

CHAPTER X POST CONSTRUCTION STORM WATER QUALITY MANAGEMENT

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(1) Section 1. General

- a) Authority: The City of Reno, the City of Sparks, and Washoe County have been issued a municipal permit by the Nevada Division of Environmental Protection (NDEP) for storm water discharges. The permit requires that a program be implemented to control pollutants in storm water discharges in the Truckee Meadows to the maximum extent practicable. As a part of that program, post construction storm water quality must be addressed through the use of Structural Controls.

(2) Section 2. – Post Construction Storm Water Quality Management

- a) Specific requirements concerning this issue can be found in Title 18 of the Reno Municipal Code that requires treatment of storm water flows prior to entering the storm drain system or waterways. The Truckee Meadows Low Impact Development Manual and the Truckee Meadows Structural Controls Design Manual provide design criteria. City of Reno Design Guidance Worksheets have been created to provide a consistent submittal format, and are available on-line at www.tnstormwater.com or available on disk at the Community Development “Permit Place”.
- b) **Structural Treatment Controls** - Structural treatment controls can be public domain treatment controls or manufactured (proprietary) treatment controls. Public domain treatment controls are those that can be designed by an engineer and have been implemented and tested by numerous communities throughout the nation. Manufactured (proprietary) treatment controls are patented devices that have been engineered and constructed by private companies.
- c) **Low Impact Development** - *Low Impact Development (LID)* features are considered public domain treatment controls. LID are principles and techniques used in designing sites (starting from site layout, and grading and compaction phases of construction) that disturb only the smallest area necessary, minimize soil compaction and imperviousness, preserve natural drainages, vegetation and buffer zones, and utilize on-site storm water treatment techniques. LID sites reduce and compensate for development’s impact(s) on hydrology and water quality. Rather than conventional hardpiping from impervious surfaces, use of

features such as vegetated swales, bioretention systems and permeable pavements are used.

(3) Section 3: Submittals and Requirements:

- a) **Site Requirements – In general** all sites increasing impervious cover by 10,000 square feet or which disturb a soil area greater than 1 acre in size shall analyze storm flows generated from the site for potential contaminants and treatment prior to discharge, specifically defined in Title 18 of the Reno Municipal Code.
- b) **Post Construction Storm water Quality Management Plan** - A post construction storm water quality management plan (SWQMP) shall be prepared by a professional civil engineer, registered in the State of Nevada, using the “Truckee Meadows Low Impact Development Manual”, the “Truckee Meadows Structural Controls Design Manual”, and this manual as design guidance for the implementation of the post construction storm water quality management requirements described in this section. The plan, supporting calculations and documents may be included with the drainage report, or provided as a separate document. The post construction storm water quality management plan shall, at a minimum, include the following information:
 - i) Sufficient information (e.g., maps, hydrologic calculations, etc) to evaluate the environmental characteristics of the project site, the potential impacts of all proposed development of the site as currently entitled and in future phases outlined in the entitlement, the water resources, and the effectiveness of the measures proposed for managing storm water quality generated at the project site.
 - ii) A site plan drawn to scale indicating the location of existing and proposed buildings, roads, parking areas, utilities, drainage patterns, easements, limits of grading, structural storm water quality management and sediment control facilities. The plan(s) shall also clearly show proposed land use with tabulation of the percentage of area to be adapted to various uses.
 - iii) Sufficient engineering analysis to show that the proposed storm water quality management measures are capable of capturing runoff and potential pollutants from the site in compliance with this section and the specifications of the Truckee Meadows Low Impact Development Manual and the Truckee Meadows Structural Controls Design Manual. The engineering analysis must illustrate the drainage subareas and demonstrate the proposed mitigation measures, which are to be designed to meet or exceed the minimum treatment standard required. City of Reno Design Guidance Worksheets have been created to provide a consistent submittal format and when properly completed, demonstrate sufficient engineering analysis. The City of Reno Design Guidance Worksheets are available on-line at www.tnstormwater.com or available on disk at the City of Reno’s “Permit Place”.
 - iv) A written or graphic inventory of the site and surrounding area as it exists prior to the commencement of the project and a description of the watershed and its relation to the project site. This description should include a discussion of soil conditions (e.g. description of soil type, infiltration/percolation rates, depth to groundwater, etc), topography, wetlands, springs and other water bodies, and native or other vegetative areas on the site. Particular attention should be paid to environmentally sensitive features that provide specific

opportunities or constraints for development.

- v) A written description of the required maintenance for each proposed storm water quality management facility that follows the inspection and maintenance procedures outlined in the Truckee Meadows Structural Controls Manual, which shall include, at a minimum, a site map showing the storm drainage system, structural treatment controls and LID practices, maintenance procedures and inspection frequencies.

- (1) Treatment facilities, which receive storm water from private land and are constructed on private land, shall be maintained by the owner of the land upon which they are constructed.

- (2) Treatment facilities, which receive storm water from public land, may be constructed on public or private land at the discretion of the applicant. If they are constructed on private land, they shall be maintained by the owner of said land. If they are constructed on public land, offered for dedication and accepted, they shall be maintained by the City of Reno, and the access and maintenance agreement will not be required.

- vi) The plan shall include measures for controlling storm water runoff generated from the developed portion of the site in accordance with the standards of this section to the maximum extent practicable (MEP).

- vii) Those elements integral to the proper functioning of each constructed phase shall be incorporated in the “As-built” record drawings, identifying the final design specifications for all installed storm water management facilities, and must be sealed by a professional civil engineer, registered in the State of Nevada, and shall be submitted after final construction is completed.

- viii) D
igitally record GPS data identifying within 10 feet the locations of structural treatment controls and Low Impact Development (LID) features identified on the plan. The information shall be recorded with the current coordinate system standard and datum currently acceptable to the City of Reno.

c) **Detention and Retention**

- i) Design of detention/retention basins shall include storm water quality treatment provisions as described in the Truckee Meadows Structural Controls Manual.