

5 | Post-Construction Stormwater Management in New Development and Redevelopment Program





5 | POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT PROGRAM

The Post-Construction Stormwater Management in New Development and Redevelopment Program (hereinafter Post-Construction Program) is designed to review all construction projects, to the MEP, for consistency with the criteria that requires the inclusion of post-construction BMPs to prevent or minimize water quality impacts.

The Post-Construction Program includes the following objectives:

- Require Public and Private Construction Projects to execute the established standard practices.
- Maintain inventory and conduct inspections of post-construction BMPs.
- Conduct plan reviews for Public and Private Construction Projects to ensure compliance with the post-construction BMP criteria.
- Provide training on Post-Construction Program BMPs.

5.1 PERMIT REQUIREMENTS

The Post-Construction Program is administered in accordance with the MS4 NPDES Permit requirements referenced in Table 5-1.

Table 5-1. MS4 NPDES Permit Requirements for the Post-Construction Program.

MS4 NPDES Permit Requirement	SWMP Section(s)
Part 6.(a)(5): <i>Post-Construction Stormwater Management in New Development and Redevelopment Program</i> – Develop, implement, and enforce a program to reduce pollutants in stormwater runoff entering the permittee’s small municipal storm sewer system from new development and redevelopment projects that disturb greater than or equal to one acre, including construction sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more that, at a minimum, includes the following.	—
Part 6.(a)(5)(A): Establishment of rules, ordinances, or other regulatory mechanism, including enforcement procedures and actions, that address post-construction runoff from new development and redevelopment projects.	5.2
Part: 6.(a)(5)(B): Structural and/or non-structural best management practices to minimize water quality impacts and attempt to maintain pre-development runoff conditions.	5.4, 5.5
Part 6.(a)(5)(C): Procedures for long-term operation and maintenance of best management practices.	5.3, 5.5





5.2 POST-CONSTRUCTION BMP IMPLEMENTATION

Maui District requires post-construction BMPs to be implemented in accordance with established standards and requirements described in the following:

- *Storm Water Post-Construction Best Management Practices Manual (HWYS)*, effective date July 1, 2022 (Appendix 5.1)
- *Post-Construction Stormwater Management in New Development and Redevelopment Program Manual (HAR)* (Appendix 5.2)

5.3 POST-CONSTRUCTION BMP INSPECTION AND MAINTENANCE

All post-construction BMPs maintained by Maui District are inspected at least annually, and maintenance is performed on an as-needed basis, and according to its corresponding Operation and Maintenance Manual, to ensure proper operation.

Maui District maintains an inventory of its post-construction BMPs and projects with post-construction BMPs. Utilizing Maximo or similar database, Maui District effectively tracks information relating to post-construction BMPs. Information typically includes post-construction BMP type, location, frequency of post-construction BMP inspections, and frequency of post-construction BMP maintenance (as applicable), as shown in Figure 5-1.

Description	Year	Cycle	Work Type	Priority	Type	Route ID	PBMP Type	Location
P0015 PBMP P0015: OTGIF	2022	SEMI-ANNUAL 1	PMI		PBMP	00	OTGIF	KALIALINUI
P009 PBMP P009: CBIF	2022	SEMI-ANNUAL 1	PMI		PBMP	00	DRAIN GUARD	KALIALINUI
P002 PBMP P002: DRY WELL	2022	SEMI-ANNUAL 1	PMI		PBMP	00	DRY WELL	KALIALINUI
P003 PBMP P003: DRY WELL	2022	SEMI-ANNUAL 1	PMI		PBMP	00	DRY WELL	KALIALINUI
P004 PBMP P004: DRY WELL	2022	SEMI-ANNUAL 1	PMI		PBMP	00	DRY WELL	KALIALINUI
P005 PBMP P005: DRY WELL	2022	SEMI-ANNUAL 1	PMI		PBMP	00	DRY WELL	KALIALINUI
P041 PBMP P041: FRENCH DRAIN	2022	ANNUAL	PMI		PBMP	36	FRENCH DRAIN	MALIKO
P0011 PBMP P0011: OTGIF	2022	SEMI-ANNUAL 1	PMI		PBMP	00	OTGIF	KALIALINUI
P0012 PBMP P0012: OTGIF	2022	SEMI-ANNUAL 1	PMI		PBMP	00	OTGIF	KALIALINUI
P0013 PBMP P0013: OTGIF	2022	SEMI-ANNUAL 1	PMI		PBMP	00	OTGIF	KALIALINUI
P0014 PBMP P0014: OTGIF	2022	SEMI-ANNUAL 1	PMI		PBMP	00	OTGIF	KALIALINUI
P0110 PBMP P0110: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO
P0111 PBMP P0111: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO
P012 PBMP P012: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO
P013 PBMP P013: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO
P014 PBMP P014: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO
P015 PBMP P015: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO
P016 PBMP P016: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO
P017 PBMP P017: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO
P018 PBMP P018: DRY WELL	2022	ANNUAL	PMI		PBMP	30	DRY WELL	IAO

5-1. Maximo tracks Post-Construction BMP inventory and inspection frequencies.





5.4 POST-CONSTRUCTION BMP REVIEW AND APPROVAL

Maui District implements a post-construction review and approval process to ensure all post-construction BMPs are implemented in accordance with the post-construction BMP established standard.

HWY-M utilizes the Stormwater Post-Construction BMP Design Checklist contained within the *Storm Water Post-Construction Best Management Practices Manual* to evaluate Public and Private Construction Projects. HWY-M does not issue a *Permit to Perform Work* until the project plans have been reviewed and accepted to ensure the appropriate post-construction BMPs have been included in the project design in accordance with the applicable standards and requirements set forth in the *Storm Water Post-Construction Best Management Practices Manual*. Construction projects that implement post-construction BMPs must provide appropriate requirements for future operation and maintenance.

HAR utilizes the Permanent Post-Construction Best Management Practice Plan Checklist (Appendix 5.3) to review all NPDES permitted new development and redevelopment construction projects for post-construction plans. HAR must review and accept the post-construction plans in accordance with the criteria, guidelines, and design standards set forth in the *Post-Construction Stormwater Management in New Development and Redevelopment Program Manual*. Construction projects that implement post-construction BMPs must provide appropriate requirements for future operation and maintenance.

Maui District will evaluate these documents periodically and update them as necessary.

5.5 TRAINING

Maui District conducts annual training for its program staff on BMPs, such as maintaining an inventory of post-construction BMPs, conducting post-construction reviews, and conducting inspections of post-construction BMPs.

5.6 MEASURING PROGRAM EFFECTIVENESS

Maui District assigns each Post-Construction Program BMP an Outcome Level, anticipated frequency over the permit term, data collection method, and assessment parameter, as shown in Table 5-2.





Table 5-2. Measuring Effectiveness of the Post-Construction Program.

Post-Construction Program BMP	Outcome Level ¹	Anticipated Frequency	Data Collection Method	Assessment Parameter
Post-Construction BMP Implementation	1	Continuous	Completion	Permit compliance
Post-Construction BMP Inspection and Maintenance	1	Continuous	Confirmation	Permit compliance
Post-Construction BMP Review and Approval	2	Continuous	Tabulation	No. of projects with post-construction BMPs reviewed
Training	2	Annually	Tabulation	No. of events and event attendees

¹Outcome Levels:

- 1- Permit Compliance.** Many program activities are conducted as a direct requirement of the MS4 NPDES Permit. Therefore, Level 1 outcomes may take the form of yes/no answers. Level 1 outcomes are assumed to be beneficial to water quality, but are not considered Direct Outcomes as it lacks the casual effect to support this assumption.
- 2- Knowledge and Awareness.** Outcomes at this level gauge whether educational efforts are progressing toward changes in knowledge and awareness. Measuring these outcomes is achieved through observation of involvement from target audiences. Similar to Outcome Level 1, Level 2 outcomes are assumed to be beneficial to water quality but are considered Indirect Outcomes.
- 3- Behavioral Changes.** Outcomes at this level measure the effectiveness of programs in motivating target audiences to change their behaviors and implement appropriate BMPs. These behavioral changes are tracked using site inspections and tabulating changes in program involvement. Outcomes at Level 3 are considered Indirect Outcomes.



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