

- outline of stormwater control measures, with callouts or legend identifying the control measures (give manufacturer's name for manufactured devices)
- points of access for heavy equipment (if necessary) to reach stormwater quality control measures for maintenance and cleanout (e.g., underground sediment capture devices)
- proper direction of stormwater flow in channels, underground pipes and detention spaces
- outfall/s where stormwater exits the site

4. Stormwater Control Measures Details

Details (e.g. detail sheets) are attached with this plan for the storm water control measures (SCMs) that are on the property – to show outfall boxes, weirs, orifices; underground storage chambers and associated access ports; layers of stone and soil media in infiltration trenches, swales, and bioretention areas; layers of stone and paving material in pervious concrete or paver blocks; etc.

- | | | |
|--|---|--|
| <input type="checkbox"/> Bioretention | <input type="checkbox"/> Inlet filter | <input type="checkbox"/> Sand filter |
| <input type="checkbox"/> Cistern | <input type="checkbox"/> Paver blocks | <input type="checkbox"/> Swale (weirs and/or underdrain) |
| <input type="checkbox"/> Filter strip | <input type="checkbox"/> Pervious concrete | <input type="checkbox"/> Wetland |
| <input type="checkbox"/> Infiltration trench | <input type="checkbox"/> Rain garden | <input type="checkbox"/> Manufactured device |
| <input type="checkbox"/> Detention pond/s | Outfall box, orifice, weir, key elevations | |
| <input type="checkbox"/> Underground detention | Inlet points, layout, outfall box, weir, elevations; access ports | |
| <input type="checkbox"/> Other: | _____ | |
| <input type="checkbox"/> Other: | _____ | |

5. Maintenance Checklists

We have attached checklist/s for each type of stormwater control measures on this site. The checklists will be used by the operator of the facility as a guide to inspecting the SCMs. Note that the checklists show a recommended inspection frequency.

Qty.	Type of Stormwater control measure	Size/length/# (total)	Units
	Bioretention		square feet
	Channel, grass		linear feet
	Cistern		gallons
	Filter strip		square feet
	Green roof		square feet
	Infiltration trench		square feet
	Inlet filter		no. of units
	Paver blocks		square feet
	Pervious concrete		square feet
	Rain garden		square feet

	Sand filter		square feet
	Swale (crosstie weirs and/or underdrain)		linear feet
	Wetland		square feet
	Manufactured treatment device*		no. of units
	Pond, dry		cubic feet
	Pond, extended detention		cubic feet
	Pond, wet		cubic feet
	Detention, underground		cubic feet

* We have included the manufacturer's recommended inspection and service protocols as a part of this maintenance plan.

6. Expected maintenance practices and estimated costs

We will perform the following activities to maintain the stormwater control measures on site and will use the attached inspection checklists to monitor the condition of the control measures. Our estimate of cost to inspect and perform routine maintenance is given.

Inspection and maintenance activity	Cost (\$)	Frequency
Routine inspections as shown in checklists		
Landscaping services ¹		
Litter removal and disposal		
Repairing areas of erosion		
Debris removal (blocked outlets, pipes, etc.)		
Removal of sediment at entrances to biocells, trenches, etc.		
Removal of sediment from pond forebay		
Removal of sediment from whole pond		
Inspection of manufactured treatment devices (MTDs)		
Clean-out of MTDs		
Inspection of underground chambers		
Replacing inlet filters		
Replacing cartridge filters		
Annual plan review and update		
Inspection by registered engineer (once/five years)		

¹ Includes cost of maintaining vegetation only within stormwater controls; not the cost of landscaping services for entire site.

Total annual cost, based on above cost-frequency figures: \$_____per year

Special maintenance issues: _____

7. Service providers

We have contracted or will contract with the following companies or persons to provide maintenance of stormwater control measures.

Inspection services		e-mail:
		phone:
Landscape services		e-mail:
		phone:
Underground chambers, vault, etc.		e-mail:
		phone:
		e-mail:
		phone:

We do not plan to contract inspection or maintenance of stormwater control measures; rather we will perform these activities with in-house staff.

Notes: _____

8. Owner or operator’s certification

As proprietor, or as partner or officer of the company that owns or will own or operate the above-described facility, I understand that I am responsible to perform inspection and preventative maintenance activities in accord with this plan, and to provide adequate long term maintenance of the stormwater control measures on site, to ensure that all stormwater facilities are and remain in proper working condition.

Typed or Printed Name of Signer

Position/Title

Company Name

Owner and/or Operator of Facility

Signature

Date

9. Recordkeeping and reporting

We will keep records of inspections and repairs to the stormwater control measures, and also of the amount of litter, trash and sediment that is removed from the system. Records will be kept for three years.

10. List of attachments to this maintenance plan

The following are attached as part of this plan.

- Map of property with stormwater control measures, etc. (no. 3. above)
- Detail sheets for each stormwater treatment control (no. 4. above)
- Inspection and maintenance checklists (no. 5. above)

11. Further explanation

12. Preparer's signature

This plan has been prepared by me or under my direction and review, and to the best of my knowledge the information provided is correct and true.

Name

Position/Title

Signature

Date

If prepared by engineer or
landscape architect

TN P.E. or L.A. no.:

Instructions for submittal of Stormwater Operations and Maintenance Plan to the City of Murfreesboro

You may submit the plan to City staff either as a hard copy version, or as a PDF/electronic document.

1) For hard copy submittal

Submit this plan and its attachments to this address.

Stormwater Processing
City of Murfreesboro, Engineering Department
111 Vine Street
Murfreesboro, Tennessee 37130

2) For electronic submittal

The plan may be submitted via e-mail in one of two ways:

Prepare a complete PDF version of the plan by saving or converting original-source electronic versions to PDF format, with attachments.

- a) Let the owner/operator sign a paper copy of the plan (Section 8). Scan the signed page and insert (replace) it as the signature page of the PDF version.

Submit the plan as a single PDF document including attachments to City staff via e-mail. This may be submitted by owner, operator or engineering/design firm.

OR

- b) Let the owner or operator submit the plan to City staff via e-mail. This does not require inserting/replacing the page as described above. The body of the e-mail must include the certification statement in Section 8 of the form; see example in the Instructions.

Submit the plan to the city's project reviewer in the Engineering Department:

cchase-aguzzi@murfreesborotn.gov , knoel@murfreesborotn.gov or memerson@murfreesborotn.gov .

For questions, requests or comments about this form, contact Robert Haley at rhaley@murfreesborotn.gov or (615) 848-3200 or Engineering staff listed above at (615) 893- 6441. Your comments and requests are welcome for we want to improve the form and ease of submittal.