

# Introduction and Guide to Using this Handbook

*This Chapter describes the purpose of this Handbook and gives an overview of its contents.*

## 1.1 Purpose of this Handbook

This handbook was written to help developers, builders, and project applicants include appropriate post-construction stormwater controls in their projects, to meet local municipal requirements and requirements of the Bay Area Municipal Regional Stormwater Permit (MRP). Municipalities covered by the MRP must require post-construction stormwater controls on development projects as part of their obligations under Provision C.3 of the MRP. This permit is a National Pollutant Discharge Elimination System (NPDES) permit issued by the San Francisco Bay Regional Water Quality Control Board (Regional Water Board), allowing municipal stormwater systems to discharge stormwater to local creeks, San Francisco Bay, and other water bodies if municipalities conduct prescribed actions to control pollutants. In case of conflicting information between this handbook and the MRP, the MRP requirements prevail.

The term “**post-construction stormwater control**” refers to permanent features included in a development project to reduce pollutants in stormwater and/or erosive flows during the life of the project – after construction is completed. The term “post-construction stormwater control” encompasses low-impact development (LID) site design, source control, and treatment measures as well as hydromodification management measures. LID techniques reduce water quality impacts by preserving and re-creating natural landscape features, minimizing imperviousness, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource.

**“Post-construction stormwater controls”** are permanent features included in a project to reduce stormwater pollutants and flow after construction is completed.

Information on best management practices (BMPs) that protect water quality during construction is available on the Urban Runoff Program’s website [www.scvurppp.org](http://www.scvurppp.org) as well as the California Stormwater Quality Association’s website [www.casqa.org](http://www.casqa.org).

Post-construction stormwater controls are required for both private and public projects. Although this handbook is written primarily for sponsors of private development projects, its technical guidance also applies to publicly-sponsored projects. Municipalities may also find the handbook useful for training municipal staff and consulting plan checkers.

## 1.2 Background on the Urban Runoff Program

The Santa Clara Valley Urban Runoff Pollution Prevention Program (Urban Runoff Program) is an association of thirteen cities and towns in Santa Clara Valley, the County of Santa Clara, and the Santa Clara Valley Water District that share a common NPDES permit to discharge stormwater to South San Francisco Bay. Member Agencies (also called Co-permittees) include Campbell, Cupertino, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, Sunnyvale, the County of Santa Clara, and Valley Water (formerly the Santa Clara Valley Water District).

The Urban Runoff Program’s member agencies, and other agencies throughout the region, are joint holders of the MRP. Each member agency is individually responsible for implementing the MRP requirements, but participating in the Urban Runoff Program helps it collaborate on Program-wide initiatives that benefit all members. More information on the Urban Runoff Program is available on its website, [www.scvurppp.org](http://www.scvurppp.org).

## 1.3 How to Use this Handbook

Some requirements in this Program-wide handbook **may vary** from one local jurisdiction to another.

When using this Program-wide handbook, please keep in mind that **some requirements may vary from one local jurisdiction to the next**. In the very early stages of project planning, contact the municipal planning staff to learn how the C.3 requirements – and other planning, zoning and building requirements – will apply to your project. Also, because regulatory requirements may change, be sure to ask the local municipal staff to provide any updates of information or requirements.

It’s important to note that post-construction stormwater design requirements are complex and technical: most projects will require the assistance of a qualified civil engineer, architect, landscape architect, and/or geotechnical engineer.

A synopsis of the handbook’s chapters and appendices is provided below:

## Chapters

- Chapter 2 explains how development affects stormwater quality and how post-construction stormwater measures help reduce these impacts, and gives a detailed explanation of **Provision C.3 requirements**.
- Chapter 3 gives an overview of how the post-construction stormwater requirements fit into a typical development review process, and offers **step-by-step instructions** on how to incorporate stormwater control/LID techniques into planning permit and building permit application submittals for your project.
- Chapter 4 presents information on **site design measures**, including guidance for self-treating and self-retaining areas, which can help reduce the requirements for stormwater treatment measures.
- Chapter 5 provides **general technical guidance for stormwater treatment measures**, including hydraulic sizing criteria, getting runoff into stormwater treatment measures, infiltration guidelines, underdrains, bypassing high flows, using “treatment trains”, mosquito control, and plant selection and maintenance.
- Chapter 6 gives technical guidance for **specific types of stormwater treatment measures**, including bioretention area, flow-through planter, tree well filter, infiltration trench, subsurface infiltration system, rainwater harvesting and use, media filter, extended detention basin, green roof, and pervious paving.
- Chapter 7 explains the requirements for **hydromodification management measures**, which keep the flow rates, volumes, and durations of post-project stormwater flows at pre-project levels, in order to minimize development-induced erosion in susceptible creek channels.
- Chapter 8 explains the **operation and maintenance** requirements for stormwater treatment measures.
- Chapter 9 describes the MRP’s Provision C.3.e., which allows projects to construct or contribute to off-site **alternative compliance** projects instead of constructing on-site stormwater treatment measures.

## Appendices

- Appendix A presents guidelines for using stormwater controls that promote on-site **infiltration** of stormwater, and includes a depth to groundwater map.
- Appendix B provides worksheets for **hydraulic sizing** of stormwater treatment measures, including a map of Mean Annual Precipitation and hydraulic sizing curves for treatment measures, as well as examples showing how to use the worksheets and sizing approaches.
- Appendix C provides regional **Biotreatment Soil Specifications** for use in stormwater biotreatment measures.
- Appendix D includes a **list of plants** appropriate for use in landscape-based treatment measures. It also offers general guidance on plant selection and maintenance.

- Appendix E contains resources for meeting the **Hydromodification Management** (HM) requirements, including an applicability flow chart and map, design guidance for flow duration control facilities, a description of the Bay Area Hydrology Model (BAHM) and information on applying the 2% cost criterion for infeasibility.
- Appendix F provides guidance for **controlling mosquito production** in stormwater treatment measures.
- Appendix G includes templates for preparing stormwater treatment measure **maintenance plans**.
- Appendix H presents the SCVURPPP **Model Source Control Measures List**, for use in determining which source controls measures may need to be incorporated into your project.
- Appendix I includes information on determining the **Feasibility of Rainwater Harvesting and Use** and sizing curves for rainwater harvesting and use facilities.
- Appendix J features the **Special Projects Criteria** for determining the LID treatment reduction credits for which a smart growth project may be eligible.
- Appendix K features **Site Design and Source Control Specifications for Small Projects**.

## 1.4 Precedence

In case of conflicting information between this handbook and the Municipal Regional Stormwater Permit (MRP), the MRP requirements prevail.

Any local policies, procedures and/or design standards that comply with the MRP also take precedence over the guidance in this manual.