



Stormwater Facilities Operation and Maintenance Plan Instructions

This document provides step-by-step instructions for filling out the *Stormwater Facilities Operation and Maintenance Plan Template*, which can be used to prepare a maintenance plan for stormwater control measures (e.g., ponds, bioretention, porous concrete, hydrodynamic separators) on a developed site. The template is a fillable PDF designed to be completed and signed electronically using your preferred PDF reader/editor, and is available for download on the city's [website](#). Murfreesboro stormwater staff must have a complete plan from you before the city will issue final approval of a new development project. Notice that Section 8 of the form is to be signed by an officer, partner or proprietor representing the owner or operator of the property.

Keep in mind this plan is supposed to serve as a useful reference for the owner, facility operator or property manager.

Heading

Indicate by whom and for whom the plan is prepared.

Section 1. Facility

Site name and address information. Self-explanatory.

Section 2. Personnel

Enter the name of the facility owner and his or her e-mail address and phone number. Do the same for the facility manager. Find out if a person has been designated to inspect the stormwater control measures; if so, enter name and contact information. If the owner or facility manager is not the one who will sign this plan, enter title and name of the person who will (signatory).

Section 3. Map of property

Attach a drawing of the property that identifies the type and location of stormwater control measures and connecting pipes and channels. This section of the template lists the features that should be shown on the map. Here is a link to an [example map](#).

Section 4. Stormwater control measure (SCM) details

Check (point and click) the boxes to indicate SCMs on site. Provide drawings that illustrate the features listed in this section (outfall boxes, weirs, orifices, etc.). These details should be legible when printed on 8 ½ X 11 inch paper. These detailed drawings will be helpful to facility management for inspection and maintenance purposes, and to the engineer during the comprehensive inspection of controls, which is to be completed at least once every five years.

Section 5. Inspection checklists

For each stormwater control measure listed in Section 4, you must provide an inspection checklist, which will be used by the operator to ensure the proper operation and maintenance of the facility. Inspection checklists for proprietary treatment devices must be accompanied by the manufacturers recommended inspection and service protocols. Example inspection checklists can be found by visiting the city's [website](#).

Fill out the table in Section 5 as follows: In the column 1 (labelled *Qty.*), enter the number of *individual installations* that are or will be installed on the property. For instance, if three separate bioretention areas are to be installed on site, locate the word “Bioretention” in column 2 (labelled *Type of Stormwater control measure*), and enter the number “3” in the corresponding field in column 1. In the column 3 (*Size/length/#*), enter the *total combined size* of all SCMs belonging to a given SCM type. Dimensions must be provided in the units indicated in column 4.

Example: A new development will consist of three (3) 500 square foot bioretention cells, and one (1) 135 foot grass channel. The information would be provided as follows:

Qty.	Type of stormwater control measure	Size/length/no. (total)	Units
3	Bioretention	1500	square feet
1	Channel, grass	135	linear feet
*	Cistern		gallons

*All fields that do not correspond to the SCMs listed in Section 4 can be left blank.

Section 6. Estimated maintenance costs

Estimate costs for inspecting, cleaning, landscaping and other activities to keep the stormwater quality controls in good working order. Listed in the table are common maintenance activities. Not all of these will apply at every property.

The frequency column contains a drop-down box of frequencies. Select the frequency closest to your planned frequency of that maintenance activity. Figure cost at that frequency. Leave blank or type NA in the cost column for activities that are not applicable to this facility. Below the table, you are asked to provide an annual cost. This estimate of annual cost is based on costs per frequency for each activity, converted to an annual cost, and these figures totaled.

Example: A two-acre commercial property has on site three (3) bioretention cells totaling 2200 square feet, underground storage and a manufactured treatment device.

Inspection and maintenance activity	Cost (\$)	Frequency
Routine inspections as shown in checklists	0.00	Choose an item.
Landscaping services*	50	Monthly
Litter removal and disposal	5	Weekly
Removal of sediment at entrances to biocells, trenches, etc.	100	Semi-annually

Inspection of manufactured treatment devices (MTDs)	100	Semi-annually
Clean-out of MTDs	500	Annually
Inspection of underground chambers	100	Annually
Annual plan review and update	100	Annually
Inspection by registered engineer (once/five years)	500	Every five years

*Includes cost of maintaining vegetation only within stormwater controls; not the cost of landscaping services for entire site

Annual Cost: $(50 \times 12) + (5 \times 52) + (100 \times 2) + (100 \times 2) + 500 + 100 + 100 + (500/5) = \$2,060/\text{year}$

Section 7. Contracted service providers

This section focuses on contracted service providers, whether third party or a subsidiary to your company. Involve the property owner or manager in completing this section and provide up-to-date information.

You may check more than one box. For instance, if you already have identified a landscaping company for bioretention cell and pond, then check the first box and type in the contact information for the landscaping. But if you have not yet identified a service company for cleaning an underground stormwater treatment vault, type “not yet identified” in the table and check the second box.

Section 8. Recordkeeping and reporting

This section confirms that you accept responsibility for upholding the City’s recordkeeping and reporting requirements. Note that City staff may request copies of your maintenance and inspection records at any time to verify proper operation and maintenance of the facility.

Section 9. List of attachments to this maintenance plan

All of the items listed under this section must be included in your submittal in order for it to be considered complete.

Note - In addition to the maintenance plan, the owner of the property is required to submit an [Inspection and Maintenance Agreement for Private Stormwater Management Facilities](#). Whether it is submitted with this plan or not, the owner must sign and have notarized this Maintenance Agreement and submit it to the City’s stormwater staff. In fact, the Agreement document makes reference to this maintenance plan. For Murfreesboro, the plan is assigned a number that matches the Water and Sewer Department’s file number for the development. You may contact us at 615-848-3200 for the number.

Section 10. Further explanation

Type in this space to clarify any element of the plan and/or to provide further explanation or instruction to the owner or operator of the storm water control measures.

Section 11. Owner or operator's certification and signature

This section requires the signature of the owner, partner or officer of the company that is responsible for maintaining the facility, or, if a lessee has operational control over the stormwater controls and over maintenance of them, the certification may be signed by the operator. Documents may be submitted as hard-copies or electronically via e-mail, and can be signed digitally or traditionally using a wet signature. Follow the instructions below for hard-copy and electronic submittals.

a. Hard-copy submittals

Print the completed document, and sign on the signature line under Section 11 on page 5 of the maintenance plan template. Submit the signed document to the City staff *, along with all attachments/supplementary materials.

Note - before submitting, make a copy of the signed document to be retained on-site by the owner/operator.

b. Electronic submittals, digitally signed

Under Section 11, on page 5 of the maintenance plan template, insert your digital signature in the Signature field using your digital I.D. The signed PDF document can be submitted by the owner, operator or engineering/design firm to City staff* via e-mail.

There are many programs that can be used to digitally sign PDF documents; if you are unsure about how to insert a digital signature using your preferred program, consult the program's manual/user guide or contact technical support.

Note - Electronic submittals must be formatted as a single combined PDF document including the completed template and any attachments/supplementary materials. This step must be performed PRIOR to digitally signing the document. Any changes made after the document has been digitally signed will invalidate the signature.

**Refer to the table on page 6 of this document for further instruction and contact information*

Section 12. Preparer's signature and submittal instructions

Use this section to sign/stamp the document, and to provide professional credentials. The city does not require that maintenance plans be prepared by a professional engineer or landscape architect, even though attachments or parts include engineering information.

The preparer's signature can be provided digitally, using the method described in Section 11(a) of this document, or traditionally using the method described in Sections 11(b). The preparer may insert a scanned image of their signature and stamp into the finished PDF for electronic submittal.

See next page.

Final submittal instructions

*****IMPORTANT – Review and complete all sections (1-12) of the maintenance plan template before submitting. Do not include any of these instruction pages (1-6) in your final submittal. If you would like City staff to review a plan prior to formal submittal, please submit the draft via e-mail***

Direct all hard-copy submittals to:

Stormwater Processing
Murfreesboro Water Resources Department - Engineering
220 NW Broad Street
Murfreesboro, Tennessee 37130

Direct an electronic submittal to MWRD - Engineering administrative assistant Michele Pinkston, with copy to Lexi Stacey. Contact information provided at the end of this section.

The City accepts both electronic and hard-copy submittals; however, we strongly prefer and encourage submittals to be provided electronically. Electronic submittals can be stored easily and be easily transferred to people who work at the facility, to maintenance contractors, to City staff, and to subsequent owners or operators of the facility. The electronic copy provides better resolution of detail drawings, which is helpful in the office and the field.

For questions, requests or comments about this form, contact Stormwater Program Manager, (615) 848-3200 or by e-mail (see below).

Your comments and requests are welcome as we want to improve the form for ease of submittal.

Contact Table:

Department	Name	Position	e-mail
Engineering	Lexi Stacey	Permit Clerk	lstacey@murfreesborotn.gov
Planning	Katie Noel	Project Reviewer	knoel@murfreesborotn.gov
Water Resources	Josh Upham	Stormwater/Watershed Pgms.	jupham@murfreesborotn.gov
Water Resources	Michele Pinkston	Engineering Admin.	mpinkston@murfreesborotn.gov

End of Instructions