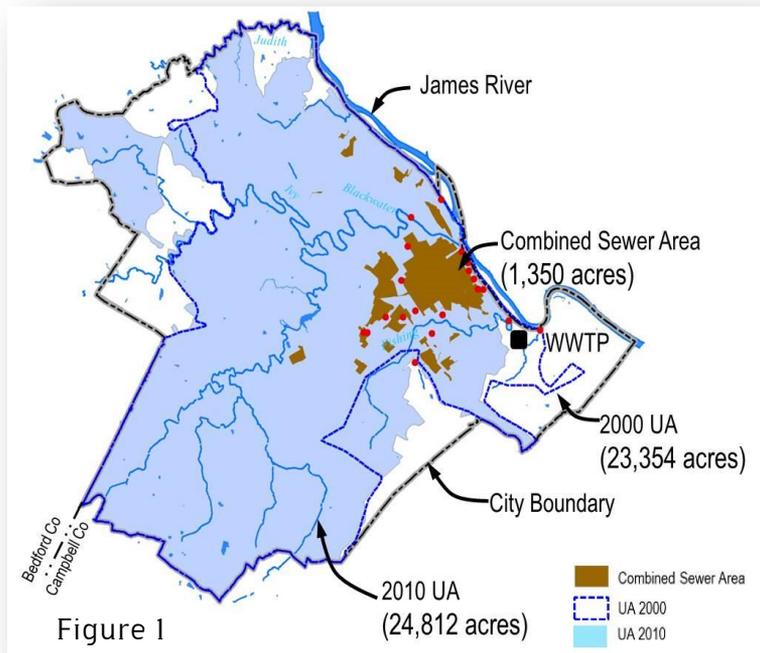
BACKGROUND

The City of Lynchburg is an independent city of approximately 76,000 residents and encompasses 50 square miles that is situated along the James River at the foothill of the Blue Ridge Mountains. The entire City drains to the James River which is a major tributary of the Chesapeake Bay. The headwaters of the City's watersheds originate in the adjacent Bedford and Campbell Counties.



Over the past several years the City has engaged in an extensive review and assessment of its stormwater management needs. During this process the department responsible for the coordination and implementation of the MS4 Permit and Program Plan was shifted to the Department of Water Resources [DWR]. The DWR works cooperatively with the many departments that share a role in the implementation of the program. As a result of this process the City adopted a stormwater utility and created an enterprise fund to provide a dedicated funding source to support the stormwater management program and meeting multiple regulatory requirements. A stormwater fee was successfully implemented in FY 2013.

In addition to the City's separate storm sewer system, a portion of the City is a combined system, in that both stormwater and wastewater are collected and discharged through the Waste Water Treatment Plant (WWTP). These areas will be operated under the City's recently revised Long Term Control Plan (LTCP) and subsequent Consent Order rather than the City's MS4 Permit.



MS4 PROGRAM PLAN

The permit allows for the ongoing development and update of the Program Plan according to the timetable in the permit due to the significant new requirements that are now included in the permit. Therefore this will be considered a 'living' document with subsequent modifications made to meet the timetable prescribed in the permit and to incorporate the most up-to-date information and effective strategies in achieving the permit requirements.

Included herein is the proposed City of Lynchburg Municipal Separate Storm Sewer System [MS4] Program Plan intended to meet the requirements of the Small MS4 General Permit [4VAC50-60-520] effective July 1, 2013 through June 30, 2018. The program plan will address the means and the methods to address the technical elements of the permit for the next five years. During the first year of the permit, the City has utilized and continued implementing the previous program plan while the necessary modifications were being made to the Plan.

Program Minimum Control Measures include,

- Public Education and Outreach
- Public Involvement/ Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management
- Pollution Prevention/Good Housekeeping for Municipal Operations

DEVELOPMENT OF TMDL ACTION PLANS

In addition to the above program requirements, the most significant addition to the Plan is the two special conditions for the Chesapeake Bay TMDL and approved TMDLs other than Chesapeake Bay. Each special condition will result in the development of a TMDL Action Plan that will address the pollutants that that have been assigned a waste load allocation (WLA) to the MS4. The City initiated work on the Chesapeake Bay TMDL Action Plan during PY 1 to develop strategies for the required reductions in nitrogen, phosphorus and sediment. Future TMDL Action Plans will be required once the TMDLs have been approved. The next anticipated TMDL Action Plan will be for the James River Bacteria TMDL that, as of the issuance of this permit, is being redeveloped and will be included in the next generation of the City's MS4 Permit.

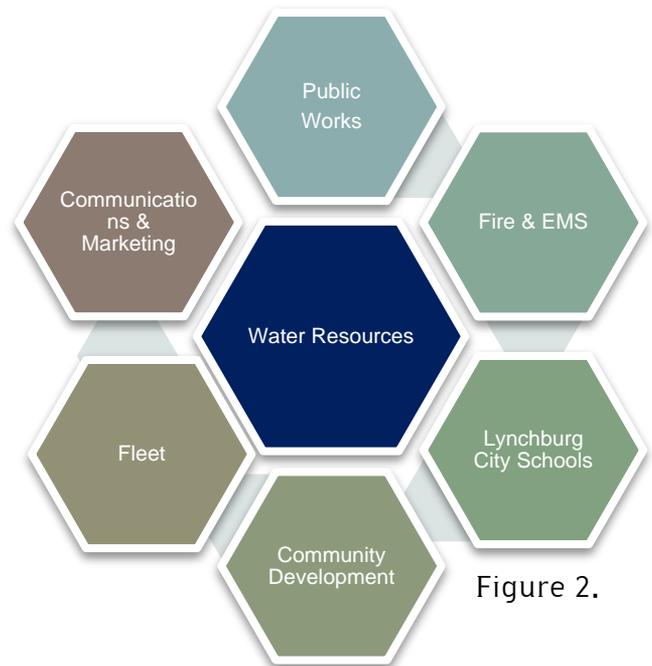


Figure 2.

Section 1.B SPECIAL CONDITIONS FOR TMDLS OTHER THAN CHESAPEAKE BAY

The James River and including tributaries located in the City of Lynchburg have been identified as having a bacteria impairment. While a TMDL has previously been developed to address this impairment, this TMDL is currently being redeveloped. At the time of the issuance of the City’s MS4 permit this TMDL has not yet been approved. The City anticipates this TMDL will be complete and the development of a TMDL Action Plan will occur during a future MS4 permit.

Section 1.C SPECIAL CONDITIONS FOR THE CHESAPEAKE BAY TMDL

In accordance with Section I.C Special Conditions for the Chesapeake Bay TMDL, the City is actively working on developing an action plan to be submitted to DEQ by the end of the PY 2 of this permit cycle. The City’s progress towards permit requirements is summarized in the table below:

Permit Section	Requirement	Progress
I.C.2.a.(4)	Estimate the annual POC loads discharged from existing sources	The City has completed a preliminary delineation of the regulated and unregulated areas (as defined in the permit) for approximately half of the urbanized area within the City. The City is continuing this delineation effort as the system mapping is developed. The annual POC loads will be estimated using Table 2a in the permit.
I.C.2.a.(6)	Identify the means and methods to meet the required annual POC load reductions	The City has conducted assessment of existing BMPs and stream conditions to identify potential projects to meet the POC load reduction goals. Preliminary TMDL credits were estimated for conversion and enhancement of existing public owned BMPs. Approximately 7 miles of potential stream restoration projects were identified based on field assessment, and prioritized based on a number of criteria including cost, potential TMDL credit, land ownership, and other benefits.
I.C.2.a.(7)	Identify the means an methods to offset increased loads from new sources that disturb one acre or greater and utilize an average land cover condition greater than 16% for the design of post-development stormwater management facilities	The City is in the process of completing its list of projects that initiated construction between July 1, 2009 and June 30, 2014, disturbed one acre or greater, discharge to the City's MS4, and utilized an average land cover condition greater than 16% for the development of post-construction stormwater management facilities.

MCM-1 PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

DEPARTMENT(S) RESPONSIBLE: Water Resources, Parks & Rec, Communications & Marketing

PROPOSED ACTIONS:

1.1 General public education and outreach

Objective and Expected Results: The City seeks to provide a broad range of information to the general public and to change pollution-causing behaviors through effective public education and outreach. This will be accomplished by utilizing existing communications outlets where possible and by creating new opportunities to reach targeted audiences. The City's community television station, LTV Broadcast Services Channel 15 (the City's Government Access Channel), is a tremendous asset and will broadcast PSA's to convey the important role that the community plays in creating healthy water habitats. These BMPs will be evaluated and may be modified throughout the life of this permit based on feedback received to ensure this plan's effectiveness.

Implementation and Schedule: The City will continue to implement a pollution prevention education and outreach program. This program was developed during PY 1 and will be implemented on an annual basis. Specific actions will include the following:

- Annually distribute stormwater education brochures at City sponsored events such as the Festivals, Community Days, and at the weekly Farmer's Market. "Clean Water – Everybody's Business" bookmarks will be available to the public at the Lynchburg Library.
- Annually include a stormwater pollution prevention message in the City's annual calendar.
- Annually prepare and distribute two messages that address stormwater pollution prevention tactics. In addition to being provided to the news media, these messages will be distributed through the City's media communication avenues.
- Annually make at least one presentation to homeowner and civic associations about stormwater pollution prevention on request.

Documentation and Measure of Effectiveness: The City will provide a summary of all activities, including examples of press releases, event flyers, newspaper advertisements, brochures, regional activities, etc. The following information will be reported and used to help assess the effectiveness of this BMP:

- An estimate of the number of residents exposed to public education and outreach information the amount of materials distributed.
- The results of any surveys conducted by the Lynchburg Water Resources to assess the effectiveness of the regional public education and outreach campaign.

1.2 Pet waste pollution prevention education and outreach

Objective and Expected Results: Several waterways in Lynchburg have been designated as impaired for e-coli by the Department of Environmental Quality. Pet waste has been identified as a potential source of this impairment. The objective of the City is to reduce bacteria pollution by targeting pollution prevention materials to the City’s pet owners and to make it convenient for pet owners to properly dispose of pet waste. The City distributes “Scoop Your Poop” post cards through two veterinary clinics. Some parks and private open spaces have installed pet waste stations that have pet waste disposal bags and trash containers.

Implementation and Schedule: The City will conduct the following activities aimed at reducing bacteria pollution in the City’s streams:

- During PY 2, the City will distribute new, City-specific educational materials aimed specifically at proper pet waste disposal.
- The City will seek to expand opportunities to distribute “Scoop the Poop” brochures, or an equivalent education piece, at local veterinary clinics and pet stores.
- In PY 4, the City will have documented the locations of all public and private pet waste stations and assess whether additional stations are needed.

Documentation and Measure of Effectiveness: The City will summarize all activities and report on progress in developing and distributing public education materials aimed at pet owners. Specifically, the City will:

- Include dog waste educational materials and a description of how the materials will be distributed and the estimated number of people reached in the PY 2 annual report and future reports.
- Provide an annual update on efforts to distribute educational materials through local veterinary clinics and pet stores.
- Include a map of public and private pet waste stations in the PY 4 annual report along with an assessment of whether additional pet waste stations are needed and an implementation schedule for installing new stations, if appropriate.

1.3 Homeowner yard maintenance education and outreach

Objective and Expected Results: Proper yard maintenance and practices can also influence water quality and reduce pollutants to adjacent waters. Limiting the amount of fertilizer applied to lawns, cutting grass at a taller height, and proper disposal of yard waste can all reduce the amount of nutrients and sediment leaving a home site. Educating homeowners on best management practices for maintain their yards could reduce their cost (using less fertilizer) and could help improve water quality. All homeowners would benefit from being educated on proper yard maintenance, but homes directly adjacent to a stream or homes where run-off flows directly into a storm drain without any treatment

should be the focus of the total audience. These homes could influence water quality more since their homes may be the homes contributing most to the current problem.

Implementation and Schedule: The City will conduct the following activities aimed at reducing nutrient and sediment pollution in the City's streams:

- During PY 2, the City will distribute new, City-specific educational materials aimed specifically at homeowner property care.
- The City will seek to expand opportunities to distribute "Fertilize Smart" brochures, or equivalent education pieces, at local stores where fertilizers are sold.

Documentation and Measure of Effectiveness: The City will summarize all activities and report on progress in developing and distributing public education materials aimed at homeowners. Specifically, the City will:

- Include new homeowner lawn care educational materials and a description of how the materials will be distributed and the estimated number of people reached in the PY 2 annual report.
- Include a summary of homeowner lawn care educational material distribution efforts in the PY 3 annual report and future reports.
- Provide an annual update on efforts to distribute educational materials through local stores where fertilizers are sold.

1.4 **Septic maintenance education and outreach**

Objective and Expected Results: Unmaintained septic systems can lead to a large amount of chemicals, nutrients, and bacteria leaching into the surrounding environment without being properly filtered. Septic system maintenance is integral in maintaining water quality, however, citizens with a septic system may not be aware of the necessary maintenance and concerns associated with septic systems. Education to that audience could help improve bacteria and nutrients in the surrounding water bodies.

Implementation and Schedule: The City will conduct the following activities aimed at reducing bacteria pollution in the City's streams:

- During PY 2, the City will distribute the EPA's "*SepticSmart*" established septic outreach campaign messaging to reach homeowners with septic systems.
- The City will seek to expand opportunities to distribute "*SepticSmart*" brochures, or equivalent education materials.

Documentation and Measure of Effectiveness: The City will summarize all activities and report on progress in developing and distributing public education materials aimed at septic tank owners. The City will include septic educational materials and a description of how the materials will be distributed and the estimated number of people reached in the PY 2 annual report and future reports.

MCM-2 PUBLIC INVOLVEMENT/PARTICIPATION

DEPARTMENT(S) RESPONSIBLE: Water Resources, Parks & Rec, Communications & Marketing, Public Works

PROPOSED ACTIONS:

2.1 Public notice and involvement

Objective and Expected Results: The City is committed to meeting all public notice requirements. Providing an opportunity for the public to have input in the MS4 Program Plan will make the City's program stronger and will allow the City to take advantage of local knowledge and expertise.

Implementation and Schedule:

- The City will meet all legal obligations with respect to public notice and comment.
- The City will announce the availability of the draft MS4 Program Plan for public review.
- The City will make the draft plan available on the stormwater web page and will post the final MS4 Program Plan.
- Each year, the City will post the annual report on the stormwater web page.
- The City will provide a 30 day public comment period prior to reapplication for future permits to seek comments on the MS4 program Plan.

Documentation and Measure of Effectiveness: The City will provide documentation of press releases, a summary of public comments received on the draft MS4 Program Plan, and documentation that annual reports have been made available on the web page.

2.2 Promote and support volunteer activities

Objective and Expected Results: The City is fortunate to have an active group of citizen volunteers that are willing to engage in stream clean-ups and other efforts to improve water quality. The City will continue to promote and support volunteer groups and opportunities. By fostering these volunteer relationships, we hope to gain a larger base of citizens who are engaged and can help promote the City's stormwater messages and activities. Volunteer sponsored projects will be advertised through various City resources and communication outlets. City will participate in or sponsor at least four local activities within this permit cycle.

Implementation and Schedule: Annually the City will participate in four local activities through promotion, sponsorship or other involvement. The City will seek the following activities:

- Sponsorship and/or promotion of stream clean-up event(s);
- Promotion of storm drain marking;
- Sponsorship or promotion of BMP workshops (i.e., rain barrels);

- Promotion of Household Hazardous Waste Collection events.

Documentation and Evaluation Criteria: The City will provide a summary of all programs that are supported, sponsored, and/or publicized by the City.

MCM-3 ILLICIT DISCHARGE DETECTION AND ELIMINATION

DEPARTMENT(S) RESPONSIBLE: Departments of Water Resources, Community Development and Fire & EMS

PROPOSED ACTIONS:

3.1 Maintain an accurate storm sewer system map and information table

Objective and Expected Results: The City maintains a Storm Sewer System Geographic Information System (GIS) map and updates with the best available information with the required parameters per Section II.B.3.a. The City will have a map showing stormwater assets and allow for the effective enforcement of the Illicit Discharge Detection and Elimination Program. The DWR is currently performing an extensive storm sewer system inventory and condition assessment to have a full understanding of the systems, outfall inspection screening

Implementation and Schedule:

- Maintain an up-to-date storm sewer system map and outfall information table. This information may be reviewed upon request from the Department or public.
- During PY 1 – 4, the City will continue to use the best available information to maintain and update the Storm GIS feature set and required feature information.
- During PY 5, continue to use the best available information to maintain and update the Storm GIS feature set and required feature information

Documentation and Measure of Effectiveness: Documentation of the storm sewer system will be an ongoing process.

3.2 Prohibit non-stormwater discharges into the storm sewer system of the MS4

Objective and Expected Results: The Lynchburg City Code, specifically Section 16.2 Stormwater Management, Article V, provides the legal authority to prohibit non-stormwater discharges to the City's MS4.

Implementation and Schedule:

- Continue to enforce City Code Section 16.2, Article V.
- Annually conduct outfall screenings of at least 50 outfalls per the program description in sub-section 3.C.
- Dry weather discharges will be investigated in accordance with the IDDE Manual. Enforcement actions and legal penalties will be used for incidents of illicit discharge, when necessary, by the City. Education regarding this issue may prove to be an effective strategy.

Documentation and Measure of Effectiveness: This section of the City Code is available the public on the City's website, www.lynchburgva.gov. This has proven to be an effective means of regulating discharges to the City's storm system. The City will document

and track reported illicit discharges or illicit discharges during dry weather screening and results reported in accordance with the requirements in Section II.B.3.c.(1)(h) of the permit.

3.3 Develop written procedures to detect, identify and address unauthorized non-stormwater discharges to the MS4

Objective and Expected Results: Written IDDE standard operating procedure (SOP) outlines the responsibilities and procedures to inspect stormwater outfalls and other structures for illicit discharges. The SOPs are applicable to City of Lynchburg employees assigned to inspect stormwater infrastructure for evidence of illicit discharges and will result in a consistent methodology to detect and address non-stormwater discharges.

Implementation and Schedule:

- Develop a SOP that provides written procedures to detect identify and address non-stormwater discharges to the MS4 or illicit discharges.
- Continue to utilize the SOP document. The document will be reviewed and updated on an as needed basis.

Documentation and Measure of Effectiveness: The SOP document will be maintained by DWR and continually reviewed for its effectiveness.

3.4 Promote, publicize and facilitate public reporting of illicit discharges into or from the MS4

Objective and Expected Results: The City seeks to promote, publicize and facilitate the reporting of illicit discharges into or from the MS4. This will be accomplished by utilizing existing communications outlets where possible and by creating new opportunities to reach targeted audiences.

Implementation and Schedule: The City will continue to implement illicit discharge education. Specific actions will include the following:

- Promote the use of the 485-RAIN and/or 856-CITY for reporting illicit discharges.
- Regularly utilize the City's website to include information regarding illicit discharges and how to report them.
- Annually prepare and distribute messages that address IDDE. These messages may be distributed through the City's media communication avenues.

Documentation and Measure of Effectiveness: A database management system will be used to document and route illicit discharge complaints received through the DWR and the Department of Emergency Services. A summary of activities completed for this objective will be provided that will summarize educational methods utilized and a description of how the materials will be distributed.

DEPARTMENT(S) RESPONSIBLE: Community Development

PROPOSED ACTIONS:

4.1 Continue to implement an effective Erosion and Sediment Control program

Objective and Expected Results: The City of Lynchburg has implemented an Erosion and Sediment Control program for many years. The [City Code Section 16.1 Erosion and Sediment Control](#) provides the legal mechanism to enforcement the requirements of the Erosion and Sediment control Act (§10.1-560 et seq.), including the provision for plan approval prior to commencement of a land disturbing activity, inspection schedule and frequency and enforcement mechanisms. The continued implementation of this program will protect water quality from construction site stormwater runoff.

The Community Development Department is the department responsible for providing program administration, plan review and inspection of Erosion and Sediment and Stormwater Management compliance for all development in the City. In addition to the City Code, the Department has employed the use of the VSMP Administrative Guidance Manual and the ESC Inspections Standard Operating Procedure to document the plan review and inspection procedures, enforcement, reporting, recordkeeping and quality assurance protocols. All staff performing program administration, plan review or inspection duties is required to have or obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control law and its attendant regulations.

Implementation and Schedule: The City will continue to implement the ESC Program. Specific actions will include the following:

- Continue to implement and enforce the ESC regulations as required in City Code Section 16.1 Erosion and Sediment Control.
- Annually review that all staff performing plan review, inspection or program administrative have obtained or are current with their appropriate certification(s).
- Continue to require operators of large or small construction activities, including municipal activities, obtain the necessary state permit authorizations for the discharge of stormwater.
- Continue to utilize the Administrative Guidance and ESC SOP documents in the implementation of this program.

Documentation and Measure of Effectiveness: The effectiveness of the City's program is measured by consistency with State regulations. The City will take the appropriate corrective action in the event differences are identified between the City and State program requirements.

DEPARTMENT(S) RESPONSIBLE: Community Development, Public Works, Water Resources

PROPOSED ACTIONS:

5.1 Continue to implement and enforce the stormwater management ordinance

Objective and Expected Results: The City has implemented a Stormwater Management Program since the ordinance was adopted in 2008. The program had consisted of the implementation and enforcement of the stormwater quantity and quality requirements of the regulations, including requiring stormwater maintenance agreements. As of July 1, 2014, the City of Lynchburg became a VSMP program authority along with having amended and adopted [City Code Section 16.2 Stormwater Management](#) to meet the new water quantity and quality criteria. The continued implementation of this program will protect water quality from pollutions sources associated with post-construction stormwater runoff. In addition to the City Code, the Department has employed the use of the VSMP Administrative Guidance Manual that includes the written policies and procedures for the plan review and construction inspection of stormwater management facilities. A BMP Inspection Manual was developed that includes the written policies and procedures for the inspection, operation and maintenance requirements post-construction.

This program is managed by the Department of Community Development and is the department responsible for the program administration, plan review and construction inspection. The Department of Water Resources is responsible for the SWMA compliance requirement of private property owners. The DWR coordinates maintenance of publically owned BMPs with the Department Public Works.

Implementation and Schedule: The City will continue to implement the VSMP Program. Specific actions will include the following,

- Continue to implement and enforce the stormwater management regulations as required in City Code Section 16.2 Stormwater Management.
- The City will continue to ensure that all appropriate BMPs have legally executed stormwater maintenance agreements.
- Annually review that all staff performing plan review, inspection or program administrative have obtained or are current with their appropriate certification(s).

Documentation and Measure of Effectiveness: The effectiveness of the City’s program is measured by consistency with State regulations. The City will take the appropriate corrective action in the event differences are identified between the City and State program requirements.

5.2 **Develop a plan for the inspection, operation and maintenance verification of stormwater management facilities**

Objective and Expected Results: The DWR developed the Stormwater Management Facility Inspection Procedures Manual for conducting public and private stormwater management facilities inspections. This document includes requirements for training and certification, inspection schedule, inspection safety, and inspection procedures. At this time, the City has opted to not adopt an alternative enforcement strategy for stormwater facilities on individual residential lots but instead require stormwater maintenance agreements. The City may decide to revisit this at a later date. Enforcement of non-compliant properties will be handled in accordance with the City Code section as stated in sub-section 5.1 above.

Implementation and Schedule:

- The City will inspect each publically owned BMP annually.
- The City will inspect privately owned BMPs at least once every five years.
- Regular maintenance will be performed according to a maintenance schedule and specifications for each BMP facility.
- The City will maintenance a tracking database with the required information of Section II.B.5 (e) 1-9.
- Continue to implement the stormwater BMP operating procedures.

Documentation and Measure of Effectiveness: The City will document the number of publically and privately owned BMPs inspected during that permit year. Tracking and reporting requirements will be provided for BMPs brought on-line in the annual report.

DEPARTMENT(S) RESPONSIBLE: Fleet, Public Works, Schools, Water Resources

PROPOSED ACTIONS:

6.1 Development of operations and maintenance standard operating procedures

Objective and Expected Results: The City had previously developed and adopted the use of standard operating procedures that address daily practices to minimize the discharge of pollutants from daily operations and municipal facilities.

Implementation and Schedule:

- Continue to implement procedures defined in the document *Pollution Prevention Water Quality and Good Housekeeping*.
- During PY 2 and 4, train appropriate City employees on the O&M SOPs.
- After PY 1, periodically review the O&M SOPs to address any deficiencies.

Documentation and Measure of Effectiveness: The written procedures will be documented as Standard Operating Procedures. The information will be incorporated into employee training and also through the use of the *Rain Check – Stormwater Pollution prevention for MS4* (a product of Excal Visual LLP) that will cover various best management practices and show employees how to practice good housekeeping practices such as spill response, vehicle fueling and maintenance and materials management.

6.2 Municipal facility pollution prevention and good housekeeping

Objective and Expected Results: The City will identify all municipal high-priority facilities that may have the greater potential to contribute pollution in stormwater runoff. Of the high-priority facilities, the City will also identify which facilities have a high potential for pollution discharge in stormwater runoff. The City will develop and implement SWPPPs for those high potential facilities.

Implementation and Schedule: During PY 1, the City identified its high-priority facilities and subsequently a list of high potential facilities.

- Maintain and update, as needed, a list of high-priority facilities.
- Maintain and update, as needed, a list of facilities with high potential of contributing pollution in stormwater runoff.
- During PY 2-5, develop and implement SWPPPs for all high-priority facilities that have been identified as having a high-potential to contributing pollution in stormwater runoff.

Documentation and Measure of Effectiveness: A list of facilities is included in Appendix 6.2. Updates to these lists will be reported in the appropriate annual report.

6.3 Identification and development of nutrient management plans

Objective and Expected Results: Implementation of nutrient management plans on applicable municipal lands has the potential to reduce excess nutrients, such as nitrogen and phosphorus, to local waterways and ultimately the Chesapeake Bay. During PY 1 the City identified municipal lands where nutrients are applied to a contiguous area of one acre or more. Nutrient Management Plans will be developed for each identified area by a certified turf and landscape nutrient management planner.

Implementation and Schedule:

- During PY 1, identify municipal lands receiving nutrient management of one (1) acre or more.
- During PY 2, develop, implement and document Nutrient Management Plans (NMP) on no less than 15% of the total acreage requiring nutrient management.
- During PY 3, develop, implement and document Nutrient Management Plans (NMP) on no less than 40% of the total acreage requiring nutrient management.
- During PY 4, develop, implement and document Nutrient Management Plans (NMP) on no less than 75% of the total acreage requiring nutrient management.
- By the end of PY 5, develop, implement and document Nutrient Management Plans (NMP) on no less than 100% of the total acreage requiring nutrient management.
- Annually review any changes to municipally owned or operated lands that would require the development of a NMP.

Documentation and Measure of Effectiveness: The City will maintain a map of the areas that are to be managed by a NMP and incorporate the NMP into the Program Plan. The City will also document the required 15%, 40% and 75% progress towards implementation of the NMP. Refer to Appendix 6.3 NMP for location maps and implementation tracking.

6.4 Training program

Objective and Expected Results: The DWR has been providing an annual training on good housekeeping practices and the recognition and reporting of illicit discharges for the past several years. Training Develop a training program for all appropriate city employees for:

- 1) Recognition and reporting of Illicit Discharges
- 2) Pollution Prevention/Good Housekeeping
- 3) Erosion and Sediment Control Certification
- 4) VSMP Certification
- 5) Pesticide and Herbicide Certifications
- 6) Emergency Response for Spill Responses

Implementation and Schedule:

- All appropriate city employees will receive training on good housekeeping practices and illicit discharge on a biennial basis.
- Annually review the certifications required for ESC and VSMP program implementation, Pesticide and Herbicide applicators and appropriate emergency response.

Documentation and Measure of Effectiveness: A roster of the date, nature of training performed and employees in attendance will be maintained as required by the permit for a period of three years. A summary report will be submitted with each annual report. See Appendix 6.4 for training descriptions.



MS4 Program Appendices



City of Lynchburg
Department of Water Resources

Standard Operating Procedures for Illicit Discharge Inspections

Version 1.0
Effective October 1, 2013

Program Approval

Director of Water Resources: _____ Date: _____

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I. Purpose

The standard operating procedure (SOP) outlines responsibilities and procedures to inspect stormwater outfalls and other structures for illicit discharges. Any flow in a storm sewer system during dry weather indicates that there may be an illicit discharge to the system.

The City's municipal separate storm sewer system (MS4) is regulated by a permit granted by the Virginia Department of Environmental Quality (VADEQ) under guidelines established in Phase II of the National Pollution Discharge Elimination Systems (NPDES). Compliance with the procedures established in the SOP is required to meet the conditions of that permit. Frequency of inspection will be determined by the NPDES permit.

This SOP is applicable to City of Lynchburg employees and its contractors assigned to inspect stormwater infrastructure for evidence of illicit discharges. The SOP is published by authority of City of Lynchburg Department of Water Resources.

II. Duties

Program Administrator:

- Disseminate and implement this SOP
- Provide the materials and equipment necessary to carry out the requirements of this SOP
- Periodically review and update this SOP to account for changes in activities or regulatory requirements
- Ensure that safety procedures are followed, and
- Provide appropriate training to employees undertaking the inspection tasks

Stormwater Compliance Inspector:

- Implement this SOP
- Ensure safety precautions and operation notes are observed by persons participating in inspection activities,
- Report to program administrator and other appropriate agencies if evidence of an illicit discharge discovered
- Document findings made during inspections using the forms provided in Appendix 1 and manage data following an inspection operation
- Enter appropriate data into the City's GIS system
- Ensure readiness of equipment and other persons to safely undertake the assigned inspection operations
- Conduct inspections using procedures outlined in this SOP
- Conduct water quality testing of dry weather discharges
- Determine the likely sources of any suspected discharges, and
- Report to program administrator any emergencies, hazardous situations and suspected illicit discharges.

III. Definitions

For the purposes of this SOP, the following definitions apply:

- *Covered activity.* Any task, action or event for which there are guidelines in this SOP.
- *Dry weather.* A period in where there has been recorded less than 0.10 inch of precipitation within the preceding 48 hours.
- *Hazard.* A situation that poses potential harm to persons, property, or the environment.
- *Illicit discharge.* A discharge coming from any land use that is not composed entirely of stormwater and entering the stormwater management system, except discharge pursuant to a Virginia Pollutant Discharge Elimination System (VPDES) permit. This definition shall not include discharges listed in the City of Lynchburg’s Stormwater Management Ordinance Sec. 16.2-71(b) unless the city identifies such discharges as sources of pollutants to state waters.
- *Program Administrator.* Person or persons responsible for administering and enforcing stormwater management.
- *Stormwater Compliance Inspector.* Employee assigned to oversee and undertake an inspection operation in the field.
- *Safety Manager* Person responsible for ensuring all departmental and OSHA safety regulations are followed as well as investigation and documentation of any safety concerns and incidents

IV. Safety

Safety procedures must be followed by all inspection staff. Specific hazards which may be encountered during the inspection process include:

1. Exposure to hazardous waste and materials,
2. Removal of manhole covers,
3. Exposure to traffic operations, and
4. Exposure to reagents used in water quality testing.

Whenever a potential hazard exists, exposure to the hazard should be limited to the fewest number for the shortest time needed to complete the task.

Occupational Safety and Health Administration (OSHA) work safety standards and other applicable guidelines should be followed to protect workers from hazardous materials.

Each inspection team member should wear a high visibility garment, steel toe boots and hard hat at all times.

4.1 Hazardous Waste and Materials

Exposure to contaminants should be minimized. The inspection process does not require direct contact with hazardous materials or wastes. However, gases can collect in confined spaces which are combustible or harmful if inhaled. Team members are most likely to encounter such gases in covered manholes.

To detect the presence of hazardous atmosphere within a manhole:

1. Use a gas monitor to detect the presence of gases following the procedure in Appendix 7
2. If the gas monitor indicates that there is dangerous condition within the manhole, close the manhole and back away immediately.
3. Advise the safety manager of the manhole location where there is dangerous gas. Follow procedures given in Appendix 7.

Similar procedures may be worked out by team members whenever the presence of combustible or harmful gases is suspected in confined spaces other than manholes.

4.2 Removing Manhole Covers

The following safety measures should be followed to avoid injury while opening manhole covers:

1. Bend knees, not waist. Do not lift the manhole cover with your back muscles. Use leg muscles and avoid twisting.
2. Wear steel-toed boots or safety shoes to protect feet.
3. Do not move manhole covers with hands or fingers.
4. Do not enter manholes under any circumstances. Confined space entry must only be done by properly trained and equipped persons.

4.3 Traffic Safety

When working in or adjacent to a traffic lane have vehicle warning lights activated, mark the lane with traffic cones and/or signs to give adequate space for drivers to react and move around the work area.

4.4 WATER QUALITY TESTING

When testing for water quality parameters using chemical reagents, follow the safety rules below:

1. Follow test procedures carefully and observe all precautionary measures. Read the entire procedure carefully before beginning.
2. Review material safety data sheets (MSDS) for each reagent chemical used during testing. (Appendix 8).
3. Do not smoke, eat, or drink in an area where toxic or irritating chemicals are used.
4. Use reagents and equipment only as directed in the test procedure.
5. Do not use damaged bottles or broken equipment.
6. Minimize all chemical exposures. Do not breathe vapors or let chemicals touch your skin. Wear clothing that covers skin. Wear plastic gloves. Wear safety glasses.
7. Become familiar with using the portable eyewash unit that is located within the vehicle first aid kit.

V. Operational Notes

5.1 RIGHT OF ENTRY

The program administrator and/or his designee(s) shall have the authority to enter into private property to conduct investigations relative to this article. No inspection shall be conducted without the consent of the tenant, occupant, property owner or the owner's representative or pursuant to a duly issued administrative inspection warrant or as authorized by other lawful means. (Sec. 16.2-75(c))

5.2 ACCESSIBILITY

Some structures may be located in inaccessible areas such as those with thick vegetation or steep slopes. Team members should not risk injury in order to gain access to such structures. Procedures should be worked out with program administrator to provide safe access for the inspection team.

VI. Required Equipment and Materials-suggested appendix

Func tion	Used in Sec- tion:	Item	Pur- pose
Access Structure	10	Manhole hook	Removes manhole cover
	10	High pow- ered lamps/flas hlights	View struc- ture con- tents
	8, 9, 10	Outfall map/storm sewer maps	Find struc- tures
	8, 9, 10	Road Map	Find struc- tures
	9, 10	Medium- sized plas- tic waste bag	To dispose of waste material
	9, 10	118 mL sterile Whirl Paks	Contains sterile sample for testing
	9, 10	Plastic sample bottles and sticker la- bels	Store sam- ples for testing and pours into sample cells
	9, 10	Cooler and ice (or ice packs)	Preserves samples to be sent to lab.
	Test Wa- ter Quali- ty	9, 10	EcoSense pH10A pH/Temper- ature Pen

9, 10	Scis- sors or nail clippers	Gen- eral field equipment
9, 10	EcoSense EC30A Conductivi- ty/TDS/Te- mperature Pen	Tests for conductivi- ty
9, 10	LAQUAtwin Compact Potassium Meter B- 731	Tests for potassium conc.
9, 10	Filtered deionized water and wash bot- tle	To cali- brate col- orimeter
9, 10	Batteries	For differ- ent water quality met- ters
9, 10	Measuring tape	Measure size of out- fall, if ap- plicable
9, 10	Dropper	Used for adding re- agents in applicable tests
9, 10	Hanna HI96729C Fluoride Low Range ISM	Used for testing flu- oride conc.

	9, 10	LaMotte 1200 Colorimeter Ammonia Nitrogen	Used for testing ammonia nitrogen conc.
Record	8, 9, 10	Inspection form	Provided in appendices
	8, 9, 10	Cell phone/tablet	For pictures at all structures
	8, 9, 10	Pen	For notes
Safety	8, 9, 10	Traffic cones	To redirect traffic
	8, 9, 10	High visibility garments	For inspection team employees
	10	Gas monitor and probe	To detect combustible gases
	9, 10	First Aid Kit	In case of chemical emergency

	9, 10	Mercury Spill Kit	In case of mercury spill
	9, 10	Gloves	For collecting and testing samples
	8, 9, 10	Full coverage clothing (pants, long sleeves)	Should be worn at all times
	9, 10	Safety Glasses	Should be worn when using chemical reagents
	10	Steel-toed boots	Should be worn when removing manhole covers

Other required equipment:

Function	Use d in Section:	Item	Purpose
Record Data	8, 9, 10	Tablet	Store and view data
	9, 10	Laboratory detergent	To clean sample bottles and colorimeter sample cells
	9, 10	Deionized water	To rinse sample bottles and colorimeter sample cells

Other equipment may be needed to make the inspection process more efficient or safe.

VII. Initial Inspection Procedures: Before Site Visit

Use the following procedures to inspect City of Lynchburg outfalls for illicit discharges. These procedures should be followed by team members unless otherwise noted.

The following are to be done before each field inspections:

1. The stormwater compliance inspector should determine if it is a **DRY WEATHER** day by:
 - a. Visit the following National Weather Service website: <http://www.noaa.gov>
 - b. Under the "Today's Weather" section, enter "Lynchburg, VA". A web page for Lynchburg should open.
 - c. Under the "Current Conditions" section, click the "3 Day History" link, <http://w1.weather.gov/data/obhistory/KLYH.html>, to check for hourly estimated rainfall at the KLYH station within the past 48 hours.
 - d. Calculate the sum of the hourly rainfall values (the 1 hr column under the Precipitation heading) to determine the total hourly rainfall over the past 48 hours. Record this amount on the Inspection Report Form.
 - e. If the total recorded above is not more than 0.1 inch, then it is a "dry weather" day and inspection may proceed that day.
2. Obtain the list of outfalls to be inspected. The prioritized schedule should be consulted (Appendix 9). A minimum of 50 outfalls must be inspected annually.
3. Locate structures to be inspected on storm drain maps.
4. The stormwater compliance inspector should conduct a pre-task briefing to ensure readiness of team and equipment to perform field inspections:
 - a. Gather equipment and check that it is working properly.
 - b. Check batteries.
 - c. Check memory card of cell phone/tablet.
5. Obtain the list of structures to be tested from stormwater compliance inspector.
6. Locate structures to be tested on storm drain maps.
7. Prepare plastic sample bottles and sample cells for sampling as follows:
 - a. Clean the bottles and cells with laboratory detergent.
 - b. Rinse well with tap water.
 - c. Rinse well with deionized water at least four times.
 - d. Air dry.
8. The stormwater compliance inspector should conduct a pre-task briefing to ensure readiness of team and equipment to perform field inspections:
 - a. Gather equipment and check that it is working properly. Perform calibrations if needed
 - b. Check batteries.
 - c. Check expiration dates of reagent kits.

VIII. Inspection Procedures

The following are to be done for each structure inspected:

1. Visit the structure with at least one other team member.
2. Survey the area around the outfall to determine safety and accessibility.
3. If working in or near a traffic lane, use traffic cones to redirect road and pedestrian traffic away from the work area. Contact safety manager to request traffic control if needed.
4. If possible, photograph the outfall using the digital camera.

5. Fill out the inspection form for each outfall.
 - a. Mark the Sub-shed and Inspection ID of the outfall on the sheet.
 - b. Note the time, temperature, rainfall amount, submersion level, and flow.
 - c. If flow is present, complete Section 2 of the Illicit Discharge Inspection Report (Appendix 1).
 - d. Complete Section 3 of the Illicit Discharge Inspection Report (Appendix 1) for all flowing and non-flowing outfalls.
 - e. Use Section 4 of the Illicit Discharge Inspection Report (Appendix 1) to determine the overall outfall characterization. Make any other comments regarding the outfall in this section.

The following are to be done for all flowing structure inspected:

1. Follow all procedures in Section 4. If there is insufficient flow from the discharge to collect a sample, refer to the procedure in Section 11.
2. Determine the width of the flowing water surface using a tape measure.
3. Determine the approximate depth of the flowing water using a measuring stick.
4. Determine the approximate flow velocity
 - a. Using the tape measure, mark an appropriate distance inside the pipe. Record the distance.
 - b. Having a stopwatch ready, gently toss a ping pong ball to the appropriate distance within the pipe. Immediately start the timer. When the ping pong ball discharges from the pipe, stop the timer. Record the amount of time it took for the ping pong ball to leave the pipe.

DO NOT ENTER THE PIPE FOR ANY REASON.

- c. Approximate velocity should be calculated as distance/time (ft/sec).
5. Determine the flow rate.
 - a. Calculate by using the approximate velocity previously determined divided by the time used for determining velocity. Velocity/time (ft³/sec)
6. Collect 100 mL of sample using a sterile whirlpak and place in a plastic Nalgene bottle. Gloves should be worn at all times. This sample will be tested in the field.
7. Follow procedures for sample collection, handling, and testing described below and in Section 11
8. Test the 100 mL collected sample for temperature and pH using the EcoSense pH/Temperature Pen. Follow the Standard Operating Procedure for EcoSense pH10A pH/Temperature Pen (Appendix 2).
 - a. Record the results on the Illicit Discharge Inspection Report Form.
9. Test the 100 mL collected sample for conductivity using the Standard Operating Procedure for EcoSense EC30A Conductivity/TDS/Temperature (Appendix 3).
 - a. Record the results on the Illicit Discharge Inspection Report Form.
10. Test the 100 mL collected sample for potassium using the Standard Operating Procedure for LAQUAtwin Compact Potassium (K+) Meter B-731 (Appendix 4).
 - a. Record the results on the Illicit Discharge Inspection Report Form.
11. Test the 100 mL collected sample for fluoride using the Standard Operating Procedure for Hanna HI9672C Fluoride Low Range ISM (Appendix 5).
 - a. Record the results on the Illicit Discharge Inspection Report Form.
12. Test the 100 mL collected sample for fluoride using the Standard Operating Procedure for LaMotte 1200 Colorimeter Ammonia Nitrogen (Appendix 6).
 - a. Record the results on the Illicit Discharge Inspection Report Form.
13. Clean inspection area and make sure that all equipment is removed from the area prior to leaving.

IX. After Inspection Procedures

The stormwater compliance inspector should ensure that the following tasks are completed after a site visit.

1. Download photographs onto a designated computer using the digital camera hardware and software instructions. Ensure that photograph files are named to reflect the way they are identified on the Illicit Discharge Inspection Report Form.
2. Upload all information into the City's database system.
3. Dispose of the waste bag properly.
4. Clean and store all field equipment properly.
5. Transfer data collected in the field as follows:
 - a. Download photographs onto a designated computer. Ensure that photograph files are named to reflect the way they are identified on the Illicit Discharge Inspection Report Form.
6. Enter all applicable information into the City's database system.
7. If an illicit discharge was found, contact VADEQ, if applicable, using reporting procedures discussed in Section 11.
8. If no facility was identified as the source of the illicit discharge, follow up must be completed at each "Suspect" outfall following the procedures in Section 10.

X. Determining the Source of a Suspected Illicit Discharge

If tests indicate there may be an illicit discharge ("Suspect"), inspection team members must try to determine the source by inspecting upstream structures. An illicit discharge is likely if the tested water quality parameters are not within acceptable ranges as marked on the inspection form. These procedures should be followed by team members unless otherwise noted. Suspect illicit discharges should be investigated within 72 hours. Illicit discharges that are suspected to be sanitary sewer should be investigated immediately. All suspect illicit discharges should be re-inspected using this procedure after the discharge has been eliminated.

The following are to be done for each structure inspected:

1. Survey the area around the structure to determine safety and accessibility.
2. If working in or near a traffic lane, use flashing warning lights and if needed, traffic cones to redirect road and pedestrian traffic away from work area.
3. If the structure is a manhole, use the gas monitor to test for the presence of hazardous gases. See Appendix 7.
4. If the monitor shows a safe reading, remove the gas monitor probe, and remove the manhole cover as follows:
 - a. Position the manhole hook under the flange.
 - b. Pull the lid off with the hook.
5. Follow all procedures in Section 8 for testing flow.
6. For any structure where contaminants are found, continue to the next upstream structure until no contaminants are found or there are no upstream structures.
7. In the drainage area for the most-upstream structure where contaminants are found, attempt to identify the facility or facilities that are the most likely source(s) of those contaminants.
8. If no facility can easily be identified, note all facilities that discharge to the structure.
9. Record these observations on the Inspection Report Form.
10. Replace the manhole cover using the manhole hook. Make sure the cover is settled into the flange securely.
11. Clean inspection area and make sure that all equipment is removed from the area prior to leaving.

The stormwater compliance inspector should ensure that the following tasks are completed after a site visit.

1. Follow all procedures in Sections 4 and 8.
2. If an illicit discharge source was found, contact VADEQ, if appropriate, using reporting procedures discussed in Section 12.
3. If no facility was identified as the source of the illicit discharge, stormwater compliance inspector and/or the program administrator must follow up at each facility considered a potential source of the contaminants identified as follows:
 - a. Arrange to inspect each such facility.
 - b. At each facility, inspect the surrounding grounds for contamination or improper storage or handling of hazardous and polluting materials.
 - c. Note all findings in a log book prepared for this purpose.
4. Further testing may be needed to determine exactly where and how the illicit discharges are entering the system such as with dye testing, smoke testing, or other methods. Refer to EPA's "Illicit Discharge Detection and Elimination" for further information on determining illicit discharge sources (USEPA, 2003).
 - a. If the source of an illicit discharge is found but not identified within 6 months of the beginning of the investigation, the stormwater compliance inspector must document with the appropriate authorities.
5. If the observed discharge is intermittent, the stormwater compliance inspector must document that a minimum of three separate investigations were made in an attempt to observe the discharge when it was flowing.
 - a. If these attempts are unsuccessful, the stormwater compliance inspector must document with the appropriate authorities.

XI. Sample Collection, Handling, and Testing

11.1 Sampling Small Discharges

If there is not enough discharge available to collect a sample with the long-handled sampling dipper, then alternative measures, such as video inspection may be used. Coordination within the department is required to complete task in order to determine the source of the discharge.

11.2 USING INSTRUMENTATION SOPs

Individual SOPs are provided for each piece of equipment. Please refer to Appendixes 2-6 for:

1. Materials needed for testing
2. Calibration Instructions
3. Specific sample handling and instructions
4. Trouble shooting information.

All safety information pertaining to each piece of equipment should be followed.

11.3 SAMPLE HANDLING AND RECORD KEEPING

Illicit discharge is against the law. It is important to follow proper procedures in order to protect the value of the data collected as admissible and credible evidence should legal prosecution be deemed appropriate.

XII. Contacting Regulatory and Emergency Agencies

Immediately notify the program administrator and safety manager using the most effective available mode of communication (radio, cell phone, etc.) if any of the following situations arise:

1. Any person is seriously injured or is in immediate danger of injury or death for any reason.
2. The gas monitor indicates hazardous or combustible gas.
3. The team suspects or discovers any situation requiring the immediate attention of emergency response teams.

If, in the judgment of those on scene, the additional minutes needed to contact supervisors first poses an unacceptable risk, call 911 directly.

Callers to 911 Emergency response should be prepared to provide the following information and remain on scene until emergency responders arrive:

1. The reason for calling (injury, combustible gas, etc.),
2. Name of caller,
3. Location of caller including address and nearest cross street,
4. Obvious details of the emergency situation,
5. Any other information requested by the 911 dispatcher.

In the event hazardous materials are found or are suspected, leave the area immediately.

If an illicit discharge is identified, stormwater compliance inspector should contact the Blue Ridge Regional Office of the Virginia Department of Environmental Quality (VADEQ), 434-582-5120 if appropriate. Report the following to the Blue Ridge Regional Office of DEQ:

1. The location of the illicit discharge,
2. When you found the discharge,
3. The quantity of discharge found,
4. The parameters that were found at unacceptable levels and their test results, and
5. The likely source of pollution.

If an illicit discharge is found and the Virginia Department of Environmental Quality does not need to be notified, a Notice of Violation (NOV) should be handed out (Appendix 10). The NOV should include

1. The location of the illicit discharge,
2. The receiving stream or water body,
3. When you found the discharge,
4. The quantity of discharge found, and
5. The parameters that were found at unacceptable levels and their test results.
6. Corrective Actions

XIII. Appendices

The following Appendices are made part of this SOP by reference.

1. Illicit Discharge Inspection Report Form
2. Standard Operating Procedure for EcoSense pH10A pH/Temperature Pen
3. Standard Operating Procedure for EcoSense EC30A Conductivity/TDS/Temperature
4. Standard Operating Procedure for LAQUAtwin Compact Potassium (K+) Meter B-731
5. Standard Operating Procedure for Hanna HI96729C Fluoride Low Range ISM
6. Standard Operating Procedure for LaMotte 1200 Colorimeter Ammonia Nitrogen
7. Gas Meter Instructions

8. Material Safety Data Sheets
9. Prioritized Schedule
10. Sample NOV

XIV. References

1. USEPA. 2000. Storm Water Phase II Final Rule - Illicit Discharge Detection and Elimination Minimum Control Measure. Office of Water. EPA 833-F-00-007.
2. USEPA. 2010. Illicit Discharge Detection and Elimination: Development. http://cfpub2.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=111
3. Brown, E., Caraco, D., Pitt, R. 2004. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments. Center for Watershed Protection, Ellicott City, MD & University of Alabama, Tuscaloosa, AL.
4. USEPA. 2008. Essential Resources for the Stormwater Program. EPA 833-F-04-003. http://www.epa.gov/npdes/pubs/sw_resource_list.pdf

Appendix 1: Illicit Discharge Inspection Report Form

ILLCIT DISCHARGE INSPECTION REPORT

Section 1: Background Data

Subwatershed: <input style="width: 50px;" type="text"/>	Inspection ID: <input style="width: 50px;" type="text"/>	Today's date: <input style="width: 50px;" type="text"/>	Time: <input style="width: 50px;" type="text"/>	
Investigators: <input style="width: 50px;" type="text"/>	Form completed by: <input style="width: 50px;" type="text"/>		Picture: <input type="checkbox"/> Yes <input type="checkbox"/> No	Picture Number: <input style="width: 50px;" type="text"/>
Temperature (°F): <input style="width: 50px;" type="text"/>	Rainfall (in.): Last 24 hours: <input style="width: 50px;" type="text"/>	Last 48 hours: <input style="width: 50px;" type="text"/>	Submerged in Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully	Submerged in Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
Notes (e.g., origin of outfall, if known): <input style="width: 100px;" type="text"/>				
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No, Skip to Section 3		Flow Description (If present): <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial

Section 2: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? Yes No *(If No, Skip to Section 3)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other: <input style="width: 30px;" type="text"/>	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other: <input style="width: 30px;" type="text"/>	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other: <input style="width: 30px;" type="text"/>	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 3: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? Yes No *(If No, Skip to Section 4)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	<input style="width: 50px;" type="text"/>
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: <input style="width: 30px;" type="text"/>	<input style="width: 50px;" type="text"/>
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	<input style="width: 50px;" type="text"/>
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other: <input style="width: 30px;" type="text"/>	<input style="width: 50px;" type="text"/>
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other: <input style="width: 30px;" type="text"/>	<input style="width: 50px;" type="text"/>

Section 4: Overall Outfall Characterization

Unlikely Potential (presence of two or more indicators) Suspect (one or more indicators with a severity of 3) Obvious

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

OUTFALL INSPECTION REPORT

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			

For Flowing Outfalls:

Flow Width: _____ ft

Flow Depth: _____ ft

Distance (A): _____ ft

Time (B): _____ sec

Flow Velocity (C): _____ ft/sec

Flow Rate: C/B = _____ ft³/sec

Dry Weather Screening Water Quality Indicators			
Screening Parameter	Potential Source	Threshold	Measured Value
Ammonia	Wastewater or Industrial	0.2 mg/L	
Fluoride	Tap Water	0.25 mg/L	
Detergents	Wastewater, Washwater or Industrial	0.25 mg/L	
Potassium	Wastewater or Industrial	5-6 ppm	

Appendix 2: Standard Operating Procedure for EcoSense pH10A pH/Temperature Pen

Standard Operating Procedure for EcoSense pH10A pH/Temperature Pen

1.0 Scope

This method is applicable to drinking, surface, and saline waters: domestic and industrial wastes. The working range is pH 0.00 to pH 14.00 with a temperature of 0.0 – 100.0°C (32.0-212°F).

2.0 Summary of Method

The pH is determined through an electrode.

3.0 Sample Handling and Preservation

Samples are collected in clean glass or plastic containers. Samples should be measured immediately upon collection.

4.0 Interferences

There are relatively no interferences from color, turbidity, colloidal matter, oxidants, reductants or high salinity samples.

5.0 Materials

EcoSense pH10A pH/temperature pen
pH buffers (pH 4, 7, and 10)

6.0 Reagents

- DI Water
- Calibration Standards: Standard solutions are commercially available. Solutions of pH 4.0, pH 7.0 and pH 10.0 are used for calibrating the instrument.

7.0 Calibration

- Calibrate the meter according to the manufacturer's instructions.

Press the "CAL" key for two seconds and release to enter "Calibration" mode. Immerse meter into pH 7.0 solution. "WAIT" will flash. The meter will determine when the calibration reading is stable. Meter is calibrated when "WAIT" disappears. The unity will automatically enter the next calibration point five seconds later. Repeat for buffers pH 4.0 and pH 10.0. Press "CAL" key to exit calibration mode.

8.0 Analytical Procedure

Dip the electrode into the test solution while in measure mode. When the pH is stable, record the pH and temperature.

9.0 Calculations

The pH is determined directly from the meter readings.

10.0 Quality Control

Meter is calibrated at the beginning of each sample day. Electrode must be stored in pH 4 buffer solution.

11.0 Troubleshooting/Corrective Action

If values reflected on the meter do not change, the sensor may be damaged. Sensor should be kept clean through washing between samples with DI water.

12.0 References

YSI Publication. "EcoSense pH10A pH/Temperature Pen".
Standard Method 4500H

Appendix 3: Standard Operating Procedure for EcoSense EC30A Conductivity/TDS/Temperature

Standard Operating Procedure for EcoSense EC30A Conductivity/TDS/Temperature

1.0 Scope

This method is applicable to drinking, surface, and saline waters: domestic and industrial wastes. The working range is conductivity 0-1990 micro Siemens or 2.00-19.90 millisiemens with a temperature range of 0.00-99.5 °C or 32.0-212 °F.

2.0 Summary of Method

The conductivity is determined through an electrode.

3.0 Sample Handling and Preservation

Samples are collected in clean glass or plastic containers. Samples should be measured immediately upon collection.

4.0 Interferences

There are relatively no interferences from color, turbidity, colloidal matter, oxidants, reductants or high salinity samples. The amount of air bubbles should be reduced.

5.0 Materials

EC30A Conductivity/TDS/Temperature Pen

6.0 Reagents

- DI Water
- Calibration Standards: Standard solutions are commercially available. Solutions of 1000 micro Siemens and 10,000 micro Siemens are used for calibration.

7.0 Calibration

- Calibrate the meter according to the manufacturer's instructions.

Press the "CAL" key to enter calibration mode. Immerse the meter into 1000 micro Siemen conductivity solution. Repeat with 10,000 micro Siemens conductivity solution.

8.0 Analytical Procedure

Dip the electrode into the test solution while in measure mode. Give the meter a shake while submerge to remove any air bubbles that may have occurred. When the reading is stable, record the conductivity. Thoroughly rinse the electrode with DI water between measurements.

9.0 Calculations

The conductivity is determined directly from the meter readings.

10.0 Quality Control

Meter is calibrated at the beginning of each sample day. Electrode must be stored in a clean, dry environment. Electrodes should be kept clean.

11.0 Troubleshooting/Corrective Action

If values reflected on the meter do not change, the sensor may be damaged. Sensor should be kept clean through washing between samples with DI water.

12.0 References

YSI Publication. "EcoSense EC10A Conductivity/TDS/Temperature Pen".
Standard Method 2510B.

Appendix 4: Standard Operating Procedure for LAQUAtwin Compact Potassium (K+) Meter B-731

Standard Operating Procedure for LAQUAtwin Compact Potassium (K+) Meter B-731

1.0 Scope

This method is applicable to drinking, surface, and saline waters: domestic and industrial wastes. The working range is 39 ppm to 3900 ppm.

2.0 Summary of Method

The potassium concentration is determined in parts per million using an ion electrode method.

3.0 Sample Handling and Preservation

Samples are collected in clean glass or plastic containers. Samples should be measured immediately upon collection.

4.0 Interferences

Dirt in the response membrane and liquid junction can result in failed calibration. Electrode must be kept clean. Strong acids and strong alkalis influence measurement results. Measure within the range from 2 pH to 9 pH. High level monovalent cations, such as NH_4^+ , may cause measurement errors. Samples must be analyzed within the temperature range of 5 C to 40 C. Ideally, the ambient temperature should also be within that range.

5.0 Materials

Potassium Ion Meter LAQUAtwin B-731

6.0 Reagents

- Reagent Water
- Calibration Standards: Standard solutions are commercially available. Solutions of 150 ppm and 2000 ppm are used for calibrating the instrument.

7.0 Calibration

- Calibrate the meter according to the manufacturer's instructions.

Open the light shield cover and put some drops of the 150 ppm standard solution on the flat sensor enough to cover the sensor. Washing the sensor beforehand may provide more accurate calibration. Close the lights shield cover and press the "CAL" switch for over 2 seconds. When the calibration is complete, indicators on the meter will stop blinking. After the calibration with the 150 ppm standard solution is completed, open the light shield cover to remove the standard solution and wipe off moisture on the sensor. Repeat with the 2000 ppm standard solution. Once calibration is complete, clean the sensor with DI water and remove moisture. Press the MEAS switch for 0.5 seconds to enter the measurement mode and prepare for measurement.

8.0 Analytical Procedure

Confirm that the meter is in measurement mode. After the sample has been collected, drop a small amount of sample onto the flat sensor enough to cover the sensor. Read the displayed value with the smile icon appears.

9.0 Calculations

The potassium ion measurement is determined directly from the meter readings.

10.0 Quality Control

Meter is calibrated at the beginning of each sample day

11.0 Troubleshooting/Corrective Action

If values reflected on the meter do not change, the sensor may be damaged. Sensor should be kept clean through washing between samples with DI water.

12.0 References

Horiba Scientific Publication. "Instruction Manual Compact K+ Meter B-731". Code I2003025000-3200454880-GZ0000297061.

Appendix 5: Standard Operating Procedure for Hanna HI96729C Fluoride Low Range ISM

Standard Operating Procedure for Hanna HI96729C Fluoride Low Range ISM

1.0 Scope

This method is applicable to drinking, surface, and saline waters: domestic and industrial wastes. The working range is 0 ppm to 2.00 ppm. It is an adaptation of EPA method 340.1 and Standard Methods for the Examination of Water and Wastewater, 20th edition, SPADNS method.

2.0 Summary of Method

The concentration of fluoride is determined through colorimetric analysis with a tungsten lamp light source using a silicon photocell with narrow band interference filter at 575 nm.

3.0 Sample Handling and Preservation

Samples are collected in clean glass or plastic containers. Samples should be measured immediately upon collection.

4.0 Interferences

Chlorine interferes at all levels. Chlorine interference must be eliminated. Negative interferences may be caused by alkalinity above 5000 ppm, aluminum above 0.1 ppm, and ferric iron above 10 ppm. Positive interferences may be caused by chloride above 7000 ppm, sodium hexametaphosphate above 1.0 ppm, ortho phosphate above 0.1 ppm and sulfate above 200 ppm.

5.0 Materials

Hanna HI 96729 Ion Selective Meter
Sample cuvettes and caps
CAL CHECK standard cuvettes
2000 microliter automatic pipette
Cleaning clothes for wiping cuvette

6.0 Reagents

- DI Water
- Calibration Standards: Standard solutions are commercially available. Solutions HI 96729A and HI 96729B
- Fluoride reagent HI93729-01

7.0 Calibration

- Calibrate the meter according to the manufacturer's instructions.

Turn the meter on and after the beeper sounds briefly, the meter is ready for use. Press and hold CAL CHECK for three seconds to enter calibration mode. The display will show "CAL" during the calibration procedure. The blinking "ZERO" asks for instrument zeroing. Place the CAL CHECK Standard HI96729A into the cuvette holder and ensure that the notch on the cap is positioned securely into the groove. Press "ZERO/CFM" and the lamp, cuvette and detector ions will appear on the display, depending on the measurement phase. After a few seconds the display will show "-0.0-". The meter is now zeroed and ready for calibration. The blinking "READ" asks for reading calibration standard. Remove the cuvette. Place the CAL CHECK Standard

HI96729B into the cuvette holder and ensure that the notch on the cap is positioned securely into the groove. Press "READ/→ /TIMER" and the lamp, cuvette and detector icons will appear on the display, depending on the measurement phase. After the measurement the instrument will show for three seconds the Cal Check Standard value.

8.0 Analytical Procedure

To compensate the meter for the sample turbidity or color, the measurement takes place in two phases. First, the meter is zeroed using the unreacted sample. After the reagents are added the reacted sample is measured.

Turn the meter on by pressing "ON/OFF". The display briefly shows all tags on. When the beeper sounds briefly and the LCD display dashes, the meter is ready. The blinking "ZERO" indicates that the instrument needs to be zeroed first. Fill one cuvette with 10 mL of deionized water. Add 2 mL of HI 93729-0 Fluoride reagent to the cuvette by use of the 2000 microliter automatic pipette. Replace the cap to the cuvette and shake gently a couple of times. Place the cuvette with the reacted deionized water (blank) into the cuvette holder and ensure that the notch on the cap is positioned securely into the groove. Press and hold "READ/ →/TIMER" for three seconds. The display will show the countdown prior to measurement. Wait for two minutes. Press "ZERO/CFM" and the lamp, cuvette and detector icons will appear on the display, depending on the measurement phase. After a few seconds, the display will show "-0.0-". The meter is now zeroed and ready for measurement. Remove the blank from the instrument and discard the blank. Rinse the cuvette a couple of times with the unreacted sample and discard it. Turn the empty cuvette upside down and shake it to remove excess liquid. Fill the same cuvette with 10 mL of unreacted sample. Add 2 mL of HI 93729-0 fluoride reagent to the cuvette by use of the 2000 microliter automatic pipette. Repeat following the same steps as the zeroing process. At the end of the measurement, the instrument directly displays the concentration in mg/L (ppm) of fluoride on the LCD.

9.0 Calculations

The concentration of fluoride is determined directly from the meter reading.

10.0 Quality Control

Meter is calibrated at the beginning of each sample day.

11.0 Troubleshooting/Corrective Action

The instrument shows clear messages when erroneous condition appears. Messages are also displayed when the obtained values are outside of the expected range. Please refer to the instruction manual for more details.

12.0 References

Hanna Instruments Publication. "Instruction Manual HI 96729C Fluoride Low Range ISM".

Appendix 6: Standard Operating Procedure for LaMotte 1200 Colorimeter Ammonia Nitrogen

Standard Operating Procedure for LaMotte 1200 Colorimeter Ammonia Nitrogen

1.0 Scope

This method is applicable to drinking, surface, and saline waters: domestic and industrial wastes. The working range is 0.0 ppm to 5.0 ppm.

2.0 Summary of Method

The concentration of ammonia nitrogen is determined through the Nessler method. Ammonia forms a colored complex with Nessler's Reagent in proportion to the amount of ammonia present in the sample. Rochelle salt is added to prevent precipitation of calcium or magnesium in undistilled samples.

3.0 Sample Handling and Preservation

Samples are collected in clean glass or plastic containers. Samples should be measured immediately upon collection.

4.0 Interferences

Sample turbidity and color may interfere. Turbidity may be removed by a filtration procedure. Color interference may be eliminated by adjusting the instrument to 100%T with a sample blank.

5.0 Materials

Hanna 1200 Colorimeter Ammonia-Nitrogen
1 mL pipette
Colorimeter tubes with caps
Gloves

6.0 Reagents

- Reagent Water
- Calibration Standards: Standard solutions are commercially available.
- Ammonia Nitrogen Reagent #1
- Ammonia Nitrogen Reagent #2

7.0 Calibration

- Calibrate the meter according to the manufacturer's instructions.

Prepare the standard solutions to be tested. Rinse and fill a colorimeter tube to the 10 mL line with standard solution. Cap and wipe dry. Insert the tube into the chamber, being sure to align the index line with the arrow on the meter. Close the lid. This tube is the blank. Push the "READ" button to turn the meter on. Press the "ZERO" button and hold for 2 seconds until "bLA" is displayed. Release the button to take a zero reading. React a standard by adding 8 drops of Ammonia Nitrogen Reagent #1. Use a 1.0 mL pipette to add 1.0 mL of Ammonia Reagent #2. Cap and invert to mix. Wait 5 minutes for full color development. Wipe the tube clean with a lint-free cloth. Insert the tube dry. Align the index line with the meter, insure the tube into the chamber. Close the lid and push the "Read" button. Results appear as ppm ammonia nitrogen.

8.0 Analytical Procedure

Collect the sample using a clean bottle or Whirlpak. Rinse and fill a colorimeter tube to the 10 mL line with sample. Cap and wipe dry. Insert the tube into the chamber, being sure to align the index line with the arrow on the meter. Close the lid. This tube is the blank. Push the "Read" button to turn the meter on. Press the "Zero" button and hold it for 2 seconds until "BLA" is displayed. Release the button to take a blank reading. Remove the tube from the colorimeter. Add 8 drops of Ammonia Nitrogen Reagent #1. Cap and mix. Use a 1.0 mL pipet to add 1.0 mL of Ammonia Nitrogen Reagent #2*. Cap and invert to mix. Wait 5 minutes for full color development. Wipe tube dry. Align the index line with the arrow on the meter, insert the tube into the chamber. Close the lid and push the "Read" button. Record results as ppm Ammonia Nitrogen.

*Reagent is considered to be a potential health hazard. Handle with extreme care using gloves and containment tray.

9.0 Calculations

The concentration of Ammonia Nitrogen is determined through colorimetric analysis performed by the meter.

10.0 Quality Control

Meter is calibrated at the beginning of each sample day

11.0 Troubleshooting/Corrective Action

If values reflected on the meter do not change, the sensor may be damaged. Sensor should be kept clean through washing between samples with DI water.

12.0 References

LaMotte Publication. "1200 Colorimeter Instruction Manual".

Appendix A

Proper care handling instructions

1. Before collecting any samples, gloves should be worn.
2. For performing this test, a containment tray should be used in case of accidental spillage.
3. In case spillage occurs, a mercury spill kit is located in the vehicle.

Appendix 7: Gas Meter Instructions

Standard Operating Procedure for RAE Systems QRAE II Gas Monitor

1.0 Scope

This method is applicable for measuring oxygen, combustibles, hydrogen sulfide and carbon monoxide gas levels.

2.0 Summary of Method

Gas levels are measured through sensors within the unit.

3.0 Sample Handling and Preservation

No sample handling or preservation is required.

4.0 Interferences

The pump should not be allowed to cavitate.

5.0 Materials

QRAE II Gas Monitor

Pump tube

6.0 Reagents

Not applicable

7.0 Calibration

Press and hold the left hand button until the unit begins beeps. Once the unit starts beeps, release the button and allow the unit to complete the startup phase. Once the startup phase is complete, hit the left hand button to perform a fresh air calibration. This should be done in outside ambient air.

8.0 Procedure

Once the calibration is complete, attach the tubing. Insert the tubing into the desired location to measure air quality. If the alarm goes off, remove yourself from the space and contact the Department of Water Resources Safety Manager. To power off, hold left hand button until the unit shuts down. See Appendix A for acceptable ranges for gas levels.

9.0 Calculations

The unit will directly display the gas level measurements.

10.0 Quality Control

Unit is calibrated at the beginning of each sample day. Unit must be stored in a clean, dry environment. Pump tubing should be kept clean.

11.0 Trouble Shooting/Corrective Action

If the values reflected on the meter do not change, the sensor may be damaged. Unit should be kept charged. All other issues should be referred to the Department of Water Resources Safety Manager.

12.0 References

Rae Systems Publication. "QRAE II Multi-gas Diffusion or Pump Detector for O₂, Combustibles, H₂S, or CO".

Appendix A: Acceptable Gas Levels

Parameter	Acceptable Range
O ₂	19.5-23%
CO	0-25 ppm
H ₂ S	0-10 ppm
LEL	0-10%

Appendix 8: Material Safety Data Sheets

MSDS Sheets are kept on file for the following water quality monitoring equipment.

Appendix 9: Prioritized Schedule

Prioritized Schedule for Illicit Discharge Screening Activities

Over the course of the permit, outfalls should be inspected in order of their priority. Priority was determined based on the previous year’s outfall inspections including: sub watershed, outfalls per stream miles, potential illicit discharge sites, flowing outfalls, VPDES permit holders, industrial property classes, and age of development. Potential illicit discharge sites included those marked on inspection reports as “potential” or “suspect”. Sub-watersheds were then assigned a “high”, “medium”, or “low” potential based on the above criteria. Outfalls should be inspected from highest to lowest potential. The following map was generated based on these criteria.

Priority Schedule

1. Highest Potential: Red

- a. BW-5
- b. BW-7
- c. BW-8
- d. BW-9
- e. FG-1

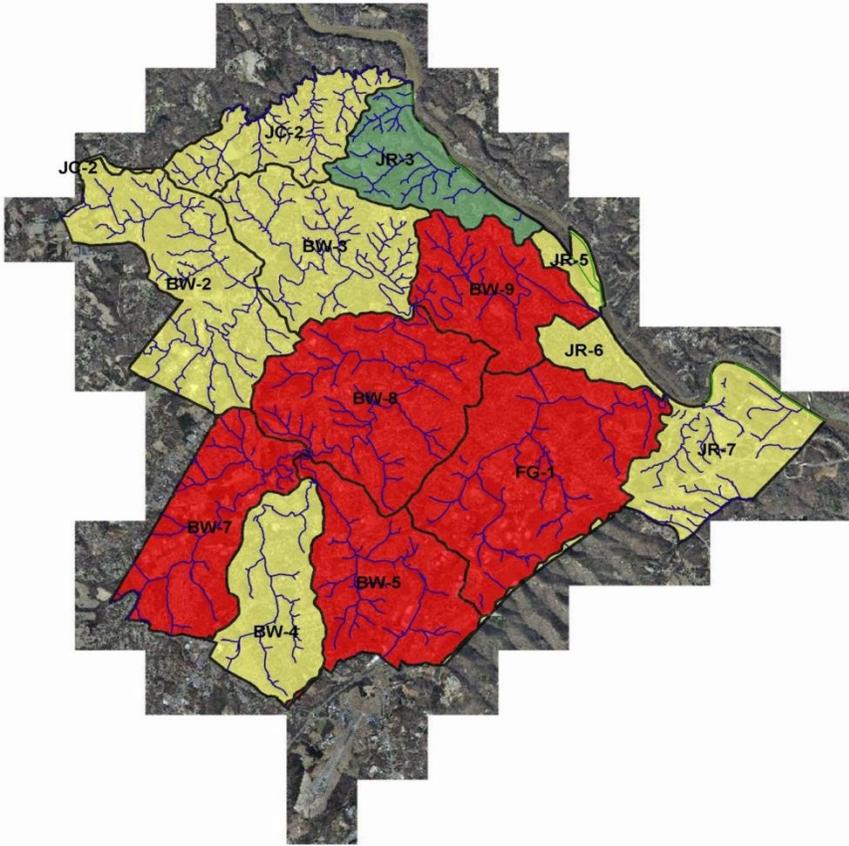
2. Medium Potential: Yellow

- a. JC-2
- b. BW-1
- c. BW-2
- d. JR-5
- e. JR-6
- f. JR-7

3. Low Potential: Green

- a. JR-3

Figure 1: Priority Map



Appendix 10: Sample NOV



The City of Lynchburg
 Department of Water Resources
 525 Taylor Street
 Lynchburg, Virginia 24501
 (434) 455-4250

ILLICIT DISCHARGE CORRECTIVE ACTION FORM NOTICE OF VIOLATION

Owner/Company:		Phone:	
Contact Person:			
Address:			
City:	State:	Zip Code:	
Location of Violation:			

The activities or items noted below are in violation of the City's Stormwater Management Ordinance (City Code Chapter 16.2, Article V). The ordinance is designed to protect the quality of water in our storm sewer system and City waters. Corrective actions must be implemented by the deadline below. Failure to implement the described corrective actions may result in referral for additional enforcement through the court system, including but not limited to, fines and/or imprisonment.

Observations: _____

Corrective Actions: _____

Completion Deadline: _____	
Received by: _____	Date: _____
Inspector: _____	Date: _____
Confirmed Completed: _____	Date: _____
Reply to: Stormwater Compliance Inspector stormwater@lynchburgva.gov	



THE CITY OF LYNCHBURG, VIRGINIA

Community Development
Zoning and Natural Resources Division

City Hall, 900 Church Street
Lynchburg, Virginia 24504 • (434) 455-3900
FAX • (434) 845-7630

Standard Operating Procedures Erosion and Sediment Control Inspections

Date: January 2014

Revised:

I. Purpose

Stormwater runoff from construction site contributes to the degradation of water quality. Properly implemented and maintained erosion control practices can limit the impact this runoff has on waterways. Bi-weekly (twice monthly) inspections of locally permitted land-disturbance projects helps to ensure that these measures are in place, functioning correctly and reducing sediment laden runoff. Within 48-hours of a runoff producing weather event, additional site visits are conducted furthering the mission of improved water quality. Both the bi-weekly (twice monthly) and 48-hour inspections are required under Virginia Erosion and Sediment Control regulations.

II. Procedure

1. Inspections of all permitted sites must be completed by certified erosion and sediment control inspectors within the required timeframes.
2. For commercial projects, signed, approved site plans must be available to the inspector on the jobsite. For residential projects approved as an agreement-in-lieu of a site plan, no plan is required.

3. The inspector will enter the inspection results into the City's management system, (TRAKit, Lucity, etc.) for reporting purposes.
4. Should the inspector encounter a violation of erosion and sediment control law, the site supervisor or general contractor should be notified as soon as possible to remediate the problem. If no one with authority to authorize the corrections is available onsite, a telephone call to the appropriate person should be placed within 24 hours of the inspection. Additional levels of enforcement may be required.
5. There are three (3) levels of enforcement allowed under erosion and sediment control law: a) standard violation, b) notice to comply and c) stop work order.
6. For typical, non- eminent violations, the inspector shall verbally supply the site supervisor or general contractor with a reasonable deadline to comply with erosion and sediment control law. In all cases of elevated enforcement, verbal notification shall be followed up with written explanation. Hard copies of elevated enforcement must be sent to the property owner via certified mail.
7. For eminent threats to state waters, a stop work order will be immediately issued.
8. Additional enforcement should be explored when compliance through traditional methods is not obtained in a reasonable time. Examples of this include court action and permit revocation.
9. All enforcement correspondence is required to be sent to the property owner.
10. Follow-up inspections are required for all elevated enforcement.
11. Proper personal protective equipment (PPE) must be worn when entering a construction site for an inspection. PPE includes, but is not limited to, steel toed boots, safety vest and construction helmet.

III. Hazard Analysis

There are many potential hazards on a construction. Care should be taken by the inspectors to ensure personal safety while completing an inspection. Personal protection equipment should be worn at all times.

IV. Reporting, Recordkeeping and Quality Assurance

All review and inspection information is entered into the City's data management systems (TRAKit, Lucity, etc) for follow-up and reporting. While not always possible to enter this data immediately, the expectation is to complete the inspection information within 48 hrs. Monthly compliance reports are run to verify permit issuances and inspection information can be verified at that time.

Project records, including approved stormwater management plans, and registration statements will be kept for three years after state permit termination or project completion. Construction record drawings will be maintained in perpetuity or until a stormwater management facility is removed and stormwater management facility inspection records will be documented and retained for at least five years from the date of inspection.

VSMP Administrative Guidance Manual

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Appendices

Appendix A: Virginia Stormwater Management Act (§62.1-44.15:24 et seq)

Appendix B: Virginia Stormwater Management Program Regulations

(9VAC25-870) **Appendix C:** City of Lynchburg Stormwater Management Ordinance

Appendix D: VSMP Project Process Plan

Appendix E: General Permit for Discharges of Stormwater from Construction Activities

Appendix F: General Permit for Discharges of Stormwater from Construction Activities Registration Statement

Appendix G: Erosion Control and Stormwater Management Plan Application Form & Checklist

Appendix H: Completeness Review Form

Appendix I: Comprehensive Stormwater Pollution Prevention Plan (SWPPP) Template

Appendix J: Erosion Control Notes

Appendix K: Virginia Runoff Reduction Method Compliance Spreadsheets

Appendix L: Long-Term Stormwater Management Facility Maintenance Agreement

Appendix M: Erosion and Sediment Control and Stormwater Management Facility (BMP) Bond

Calculator

Appendix N: VSMP Permit & SWPPP Construction Inspection Report Form

Appendix O: Construction Record Drawing Checklist for Permanent Stormwater Management

Facilities (BMPs)

Appendix P: VSMP Project Completion

Form **Appendix Q:** Post-Construction In-

spection **Appendix R:** Example Notice of

Corrective Action

1.0 Introduction

This Administrative Guidance Manual (Manual) was prepared for the City of Lynchburg, the VSMP Authority, to comply with 9VAC25-870-148 – VSMP and erosion and sediment control administrative requirements to implement and enforce the regulations and includes guidance for reviewing stormwater pollution prevention plans (SWPPPs), obtaining and releasing of bonds, completing site inspections, reporting and recordkeeping, enforcement, and long-term maintenance and inspection programs.

This manual is also intended to provide guidance to the development community regarding requirements and expectations for erosion and sediment control and stormwater management plan submittals, in accordance with 9VAC25-840 and 9VAC25-870, respectively.

For reference, the [Virginia Stormwater Management Act](#) (§62.1-44.15:24 et seq), the [VSMP Regulations](#) (9VAC25-870), and City of Lynchburg's [Stormwater Management Ordinance](#) can be found in Appendix A, B, and C, respectively. Please note the Virginia law and regulations provided may not be the latest; refer to <http://townhall.virginia.gov/L/ViewBoard.cfm?BoardID=103> for the latest documents.

The information contained in this document is subject to change without notification and may be updated for compliance with any subsequent changes in laws and regulations.

2.0 Applicability

2.1 Single-Family Residential Dwelling Land-Disturbing Activity

2.1.1 Agreement-in-lieu-of: The construction of a single family detached residential structure, with or outside of a common plan of development or sale, equal to or less than 5 acres, may be eligible for an agreement in-lieu-of a stormwater management plan. This agreement shall not require a registration statement or the Department's portion of the state permit fee for coverage under the General Permit for Discharges of Stormwater from Construction Activities (General Permit).

2.1.2 Requirements: Even though a registration statement for coverage under the General

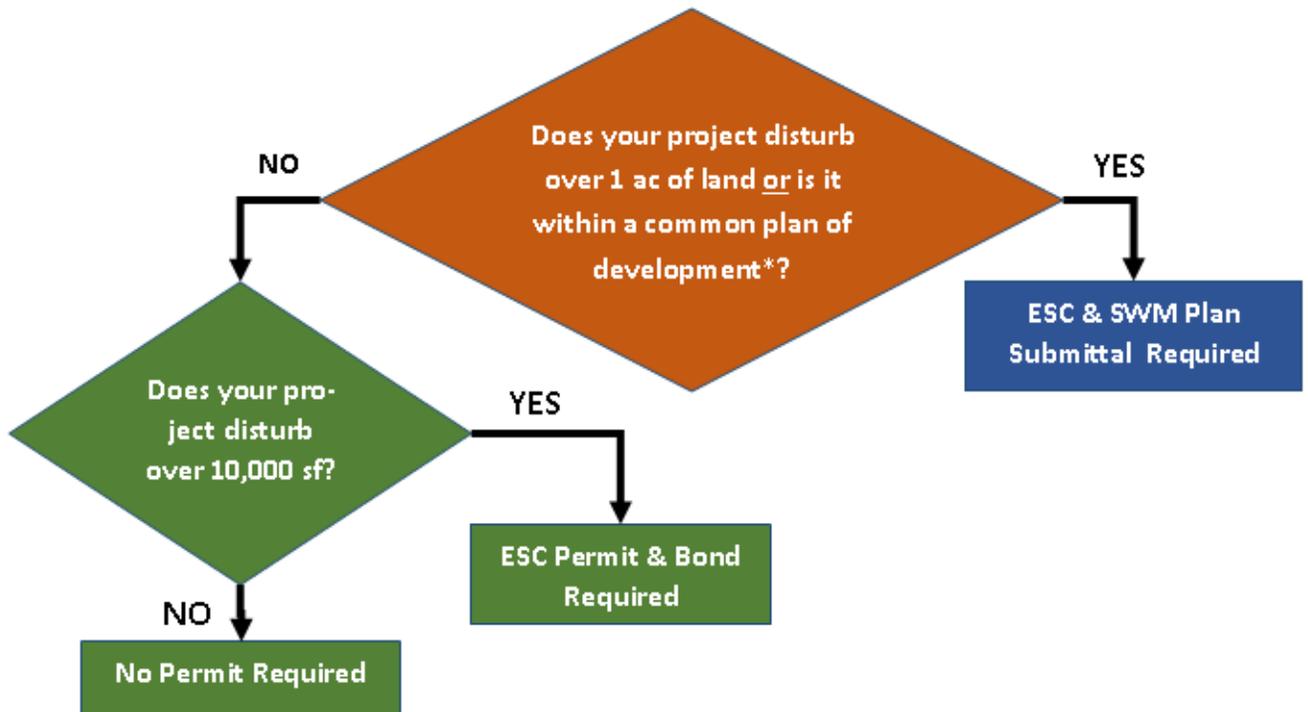
Permit is not required for such a structure, the land-disturbing activity must adhere to the requirements of the General Permit, including, but not limited to preparation of an Erosion and Sediment Control Plan, a Stormwater Management Plan (quality and quantity controls), a Pollution Prevention Plan, long-term maintenance agreement, and construction record drawing.

At the discretion of the locality, an agreement in-lieu-of may waive the requirements for the plans and/ or construction record drawing to be signed by a licensed professional. If the VSMP Authority waives the requirements for a licensed professional to complete the plans and/or construction record drawings, then subsequent references to the requirement of a licensed professional seal and signature in the Administrative Guidance Manual and its appendices shall also be waived.

2.2 All Other Land-Disturbing Activities

Pursuant to § 62.1-44.15:34 of the Code of Virginia, a stormwater management (SWM) plan and related submittals are required if a land-disturbing activity, which is not a single-family residential dwelling land-disturbing activity, is

1. Equal to or greater than one (1) acre, and/or
2. Part of a Common Plan of Development or Sale (*Refer to section 3.1 below for exceptions and additional information).



3.0 Supplemental Guidance

3.1 Common Plan Of Development or Sale

As per the Virginia Department of Environmental Quality Virginia Stormwater Management Program (VSMP) Frequently Asked Questions (FAQ), the following provides clarification regarding applicability of the common plan of development or sale clause in the VSMP regulations.

- 3.1.1 Definition of a 'Plan' in a Common Plan of Development: 9VAC25-870-10 (Definitions) of the VSMP regulations describes a common plan of development as "a contiguous area where separate and distinct construction activities may be taking place at different times on different schedules." Examples of these "common plans of development" meeting this definition include site plans and subdivision plans as defined in § 15.2-2201 (Definitions) of the Planning, Subdivision of Land and Zoning chapter of the Code of Virginia, or as defined by a locality in an ordinance adopted pursuant to this chapter.
- 3.1.2 Applicability: Individual lots within existing residential, commercial or industrial site plans and subdivision plans that were platted prior to July 1, 2004 may be considered separate land-disturbing activities and require a local VSMP permit and/or a registration statement under the General Permit, except as noted in 3.1.4. July 1, 2004 is the date that provisions for common plans of development were first incorporated into the Virginia Stormwater Management Act. Previous to that date,

the term was not used or defined. Lots within such platted plans or subdivisions that disturb less than one acre do not have to obtain coverage under 2014 Construction General Permit. Lots within such platted plans or subdivisions that disturb one acre or greater would have to obtain coverage under the 2014 Construction General Permit.

3.1.3 Options for Compliance: If a local VSMP permit is deemed required for the land disturbance within a 'common plan of development', the applicant has two options:

- 1) transfer the original VSMP from the developer to the applicant or
- 2) apply for new permit coverage.

3.1.4 Exceptions: The VSMP Authority may elect to waive permit coverage under the following situations.

- 1) Single-Family Homes: For land distributing activity less than 1 acre and within a common plan of development, where the stormwater management plan for the larger common plan of development or sale provides permanent control measures (ie. stormwater management facilities for quantity and quality controls) encompassing the single family residence in accordance with 9VAC25-880-50 , the state will authorize coverage automatically (no registration statement is needed) and the Applicant will not have to pay the Department (DEQ) portion of fee.
- 2) When the 'common plan of development' construction documents and SWPPP accounted for stormwater management (quantity and quality) for the entire development, including grading plans and footprints of impervious surfaces for individual lots.
- 3) If less than one acre remains of the original common plan, the individual project may be treated as part of a less than one acre development and no permit would be required.

3.2 TMDL Specific Requirements

The Applicant shall comply with the requirements of the TMDLs of the City of Lynchburg.

3.3 Exemptions

As per the Code of Virginia § 62.1-44.15:34 ([Link to Code](#)), “...the following activities are exempt, unless otherwise required by federal law.”

- 3.3.1 Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions of Title 45.1.
- 3.3.2 Clearing of lands specifically for agricultural purposes and the management, tilling, planting, or harvesting of agricultural, horticultural, or forest crops, livestock feedlot operations, or as additionally set forth by the Board in regulations, including engineering operations as follows: construction of terraces, terrace outlets, check dams, desilting basins, dikes, ponds, ditches, strip cropping, lister furrowing, contour cultivating, contour furrowing, land drainage, and land irrigation; however, this exception shall not apply to harvesting of forest crops unless the area on which harvesting occurs is reforested artificially or naturally in accordance with the provisions of Chapter 11 (§ 10.1-1100 et seq.) or is converted to bona fide agricultural or improved pasture use as described in subsection B of § 10.1-1163.
- 3.3.3 Single-family residences separately built and disturbing less than one acre including additions or modifications to existing single-family detached residential structures, except for those within a larger common plan of development or sale.
- 3.3.4 Land-disturbing activities that disturb less than one acre of land area except for 1) land-disturbing activity exceeding an area of 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the provisions of the Chesapeake Bay Preservation Act (§ [62.1-44.15:67](#) et seq.) or 2) activities that are part of a larger common plan of development or sale, where the land-disturbance activity within the larger common plan of development or sale (not the individual land disturbance) is one acre or greater of disturbance.
- 3.3.5 Discharges to a sanitary sewer or a combined sewer system.
- 3.3.6 Activities under a State or federal reclamation program to return an abandoned property to an agricultural or open land use.
- 3.3.7 Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original construction of the project. The paving of an existing road with a compacted or impervious surface and reestablishment of existing associated ditches and shoulders shall be deemed routine maintenance if performed in accordance with this subsection.

- 3.3.8 Conducting land-disturbing activities in response to a public emergency where the related work requires immediate authorization to avoid imminent endangerment to human health or the environment. In such situations, the VSMP Authority shall be advised of the disturbance within seven days of commencing the land-disturbing activity and compliance with the administrative requirements of subsection A is required within 30 days of commencing the land-disturbing activity.

3.4 Exceptions

- 3.4.1 The Authority may grant exceptions to the provisions of Part II B or Part II C of 9VAC25-870. An exception may be granted provided that (i) the exception is the minimum necessary to afford relief, (ii) reasonable and appropriate conditions shall be imposed as necessary upon any exception granted so that the intent of the Act and this chapter are preserved, (iii) granting the exception will not confer any special privileges that are denied in other similar circumstances, and (iv) exception requests are not based upon conditions or circumstances that are self-imposed or self-created.
- 3.4.2 Economic hardship alone is not sufficient reason to grant an exception from the requirements of this chapter.
- 3.4.3 Under no circumstance shall the VSMP Authority grant an exception to the requirement that the land-disturbing activity obtain required state permits, nor approve the use of a BMP not found on the Virginia Stormwater BMP Clearinghouse Website, except where allowed under Part II C (9VAC25-870-146 et seq.) of this chapter.
- 3.4.4 Exceptions to requirements for phosphorus reductions shall not be allowed unless offsite options available through 9VAC25-870-69 have been considered and found not available.
- 3.4.5 A record of all exceptions granted shall be maintained by the VSMP Authority in accordance with 9VAC25-870-126.

3.5 Licensed Professional

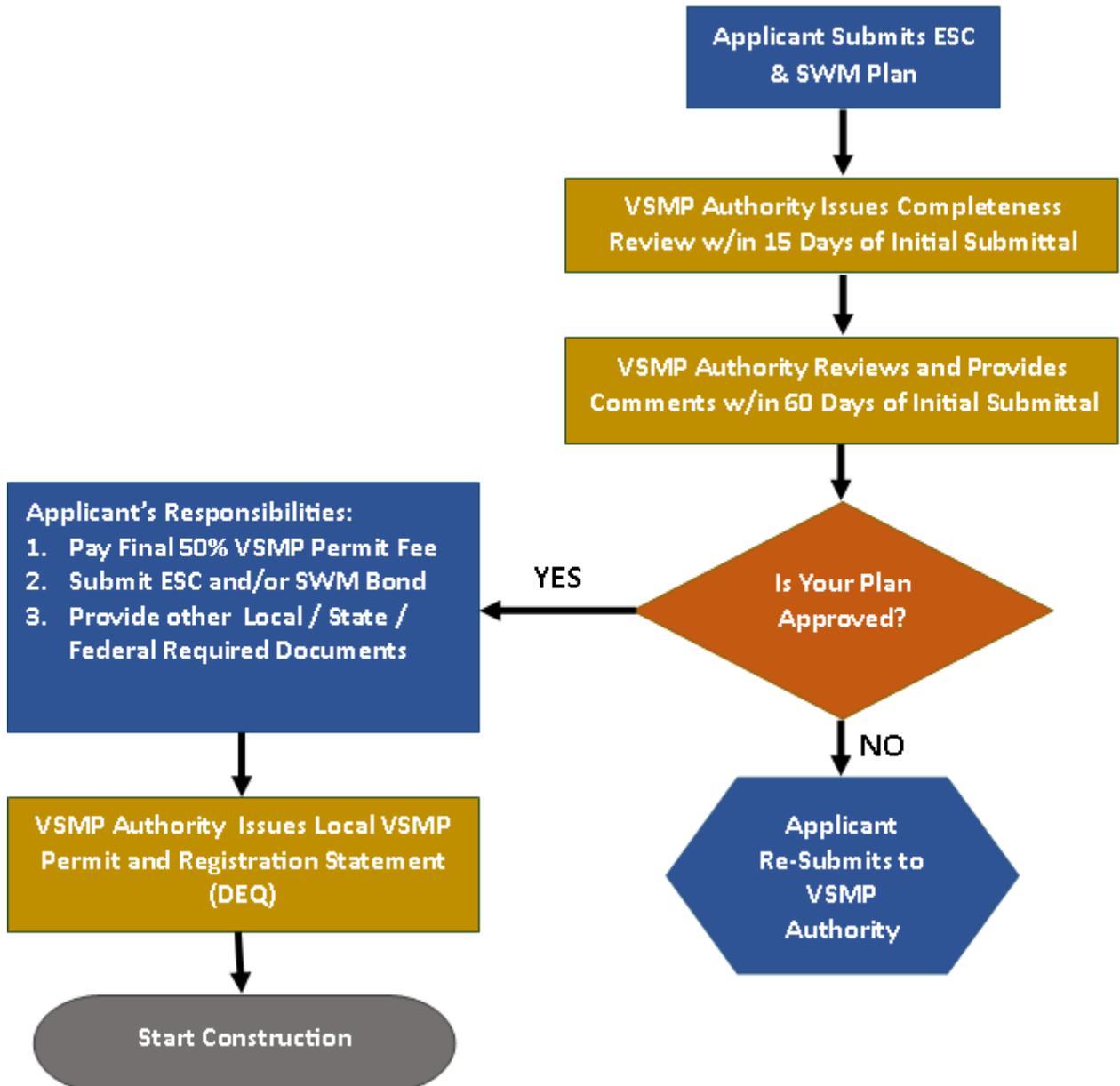
- 3.5.1 A Licensed Professional must certify the sections required by 9VAC25-870 and this document and shall be registered in the Commonwealth of Virginia pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia; this provision may be waived for an agreement-in-lieu-of plan. A Licensed Professional means one of the following: Professional engineer, land surveyor, architect, and landscape architect.

4.0 General SWM Plan Review Guidance

4.1 Process Description

The [VSMP Project Process Plan](#) provided in Appendix D is provided as a quick reference guide responsibilities and requirements of the Applicant (and Owner) and the Authority regarding plan approval, construction inspection, and post-construction inspections for a project, except as noted in section 2.1.

The following is a flow chart summarizing the VSMP Project Process Plan.



4.2 Application for Coverage under the General Permit for Discharges of Stormwater from Construction Activities

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). The Department portion of the General Permit fee is provided in the City of Lynchburg Stormwater Management Ordinance and shall be payable to the City of Lynchburg. A copy of the General Permit and Registration Statement can be found in Appendix E and F, respectively.

4.3 Local VSMP Permit Fees

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). A summary of the local VSMP permit stormwater fees is provided in the City of Lynchburg Stormwater Management Ordinance.

In addition to the local VSMP fees, the Authority may elect to impose an additional fee to complete reviews beyond the initial, first, and second (a total of three (3)) submittals of a project. In accordance with §62.1-44.15.36, this fee will be assessed as per the hourly rate of the reviewing agency to a maximum of \$1,000.

4.4 Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). The Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist can be found in Appendix G.

4.5 Completeness Review Form

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). The [Completeness Review Form](#) can be found in Appendix H.

5.0 Stormwater Pollution Prevention Plan

The Applicant must provide a Stormwater Pollution Prevention Plan (SWPPP) in accordance with 9VAC25-870-54, including but not limited to, an approved erosion and sediment control plan, an approved stormwater management plan, and a pollution prevention plan. For the convenience of the Applicant and the Authority reviewing the plan a [Comprehensive SWPPP](#) template is provided in Appendix I for the narrative portions of the SWPPP. The Applicant is encouraged to use this format to complete the required sections of the SWPPP.

NOTE: Sections 1 -Site Information, 2-Erosion and Sediment Control, 3-Pollution Prevention, and 4- Stormwater Management of the Comprehensive SWPPP are required for the plan review submittal, as noted below. **Sections 5 – Construction Inspections and Maintenance, 6-Training, and 7-Final Stabilization of the Comprehensive SWPPP are not required to be completed at time of plan review submittal. However, these sections must be completed by the Applicant and/or the Contractor prior to construction.** The Comprehensive SWPPP must be available at the construction site at all times during construction.

5.1 Erosion and Sediment Control Plan

The Applicant must provide the Authority a complete report, including narrative and calculations, as required, and plans meeting the requirements and provisions of the City of Lynchburg Stormwater Management Ordinance and Section 1 of the [Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist](#) (Appendix G).

[Erosion control notes](#) are required to be included on the plans. These notes are provided in Appendix J.

5.1.1 Review Guidance

5.1.1.1 Report: If the Applicant uses the ‘Comprehensive SWPPP’ template, the Authority should confirm sections 1 and 2 are completed as noted below. If the Applicant submits the report in a different format, the Authority shall confirm the information in Section 1 of the Erosion and Sediment Control and Stormwater Management Plan Checklist and the items listed below are provided.

- a. Refer to text within [] in Comprehensive SWPPP template for additional information and guidance.
- b. Comprehensive SWPPP Template

SECTION 1: SITE INFORMATION - All sub-sections of Section 1 of the SWPPP template are to be completed by Applicant with the initial plan submittal, except Section 1.2 items 1-Operator(s), 2-Site Supervisor(s), 3-

Stormwater Manager and SWPPP Contact(s), 5-Subcontractor(s), 6- Responsible Land Disturber, and 7-Emergency 24 Hour Contact.

****However, Section 1.2 items 1, 2, 3, 5, 6, and 7 must be provided prior to construction.****

SECTION 2: EROSION AND SEDIMENT CONTROL - All sections are to be completed by Applicant with the initial plan submittal.

- a. For Section 2.8 Structural Practices and Section 2.9 Vegetative Practices, the Applicant may either note 'not applicable' or delete those practices not required for the project.
- b. Confirm calculations are provided in the Appendix or elsewhere in thereport for the following practices.
 1. Diversion (3.12)
 2. Temporary sediment trap(s) (3.13)
 3. Temporary sediment basin(s) (3.14)
 4. Paved Flume (3.16)
 5. Stormwater conveyance channel(s) (3.17)
 6. Outlet Protection (3.18)
 7. Level Spreader (3.21)
 8. Temporary Vehicular Stream Crossing (3.24)
 9. Subsurface Drain (3.28)
- c. Spot check the calculations for accuracy.
- d. Confirm Section 2.11 Phased Construction Activities is completed.
- e. Confirm the Section 2 Required Certification is signed and sealed by a Licensed Professional registered in the Commonwealth of Virginia pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.

5.1.1.2 Plans: The Authority shall confirm the appropriate erosion and sediment control practices are proposed and, if so, designed in accordance with the Virginia Erosion and Sediment Control Handbook, Latest Edition (Handbook); refer to the standards and specifications found in the Handbook.

- a. Confirm details for each proposed practice is provided.
- b. Confirm general erosion and sediment control notes are provided.
- c. Confirm compliance with Section 1 of the Stormwater Management Plan Checklist.
- d. Confirm plans are signed and sealed by a Licensed Professional.

5.1.1.3 Resources

- a. Virginia Erosion and Sediment Control Handbook:
<http://www.deq.state.va.us/Programs/Water/StormwaterManagement/Publications/ESCHandbook.aspx>

5.2 Stormwater Management Plan

The Applicant must provide the Authority a complete report, including narrative and calculations, as required, and plans meeting the requirements and provisions of the City of Lynchburg Stormwater Management Ordinance and the [Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist](#).

5.2.1 Review Guidance

5.2.1.1 Report: If the Applicant uses the 'Comprehensive SWPPP' template, the Authority should confirm Sections 1 -Site Information, 2-Erosion and Sediment Control, 3-Pollution Prevention, and 4-Stormwater Management are completed. If the Applicant submits the report in a different format, the Authority shall confirm the information in Section 4 of the Comprehensive SWPPP, Section 2 of the Erosion and Sediment Control and Stormwater Management Plan Checklist, and the items listed below are provided.

- a. Refer to text within [] in Comprehensive SWPPP template for additional information and guidance.
- b. Confirm the required calculations are provided in the Appendix or elsewhere in the report.
- c. Spot check the calculations for accuracy.
- d. Confirm the Report is certified and is signed and sealed by a Licensed Professional registered in the Commonwealth of Virginia pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.

5.2.1.2 Plans: The Authority shall confirm the appropriate stormwater practices are proposed and, if so, designed in accordance with the Virginia Stormwater BMP Clearinghouse. <http://vwrrc.vt.edu/swc/>

- a. Confirm details for each proposed practice are provided.
- b. Confirm required notes are provided.
- c. Confirm compliance with Section 2 of the Erosion and Sediment Control and Stormwater Management Plan Checklist.

- d. Confirm plans are signed and sealed by a Licensed Professional registered in the Commonwealth of Virginia pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.
- e. **Only the BMPs included in the Virginia Stormwater BMP Clearinghouse are permitted; localities shall not approve the use of BMPs not included in the Clearinghouse.**

5.2.2 Technical Requirements

NOTE: If the project is deemed ‘Grandfathered’ as per the Regulations, Part II C technical criteria found in 9VAC25-870 shall apply.

5.2.2.1 General Stormwater Management and BMP Design Guidance

- a. [DRAFT Virginia Stormwater Management Handbook \(2nd Edition, 2013\)](#)

5.2.2.2 Runoff Reduction Method

- a. [Runoff Reduction Method Compliance Spreadsheets](#): Refer to Appendix K.
- b. [Examples and Guidance](#): Chapter 12 of the DRAFT Virginia Stormwater Management Handbook (2nd Edition, 2013)

5.2.2.3 Energy Balance Equation

- a. [Chapter 11.6 – Water Quantity Control](#) of the DRAFT Virginia Stormwater Management Handbook (2nd Edition, 2013)

5.2.2.4 Karst Guidance

- a. [Stormwater Design Guidelines for Karst Terrain in Virginia](#), Appendix 6-B, of the DRAFT Virginia Stormwater Management Handbook (2nd Edition, 2013)

5.2.3 Allowable Calculation Methodologies

5.2.3.1 Hydrologic

- a. For sites with watersheds exceeding 200 acres, the Soil Conservation Service (SCS) based methodology (TR-55 or TR-20) should be used for the design of stormwater management/BMP facilities.
- b. If a site is less than 200 acres, SCS based methodology is preferred; however, modified rational method or rational method may be used at the discretion of the VSMP Authority.
- c. The modified runoff curve number as provided by the runoff reduction spreadsheet for each drainage area should be used for water quantity calculations.

5.2.3.2 Hydraulic

- a. Appendix 11-D – Stormwater Computer Models of the DRAFT Virginia Stormwater Management Handbook (2nd Edition, 2013)

5.2.4 Other Resources

1. BMP Clearinghouse: <http://vwrrc.vt.edu/SWC/>
2. Hydrologic Unit Code: http://www.deq.virginia.gov/mapper_ext/default.aspx?service=public/wi_mby
3. Soils Maps: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
4. Rainfall Values: http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=va

5.3 Pollution Prevention Plan

A Pollution Prevention Plan must be completed prior to construction by either the Applicant or Contractor and must be included in the SWPPP located at the project site during construction. Refer to the [Comprehensive SWPPP](#) template also found in Appendix I.

The Authority is not required to review the Pollution Prevention Plan for plan approval.

5.3.1 Review Guidance

5.3.1.1 Refer to text within [] in Comprehensive SWPPP template for additional information and guidance.

5.3.1.2 Pollution Prevention Plan, required by 9VAC25-870-56, shall be developed, implemented, and updated as necessary and must detail the design, installation, implementation, and maintenance of effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
2. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater; and
3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.
4. The pollution prevention plan shall include effective best management practices to prohibit the following discharges:
5. Wastewater from washout of concrete, unless managed by an appropriate control;
6. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
7. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
8. Soaps or solvents used in vehicle and equipment washing.
9. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.

6.0 Other VSMP Permit Requirements

6.1 Long-Term Stormwater Facility Maintenance Agreement

A [Long-Term Stormwater Facility Maintenance Agreement](#) (Appendix L) must be submitted by the Applicant and approved by the Authority prior to review and approval prior to the approval of the stormwater management plan. Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#).

6.2 Erosion and Sediment Control and Stormwater Management Bonds / Letters of Credit

An Erosion and Sediment Control and Stormwater Management Bonds / Letters of Credit must be submitted by the Applicant and approved by the Authority prior to issuance of the VSMP permit for construction. The Applicant shall use the [Erosion and Sediment Control and Stormwater Management Bond calculator](#) also provided in Appendix M to determine the amount required for the bond or letter of credit. Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#).

Notes:

1. Bonds are not required for single family homeowners if the total land disturbance is less than five (5) acres.
2. The bond shall be provided for both erosion and sediment control and stormwater management; separate bonds will not be accepted.

7.0 Construction Inspections

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). A [VSMP Permit & SWPPP Construction Inspection Report](#) form is provided in Appendix N.

7.1 Resources

7.1.1 Virginia Erosion and Sediment Control Handbook:

<http://www.deq.state.va.us/Programs/Water/StormwaterManagement/Publications/ESCHandbook.aspx>

7.1.2 Stormwater management facilities construction guidance - BMP Clearinghouse:

<http://vwrrc.vt.edu/SWC/>

8.0 Construction Closeout Documentation

8.1 Stormwater Management Facility Construction Record Report Requirements

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#) and the [Construction Record Drawing Checklist for Permanent Stormwater Management Facilities](#) (Appendix O).

8.2 Project Completion Form

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#) and the [VSMP Project Completion Form](#) (Appendix P).

8.3 Release of Erosion and Sediment Control and Stormwater Management Bonds / Letters of Credit

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#).

9.0 Post-Construction Inspections

As per the recorded Long-Term Stormwater Management Facility Maintenance Agreement and the City of Lynchburg Stormwater Management Ordinance, the City of Lynchburg shall enforce compliance of the post-construction inspections via use of a tracking program (TBD). The [Post-Construction Inspection Checklist](#) (Appendix Q) for the relevant BMP(s) shall be used to document post-construction inspections.

9.1 Inspection Frequency

Table 9.1 – Stormwater Management BMP Inspection Frequencies

BMP Classification	BMP Type	Minimum Inspection	No
1	Rooftop Disconnection	Every 5 Years	Owner shall inspect and provide documentation as per the requirements found on the Virginia Stormwater BMP Clearinghouse Website and the Administrative Guidance Manual for BMPs, except for BMP Classification 1 facilities, where the City of Lynchburg will be responsible for inspection. The City of Lynchburg will inspect all BMPs every 5 years.
1	Sheetflow to Vegetated Filter or Conserved Open	Every 5 Years	
1	Grass Channel	Every 5 Years	
1	Soil Amend-	Every 5 Years	
2	Permeable Pavement	Annually	
2	Infiltration	Annually	
2	Bioretention	Annually	
2	Dry Swale	Annually	
2	Wet Swale	Annually	
2	Filtering Prac-	Annually	
2	Constructed Wetland	Annually	
2	Wet Pond	Annually	
2	Extended Detention	Annually	
3	Vegetated Roof	Twice per year (Spring/Fall)	
3	Rainwater Harvesting	Twice per year (Spring/Fall)	
4	Manufactured/ Other BMP	Yearly or per Manufacturer recommendations, whichever is more frequent.	Owner shall inspect and provide documentation according to manufacturer's guidelines and the Administrative Guidance Manual.

9.2 Review Guidance

The Virginia Stormwater BMP clearinghouse (<http://vwrrc.vt.edu/swc/>) contains updated specifications including maintenance and inspection guidelines for accepted practices within the Commonwealth of Virginia.

10.0 Reporting and Recordkeeping Guidance

10.1 Annual Reporting

On a fiscal year basis (July 1 to June 30), the City of Lynchburg shall report to the Department by October 1 of each year, in a format provided by the Department, the following information.

1. Information on each permanent stormwater management facility completed during the fiscal year to include type of stormwater management facility, geographic coordinates, acres treated, and the surface waters or karst features into which the stormwater management facility will discharge;
2. Number and type of enforcement actions during the fiscal year; and
3. Number of exceptions granted during the fiscal year.

10.2 Recordkeeping

The City of Lynchburg shall keep records in accordance with the following:

1. Project records, including approved stormwater management plans, shall be kept for three (3) years after state permit termination or project completion.
2. Stormwater management facility inspection records shall be documented and retained for at least five (5) years from the date of inspection.
3. Construction record drawings shall be maintained in perpetuity or until a stormwater management facility is removed.
4. All registration statements submitted in accordance with 9VAC25-870-59 shall be documented and retained for at least three (3) years from the date of project completion or state permit termination.

11.0 Enforcement Guidance

Portions of the following are an adaptation of the Stormwater Management Enforcement Manual prepared by the Virginia Soil and Water Conservation Board and the Virginia Department of Conservation and Recreation (DCR) dated February 2006.

<http://www.deq.state.va.us/Portals/0/DEQ/Water/Guidance/ChesBayPreservAct/StormwaterEnforcementManual.pdf>

11.1 Introduction

The City of Lynchburg recognizes that its goal of effective enforcement may be accomplished in most cases through informal means by offering compliance assistance to the regulated community and ensuring that any noncompliance is corrected quickly. Nonetheless, the City of Lynchburg will use the full range of its enforcement authority as needed to

deter violations and ensure that its mission to conserve and protect the environment and the health and well-being of the Commonwealth's citizens is fulfilled.

11.2 Authority

The City of Lynchburg is authorized by the Code of Virginia § 62.1-44.15:27 to establish and enforce the Virginia Stormwater Management Program (VSMP).

11.3 Violations

The City of Lynchburg may consider violations to include, but are not limited to:

1. No state permit registration;
2. No SWPPP;
3. Incomplete SWPPP;
4. SWPPP not available for review;
5. No approved erosion and sediment control plan;
6. Failure to install stormwater BMPs or erosion and sediment controls;
7. Stormwater BMPs or erosion and sediment controls improperly installed or maintained;
8. Operational deficiencies;
9. Failure to conduct required inspections; and/or
10. Incomplete, improper, or missed inspections.

11.4 Process

If a violation(s) is noted by the inspector, the City of Lynchburg may follow the subsequent general steps to enforce compliance of the regulations by issuing:

1. Verbal warning and inspection report;
2. Notice of Corrective Action;
3. Stop work order;
4. Emergency special orders;
5. An injunction; and
6. Civil penalties.

11.5 Verbal Warning/Inspection Report

Under circumstances where an inspection reveals routine noncompliance that can be corrected within a reasonably short time, the City of Lynchburg's Administrator may choose to issue a verbal warning accompanied by an inspection report that describes the specific problems and includes a schedule for correcting the noncompliance. A copy of the [VSMP Permit & SWPPP Construction Inspection Report](#) is found in Appendix N.

The purpose of the verbal warning is to give the regulated party responsible for the alleged noncompliance an opportunity to comply voluntarily and thus avoid sanctions that might be imposed by an escalated enforcement response.

11.6 Notice of Corrective Action

In accordance with § 62.1-44.15:37 of the Code of Virginia, when the City of Lynchburg Administrator's initial attempts to secure a voluntary return to compliance are unsuccessful, the Administrator or Department may issue a Notice of Corrective Action (NOCA). Examples of situations where issuance of a NOCA is appropriate include the following:

1. When the regulated party has failed to correct the noncompliance at the site pursuant to a prior Verbal Warning;
2. Where inspections of a construction site indicate a continuing pattern of various routine noncompliance after the City of Lynchburg has issued one or more Verbal Warnings for specific noncompliance; and/or
3. Noncompliance at a construction site is causing an adverse impact to human health or the environment such as a discharge of sediment to a stream or wetland. This situation does not necessarily require prior issuance of a Verbal Warning.

The purpose of a NOCA is to inform the regulated party responsible for the alleged noncompliance of the facts surrounding the allegations, the applicable law, and the potential consequences for failing to address the situation, should the allegations prove true. The NOCA also gives the regulated party an opportunity to refute the allegations or to address the discrepancies described in the NOCA within a specified time.

It is important that field staff gathers sufficient evidence throughout the informal enforcement process to support escalating the enforcement response, should the need arise. For this reason, field staff should carefully document all of the steps of the informal process in inspection reports, photographs, telephones logs, and field notes.

NOCA Process

1. Except for special circumstances (e.g., ongoing adverse impacts to human health or the environment), past noncompliance should be documented in one or more Verbal Warning and VSMP Permit & SWPPP Construction Inspection Report issued pursuant to the guidelines in this Manual.
2. Explain to the responsible party in easily understood terms (i) any noncompliance identified during the site inspection or investigation and (ii) describe specific measures needed to achieve compliance. Also explain any (i) documented history of noncompliance at the site, (ii) your decision to issue NOCA, (iii) the reasons for that decision, and (iv) the potential consequences, should the responsible party fail to complete the measures specified in the NOCA within the allotted time (i.e., may result in escalation to formal enforcement, such as a Stop Work Order and potentially a civil charge).
3. Complete the VSMP Permit & SWPPP Construction Inspection Report.
4. Draft the NOCA; refer to Appendix R - [Example Notice of Corrective Action](#) letter.

5. Deliver the approved NOCA by hand or send it by certified mail.
6. Conduct a follow-up inspection to ensure compliance.
7. Under circumstances where the responsible party has not corrected the problem or where significant new noncompliance is identified and if the responsible party has good reason for needing a short extension to complete the agreed upon measures or if the new noncompliance is minor and can be corrected immediately, issue a second NOCA.
8. If professional judgment dictates that issuing a second NOCA is not appropriate, initiate a Stop Work Order by discussing the facts of case with the Administrator.

11.7 Stop Work Order

In accordance with § 62.1-44.15:37 of the Code of Virginia, if a Permittee fails to comply with the verbal warnings, inspection reports recommended corrective actions, and/or NOCA, the City of Lynchburg or Department may issue an order requiring the owner, Permittee, person responsible for carrying out an approved plan, or person conducting the land-disturbing activities without an approved plan or required permit to cease all land-disturbing activities until the violation of the permit has ceased, or an approved plan and required permits are obtained, and specified corrective measures have been completed.

The stop work order shall become effective upon service on the person by mailing, with confirmation of delivery, sent to his address specified in the land records of the locality, or by personal delivery by an agent of the VSMP Authority or Department.

11.8 Emergency Special Orders

In accordance with § 62.1-44.15:25 and § 62.1-44.15:37 of the Code of Virginia, if the City of Lynchburg or the Department finds that any such violation is grossly affecting or presents an imminent and substantial danger to (i) the public health, safety, or welfare or the health of animals, fish, or aquatic life; (ii) a public water supply; or (iii) recreational, commercial, industrial, agricultural, or other reasonable uses, it may issue, without advance notice or hearing, an emergency order directing such person to cease immediately all land-disturbing activities on the site and shall provide an opportunity for a hearing, after reasonable notice as to the time and place thereof, to such person, to affirm, modify, amend, or cancel such emergency order.

11.9 Injunction

In accordance with § 62.1-44.15:37 and § 62.1-44.15:42 of the Code of Virginia, if a person who has been issued an order is not complying with the terms thereof, the City of Lynchburg, Department, and/or the Board may institute a proceeding in the Lynchburg General District Court.

11.10 Civil Penalties

In accordance with § 62.1-44.15:42 and § 62.1-44.15:48 of the Code of Virginia, any person who violates any provision of the Code of Virginia or of any regulation, ordinance, or standard and specification adopted or approved hereunder or who fails, neglects, or refuses to comply with any order of the City of Lynchburg, the Department, the Board, or a court, issued as herein provided, shall be subject to a civil penalty not to exceed \$32,500 for each violation within the discretion of the court. Each day of violation of each requirement shall constitute a separate offense.

11.11 Payment of Civil Penalties

Pursuant to § 62.1-44.15:48 A of the Code of Virginia, civil penalties recovered by a locality's VSMP Authority shall be paid into the City of Lynchburg's Treasury in which the violation occurred and are to be used for the purpose of minimizing, preventing, managing, or mitigating pollution of the waters of the locality and abating environmental pollution therein in such manner as the court may, by order, direct.

Appendix 5.2 – Post-Construction Stormwater Management

Created September 2013

Revised November 2013

City of Lynchburg Stormwater Division, Department of Water Resources



Storm Water Management Facility Inspection Procedures Manual

Introduction:

A SWMF (Storm Water Management Facility) inspection is a federally mandated and municipally enforced program created to reduce and eliminate soil erosion and contaminants from non-permeable land areas that are derived through normal precipitation. Each functional SWMF basin is designed to trap sediment and expedite natural decomposition of unwanted nutrients, organic and inorganic debris alleviating TMDL (Total Maximum Daily Load) levels. The goal of this process is to diminish the amount of natural and unnatural contamination that is entering city storm water systems and local watersheds which empty to the James River.

Inspection Safety:

- 1) Always wear safety vest, steel toes and hard hat when conducting field inspections. Some SWMF's sites may be next to roads creating dangers from motor vehicles.
- 2) Proper equipment such as manhole hooks is necessary for removing manhole covers and vault inlets due to extreme weight.

- 3) Always remain observant when conducting inspections. If emergencies arise call the water resources safety manager or 911.
- 4) Always carry radio or cellular telephone to stay in contact in case of unforeseen emergency.
- 5) Inform owner/tenant when inspecting site to avoid conflict and to make public aware of inspection teams presence.
- 6) Confined Spaces Certification is required for department manager and inspection team needs to be trained in Confined Spaces safety. Any questions about Confined Space issues shall be brought to the safety manager's attention.
- 7) Any unknown chemical presence or other unknown contaminant is to be reported to safety manager for assessment and possible testing. Never touch visible contaminant with bare skin or breathe unpleasant vapors due to hazardous health reasons. If unavoidable call the safety manager or **911** for assistance.
- 8) Basic First Aid and CPR training or certification shall be held for all inspection team members and a list of emergency phone numbers in case of unforeseen emergencies.

Inspection Training and Certifications:

- 1) Team leaders require training and understanding of basic surveying equipment and technique for the purpose of checking elevation changes, sediment accumulations, and structural degradation.
- 2) Certification in SWMF field inspection is required through sanctioned organizations i.e. **Department of Environmental Quality**.
- 3) Basic Confined Spaces training is required for all team members conducting field inspections due to manufactured SWMF's that are vaulted within the ground and are covered.
- 4) Basic First Aid knowledge is required for all inspection team members due to the nature of environment and discreet locations.
- 5) Basic CPR knowledge is required for all inspection team members due to the nature of environment and discreet locations.
- 6) Understanding and training for basic computer skills and photography are mandatory for inspection process and correct documentation.
- 7) Inspectors must obtain and upgrade knowledge of city maintained computer programs **Lucity, Trak-It, Arc View** etc. for proper inspection information and documentation to maintain MS4 and EPA compliance.

Inspection Schedule:

- 1) All public and private SWMF's within the City of Lynchburg are scheduled for routine annual inspection for MS4 compliance. Privately maintained SWMF's must be inspected by the property owner or designee per their Stormwater Management Agreement. If the inspection report for privately maintained SWMF's is not received, the City reserves to right to complete the inspection.
- 2) All inspections are reviewed by the Department of Water Resources for enforcement recommendations. Re-inspections may be done after allotted time frames initiated through the Stormwater Division. (30; 90; 180) days after original inspection date.

Inspection Processes:

A) Pre Inspection Steps:

- 1) Secure information on location and SWMF type utilizing online municipal database.

- 2) Correlate SWMF number/numbers with site plan located on city **Trak-It** program or other data storage site.
- 3) Always view plan before entering property to have knowledge of what to locate and inspect.
- 4) Secure laptop computer/tablet and digital camera/phone for proper documentation and information requirements.
- 5) Have several inspection forms before leaving, due to possible mistakes, each SWMF Inspection Form has the flexibility to accept data for each type of basin type.(See attached form for example)
- 6) All necessary PPE and safety equipment are to be accounted and secured before leaving of- fice for inspections.

B) Inspection Steps:

- 1) If possible, make verbal contact with owner/tenant when team first arrives on site.
- 2) Always add basic information to inspection sheet before actual inspection occurs; address, site I.D. #, names of inspectors, type of SWMF, etc. This will make data entry quicker and easier when completing the documentation of inspection.
- 3) Correlate photographs with each site. This can be accomplished by photo number and date.
- 4) Visually locate all pertinent parts of SWMF, pretreatment area, inlets, outlets, forebay, and basin (etc.). **Understand how the site functions.**
- 5) Make notes and photo infractions to each part of SWMF. Always take as many **notes and pictures** as you think sufficient, there is **no such thing as too much information.**
- 6) If site does not contain all SWMF parts named on inspection sheet; add N/A to sheet under each part that does not apply to the particular SWMF.
- 7) All information gained during site inspection is utilized for inspection form completion. Proper inspection form completion and pertinent photographs are then entered into the appropriate tracking system.
- 8) All follow-up letters sent to owner/tenant will be orchestrated through the Department of Water Resources.

Types of SWMF's Inspected: Not all Basins are precise or exact and Site Plans should always be surveyed before inspections.

- 1) **Dry Detention Basin:** Typical Dry Detention basins possess Pretreatment Area, Inlet(s), Forebay(s), a Dry Main Treatment area, Embankment, Outlet Orifice(s) to Receiving Waters and an Emergency Spillway.
- 2) **Wet Detention (Retention) Basin:** Typical Retention basins include Pretreatment Area, Inlet(s), Forebay(s), a Wet Main Treatment area, Outlets to Receiving Waters and Emergency Spillways.
- 3) **Bio Retention Basin / Filterra Systems :** Typical Bio-Retention Basins possess Pretreatment Area, Perimeter of cell, Inlet device(s), Landscape (Vegetation, Mulch, and Engineered Soil Media), Underdrain and Outlets to Receiving Waters. Bio-Retentions are designed for lighter precipitation, if excessive rainfall occurs it will bypass the Bio-Retention Cell.
- 4) **Permeable Pavement:** Typical Permeable Pavement areas include the Perimeter of Pavement Area, Surface of Permeable Pavement, and Outlets to Receiving Waters.

- 5) **General Infiltration Practices:** General Infiltration Systems are the most diverse. These systems are constructed for retrofitting sites. They can include, but not limited to, Pretreatment Area, Underground Vaults, Inlet Grates and C.D.I's, Grass Swales, Rip Rap Barriers, Landscape (Vegetation, Mulch, and Soil Media), Outlets, to Receiving Waters and Emergency Spillways.
- 6) **Stormwater Wetland Areas:** Typical Wetland Areas include a Pretreatment Area, Perimeter of Basin, Inlet Device, Forebay(s), Deep Pool and Shallow Land Areas, Embankments, a Micro Pool, Outlet Orifice, Emergency Spillway to Receiving Waters.
- 7) **Grassy Swale / Filter Strip:** Grassy Swales and Filter Strips utilize the vegetative covered ditch to hold sediment and nutrients while conveying storm water to designated inlets and outlets. Typical Swales and Strips possess a Pretreatment Area, Vegetative Swale or Embankment, Flow Diversion or Inlets, Outlets and Emergency Spillway to Receiving Waters.
- 8) **Manufactured SWMF's:** There are several types of Manufactured SWMF's that require regular maintenance. Each site plan should entail proper information describing the manufacturer maintenance schedules. Typical layouts for manufactured SWMF's can vary, but should include a Pretreatment Area(s) , Flow Diversion (Downspouts, Gutters, Curbing Breaks etc.), Inlets(Grates, CDI's Graveled Orifices etc.), underground Treatment Vaults or Cisterns, Sediment Detection Pipe or Riser (for visual inspection), Piped Outlets to Receiving Waters. **Vortechs** and **Stormceptor** are two commonly used systems. Always use caution when inspecting underground vaulted systems due to "**Confined Spaces**" regulations.
- 9) **Level Spreaders and Riparian Buffers:** These two environmental friendly SWMF's are commonly part of larger storm water maintenance sites where several types of basins are utilized. Both systems help disperse rainfall by spreading storm water out over larger areas, without creating severe erosion. *Healthy vegetation is the most important aspect of Riparian Buffers. Tree and plant root systems hold soil in place during rainfall; this is the key to correct functionality.
*Correctly engineering and constructing Level Spreaders is the keys to their functionality. Water is slowed then diverted evenly over a vegetative area alleviating erosion and allowing nutrients to be utilized by the plant life. Both systems spread storm water and help to utilize unwanted nutrients.

Enforcement

In the event that a privately maintained SWMF is found non-complaint:

- 1) Privately maintained SWMF's receive a total of three notifications to complete annual inspection report for compliance. All reports are due April 1st of the following year.
- 2) Inspection reports not received within that time frame will receive a final non-compliance notice sent from the Department of Water Resources and allotted 60 days to complete inspection.
- 3) Inspection reports not received within those 60 days will be deemed non-compliant and the City reserves the right to perform the inspection, maintenance, and repair of the SWMF. The City reserves the right to recover the costs from the responsible party.

In the event that the responsible party fails to comply with the approved plan:

- 1) Notice shall be served by registered or certified mail to the responsible party or by delivery at the land development site to the appropriate agent or employee.
- 2) Notice shall specify the measures needed to comply and the time within which such measures shall be completed. Failure to comply within the specified time may result in the permit or ap-

proval being revoked or the responsible party deemed in violation of the City Stormwater Management Ordinance.

- 3) Any person found in violation of the City Stormwater Management Ordinance shall be guilty of a misdemeanor and shall be subject to fine or imprisonment.
- 4) Civil action against may be brought against any person for violation of the City Stormwater Management Ordinance.

SWMF Inspection Contacts:

Water Quality Manager: erin.hawkins@lynchburgva.gov

Erin Hawkins

Phone: 434-455-3869

Plans Reviewer: anne.nygaard@lynchburgva.gov

Anne Nygaard

Phone: 434-455-3893

Water Quality Compliance Specialist: Vacant

Safety Manager: jeffrey.martin@lynchburgva.gov

Jeff Martin

Phone: 434-455-4258

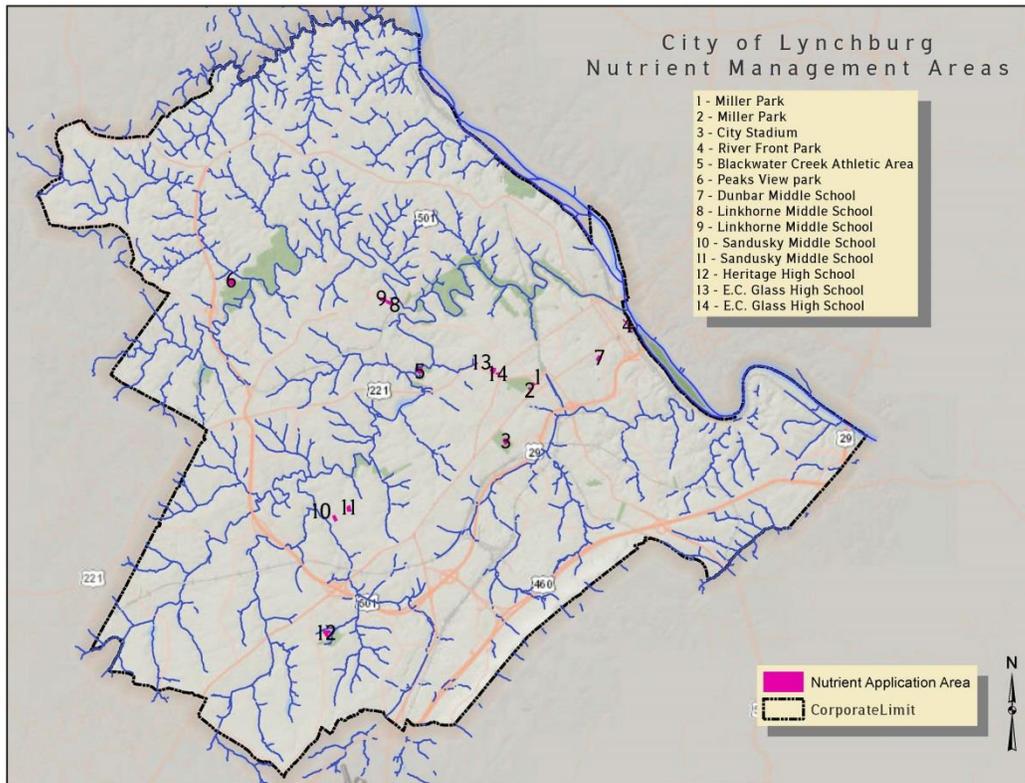
Field Inspection Sheets:

SWMF Inspection Form, Bioretention Checklist, Dry Swales Checklist, Filtering Practices Checklist, Infiltration Practices Checklist, Landscaping and Vegetated Filter Strip Practices, Permeable Pavers Checklist, Wet Pond Checklist

Appendix 6.2 – Municipal Facility Evaluation

	Facility	Dept	Plan Implemented
1	Public Works Administration Storage Yard	PW	To be completed by PY4
2	Fleet Maintenance Facility	Fleet	To be completed by PY4
3	Chambers Street Storage Yard	PW	To be completed by PY4
4	Graves Mill Storage Yard	PW	To be completed by PY4
5	Stadium Storage Yard	PW	To be completed by PY4
6	Rutherford Facility/Storage	PW/P&R	To be completed by PY4
7	Peaks View Park Storage & Maintenance Facility	PW/P&R	To be completed by PY4
8	Refuse Maintenance Facility	PW	To be completed by PY4
9	Fire Station #7 Maintenance Facility	Fire	To be completed by PY4
10	Lynchburg City Schools Maintenance Facility	Schools	To be completed by PY4

Appendix 6.3 – Nutrient Management



Site No.	Location	Total Ac	Ac. Plan Implemented	Date Implemented
1	Miller Park	1		
2	Miller Park	1		
3	City Stadium	3		
4	River Front Park	2		
5	Blackwater Creek Athletic Area	3		
6	Peaks View park	4		
7	Dunbar Middle School	2		
8	Linkhorne Middle School	2		
9	Linkhorne Middle School	2		
10	Sandusky Middle School	2		
11	Sandusky Middle School	2		
12	Heritage High School	3		
13	E.C. Glass High School	3		
14	E.C. Glass High School	1		

Appendix 6.4 – Training

1. Recognition and reporting of Illicit Discharges

All appropriate field employees are to participate in biennial training in the recognition and reporting of illicit discharges. The City will utilize a power point presentation that will provide a description of what are illicit discharges, how to identify them and how to report an illicit discharge.

Schedule and Documentation:

The training will be held in PY 2 and PY 4. A roster will be kept of employees who have received this training for a period of three years.

Identified Department/Divisions to receive training:

Public Works - All Divisions

Water Resources – Utility Line Techs

Community Development – Building Inspections, Planning, Zoning and Natural Resources

Parks & Recreation – Parks Services, Recreation Services

Fire Department – Hazmat Team

Schools – Facility and Transportation

2. Pollution Prevention/Good Housekeeping

All appropriate employees are to participate in biennial training on pollution prevention and good housekeeping practices for municipal facilities. Targeted employees will be those that work on road, street and parking lot maintenance; and those in and around maintenance and public works facilities and recreational facilities. The City will utilize the *Rain Check – Stormwater Pollution prevention for MS4* (a product of Excal Visual LLP) that will cover various best management practices and show employees how to practice good housekeeping practices such as spill response, vehicle fueling and maintenance and materials management.

Schedule and Documentation:

The training will be held in PY 2 and PY 4. A roster will be kept of employees who have received this training for a period of three years.

Identified Department/Divisions to receive training:

Public Works - All Divisions

Water Resources – Utility Line Techs

Parks & Recreation – Parks Services, Recreation Services

Schools – Facility and Transportation

3. Erosion and Sediment Control (ESC) Certification

All employees and contractors will be required to have or obtain the appropriate ESC certifications administered by DEQ whether in plan review, inspection, program administration, or as a construction site operator. Certifications will be verified on an annual basis.

Any City contractor or third-party will be required to have or obtain the required certifications as required through the City's procurement of services for such work.

4. Virginia Stormwater Management Program (VSMP) Certification

All employees performing work required by the VSMP program will be required to obtain the appropriate VSMP certifications administered by DEQ whether in plan review, inspection, or program administration. Certifications will be verified on an annual basis.

Any City contractor or third-party will be required to have or obtain the required certifications in the as required through the City's procurement of services for such work.

5. Pesticide and Herbicide Certifications

All employees who apply pesticides and herbicides will be required to obtain the appropriate applicators or technician certifications in accordance with the Virginia Pesticide Control Act. Certifications will be verified on an annual basis.

Any City contractor or third-party will be required to have or obtain the appropriate applicators or technician certifications in accordance with the Virginia Pesticide Control Act as required through the City's procurement of services.

6. Emergency Response for Spill Responses

The City employees a Haz-Mat Team of approximately 30 technicians and specialists who has the training and capacity to respond to a variety of emergency spill and incident regarding hazardous materials. They provide advanced planning and management services for chemical releases and provide the ability to take an offensive approach to unplanned releases of hazardous materials.

The Lynchburg Fire and EMS Department operates in the compliance with governmental regulations and professional standards as required by the Commonwealth of Virginia. Certifications will be verified on an annual basis.