

6.3 PROJECTS 1 TO 5 ACRES AND ALL COMMERCIAL, INDUSTRIAL, COMMUNICATIONS AND UTILITIES (CICU)

Commercial and large multi-family residential properties typically have higher pollutant and sediment loads because of their size and use. To retain their BMP Certificate, property owners and land managers must inspect and maintain BMPs so they remain functional and effective. They may also be required to monitor BMP performance to comply with the TRPA Code of Ordinances. Staff time and financial resources, including contracting with a BMP professional may be necessary to complete inspections, maintenance, and monitoring.

6.3.1 BMP INSPECTION AND MAINTENANCE LOG

All commercial and large multi-family residential properties must develop a *BMP Inspection and Maintenance Log* that identifies BMP inspection protocols and necessary maintenance actions to document all inspection and maintenance activities. The log should be specific to the property location, BMP types, property management organization, and on-site conditions². TRPA has created an electronic *BMP Inspection and Maintenance Log* template for property owners to complete which incorporates the following sections and an example is at the end of this chapter:

- **Site Description:** This section should list the occupancy and uses of the site and any other pertinent information such as slope elevations and contours, contributing and receiving drainage areas, and potential pollutants that might be necessary to characterize the site.
- **BMP Inventory:** List each BMP on-site that correspond to a site plan including non-structural BMPs such as sweeping.
- **BMP Inspection Protocols and Maintenance Action:** The electronic Maintenance Log template uses the Inspection and Maintenance section for common BMPs listed in Chapter 4, BMP Toolkit to develop specific inspection protocols and maintenance actions. When completing the Maintenance Log, include site-specific triggers that indicate when maintenance of a BMP is necessary and other supporting documentation such as photos and invoices from contractors providing any specialized maintenance services (such as vactoring or filter cartridge replacement), and corrective actions to be taken if there is a recurring maintenance issue.

Training and Education: Property owners and land managers responsible for BMP inspections and maintenance should receive comprehensive training including BMP locations and types, inspection protocols, maintenance actions, spill prevention and cleanup measures, and recordkeeping requirements. At a minimum, training should require reading the *BMP Inspection and Maintenance Log*.

6.3.2 BMP MONITORING PLAN

In certain circumstances a *BMP Monitoring Plan* may be required as a condition of approval for a proposed project. Examples of these conditions include BMPs systems that directly discharge to Lake Tahoe or its tributaries, installation of BMPs without reliable effectiveness data, and sites with high pollutant loading potential.

² EPA, May 2007, *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*

BMPs are most commonly monitored by analysis of water quality samples and photographic documentation.

Start the *BMP Monitoring Plan* with a site-description that includes uses and conditions on site. Determine what will be monitored and what standards will be used to evaluate the data collected. If monitoring water quality, use the standards outlined in the TRPA Code for comparison. If performing photographic monitoring for a BMP such as revegetation, compare to a reference site or use other success criteria such as percent vegetative cover. Refer to the Revegetation Plan guidance in Chapter 5, Soil and Vegetation Management for more detail.

Next, identify the sampling locations and proposed methods and provide rationale for each. Examples include collecting grab samples at the outlet of a cartridge filtration system which discharges directly to Lake Tahoe, or photographic monitoring of a slope which requires successful revegetation to prevent sediment discharge onto an adjacent road. Water quality monitoring and sampling should follow the protocols and guidelines outlined by the Lake Tahoe Interagency Monitoring Program. Larger sites may need to provide photos of sampling locations and have them denoted on a site plan, as specified in permit conditions.

Determine sampling frequency based on establishment of a data set large enough to capture a variety of conditions including summer and winter storms and first flush events. Photographic monitoring of revegetation generally occurs at the beginning and end of each growing season, though winter monitoring may be included to document protection of sensitive areas from snow removal.

Monitoring plans include observations at the time of data collection that assist in the analysis of BMP effectiveness. These observations include intensity of use, weather patterns, the interval between storm events, point in the hydrograph and relative intensity of the storm. This additional information will help property owners and regulators determine if BMPs are performing as designed and may help explain any violations of standards.

Monitoring plans should identify corrective measures to resolve any violations of BMP standards should they occur and be designed to work in conjunction with the BMP Inspection and Maintenance Log to identify actions that will improve BMP performance. A *BMP Monitoring Plan* template is available at the end of this chapter.

Data analysis is documented in the *BMP Monitoring Report* and submitted to TRPA. It is essential to clearly define when this report will be submitted to TRPA and who will be responsible for providing it. A TRPA Monitoring Report template is provided at the end of this chapter.

6.4 PROJECTS GREATER THAN 5 ACRES

Jurisdictions within the Lake Tahoe Region must reduce their pollutant loading to meet targets identified in the Lake Tahoe Total Daily Maximum Load (TMDL). The Lake Tahoe TMDL specifies the maximum amount of fine sediment, nitrogen, and phosphorus that can be discharged to the Lake and still restore Lake Tahoe's clarity.