Appendix

I

Templates for Maintenance Documents

Example templates are provided to assist project applicants in preparing the following documents, which municipalities may require as exhibits to a stormwater treatment measure maintenance agreement:

- Standard Treatment Measure O&M Report Form
- Maintenance Plan for Vegetated Swale
- Maintenance Plan for Extended Detention Basin

Requirements vary from one municipality to the next. Contact the local jurisdiction to obtain electronic files for use in preparing these documents, and to obtain information on municipality-specific requirements.

Stormwater Treatment Measure Operation and Maintenance Inspection Report to the [[== Insert Name of Municipality==]], California

This report and attached Inspection and Maintenance Checklists document the inspection and maintenance conducted for the identified stormwater treatment measure(s) subject to the Maintenance Agreement between the City and the property owner during the annual reporting period indicated below.

I. Property Information:

Property Address or APN: _____

Property Owner: _____

II. Contact Information:

Name of person to contact regarding this report:_____

Phone number of contact person:_____ Email:_____

Address to which correspondence regarding this report should be directed:

_____

_____

III. Reporting Period:

This report, with the attached completed inspection checklists, documents the inspections and maintenance of the identified treatment measures during the time period from _____ _____ to _____.

IV. Stormwater Treatment Measure Information:

The following stormwater treatment measures (identified treatment measures) are located on the property identified above and are subject to the Maintenance Agreement:

Identifying Number of Treatment Measure	Type of Treatment Measure	Location of Treatment Measure on the Property

V. Summary of Inspections and Maintenance:

Summarize the following information using the attached Inspection and Maintenance Checklists:

Identifying Number of Treatment Measure	Date of Inspection	Operation and Maintenance Activities Performed and Date(s) Conducted	Additional Comments

VI. Sediment Removal:

Total amount of accumulated sediment removed from the stormwater treatment measure(s) during the reporting period: _____ cubic yards.

How was sediment disposed?

- ☐ landfill
- ☐ other location on-site as described in and allowed by the maintenance plan
- ☐ other, explain _____

VII. Inspector Information:

The inspections documented in the attached Inspection and Maintenance Checklists were conducted by the following inspector(s):

Inspector Name and Title	Inspector's Employer and Address

VIII. Certification:

I hereby certify, under penalty of perjury, that the information presented in this report and attachments is true and complete:

_____ _____

Signature of Property Owner or Other Responsible Party Date

_____

Type or Print Name

_____

Company Name

_____

Address

Phone number:_____ Email:_____

Vegetated Swale Maintenance Plan for [[== Insert Property Address ==]]

[[== Insert Date =]]

The property contains [[== insert number ==]] vegetated swales, located as described below and as shown in the attached site plan.

- **Vegetated swale No. 1** is located at [[== describe location ==]].
- **Vegetated swale No. 2** is located at [[== describe location ==]].
- [[== Add descriptions of other swales, if applicable. ==]]

Routine maintenance activities, and the frequency at which they will be conducted, are shown in Table 1.

Table 1
Routine Maintenance Activities for Vegetated Swales

Maintenance Task	**Frequency of Task (e.g., once a month)**
Mow turf grass to [[==indicate height ==]].	[[== insert frequency ==]]
Irrigate during dry weather.	[[== insert frequency ==]]
Inspect swale using the attached inspection checklist.	Monthly, or as needed

Vegetated Swale
Inspection and Maintenance Checklist

Property Address: _____ Property Owner: _____

Treatment Measure No.: _____ Date of Inspection: _____ Type of Inspection: ❑ Monthly ❑ Other (describe)_____

Inspector(s): _____

Defect	**Conditions When Maintenance Is Needed**	**Maintenance Needed? (Y/N)**	**Comments** (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)	**Results Expected When Maintenance Is Performed**
Sediment Accumulation on Vegetation	Sediment depth exceeds 2 inches.			Sediment deposits on vegetated treatment area of the swale removed. When finished, swale should be level from side to side and drain freely toward outlet. There should be no areas of standing water once inflow has ceased.
Standing Water	When water stands in the swale between storms and does not drain freely.			There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed, improved grade from head to foot of swale, removed clogged check dams, added underdrains or converted to a wet swale.
Flow spreader (if any)	Flow spreader uneven or clogged so that flows are not uniformly distributed through entire swale width.			Spreader leveled and cleaned so that flows are spread evenly over entire swale width.
Constant Baseflow	When small quantities of water continually flow through the swale, even when it has been dry for weeks, and an eroded, muddy channel has formed in the swale bottom.			No eroded, muddy channel on the bottom. A low-flow pea-gravel drain may be added the length of the swale.
Poor Vegetation Coverage	When planted vegetation is sparse or bare or eroded patches occur in more than 10% of the swale bottom.			Vegetation coverage in more than 90% of the swale bottom. Determine why growth of planted vegetation is poor and correct that condition. Re-plant with plugs of vegetation from the upper slope: plant in the swale bottom at 8-inch intervals, or re-seed into loosened, fertile soil.

Vegetated Swale Inspection and Maintenance Checklist *(continued)*

Swale No.:_____

*Inspection Date:*_____

Defect	**Conditions When Maintenance Is Needed**	**Maintenance Needed? (Y/N)**	**Comments** (Describe maintenance completed and if any needed maintenance was not conducted, note when it will be done.)	**Results Expected When Maintenance Is Performed**
Vegetation	When the planted vegetation becomes excessively tall; when nuisance weeds and other vegetation start to take over.			Vegetation mowed per specifications or maintenance plan, or nuisance vegetation removed so that flow is not impeded. Vegetation should never be mowed lower than the design flow depth. Remove clippings from the swale and dispose appropriately.
Excessive Shading	Growth of planted vegetation is poor because sunlight does not reach swale.			Healthy growth of planted vegetation. If possible, trim back over-hanging limbs and remove brushy vegetation on adjacent slopes.
Inlet/Outlet	Inlet/outlet areas clogged with sediment and/or debris.			Material removed so that there is no clogging or blockage in the inlet and outlet areas.
Trash and Debris Accumulation	Trash and debris accumulated in the swale.			Trash and debris removed from swale.
Erosion/ Scouring	Eroded or scoured swale bottom due to flow channelization, or higher flows.			No erosion or scouring in swale bottom. For ruts or bare areas less than 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large, generally greater than 12 inches wide, the swale should be re-graded and re-seeded. For smaller bare areas, overseed when bare spots are evident, or take plugs of grass from the upper slope and plant in the swale bottom at 8-inch intervals.
Miscellan-eous	Any condition not covered above that needs attention in order for the vegetated swale to function as designed.			Meet the requirements prescribed in the maintenance plan.

Extended Detention Basin Maintenance Plan for [[== Insert Property Address ==]]

[[== Insert Date =]]

The property contains [[== insert number ==]] extended detention basins, located as described below and as shown in the attached site plan.

- **Extended Detention Basin No. 1** is located at [[== describe location ==]].
- **Extended Detention Basin No. 2** is located at [[== describe location ==]].
- [[== Add descriptions of other extended detention basins, if applicable. ==]]

Routine maintenance activities, and the frequency at which they will be conducted, are shown in Table 1.

Table 1
Routine Maintenance Activities for Extended Detention Basins

Maintenance Task	**Frequency of Task (e.g., once a month)**
Mow turf grass to [[==indicate height ==]].	[[== insert frequency ==]]
Irrigate during dry weather.	[[== insert frequency ==]]
Inspect swale using the attached inspection checklist.	Monthly, or as needed

Extended Detention Basin
Inspection and Maintenance Checklist

Property Address: _____ Property Owner: _____

Treatment Measure No.: _____ Date of Inspection: _____ Type of Inspection: ❑ Monthly ❑ Other (describe)_____

Inspector(s): _____

Defect	**Conditions When Maintenance Is Needed**	**Maintenance Needed? (Y/N)**	**Comments** (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)	**Results Expected When Maintenance Is Performed**
Sediment Accumulation on Vegetation	Sediment depth exceeds 2 inches.			Sediment deposits on vegetated treatment area of the swale removed. When finished, swale should be level from side to side and drain freely toward outlet. There should be no areas of standing water once inflow has ceased.
Standing Water	When water stands in the swale between storms and does not drain freely.			There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed, improved grade from head to foot of swale, removed clogged check dams, added underdrains or converted to a wet swale.
Flow spreader (if any)	Flow spreader uneven or clogged so that flows are not uniformly distributed through entire swale width.			Spreader leveled and cleaned so that flows are spread evenly over entire swale width.
Constant Baseflow	When small quantities of water continually flow through the swale, even when it has been dry for weeks, and an eroded, muddy channel has formed in the swale bottom.			No eroded, muddy channel on the bottom. A low-flow pea-gravel drain may be added the length of the swale.
Poor Vegetation Coverage	When planted vegetation is sparse or bare or eroded patches occur in more than 10% of the swale bottom.			Vegetation coverage in more than 90% of the swale bottom. Determine why growth of planted vegetation is poor and correct that condition. Re-plant with plugs of vegetation from the upper slope: plant in the swale bottom at 8-inch intervals, or re-seed into loosened, fertile soil.

Extended Detention Basin Inspection and Maintenance Checklist *(continued)*

Treatment Measure No.:_____

*Inspection Date:*_____

Defect	**Conditions When Maintenance Is Needed**	**Maintenance Needed? (Y/N)**	**Comments** (Describe maintenance completed and if any needed maintenance was not conducted, note when it will be done.)	**Results Expected When Maintenance Is Performed**
Vegetation	When the planted vegetation becomes excessively tall; when nuisance weeds and other vegetation start to take over.			Vegetation mowed per specifications or maintenance plan, or nuisance vegetation removed so that flow is not impeded. Vegetation should never be mowed lower than the design flow depth. Remove clippings from the swale and dispose appropriately.
Excessive Shading	Growth of planted vegetation is poor because sunlight does not reach swale.			Healthy growth of planted vegetation. If possible, trim back over-hanging limbs and remove brushy vegetation on adjacent slopes.
Inlet/Outlet	Inlet/outlet areas clogged with sediment and/or debris.			Material removed so that there is no clogging or blockage in the inlet and outlet areas.
Trash and Debris Accumulation	Trash and debris accumulated in the swale.			Trash and debris removed from swale.
Erosion/ Scouring	Eroded or scoured swale bottom due to flow channelization, or higher flows.			No erosion or scouring in swale bottom. For ruts or bare areas less than 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large, generally greater than 12 inches wide, the swale should be re-graded and re-seeded. For smaller bare areas, overseed when bare spots are evident, or take plugs of grass from the upper slope and plant in the swale bottom at 8-inch intervals.
Miscellan-eous	Any condition not covered above that needs attention in order for the vegetated swale to function as designed.			Meet the requirements prescribed in the maintenance plan.