

# APPENDIX Q

## INSTRUCTIONS FOR ASSEMBLING THE FOLLOWING MAINTENANCE AGREEMENT

1. Select the correct type of Maintenance Agreement (residential or commercial).
2. Include the “Instructions for Person Maintaining Stormwater System” sheet.
3. Include the Attachment “A” cover sheet.
4. Include only those maintenance checklists that apply (e.g., if stormwater system includes a pond, provide pond checklist).
5. For residential projects, include a copy of “Residential Best Management Practices,” from the *Stormwater Program Guidance Manual, Volume II*, Department of Ecology, July 1992. This provides source control.
6. For commercial/ industrial projects, include the appropriate source control language from *Volume IV, Urban Land Use BMPs, Stormwater Management Manual for the Puget Sound*, Department of Ecology, February 1992.

After recording return document to:

City of Lacey  
Public Works  
420 College Street SE  
Lacey, WA 98503

**Document Title:** Residential Stormwater Maintenance Agreement  
Appendix K of the *Drainage Design and Erosion Control  
Manual for Lacey*

**Grantor(s)** (Last name first, then first name and initials):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Additional name(s) on page

**Grantee:** City of Lacey

**Abbreviated Legal Description** (i.e. lot, block, plat or section, township, range):

\_\_\_\_\_  
\_\_\_\_\_

Actual legal is on page \_\_\_\_\_ of document.

**Assessor's Property Tax Parcel Number:** \_\_\_\_\_

**Section, Township, Range:** S \_\_\_\_\_, T \_\_\_\_\_ N, R \_\_\_\_\_ (E or W),  
W.M.

**Fronting Street:** \_\_\_\_\_

**Cross Street:** \_\_\_\_\_

**RESIDENTIAL AGREEMENT TO MAINTAIN STORMWATER FACILITIES AND TO IMPLEMENT A POLLUTION SOURCE CONTROL PLAN**

**By and between the CITY OF LACEY, a Municipal Corporation, hereinafter called the CITY, and**

**\_\_\_\_\_**  
**Their heirs, successors, or assigns, hereinafter called the DEVELOPER,**

The upkeep and maintenance of stormwater facilities and the implementation of pollution source control best management practices (BMPs) is essential to the protection of water resources. All property owners are expected to conduct business in a manner that promotes environmental protection. This Agreement contains specific provisions with respect to maintenance of stormwater facilities and use of pollution source control BMPs.

**LEGAL DESCRIPTION:**

Whereas, the DEVELOPER has constructed improvements, including but not limited to, buildings, pavement, and stormwater facilities on the property described above. In order to further the goals of the CITY to ensure the protection and enhancement of water resources, the CITY and the DEVELOPER hereby enter into this Agreement. The responsibilities of each party to this Agreement are identified below.

The DEVELOPER shall:

1. Implement the stormwater facility maintenance program included herein as Attachment "A".
2. Implement the pollution source control program included herein as Attachment "B".
3. Maintain a record, in the form of a log book, of steps taken to implement the programs referenced in (1) and (2) above. The log book shall be available for inspection by City staff at \_\_\_\_\_ during normal business hours. The log book shall catalog the action taken, who took it, when it was done, how it was done, and any problems encountered or follow-up on actions recommended. Maintenance items ("problems") listed in Attachment "A" shall be inspected as specified in the attached instructions or more often if necessary. The DEVELOPER is encouraged to photocopy the individual checklists in Attachment "A" and use them to complete its inspections. These completed checklists would then, in combination, comprise the log book.

4. Submit an annual report to the CITY regarding implementation of the programs referenced in (1) and (2) above. The report must be submitted on or before May 15<sup>th</sup> of each calendar year and shall contain, at a minimum, the following:
  - a. Name, address, and telephone number of the association, businesses, persons, or the firm responsible for plan implementation, and the person completing the report.
  - b. Time period covered by the report.
  - c. A chronological summary of activities conducted to implement the programs referenced in (1) and (2) above. A photocopy of the applicable sections of the log book, with any additional explanation needed, shall normally suffice. For any activities conducted by paid parties not affiliated with the DEVELOPER, include a copy of the invoice for services.
  - d. An outline of planned activities for the next year.
5. Execute the following periodic major maintenance on the subdivision's stormwater facilities: sediment removal from ponds, managing vegetation in wet ponds, resetting orifice sizes and elevations, and adding baffles.

THE CITY SHALL:

1. Provide technical assistance to the DEVELOPER in support of its operation and maintenance activities conducted pursuant to its maintenance and source control programs. Said assistance shall be provided upon request and as CITY time and resources permit, at no charge to the DEVELOPER.
2. Review the annual report and conduct a minimum of one (1) site visit per year to discuss performance and problems with the DEVELOPER.

REMEDIES:

1. If the CITY determines that maintenance or repair work is required to be done to the stormwater facilities located on the owner/homeowners association property, the CITY shall give the owner/association of the property notice of the specific maintenance and/or repair required. The CITY shall set a reasonable time in which such work is to be completed by the persons who were given notice. If the above required maintenance and/or repair is not completed within the time set by the CITY, written notice will be sent to the persons who were given notice stating the CITY's intention to perform such maintenance and bill the owner/homeowners association for all incurred expenses. The CITY may also revoke stormwater utility rate credits if required maintenance is not performed.
2. If at any time the CITY determines that the existing system creates any imminent threat to the public health or welfare, the CITY may take immediate measures to remedy said threat. However, the CITY shall also take reasonable steps to immediately notify either the property owner or the person in control of said



I certify that I know or have satisfactory evidence that \_\_\_\_\_ (is/ are) the person(s) who appeared before me, and said person(s) acknowledged that \_\_\_\_\_ (he/ she/ they) signed this instrument, and acknowledged it to be \_\_\_\_\_ (his/ her/ their) free and voluntary act for the uses and purposes mentioned in the instrument.

Given under my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the  
State of Washington,  
residing at \_\_\_\_\_  
\_\_\_\_\_  
My commission expires: \_\_\_\_\_

Accepted by the City of Lacey, Washington. this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

BY: \_\_\_\_\_  
Director of Public Works

STATE OF WASHINGTON    )  
  ) ss  
COUNTY OF THURSTON    )

On this \_\_\_\_\_ day and year above, personally appeared before me, \_\_\_\_\_, to me known to be the Public Works Director of City of Lacey, a Municipal Corporation, who executed the foregoing instrument and acknowledged the said instrument to be the free and voluntary act and deed of said Municipal Corporation for the uses and purposes therein mentioned and on oath states he is authorized to execute the said instrument.

Given under my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the  
State of Washington,  
residing at \_\_\_\_\_  
\_\_\_\_\_  
My commission expires: \_\_\_\_\_

After recording return document to:

City of Lacey  
Public Works  
420 College Street SE  
Lacey, WA 98503

**Document Title:** Commercial/ Industrial Stormwater Maintenance Agreement  
Appendix K of the *Drainage Design and Erosion Control Manual for Lacey*

**Grantor(s)** (Last name first, then first name and initials):

1. \_\_\_\_\_

2. \_\_\_\_\_

3.

Additional name(s) on page

**Grantee:** City of Lacey

**Abbreviated Legal Description** (i.e. lot, block, plat or section, township, range):

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\_\_\_\_\_

Actual legal is on page \_\_\_\_\_ of document.

**Assessor's Property Tax Parcel Number:** \_\_\_\_\_

**Section, Township, Range:** S \_\_\_\_\_, T \_\_\_\_\_ N, R \_\_\_\_\_ (E or W),  
W.M.

**Fronting Street:** \_\_\_\_\_

**Cross Street:** \_\_\_\_\_

**COMMERCIAL/INDUSTRIAL AGREEMENT TO MAINTAIN STORMWATER FACILITIES AND TO IMPLEMENT A POLLUTION SOURCE CONTROL PLAN**

**By and between the CITY OF LACEY, a Municipal Corporation, hereinafter called the CITY, and**

**\_\_\_\_\_**  
**Their heirs, successors, or assigns, hereinafter called the DEVELOPER,**

The upkeep and maintenance of stormwater facilities and the implementation of pollution source control best management practices (BMPs) is essential to the protection of water resources. All property owners are expected to conduct business in a manner that promotes environmental protection. This Agreement contains specific provisions with respect to maintenance of stormwater facilities and use of pollution source control BMPs.

**LEGAL DESCRIPTION:**

Whereas, the DEVELOPER has constructed improvements, including but not limited to, buildings, pavement, and stormwater facilities on the property described above. In order to further the goals of the CITY to ensure the protection and enhancement of water resources, the CITY and the DEVELOPER hereby enter into this Agreement. The responsibilities of each party to this Agreement are identified below.

The DEVELOPER shall:

1. Implement the stormwater facility maintenance program included herein as Attachment "A".
2. Implement the pollution source control program included herein as Attachment "B".
3. Maintain a record, in the form of a log book, of steps taken to implement the programs referenced in (1) and (2) above. The log book shall be available for inspection by City staff at \_\_\_\_\_ during normal business hours. The log book shall catalog the action taken, who took it, when it was done, how it was done, and any problems encountered or follow-up on actions recommended. Maintenance items ("problems") listed in Attachment "A" shall be inspected as specified in the attached instructions or more often if necessary. The DEVELOPER is encouraged to photocopy the individual checklists in Attachment "A" and use them to complete its inspections. These completed checklists would then, in combination, comprise the log book.

4. Submit an annual report to the CITY regarding implementation of the programs referenced in (1) and (2) above. The report must be submitted on or before May 15<sup>th</sup> of each calendar year and shall contain, at a minimum, the following:
  - a. Name, address, and telephone number of the association, businesses, persons, or the firm responsible for plan implementation, and the person completing the report.
  - b. Time period covered by the report.
  - c. A chronological summary of activities conducted to implement the programs referenced in (1) and (2) above. A photocopy of the applicable sections of the log book, with any additional explanation needed, shall normally suffice. For any activities conducted by paid parties not affiliated with the DEVELOPER, include a copy of the invoice for services.
  - d. An outline of planned activities for the next year.
5. Execute the following periodic major maintenance on the subdivision's stormwater facilities: sediment removal from ponds, managing vegetation in wet ponds, resetting orifice sizes and elevations, and adding baffles.

THE CITY SHALL:

1. Provide technical assistance to the DEVELOPER in support of its operation and maintenance activities conducted pursuant to its maintenance and source control programs. Said assistance shall be provided upon request and as CITY time and resources permit, at no charge to the DEVELOPER.
2. Review the annual report and conduct a minimum of one (1) site visit per year to discuss performance and problems with the DEVELOPER.

REMEDIES:

1. If the CITY determines that maintenance or repair work is required to be done to the stormwater facilities located on the property, the CITY shall give the owner of the property notice of the specific maintenance and/or repair required. The CITY shall set a reasonable time in which such work is to be completed by the persons who were given notice. If the above required maintenance and/or repair is not completed within the time set by the CITY, written notice will be sent to the persons who were given notice stating the CITY's intention to perform such maintenance and bill the owner for all incurred expenses. The CITY may also revoke stormwater utility rate credits if required maintenance is not performed.
2. If at any time the CITY determines that the existing system creates any imminent threat to the public health or welfare, the CITY may take immediate measures to remedy said threat. However, the CITY shall also take reasonable steps to immediately notify either the property owner or the person in control of said



I certify that I know or have satisfactory evidence that \_\_\_\_\_ (is/ are) the person(s) who appeared before me, and said person(s) acknowledged that \_\_\_\_\_ (he/ she/ they) signed this instrument, and acknowledged it to be \_\_\_\_\_ (his/ her/ their) free and voluntary act for the uses and purposes mentioned in the instrument.

Given under my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the  
State of Washington,  
residing at \_\_\_\_\_  
\_\_\_\_\_  
My commission expires: \_\_\_\_\_

Accepted by the City of Lacey, Washington. this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

BY: \_\_\_\_\_  
Director of Public Works

STATE OF WASHINGTON    )  
  ) ss  
COUNTY OF THURSTON    )

On this \_\_\_\_\_ day and year above, personally appeared before me, \_\_\_\_\_, to me known to be the Public Works Director of City of Lacey, a Municipal Corporation, who executed the foregoing instrument and acknowledged the said instrument to be the free and voluntary act and deed of said Municipal Corporation for the uses and purposes therein mentioned and on oath states he is authorized to execute the said instrument.

Given under my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the  
State of Washington,  
residing at \_\_\_\_\_  
\_\_\_\_\_  
My commission expires: \_\_\_\_\_

## INSTRUCTIONS

The following pages contain maintenance needs for most of the components that are part of your drainage system, as well as for some components that you may not have. Let us know if there are any components that are missing from these pages. Ignore the requirements that do not apply to your system. You should plan to complete a checklist for all system components on the following schedule:

1. Monthly from November through April.
2. Once in late summer (preferably September).
3. After any major storm event (use 1-inch in 24 hours as a guideline), items marked "S" only.

Using photocopies of these pages, check off the problems you looked for each time you did an inspection. Add comments on problems found and actions taken. Keep these "checked" sheets in your files, as they will be used to write your annual report. The annual report is due on or before May 15<sup>th</sup> of each calendar year. Some items do not need to be looked at every time an inspection is done. Use the suggested frequency at the left of each item as a guideline for your inspection.

You may call the City of Lacey at (360) 491-5600 for technical assistance. Please do not hesitate to call, especially if you are unsure whether a situation you have discovered may be a problem.

**ATTACHMENT "A": MAINTENANCE PROGRAM  
COVER SHEET**

Name of Project or Subdivision:

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Address (if commercial) or Major Street and Cross Street (if subdivision):

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Name of Contact Person:

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Phone Number:

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Inspection Period:

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Number of Sheets Attached:

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Date Inspected:

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Name of Inspector:

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Inspector's Signature:

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## ATTACHMENT "A" MAINTENANCE PROGRAM

If you are unsure whether a problem exists, please contact the City of Lacey and ask for technical assistance.

Key: A = Annual (March or April preferred)      M = Monthly (see schedule)  
 S = After major storms

### Maintenance Checklist for Closed Detention Systems (Pipes/Tanks)

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
M	Storage area (pipe tank)		Plugged air vents (small pipe that connects catch basin to storage pipe)	One-half of the end area of a vent is blocked at any pint with debris and sediment. Plugged vent can cause storage area to collapse.	Vents free of debris and sediment
M			Debris and sediment	Accumulated sediment depth exceeds 15% of diameter. Example: 72" storage tank would require cleaning when sediment reaches depth of 10 inches.	All sediment and debris removed from storage area. Contact City Public Works for Guidance on sediment removal and disposal.
A			Joints between tank/pipe section	Any crack allowing material to leak into facility.	All joints between tank/pipe sections are sealed.
A			Tank/pipe bent out of shape.	Any part of tank/pipe is noticeably bent out of shape.	Tank/pipe repaired or replaced to design. Contact a professional engineer for evaluation.
M,S	Manhole		Cover not in place.	Cover is missing or only partially in place. Any manhole requires maintenance.	Manhole is closed.
A			Locking Mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2" of thread (may not apply to self-locking lids).	Mechanism opens with proper tools.
A			Ladder rungs unsafe	Maintenance person judges that ladder is unsafe due to missing rungs, misalignment, rust, or cracks.	Ladder meets design standards and allows maintenance persons safe access.

Comments:

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**Maintenance Checklist for Control Structure/Flow Restrictor  
 (structure that control rate at which water exits facility)**

<b>Frequ ency</b>	<b>Drainage Systems Feature</b>	<b>✓</b>	<b>Problem</b>	<b>Conditions to Check For</b>	<b>Conditions That Shall Exist</b>
M	Structure		Trash & Debris (includes sediment)	Distance between debris buildup and bottom of orifice plate is less than 1-1/2 feet.	All trash and debris removed.
A			Structural damage	Structure is not securely attached to manhole wall and outlet pipe structure should support at least 1,000 pounds of up or down pressure.	Structure securely attached to wall and outlet pipe.
A				Structure is not in upright position (allow up to 10% from plumb).	Structure in correct position.
A				Connections to outlet pipe are not watertight and show signs of rust.	Connections to outlet pipe are watertight; structure repaired or replaced and works as designed.
M				Any holes – other than designed holes – in the structure.	Structure has no holes other than designed holes.
A				Gate cannot be moved up and down by one maintenance person.	Gate moves up and down easily and is watertight.
M, S				Chain leading to gate is missing or damaged.	Chain is in place and works as design standards.
A				Gate is rusted over 50% of its surface area.	Gate is repaired or replaced to meet design standards.
M, S			Obstructions	any trash, debris, sediment, or vegetation blocking the plate.	Plate is free of all obstructions and works as designed.
M, S	Overflow pipe		Obstructions	any trash, debris, blocking (or having the potential of blocking) the overflow pipe.	Pipe is free of all obstructions and works as designed.

Comments:

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Key: A = Annual (March or April preferred) M = Monthly (see schedule)  
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**Maintenance Checklist for Catch Basins and Inlets**

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
M, S	General		Trash, debris, and sediment in or on basin	Trash or debris in front of the catch basin opening is blocking capacity by more than 15%.	No trash or debris located immediately in front of catch basin opening. Grate is kept clean and allows water to enter.
M, S				Trash or debris in any inlet or pipe blocking more than 1/3 of its height.	Inlet and outlet pipes free of trash or debris.
M			Structural damage to frame and/or top slab.	Corner of frame extends more than 3/4 inch past curb face into the street (if applicable).	Frame is even with curb.
M				Top slab has holes larger than 2 square inches or cracks wider than 1/4 inch (intent is to make sure all material is running into the basin).	Top slab is free of holes and cracks.
M				Frame not sitting flush on top slab, i.e., separation of more than 3/4 inch of the frame from the top slab.	Frame is sitting flush on top slab.
A			Cracks in basin walls/bottom	Cracks wider than 1/2 inch and longer than 3 feet, any evidence of soil particles entering catch basin through cracks, or maintenance person judges that structure is unsound.	Basin replaced or repaired to design standards. Contact a professional engineer for evaluation.
A				Cracks wider than 1/2 inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering catch basin through cracks.	No cracks more than 1/4 inch wide at the joint of inlet/outlet pipe.
A			Settlement/Misalignment	Basin has settled more than 1 inch or has rotated more than 2 inches out of alignment.	Basin replaced or repaired to design standards. Contact a professional engineer for evaluation.
M, S			Fire hazard or other pollution	Presence of chemicals such as natural gas, oil and gasoline. Obnoxious color, odor, or sludge noted.	No color, odor, or sludge. Basin is dug out and clean.
M, S			Outlet pipe is clogged with vegetation	Vegetation or roots growing in inlet/outlet	No vegetation or root growth present.

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
				pipe joints that is more than six inches tall and less than six inches apart.	

Comments:

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### Maintenance Checklist for Ponds

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
M, S	General		Trash & debris buildup in pond	Dumping of yard wastes such as grass, clippings and branches into basin. Unsightly accumulation of non-degradable materials such as glass, plastic, metal, foam and coated paper.	Remove trash and debris and dispose as prescribed by the City.
M, S			Trash rack plugged or missing	Bar screen over outlet more than 25% covered by debris or missing.	Replace screen. Remove trash and debris and dispose as prescribed by the City.
M			Poisonous vegetation	Any poisonous vegetation which may constitute a hazard to the public. Examples of poisonous vegetation include: tansy ragwort, poison oak, stinging nettles, devilsclub.	Remove poisonous vegetation. Do not spray chemicals on vegetation without obtaining guidance from the Cooperative Extension Service and approval from the City.
M, S			Fire hazard or pollution	Presence of chemicals such as natural gas, oil, and gasoline, obnoxious color, odor, or sludge noted.	Find sources of pollution and eliminate them. Water is free from noticeable color, odor, or contamination.
M			Vegetation not growing or is overgrown	For grassy ponds, grass cover is sparse and weedy or is overgrown. For wetland ponds plants are sparse or invasive species are present.	For grassy ponds, selectively thatch, aerate, and reseed ponds. Grass cutting unnecessary unless dictated by aesthetics. For wetland ponds, hand-plant nursery-grown wetland plants in bare areas. Contact the cooperative Extension Service for direction on invasive species such as purple loosestrife and reed canary grass. Pond bottoms should have uniform dense coverage of desired plant species.
M			Rodent Holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents destroyed and dam or berm repaired. Contact the Thurston County Health Department for guidance.
M			Insects	When insects such as	Insects destroyed or

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
				wasps and hornets interfere with maintenance activities, or when mosquitoes become a nuisance.	removed from site. Contact Cooperative Extension Service for guidance.
A			Tree Growth	Tree growth does not allow maintenance access or interferes with maintenance activity (i.e., slope mowing, silt removal, or equipment movements). If trees are not interfering with access, leave trees alone.	Trees do not hinder maintenance activities. Selectively cultivate trees such as alders for firewood.
M	Side slopes of pond		Erosion on berms or at entrance/exit.	Check around inlets and outlets for signs of erosion. Check berms for signs of sliding or settling. Action is needed where eroded damage over 2 inches deep and where there is potential for continued erosion.	Find causes of erosion and eliminate them. Then slopes should be stabilized by using appropriate erosion control measure(s); i.e., rock reinforcement, planting of grass, compaction.
M	Storage area		Sediment buildup in pond	Accumulated sediment that exceeds 10% of the designed pond depth. Buried or partially buried outlet structure probably indicates significant sediment deposits.	Sediment cleaned out to designed pond shape and depth; pond reseeded if necessary to control erosion.
A	Pond dikes		Settlements	Any part of dike which has settled 4 inches lower than the design elevation.	Dike should be built back to the design elevation.
A	Emergency overflow/s pillway		Rock missing	Only one layer of rock exists above native soil in area 5 square feet or larger, or any exposure of native soil.	Replace rocks to design standards.
One Time	Emergency overflow/s pillway		Overflow missing	Side of pond has no area with large rocks to handle emergency overflows.	Contact City of guidance.

Comments:

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Key: A = Annual (March or April preferred) M = Monthly (see schedule)  
 S = After major storms

### Maintenance Checklist for Infiltration Systems

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
M, S	General		Trash & debris buildup in pond	See Maintenance Checklist for Ponds	See Maintenance Checklist for Ponds
M			Poisonous vegetation	See Maintenance Checklist for Ponds	See Maintenance Checklist for Ponds
M, S			Fire hazard or pollution	See Maintenance Checklist for Ponds	See Maintenance Checklist for Ponds
M			Vegetation not growing or is overgrown	See Maintenance Checklist for Ponds	See Maintenance Checklist for Ponds
M			Rodent holes	See Maintenance Checklist for Ponds	See Maintenance Checklist for Ponds
M			Insects	See Maintenance Checklist for Ponds	See Maintenance Checklist for Ponds
A	Storage area		Sediment buildup in system	A soil texture test indicates facility is not working at its designed capabilities or was incorrectly designed.	Sediment is removed and/or facility is cleaned so that infiltration system works according to design. A sediment trapping area is installed to reduce sediment transport into infiltration area.
A			Storage area drains slowly (more than 48 hours) or overflows	A soil texture test indicates facility is not working at its designed capabilities or was incorrectly designed.	Additional volume is added through excavation to provide needed storage. Soil is aerated and rototilled to improve drainage. Contact the City for information on its requirements regarding excavation.
M			Sediment trapping area	Any sediment and debris filling area to 10% of depth from sump bottom to bottom of outlet pipe or obstructing flow into the connector pipe.	Clean out sump to design depth.
One time			Sediment trapping area not present	Stormwater enters infiltration area directly without treatment.	Add a trapping area by constructing a sump for settling of solids. Segregate settling area from rest of facility. Contact City for guidance.
M	Rock Filters		Sediment and debris	By visual inspection little or no water flows through filter during heavy rain storms.	Replace gravel in rock filter.

Comments:

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**Maintenance Checklist for Energy Dissipators**

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
A	Rock pad		Missing or moved rock	Only one layer of rock exists above native soil in area 5 square feet or larger, or any exposure of native soil.	Replace rocks to design standard.
A	Rock-filled trench for discharge from pond		Missing or moved rock	Trench is not full of rock.	Add large rock (± 30 lbs. each) so that rock is visible above edge of trench.
M	Dispersion trench		Pipe plugged with sediment	Accumulated sediment that exceeds 20% of the design depth.	Pipe cleaned/flushed.
M			Perforation plugged	Over ½ of perforation in pipe are plugged with debris and sediment.	Clean or replace perforated pipe.
M, S			Not discharging water properly	Visual evidence of water discharging at concentrated points along trench (normal conditions is a “sheet flow” of water along trench). Intent is to prevent erosion damage.	Trench must be redesigned or rebuilt to standard. Elevation of lip of trench should be the same (flat) at all points.
M, S			Water flows out top of “distributor” catch basin	Maintenance person observes water flowing out during any storm less than the design storm or it is causing or appears likely to cause damage.	Facility must be rebuilt or redesigned to standards. Pipe is probably plugged or damaged and needs replacement.
M, S			Receiving area over-saturated	Water in receiving area is causing or has potential of causing landslide.	Stabilize slope with grass or other vegetation, or rock if condition is severe.

Comments:

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**Maintenance Checklist for Fencing/Shrubbery Screen/Other Landscaping**

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
M	General		Missing or broken parts/dead shrubbery	Any defect in the fence or screen that permits easy entry to a facility.	Fence is mended or shrubs replaced to form a solid barrier to entry.
M, S			Erosion	Erosion has resulted in an opening under a fence that allows entry by people or pets.	Replace soil under fence so that no opening exceeds 4 inches in height.
M			Unruly vegetation	Shrubbery is growing out of control or is infected with weeds.	Shrubbery is trimmed and weeded to provide appealing aesthetics. Do not use chemicals to control weeds.
A	Wire fences		Damaged parts	Posts out of plumb more than 6 inches.	Posts plumb to within 1 ½ inches of plumb.
A				Top rails bent more than 6 inches.	To rail free of bends greater than 1 inch.
A				Any part of fence (including posts, top rails, and fabric) more than 1 foot out of design alignment.	Fence is aligned and meets design standards.
A				Missing or loose tension wire.	Tension wire in place and holding fabric.
A				Missing or loose barbed wire that is sagging more than 2 ½ inches between posts.	Barbed wire in place with less than ¾ inch sag between posts.
A				Extension arm missing, broken, or bent out of shape more than 1 ½ inches.	Extension arm in place with no bends larger than ¾ inch.
A			Deteriorated paint or protective coating	Part of parts that have a rusting or scaling condition that has affected structural adequacy.	Structurally adequate posts or parts with a uniform protective coating.
M			Openings in fabric	Openings in fabric are such that an 8-inch diameter ball could fit through.	No openings in fabric.

Comments:

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Key: A = Annual (March or April preferred) M = Monthly (see schedule)  
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### Maintenance Checklist for Gates

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
M	General		Damaged or missing components	Gate is broken, jammed or missing.	Pond has a functioning gate to allow entry of people and maintenance equipment such as mowers and backhoes. If a lock is used, make sure City Stormwater field staff have a key.
M				Broken or missing hinges such that gate cannot be easily opened and closed by a maintenance person.	Hinges intact and lubed. Gate is working freely.
A				Gate is out of plumb more than 6 inches and more than 1 foot out of design alignment.	Gate is aligned and vertical.
A				Missing stretcher bar, stretcher bands and ties.	Stretcher bar, bands, and ties in place.

Comments:

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Key: A = Annual (March or April preferred) M = Monthly (see schedule)  
 S = After major storms

**Maintenance Checklist for Conveyance Systems  
 (Pipes, Ditches, and Swales)**

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
M, S	Pipes		Sediment & debris	Accumulated sediment that exceeds 20% of the diameter of the pipe.	Pipe cleaned of all sediment and debris.
M			Vegetation	Vegetation that reduces free movement of water through pipes.	All vegetation removed so water flows freely through pipes.
A			Damaged (rusted, bent, or crushed)	Protective coating is damaged, rust is causing more than 50% deterioration to any part of pipe.	Pipe repaired or replaced.
M				Any dent that significantly impedes flow (i.e., decreases the cross section area of pipe by more than 20%).	Pipe repaired or replaced.
M				Pipe has major cracks or tears allowing groundwater leakage.	Pipe repaired or replaced.
M, S	Open Ditches		Trash & debris	Dumping of yard wastes such as grass clippings and branches into basin. Unsightly accumulation of non-degradable materials such as glass, plastic, metal, foam, and coated paper.	Remove trash and debris and dispose as proscribed by City Waste Management Section.
M			Sediment buildup	Accumulated sediment that exceeds 20% of the design depth.	Ditch cleaned of all sediment and debris so that it matches design.
A			Vegetation	Vegetation (e.g., weedy shrubs or saplings) that reduces free movements of water through ditches.	Water flows freely through ditches. Grassy vegetation should be left alone.
M			Erosion damage to slopes	See Ponds Checklist.	See Ponds Checklist.
A			Rock lining out of place or missing (if applicable)	Maintenance person can see native soil beneath the rock lining.	Replace rocks to design standard.
Varies	Catch Basins			See Catch Basins Checklist.	See Catch Basins Checklist.
M, S	Swales		Trash & debris	See above for Ditches.	See above for Ditches.
M			Sediment Cleanup	See above for Ditches.	Vegetation may need to be replanted after cleaning.
M			Vegetation not growing	Grass cover is sparse	Aerate soils and reseed and

<b>Frequ ency</b>	<b>Drainage Systems Feature</b>	<b>✓</b>	<b>Problem</b>	<b>Conditions to Check For</b>	<b>Conditions That Shall Exist</b>
			or overgrown	and weedy or areas are overgrown with woody vegetation.	mulch bare areas. Maintain grass height at a minimum of 6 inches for best stormwater treatment. Remove woody growth recontour, and reseed as necessary.
M, S			Erosion damage to slopes	See Ponds Checklist	See Ponds Checklist
M			Conversion by homeowner to incompatible use	Swales has been filled in or blocked by shed, woodpile, shrubbery, etc.	If possible, speak with homeowner and request that swale area be restored. Contact City to report problem if not rectified voluntarily.
A			Swale does not drain	Water stands in swale or flow velocity is very slow. Stagnation occurs.	A survey may be needed to check grades. Grades need to be in 1-5% range is possible. If grade is less than 1% underdrains may need to be installed.

Comments:

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**Maintenance Checklist for Grounds (Landscaping)**

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
M	General		Weeds (nonpoisonous)	Weeds growing in more than 20% of the landscaped area (trees and shrubs only).	Weeds present in less than 5% of the landscaped area.
M			Safety hazard	Any presence of poison ivy or other poisonous vegetation or insect nests.	No poisonous vegetation or insect nests present in landscaped area.
M, S			Trash or litter	See Ponds Checklist	See Ponds Checklist
M, S			Erosion of Ground Surface	Noticeable rills are seen in landscaped areas.	Causes of erosion are identified and steps taken to slow down/spread out the water. Eroded areas are filled, contoured, and seeded.
A	Trees and shrubs		Damage	Limbs or parts of trees or shrubs that are split or broken which affect more than 25% of the total foliage of the tree or shrub.	Trim trees/shrubs to restore shape. Replace trees/shrubs with severe damage.
M				Trees or shrubs that have been blown down or knocked over.	Replant tree, inspecting for injury to stem or roots. Replace if severely damaged.
A				Trees or shrubs which are not adequately supported or are leaning over, causing exposure of the roots.	Place stakes and rubber-coated ties around young trees/shrubs for support.

Comments:

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**Maintenance Checklist for Access Roads/Easements**

Frequency	Drainage Systems Feature	✓	Problem	Conditions to Check For	Conditions That Shall Exist
One Time	General		No access road exists	If ponds or other drainage system features needing maintenance by motorized equipment are present, either an access road or access from public streets is required.	Determine whether an easement to drainage feature exists. If yes, obtain City permits and construct gravel (or equal) access road. If not, report lack of easement to City.
M			Blocked roadway	Debris which could damage vehicle tires (glass or metal).	Roadway free of debris which could damage tires.
A				Any obstructions which reduce clearance above road surface to less than 14 feet.	Roadway overhead clear to 14 feet high.
A				Any obstructions restricting the access to less than 15 feet width.	Obstruction removed to allow at least a 15 foot wide access.
A, S	Road surface		Settlement, potholes, mush spots and ruts	When any surface defect exceeds 6 inches in depth and 6 square feet in area. In general any surface defect which hinders or prevents maintenance access.	Road surface uniformly smooth with no evidence of settlement, potholes, mush spots or ruts. Occasionally application of additional gravel or pitrun rock will be needed.
M			Vegetation in road surface	Woody growth that could block vehicular access. Excessive weed cover.	Remove woody growth at early stage to prevent vehicular blockage. Cut back weeds if they begin to encroach on road surface.
M, S	Shoulders and ditches		Erosion damage	Erosion within 1 foot of the roadway more than 8 inches wide and 6 inches deep.	Shoulder free of erosion and matching the surrounding road.

Comments:

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