



COUNTY OF MAUI
 DEPARTMENT OF PUBLIC WORKS
 DEVELOPMENT SERVICES ADMINISTRATION
 110 ALAIHI STREET, SUITE 214
 KAHULUI, HAWAII 96732
 Ph: (808)270-7242
 Email: dsa.engineering@mauicounty.gov

**INFORMATION SHEET FOR
 STORMWATER QUALITY
 BEST MANAGEMENT
 PRACTICES PLAN AND
 MAINTENANCE PLAN**

WHY DO I NEED TO COMPLY?

- Section 18.20.135 (Post-construction stormwater quality best management practices) of the Maui County Code mandates compliance as part of subdivision development.
- Section 16.26B.3900 (Post-construction stormwater quality best management practices) of the Maui County Code mandates compliance as part of the building code.
- The Rules for the Design of Storm Water Treatment Best Management Practices (Stormwater Rules) has been adopted by the Department of Public Works to guide enforcement of the Subdivision and Building Code requirements.

WHEN DO I NEED TO COMPLY?

Compliance with post-construction stormwater quality requirements is triggered by **SUBDIVISION AND BUILDING PERMIT APPLICATIONS** unless a specific exemption applies.

WHAT IS THE DIFFERENCE BETWEEN A MAJOR AND MINOR PROJECT?

- A **MINOR** project has a disturbed area under 1 acre.
- A **MAJOR** project has a disturbed area over 1 acre.

**The disturbed area shall be determined by the Department of Public Works. The Department may take into consideration all factors, including future construction, such as home construction, even if not immediately constructed with the development of the site improvements.

WHAT ARE REQUIREMENTS FOR BUILDING PERMITS?

The following projects requiring a Building Permit are **EXEMPT FROM COMPLIANCE**:

- Remodels, reconstruction, repairs, additions, and similar work where the cost of the work over a period of twelve months **DOES NOT EXCEED 50%** of the replacement value of the existing structures before work is started.
- Single-family dwellings and its accessory structures provided that the total impervious surface of the project is **UNDER 5,000 SQUARE FEET**.

The following shall be submitted with Building Permit applications:

MINOR Single-Family Residential	Submit Form A.
MAJOR Single-Family Residential	<ul style="list-style-type: none"> • Submit Form B with attachments and exhibit. • Submit Drainage Report and calculations in full compliance with Storm Water Rules • Submit Construction Plans in full compliance with Storm Water Rules. **Drainage report and construction plans must be prepared by a civil engineer, licensed in the State of Hawaii.
MINOR Business, Commercial, Multi-Family, Industrial, or any Non Single-Family Residential	Submit Form B with attachments and exhibit.
MAJOR Business, Commercial, Multi-Family, Industrial, or any Non Single-Family Residential	<ul style="list-style-type: none"> • Submit Form B with attachments and exhibit. • Submit Drainage Report and calculations in full compliance with Storm Water Rules • Submit Construction Plans in full compliance with Storm Water Rules. **Drainage report and construction plans must be prepared by a civil engineer, licensed in the State of Hawaii.

WHAT ARE THE REQUIREMENTS FOR SUBDIVISIONS?

The following projects requiring Subdivision approval are **EXEMPT FROM COMPLIANCE**:

- Subdivisions processed in accordance with Section 18.04.020C (Ordinance 2372 – consolidation/resubdivision).
- Subdivisions processed in accordance with Section 18.04.020H (Subdivisions co-sponsored by Public Works for road lots, utility lots, park lots, etc.)
- Subdivisions processed in accordance with Section 18.12.050 (Limited subdivisions).

The following shall be submitted with Subdivision applications at the time of construction plan submittal:

MINOR Subdivision	Submit Form B with attachments and exhibit.
MAJOR Subdivision	<ul style="list-style-type: none">• Submit Form B with attachments and exhibit.• Submit Drainage Report and calculations in full compliance with Storm Water Rules• Submit Construction Plans in full compliance with Storm Water Rules. **Drainage report and construction plans must be prepared by a civil engineer, licensed in the State of Hawaii.

DO I NEED TO PREPARE A MAINTENANCE PLAN?

- Form A includes provisions for maintenance. A properly completed Form A will satisfy your maintenance plan requirement. Maintenance checksheets do not need to be attached to Form A.
- Form B includes provisions for maintenance, but also requires that you provide the following information in order to satisfy the maintenance plan requirement:
 - Specify which control measures will be utilized by checking the appropriate boxes in Form B.
 - Attach the appropriate maintenance checksheet for each proposed control measure.
 - Attach an 8 ½" x 11" exhibit showing the type, location, and size of each control measure to include GPS coordinates with accuracy to a minimum of five (5) decimal points. Additional sheets may be attached if necessary.

WHAT MAINTENANCE CHECKSHEETS HAVE BEEN PREPARED?

- Detention Basin
- Infiltration Basin/Trench
- Sand Filter
- Bioretention
- Vegetated Swale
- Vegetated Filter Strip
- Porous Pavement
- Pre-Fabricated Treatment Device
- Subsurface Drainage System

WHERE CAN I OBTAIN THE FORMS AND CHECKSHEETS?

Forms and checksheets can be obtained from:

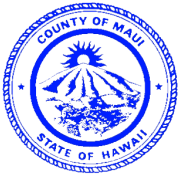
Development Services Administration – Engineering Section
Department of Public Works
County of Maui
250 South High Street
Wailuku, Hawaii 96793
Kalana Pakui Building, Room 130

Download online at: www.co.maui.hi.us

ARE OTHER STORM WATER QUALITY CONTROL MEASURES ALLOWED?

Other control measures may be approved by the Director of Public Works if the proposal is accompanied by a certification and appropriate supporting material from a civil engineer, licensed in the State of Hawaii, that verifies compliance with criteria listed in Storm Water Rules.

FORM A



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**GENERAL PERMIT FOR
STORMWATER QUALITY
BEST MANAGEMENT
PRACTICES AND
MAINTENANCE OF
FACILITIES**

INTRODUCTION

Increases in impervious surfaces associated with development can degrade water quality and negatively impact streams, coastal waters, and other water bodies. The best way to mitigate these impacts is to treat, infiltrate, or store runoff onsite before it can impact water bodies downstream.

This General Permit allows the permit holder to construct the proposed project, subject to special conditions and requirements to mitigate impacts to storm water quality.

OWNER INFORMATION:

Project Name:

Address:

Tax Map Key:

Permit No.:

Facility Contact Name:

Phone Number:

E-Mail:

REQUIRED BEST MANAGEMENT PRACTICES

- To the maximum extent feasible, runoff from paved areas and other impervious surfaces, roof drains, and other onsite drainage systems shall not be allowed to directly drain into the street, gutter, storm drain, or drainage ditch, or any stream, creek, or other body of water. Rather runoff shall first be filtered, infiltrated, or detained onsite by directing runoff to vegetated areas, gravel or sand pits, retention ponds, vegetated swales, tree wells, planter areas, porous pavements, or other water quality treatment devices.
- OTHER:

MAINTENANCE REQUIREMENT

- Property owner shall provide adequate long term maintenance to ensure that all storm water control facilities remain in proper working condition.
- Facilities shall remain free and clear of trash and debris.
- Accumulated silt and sediment shall be removed.
- Vegetated areas shall be properly mowed, watered, and cared for. Bare or eroded areas shall be replanted.
- Infiltration areas shall be cleaned or reconstructed when clogged.
- Proper drainage patterns shall be maintained so that runoff will continue to flow into appropriate runoff treatment areas.
- County representatives are authorized to enter the property at reasonable times and in a reasonable manner for the purpose of inspecting the facilities.

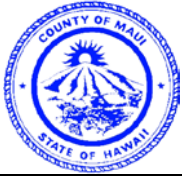
OWNER'S CERTIFICATION

- The site shall be developed and maintained in accordance with all provisions of this general permit.
- Compliance with the provisions of this General Permit shall remain as a condition of the associated building permit or subdivision approval in perpetuity and shall run with the land unless otherwise released in writing by the County of Maui.

Owner's Name

Owner's Signature

Date



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FORM B

**STORMWATER RUNOFF
CONTROL PRACTICES AND
MAINTENANCE PLAN**

INTRODUCTION

Increases in impervious surfaces associated with development can increase runoff, degrade water quality, and negatively impact streams, coastal waters, and other water bodies. The best way to mitigate these impacts is to treat, infiltrate, or store runoff onsite before it can impact water bodies downstream.

This General Permit allows the permit holder to construct the proposed project, subject to special conditions and requirements to mitigate stormwater impacts due to development.

OWNER INFORMATION:

Project Name: _____
Address: _____
Tax Map Key: _____
Permit No.: _____
NPDES CGP No.: _____ (For Projects An Acre or More)
Facility Contact Name: _____
Phone Number: _____
E-Mail: _____

REQUIRED BEST MANAGEMENT PRACTICES

To the maximum extent feasible, runoff from paved areas and other impervious surfaces, roof drains, and other onsite drainage systems shall not be allowed to directly drain into the street, gutter, storm drain, or drainage ditch, or any stream, creek, or other body of water. Rather runoff shall be directed to vegetated areas, gravel or sand pits, retention ponds, vegetated swale, tree wells, planter areas, porous pavements, or other treatment devices.

TREATMENT CONTROL MEASURES

<input type="checkbox"/> Detention Basin	<input type="checkbox"/> Bioretention	<input type="checkbox"/> Pre-fabricated Treatment Device
<input type="checkbox"/> Infiltration Basin/Trench	<input type="checkbox"/> Vegetated Swale	<input type="checkbox"/> Porous Pavement
<input type="checkbox"/> Sand Filter	<input type="checkbox"/> Vegetated Filter Strip	<input type="checkbox"/> Subsurface Drainage System
<input type="checkbox"/> Other		

- Attach appropriate checksheet.
- 8-1/2x11 exhibit showing location and size of each treatment control measure to include GPS coordinates with accuracy to a minimum of five (5) decimal points shall be provided.

MAINTENANCE REQUIREMENT

- Property owner shall provide adequate long term maintenance to ensure that all storm water control facilities remain in proper working condition.
- County representatives are authorized to enter the property at reasonable times and in a reasonable manner for the purpose of inspecting the facilities.
- Appropriate maintenance checklists are attached.

OWNER'S CERTIFICATION

- The site shall be developed and maintained in accordance with all provisions of this plan.
- Compliance with the provisions of this plan shall remain as a condition of the associated building permit or subdivision approval in perpetuity and shall run with the land unless otherwise released in writing by the County of Maui.

Owner's Name _____ Signature _____ Date _____

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



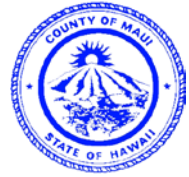
COUNTY OF MAUI

DETENTION BASIN

MAINTENANCE REQUIREMENTS

Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Inspect, clean, and repair all pretreatment areas.	Annual, After major storms
Maintain establishment of vegetation and replant bare areas.	Annual
Remove unwanted trees, brush, and weeds.	Annual
Repair inlet and outlet structures, overflow, low flow channels, and any other structures.	Annual, After major storms
Remove trash and debris.	Annual, After major storms
Repair erosion and other damage.	Annual, After major storms
Remove sediment from main basin	When 50% of original volume has been lost
Other:	

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



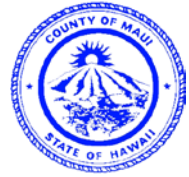
COUNTY OF MAUI

BIORETENTION

MAINTENANCE REQUIREMENTS

Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Inspect, clean, and repair all pretreatment areas.	Annual, after major storms
Inspect soil and repair eroded areas.	Annual, after major storms
Mulch void areas.	Annual
Remove and replace all dead and diseased vegetation.	Annual
Water plant material.	As needed
Remove mulch and apply a new layer.	As needed
Mow turf areas.	Annual
Remove litter and debris.	Annual, after major storms
Other:	

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



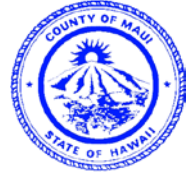
COUNTY OF MAUI

VEGETATED SWALE

MAINTENANCE REQUIREMENTS

Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Inspect, clean, and repair all pretreatment areas.	Annual, after major storms
Mow grass to maintain a height of 4 to 6 inches.	Bi-Annual
Remove trash and debris from the swale.	Annual, after major storms
Inspect swale for sign of erosion, vegetation damage/coverage, channelization problems, debris build-up and excessive sedimentation in bottom of the channel.	Annual, after major storms
Remove sediment in inlet areas, channels, culverts, and outlets whenever flow into the swale is retarded or blocked.	Annual, after major storms
Inspect swale for obstructions (e.g. debris accumulation, invasive vegetation) and pools of standing water that can provide mosquito-breeding habitat. Correct observed problems.	Annual, after major storms
Other:	

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



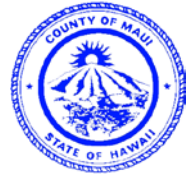
COUNTY OF MAUI

VEGETATED FILTER STRIP

MAINTENANCE REQUIREMENTS

Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Inspect, clean, and repair all pretreatment areas.	Annual, after major storms
Mow grass to maintain a height of 2 to 4 inches.	Bi-Annual
Remove trash and debris from filter strip.	Annual, after major storms
Remove sediment.	Annual, after major storms
Repair ruts or holes in filter strip. Replant bare areas.	Annual, after major storms
Other:	

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



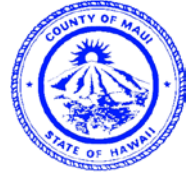
COUNTY OF MAUI

SUBSURFACE DETENTION SYSTEM

MAINTENANCE REQUIREMENTS

Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Inspect, clean, and repair all pretreatment areas.	Annual, after major storms
Repair detention chambers, inlet and outlet structures, overflow, and any other structures.	Annual, after major storms
Remove trash and debris.	Annual, after major storms
Remove sediment from main subsurface detention structure.	When 50% of original volume has been lost
Other:	

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



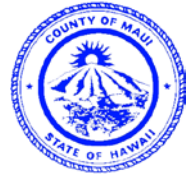
COUNTY OF MAUI

SAND FILTER

MAINTENANCE REQUIREMENTS

Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Inspect, clean, and repair all pretreatment areas.	Annual, after major storms
Inspect filter bed and remove sediment.	Annual, after major storms
Inspect inlet, outlets, overflow spillways, or any other structures.	Annual, after major storms
Remove trash and debris.	Annual, after major storms
Repair erosion and other damage.	Annual, after major storms
Other:	

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



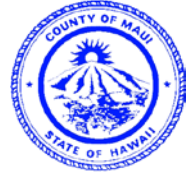
COUNTY OF MAUI

PRE-FABRICATED TREATMENT DEVICE

MAINTENANCE REQUIREMENTS

Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Inspect, clean, and repair all pretreatment areas.	Annual, after major storms
Trim vegetation and clear debris from around maintenance opening.	Annual, after major storms
Remove litter and debris from treatment device vault.	Annual, after major storms
Remove all liquid and sediment waste from treatment device.	Annual, after major storms
Inspect device for cracks or breaks in the vault.	Annual
Other:	

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



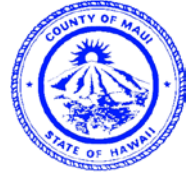
COUNTY OF MAUI

POROUS PAVEMENT

MAINTENANCE REQUIREMENTS

Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Keep the surface clean and free of leaves, debris, and sediment.	Annual, after major storms
Fertilize, irrigate, and mow grass to a height less than four inches.	Annual, after major storms
Where reinforcement product is used to stabilize grass or gravel, replace individual grid sections when they are damaged.	Annual, after major storm
Other:	

**STORMWATER POST-DEVELOPMENT
CONTROL MEASURE MAINTENANCE
CHECK LIST FOR:**



COUNTY OF MAUI

INFILTRATION BASIN/TRENCH

MAINTENANCE REQUIREMENTS	
Maintenance Activity	Schedule
Reconstruct or replace facility when it no longer functions properly.	As needed
Ensure that appropriate site runoff continues to flow to facility.	Annual
Assess overall operation of facility and make necessary repairs.	Annual
Inspect, clean, and repair all pretreatment areas.	Annual, after major storms
Monitor infiltration rate in the trench after storm events by recording the drop in water depth versus the time using a calibrated rod or staff guage.	Annual
Clean gravel and replace filter fabric to restore infiltration rate.	Annual, after major storms
Inspect grass buffer strip to identify potential channelization and erosion problems.	Annual, after major storms
Add soil, reseed and apply erosion control measures to channelized and eroded areas.	As needed
Inspect trench to identify potential problems such as standing water, trash, and debris and sediment accumulation.	Annual, after major storms
Remove trees that sprout in trench vicinity so that roots don't puncture the filter fabric, allowing the sediment to enter the trench.	As needed
Mow and remove litter and debris.	Annual, after major storm
Scrape bottom and remove sediment. Restore ground cover.	Annual, after major storm
Other:	