

Chapter 3. Steps to Managing Stormwater Quality

This chapter outlines steps to select and design stormwater quality features in order to effectively incorporate stormwater management into site design and satisfy the requirements of the permitting agencies in Sacramento County.

Figure 3-1 illustrates the process. As you proceed through the process, record project information and decisions and compile this information for submittal with the planning application and/or post-construction stormwater quality plan, described in Appendix A. Check with the local permitting agency before you begin, since they may require or recommend the use of special checklists, forms or formats for these submittals.

As explained in Chapter 2, **Integrated Approach to Stormwater Management**, developing optimal stormwater control strategies requires that stormwater be considered early in the site design process – before the site layout is established. Otherwise, the choice/location of stormwater controls will be constrained by prior site design decisions and it may not be possible to integrate stormwater controls throughout the project design. See Chapter 2 for more information about the integrated approach to effective stormwater management.

The steps outlined in this chapter are presented in sequence, but steps 3 through 7 are interrelated. Be sure to involve the engineers and other design professionals early during the conceptual design stage using the collaborative team approach discussed in Chapter 2.

Step 1. Gather Project and Site Information

Start by compiling information about the site and project. Some local development permitting agencies (e.g., Sacramento County) will require this information to be submitted with the initial planning application:

- Project gross area (acres)
- Proposed project net area (acres): this is the gross area minus protected open space (including stream setbacks and buffers) and planned parks
- Proposed project density for residential projects (dwelling units per net area)
- Existing and proposed impervious area (acres)
- Name of watershed/receiving water and whether the project discharges directly to this receiving water or first to the municipal storm drain system
- Arborist's report

Project category and associated potential pollutants, based on Table 3-1. Pollutant information will be used later to determine appropriate control measures for your project.

Table 3-1 Project Categories and Associated Potential Pollutants

Priority Project Categories	General Pollutant Categories								
	Bacteria	Heavy Metals	Nutrients	Pesticides	Organic Compounds	Sediments	Trash & Debris	Oxygen Demanding Substances	Oil & Grease
Detached Residential Development	X		X	X		X	X	X	X
Attached Residential Development	P		X	X		X	X	p ⁽¹⁾	p ⁽²⁾
Commercial/Industrial Development	p ⁽³⁾		p ⁽¹⁾	p ⁽⁵⁾	p ⁽²⁾	p ⁽¹⁾	X	p ⁽⁵⁾	X
Automotive Repair Shops		X			X ⁽⁴⁾⁽⁵⁾		X		X
Restaurants	X						X	X	X
Hillside Development			X	X		X	X	X	X
Parking Lots		X	p ⁽¹⁾	p ⁽²⁾		p ⁽¹⁾	X	p ⁽⁵⁾	X
Streets, Highways & Freeways		X	p ⁽¹⁾	p ⁽¹⁾	X ⁽⁴⁾	X	X	p ⁽⁵⁾	X

X = anticipated P = potential
 (1) A potential pollutant if landscaping exists on-site.
 (2) A potential pollutant if the project includes uncovered parking areas.
 (3) A potential pollutant if land use involves food or animal waste products.
 (4) Including petroleum hydrocarbons.
 (5) Including solvents.
 Source: CASQA New Development BMP Handbook, 2003, Errata 09-04.

Step 2. Determine Requirements

Use Figure 3-1 to determine stormwater quality requirements for your project. Requirements depend on the size, type, and/or impervious area of your project (see Table 3-2 and Table 3-3). A few noteworthy aspects within this figure are called to the user's attention:

- All projects, regardless of type, size, or location, require implementation of the minimum prescribed source control measures. Refer to Step 4, Select Source Control Measures, and Chapter 4, **Source Control Measures**, for more information.
- An HMP Assessment based upon project size and location dictates the applicability of hydromodification control standards. The intent behind implementation of hydromodification control measures is to mitigate the impact of changes in runoff duration, rate and the discharge of bed sediment supply, based upon the Sacramento Stormwater Quality Partnership Hydromodification Management Plan (July 29, 2011; Revised February 14, 2013 and September 2017 Refer to Step 5, Select Hydromodification Control Measures, and Chapter 5, **Hydromodification Management, Low Impact Development, and Treatment Control Measures**, for more information. Refer also to: <http://www.beriverfriendly.net/Newdevelopment/>
- Implementation of low impact development (LID) measures is required of all projects above the impervious surface threshold applicable based upon land use (see Table 3-2 and Table 3-3). The intent behind implementation of LID is to reduce the increase in runoff volume created by the post project condition by about 50%, in other words, reduce the difference between pre-development and post-development volumes by 50%. Refer to Step 6, Select Low Impact Development Measures, and Chapter 5, **Hydromodification Management, Low Impact Development, and Treatment Control Measures**, for more information.
- Implementation of Treatment Control Measures is required of all projects above the impervious surface threshold applicable based upon land use (see Table 3-2 and Table 3-3). The intent behind implementation of treatment control measures or treatment control best management practices (TCBMPs) is to mitigate increased pollutant loading associated with the post project condition to the “maximum extent practicable.” Refer to Step 7, Select Treatment Control Measures, and Chapter 5, **Hydromodification Management, Low Impact Development, and Treatment Control Measures**, for more information.

Use Table 3-2 and Table 3-3 to determine the minimum “required” and “acceptable option” control measures necessary for your site to comply with Figure 3-1.

Table 3-2 Required Stormwater Quality Control Measures for Priority Projects

Priority Project Categories ⁽¹⁾	Required Stormwater Quality Control Measures				
	Source Control ⁽²⁾	Hydromodification Control ⁽³⁾	Low Impact Development Control	Treatment Control	Full Capture Trash Control ⁽⁷⁾
Single Family Residential Impervious area \geq 1 acre	X		X		X For projects with at least 10 du/acre ⁽⁸⁾
Single Family Residential Gross Area \geq 20 acres	X	X	X	X	
Multi-family Residential Impervious Area < 1 acre	X				
Multi-family Residential Impervious Area \geq 1 acre	X	X	X	X	
Commercial/ Industrial Development ⁽⁶⁾ Impervious area < 1 acre	X				X For industrial projects where primary activities involve product manufacture, storage, or distribution. For commercial projects where primary activities involve sale or transfer of goods or services to consumers
Commercial/ Industrial Development ⁽⁶⁾ Impervious area \geq 1 acre	X	X	X	X	
Automotive Repair Shops ⁽⁶⁾ Impervious area < 1 acre	X				
Automotive Repair Shops ⁽⁶⁾ Impervious area \geq 1 acre	X	X	X	X	
Retail Gasoline Outlet ⁽⁶⁾ Impervious area < 1 acre	X				
Retail Gasoline Outlet ⁽⁶⁾ Impervious area \geq 1 acre	X	X	X	X	
Restaurants Impervious area < 1 acre	X				
Restaurants Impervious area \geq 1 acre	X	X	X	X	
Hillside Development Slope \geq 25%	X	X	X	X	
Parking Lots ⁽⁴⁾⁽⁶⁾ Impervious area < 5,000 square feet or 25 parking spaces	X				X For Public Transportation Stations, which are facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops)
Parking Lots ⁽⁴⁾⁽⁶⁾ Impervious area \geq 5,000 square feet or 25 parking spaces	X	X	X	X	
Streets & Roads ⁽⁵⁾⁽⁶⁾ Impervious area < 5 acres	X				
Streets & Roads ⁽⁵⁾⁽⁶⁾ Impervious area \geq 5 acres	X	X	X	X	

- (1) Refer to Table 1-2 for more information on how each project category is generally defined and check with the local zoning code for the specific definition in a given jurisdiction.
- (2) Storm drain markings required for all projects. Other source controls required for all projects with applicable site activities. Choice of source control for hillside development depends on type of land use (commercial, residential, etc.).
- (3) If applicable, refer to Chapter 5, Hydromodification Management, Low Impact Development, and Treatment Control Measures, and Figure 5-2 of this Manual for the Hydromodification Management Applicability Map.
- (4) Only applies to stand-alone parking lots exposed to rainfall. Parking lots associated with buildings/facilities need to meet requirements of associated land use (commercial, industrial, etc.)
- (5) Municipal or private road projects and expansions that are not a part of new residential, commercial or industrial developments.
- (6) Threshold applies to municipal and private projects.
- (7) Refer to Appendix H for further information related to full capture trash control.
- (8) Dueling units per acre- du/acre

Table 3-3 Stormwater Quality Control Measure Selection Matrix

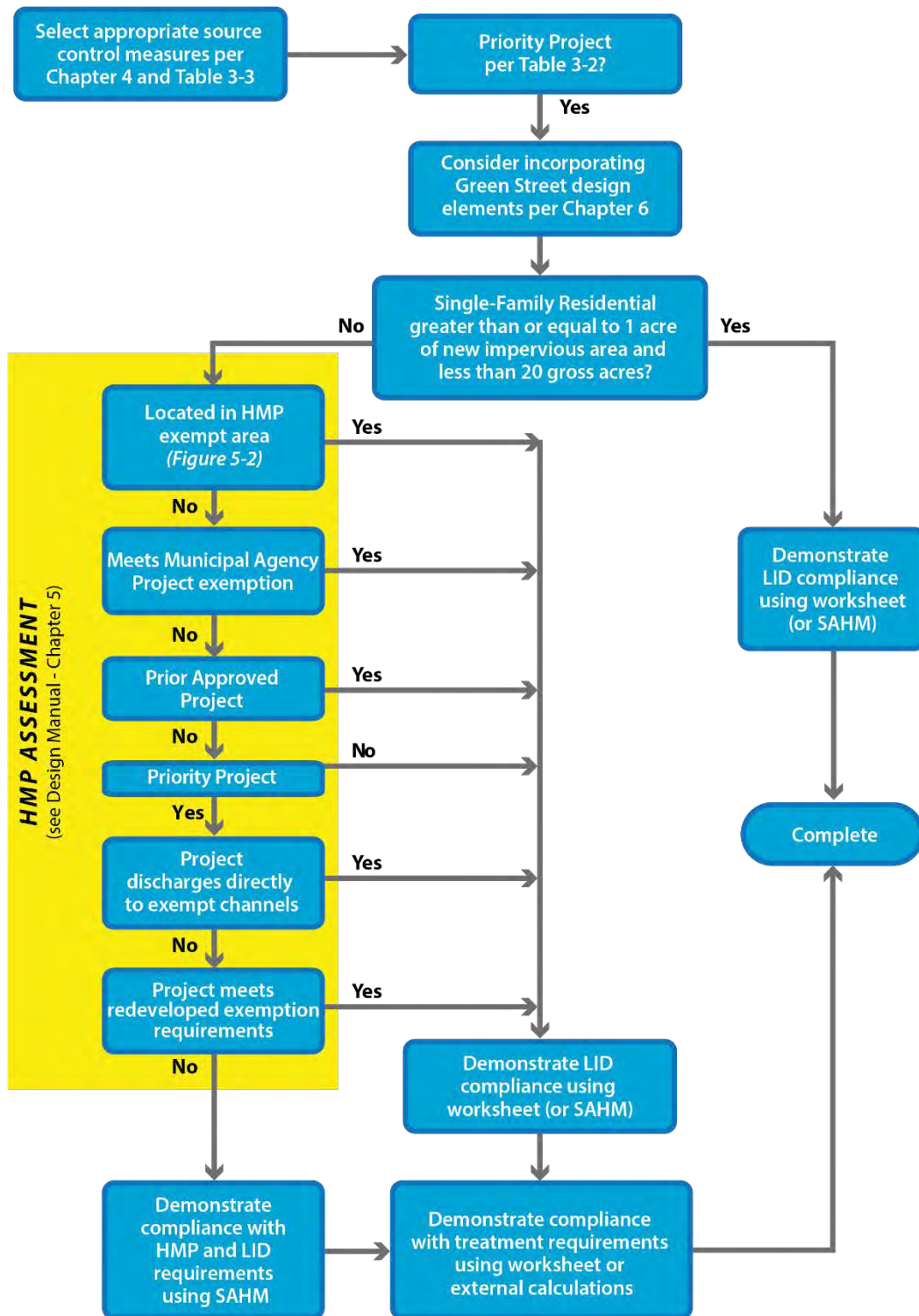
Priority Project Category ^(a)	Residential			Commercial/Industrial					Hillside Developments ≥ 25% slope	Parking lots ^(b) ≥ 5,000 sf or 25 spaces	Streets/Roads ^(c) Impervious area ≥ 5 ac
	Single Family Residential Impervious area ≥ 1 ac	Single Family Residential Gross area ≥ 20 ac	Multi-family Residential Impervious area ≥ 1 ac	Commercial Impervious area ≥ 1 ac	Auto Repair Shops Impervious area ≥ 1 ac	Retail Gasoline Outlets Impervious area ≥ 1 ac	Restaurants Impervious area ≥ 1 ac	Industrial Impervious area ≥ 1 ac			
Source Control ^(d)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Efficient Irrigation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fueling Areas	NA	NA	NA	✓	✓	✓	✓	✓	✓	NA	NA
Landscaping	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Loading Areas	NA	NA	NA	✓	✓	✓	✓	✓	✓	NA	NA
Outdoor Storage Areas	NA	NA	NA	✓	✓	✓	✓	✓	✓	NA	NA
Outdoor Work Areas	NA	NA	NA	✓	✓	✓	✓	✓	✓	NA	NA
Storm Drain Markings and Signs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vehicle/Equipment Wash Areas	NA	NA	✓	✓	✓	✓	✓	✓	✓	NA	NA
Waste Management Areas	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	NA
Hydromodification Control, LID, and Treatment Control ^{(e)(f)}	(LID Only)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alternative Driveways	•	•	•	NA	NA	NA	NA	NA	•	NA	NA
Capture and Re-Use	•	•	•	•	•	•	•	•	•	NA	NA
Compost-Amended Soil	•	•	•	•	NA	NA	•	•	NA	•	NA
Constructed Wetland Basin	•	•	•	•	NA	NA	•	•	NA	•	•
Disconnected Pavement	•	•	•	•	•	•	•	•	•	•	•
Disconnected Roof Drains	•	•	•	•	•	•	•	•	•	NA	NA
Green Roof	NA	NA	NA	•	•	•	•	•	•	NA	NA
Infiltration Basin	•	•	•	•	NA	NA	•	NA	NA	•	•
Infiltration Trench	•	•	•	•	NA	NA	•	NA	NA	•	•

Table 3-3, continued

Priority Project Category ^(a)	✓ Required Based Upon Table 3-2			• Acceptable Option			“NA” Not applicable or allowed			Hillside Developments ≥ 25% slope	Parking lots ^(b) ≥ 5,000 sf or 25 spaces	Streets/Roads ^(c) Impervious area ≥ 5 ac
	Residential	Commercial/Industrial		Residential	Commercial/Industrial		Residential	Commercial/Industrial				
Control Measure	Single Family Residential Impervious area ≥ 1 ac	Single Family Residential Gross area ≥ 20 ac	Multi-family Residential Impervious area ≥ 1 ac	Commercial Impervious area ≥ 1 ac	Auto Repair Shops Impervious area ≥ 1 ac	Retail Gasoline Outlets Impervious area ≥ 1 ac	Restaurants Impervious area ≥ 1 ac	Industrial Impervious area ≥ 1 ac				
Interceptor Trees	•	•	•	•	•	•	•	•	•	•	•	
Porous Pavement	(e)	(e)	(e)	•	NA	NA	•	NA	•	•	(e)	
Sand Filter (Austin Sand Filter)	•	•	•	•	•	•	•	•	•	•	•	
Bioretention Planter (Flow-Through)	•	•	•	•	•	•	•	•	•	•	•	
Bioretention Planter (Infiltration)	•	•	•	•	NA	NA	•	NA	•	•	•	
Underground Storage (Tanks, Vaults, etc.)	•	•	•	•	•	•	•	•	•	•	•	
Vegetated Filter Strip	•	•	•	•	NA	NA	•	NA	•	•	•	
Vegetated Swale	•	•	•	•	•	•	•	•	•	•	•	
Water Quality Detention Basin	•	•	•	•	•	•	•	•	•	•	•	
Proprietary Devices ^(g)	•	•	•	•	•	•	•	•	•	•	•	
Full Capture Trash Control^(h)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

- (a) Refer to Table 1-2 for more information on how each priority project category is generally defined and check with the local zoning code for the specific definition in a given jurisdiction.
- (b) Only applies to stand-alone parking lots exposed to rainfall. Parking lots associated with buildings/facilities need to meet requirements of associated land use (commercial, industrial, etc.)
- (c) Municipal road projects and expansions that are not a part of new residential, commercial or industrial developments.
- (d) Storm drain markings required for all projects. Other source controls required for all projects with applicable site activities. Choice of source control for hillside development depends on type of land use (commercial, residential, etc.)
- (e) Consult local permitting agency to determine acceptability for use in public right-of-way.
- (f) Alternative treatment controls may be proposed; subject to review and approval of local permitting agency. The need for treatment may be reduced through LID measures; see Appendix D. If the project drains to an adequately sized/designed regional treatment facility (e.g., detention basin), additional on-site treatment controls may not be needed.
- (g) See discussion in Chapter 5 of this manual and www.beriverfriendly.net for list of acceptable devices.
- (h) Refer to Appendix H for further information related to full capture trash control.

Figure 3-1 Identifying Stormwater Quality Requirements for New Development and Redevelopment Projects



[Click here to link to Figure 5-2, Applicability Map.](#)

Step 3. Evaluate Best Approach to Protect Stormwater Quality

Evaluate the best approach to protecting stormwater quality considering the site conditions, required controls, and the principles outlined in Chapter 2. In particular:

- Identify opportunities and constraints given the site conditions
- Preserve valuable site features where possible (and where required) and work with the topography
- Seek to integrate LID measures throughout the site design, such as incorporating them into landscaping and reducing runoff volume close to its source. Some projects are required to achieve a minimum number of points in order to meet LID performance standards (see Step 6, Select Low Impact Development Measures). LID measures provide the additional benefit of:
 - Providing water quality treatment
 - Mitigating hydromodification (flow duration) impacts
- Look for other cost-effective, aesthetically pleasing ways to treat runoff and manage the effects of hydromodification (if either is needed but cannot be achieved solely through implementation of acceptable LID measures.)

Identify and consider receiving water limitations based upon established “Total Maximum Daily Load” (TMDL) allocations, if any. In TMDL watersheds where urbanizing development has been determined to be a contributing source of impairment, increased emphasis should be applied to source control measures. Additional treatment standards and engineering analysis (beyond that described in this manual) for targeted constituents may be applied based upon the discretion of the individual jurisdiction or an approved waste load allocation (WLA). A current list of adopted TMDLs and other water quality impairments within California can be found at:

http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

Step 4. Select Source Control Measures (Chapter 4)

Based on Step 3, Evaluate Best Approach to Protect Stormwater Quality; Chapter 4, **Source Control Measures**; and Table 3-2 and Table 3-3, select appropriate source control measures. Source controls are intended to keep pollutants from mixing with runoff and traveling off the site. All projects require permanent “no dumping-drains to creek/river” markings to be applied to storm drain inlets. In addition, source control measures are required for the following areas where there is the potential for pollutants to be exposed to stormwater runoff:

- Fueling areas
- Loading areas
- Outdoor material storage areas
- Outdoor work areas (e.g., processing, manufacturing)
- Vehicle and equipment wash areas

*Source control measures
keep pollutants
from mixing with runoff and
traveling off the site*

- Waste management areas (garbage, recycling, restaurant food waste)
- Landscaped areas
- Irrigated areas

Step 5. Select Hydromodification Control Measures (Chapter 5)

Determine if hydromodification management control measures are required. If so, based on Step 3, Chapter 5, and, Table 3-2 and Table 3-3, select appropriate hydromodification control measures. When urbanization takes place, peak flow can increase, and runoff duration can be extended, causing artificial acceleration of natural erosion and sedimentation processes within the receiving streams. Hydromodification control measures are intended to mitigate this effect through attenuation, infiltration, and dispersion of additional runoff created by impervious surfaces and earthwork compaction. The extent of the measures chosen must satisfy the flow duration standards specified within the Sacramento Stormwater Quality Partnership Hydromodification Management Plan (July 29, 2011; Revised July 2018) and requires the use of continuous simulation modeling to demonstrate project compliance. The Sacramento Stormwater Quality Partnership has developed and made available a tool (Sacramento Area Hydrology Model, or SAHM) specifically for this purpose. SAHM and the SAHM User's Manual is available at <http://www.beriverfriendly.net/Newdevelopment/>. Refer to Chapter 5 for a more detailed explanation of compliance with flow duration standards using SAHM.

Step 6. Select Low Impact Development Measures (Chapter 5)

Include LID measures in your project design if any of the following apply:

- Your project meets or exceeds the impervious acreage threshold (based upon project type), as specified in Figure 3-1.
- The project requires treatment controls (see Step 7, Select Treatment Control Measures) and you want to reduce the needed size (and associated cost) of required treatment.
- You conclude it is cost effective to incorporate LID measures and you would like to provide the environmental benefit of doing so.
- They are required by the local permitting agency for the particular project.

Use of low impact development measures can decrease the size of required downstream water quality controls

As described in Chapter 2, **Integrated Approach to Stormwater Management**, LID measures are intended to mimic natural hydrologic functions and reduce the amount of runoff traveling off the site. This is achieved by minimizing impervious surfaces, disconnecting impervious surfaces from the storm drain system, and promoting infiltration where possible. Even sites with clay soils can benefit from application of LID measures. Several different types of LID measures are:

- Alternative driveways
- Capture and re-use
- Compost-amended soil
- Disconnected pavement

- Disconnected roof drains
- Green roof
- Interceptor trees
- Porous pavement

Refer to Table 3-3 to identify which types of measures are acceptable for your project and then use the worksheets in Appendix D to calculate the LID points you can achieve by incorporating one or more of these measures into your project. A total of 100 points are required for qualifying projects. Then use the worksheets to calculate any remaining water quality volume or flow that needs to be treated and proceed to Step 7, Select Treatment Control Measures, to select the treatment control facilities. If the entire water quality volume (WQV) can be treated effectively using low Impact development, no additional treatment control measures will be required, and you can advance to Step 8, Design Facilities (Preliminary).

Step 7. Select Treatment Control Measures (Chapter 5)

Treatment control measures are intended to filter and settle pollutants out of runoff before it travels off the site. If treatment controls are required per Figure 3-1 (and still needed after the calculation of LID credits in Step 6, Select Low Impact Development Measures), select the appropriate treatment control measures. To do so, use your analysis in Step 3, Evaluate Best Approach to Protect Stormwater Quality; the details in Table 3-3 regarding whether a given control measure is acceptable for the project category; and the information in Chapter 5. Chapter 5 also includes fact sheets for a variety of treatment control measures:

- Constructed wetland basin
- Water quality detention basin
(three types: wet, dry, combination)
- Infiltration basin
- Infiltration trench
- Sand filter
- Bioretention (a.k.a. “Stormwater planter” - two types: flow-through and infiltration)
- Vegetated filter strip
- Vegetated swale

Treatment control measures are intended to filter and settle pollutants out of runoff before it travels off the site

Proprietary devices, such as stormwater media cartridge systems, may also be allowed for the project. Selected devices must meet the local permitting agency’s approval. Refer to

www.beriverfriendly.net for information about which devices are currently accepted. Additional information about the agencies’ approval programs is provided in Chapter 5.

When you have made a preliminary selection of the treatment control measures for your site, refer to the fact sheets in Chapter 5 and the sizing methodology in Appendix E to ensure that there is adequate space on your site for the measure(s). This may require an iterative process working with various types of control measures until the right combination is identified for the project. Depending

on your preliminary calculations, you may also want to reconsider additional LID measures to reduce the needed size of treatment facilities (revisit Step 6, Select Low Impact Development Measures).

At this stage in the process, the design engineer should also give consideration to the available options for sizing LID and hydromodification control measures using computer software or spreadsheet analysis. In all applicable projects, sizing of BMPs for hydromodification control must be performed using the Sacramento Area Hydrology Model Software (SAHM). However, in justifying the required LID points (a function of managed area percentage and stormwater volume reduction), the designer is given the option to use either SAHM, or a basic spreadsheet prepared by the Permittees. The spreadsheet is intended as a relatively simple but conservative tool. As indicated previously, its use is optional. However, this tool is recommended as most suitable for the following circumstances:

1. Projects not subject to hydromodification management standards (as those projects would already be producing a SAHM model capable of accurately evaluating LID compliance)
2. Projects using a comparatively limited (i.e., 1 or 2) BMPs to meet minimum LID point standards. Projects that employ extensive (3 or more) BMPs in series can typically produce significant volume reduction that the spreadsheet (due its simplistic nature) cannot accurately value, and consequently will produce results that are overly conservative. In such instances, a physically based continuous simulation such as SAHM is recommended. Acceptance of other modeling software is at the discretion of the individual permitting agency.

Step 8. Design Facilities (Preliminary)

At this point in the process you have selected the suite of control measures for your project, assessed the need for hydromodification compliance and sizing of requisite control measures, calculated the LID credits (as required) and determined preliminary sizing for any and all additional treatment facilities. Now it is time to compile and submit the information to the applicable permitting agency with the planning application. Check with the agency for their submittal requirements and be sure to consult with their stormwater quality staff before proceeding to Step 9, Design Facilities (Final). Consider scheduling a pre-application meeting just for this purpose or include stormwater quality as an agenda item on a pre-scheduled pre-application meeting. The stormwater quality staff will review the proposal, check that the standards would be satisfied by the proposal, and provide suggestions; however, final design and sizing of the facilities will not be checked by the permitting agency until later in the process.

Step 9. Design Facilities (Final)

Using feedback from permitting agency staff obtained in Step 8; complete the final design of the stormwater quality facilities for submittal with construction or improvement plans to the local permitting agency. Appendix A outlines the minimum submittal requirements for this post-construction stormwater quality plan submittal. The submittal must provide sufficient design details,

calculations and other information to demonstrate the adequacy of the proposed stormwater quality design for the project. Record all this design information on the design data summary sheet found at the end of each fact sheet in Chapter 5.

Appendix A also presents an example of a typical post-construction plan submittal required by member agencies of the Sacramento Stormwater Quality Partnership. Check the web site for additional agency examples as they become available: www.beriverfriendly.net.

Some permitting agencies may require a certificate of control measure compliance or similar certification before the project is deemed complete. Since every agency does this somewhat differently, it is critical to check with the applicable agency.

Step 10. Establish Long Term Maintenance Requirements

For projects using any structural hydromodification controls, or treatment control measures, verification of long-term maintenance provisions is required. This is mandated by the agencies' municipal stormwater permits. The local permitting agencies in the Sacramento area will ensure a maintenance plan is in place through the execution of a maintenance agreement, covenant or permit with the property owner.

Each fact sheet in Chapter 5, **Hydromodification Management, Low Impact Development, and Treatment Control Measures**, for a control measure that requires a maintenance plan includes a table listing inspection and maintenance recommendations. This table (as amended by the project designer/property owner, if applicable) is meant to be incorporated into the maintenance agreement for the project.

Verification of long-term maintenance provisions is required for projects using stormwater quality treatment control measures such as vegetated swales and bioretention planters. See Appendix B for a complete list.

Typically, maintenance agreements and covenants are recorded with the deed for the property and follow property ownership. The agreements generally include provisions for the permitting agency to recover costs for maintenance in the event that the property owner fails to fulfill their obligations. They also require reconstruction or replacement of the feature when it fails to function properly. For informational purposes, Appendix B presents projected lifespan information for the various control measures.

Check with the local permitting agency about the maintenance submittal requirements and timing for execution of the agreement. See Appendix B for additional information and sample maintenance agreements.

Step 11. Construct

During the construction phase, follow the construction guidelines for the stormwater quality control measures described in the fact sheets found later in this manual. It is particularly important to protect the facilities from receiving sediment loads during the construction process. To protect

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facilities from adjacent construction activities, educate the construction superintendent and use erosion and sediment control techniques, such as erosion control blankets and straw wattles/fiber rolls. For construction erosion and sedimentation control standards and details, reference the local permitting agency's standard specifications and/or guidance manuals (see Appendix F for contact information). Because the state of this practice is evolving rapidly, be sure to check with the permitting agency to verify that you have the most current edition.

Projects will not be accepted until all stormwater quality measures are installed properly. Please refer to Appendix GH for an inspection checklist that can be used during construction.