

**APPENDIX H-1**  
**HYDROLOGY AND WATER QUALITY TECHNICAL REPORT**  
**REVISED PAGES**

# Hydrology and Water Quality Technical Report for the 2007 SDSU Campus Master Plan Revision

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## Efficient Irrigation:

- Rainfall shutoff devices will be used to prevent irrigation during and after precipitation.
- Irrigation system will utilize dripping system to the maximum extent to eliminate nuisance runoff.
- Backflow preventer/pressure regulators will be used.

## To limit contamination from pesticides:

- Proper use of pesticides as a last line of defense.
- Physical pest elimination techniques, such as weeding and trapping.

## Treatment Control BMPs

- Preserved open spaces will act as biofilter buffer zone
- On-site detention (infiltration basin, infiltration trench)
- Biofilters (grass swale, grass strip, wetland vegetation swale, bioretention)

During site design and project planning, a detailed hydrologic report shall be prepared that determines effects of the project on the floodplain during site development. This report would also measure the groundwater depth and the site plan and construction method's ability to impact this resource. The site-specific analysis shall include the preparation of hydrographs depicting flow throughout the duration of a storm, and quantify the duration of flows and total volume of water generated. The analysis also shall address the critical shear stress caused by the post-construction flow, and compare it to the stability threshold for the channel. Following the analysis, SDSU shall incorporate all necessary flow control measures such that post-development hydrology conditions are equivalent to pre-development peak flows, duration, volume, and velocity in order to control site erosion and avoid erosion of the channel.

Should dewatering be necessary during construction, all discharges should be in accordance with San Diego Regional Water Quality Control Board (RWQCB) requirements outlined in Order No. 2001-96, General Waste Discharge Requirements for Groundwater Extraction Wastes from Construction Projects to Surface Waters. A general NPDES dewatering permit will be required to be obtained from the San Diego RWQCB for projects whose extraction exceeds 100,000 gallons per day (GPD), and those less than 100,000 GPD that contain pollutants in order to

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discharge to surface water (i.e., Alvarado Creek). If less than 100,000 GPD is discharged, an exemption from the NPDES dewatering permit will be required to be issued by the San Diego RWQCB. Water extracted during construction dewatering could also be used onsite as dust control or tanked and hauled to a legal disposal site for treatment as alternatives to obtaining a NPDES dewatering permit.

Long-term water quality impacts as a result of construction should be minimized by complying with federal and state regulations for groundwater discharge into surface water bodies. These regulations include subsurface and surface drains in fill areas and behind retaining walls. These systems can reduce potential adverse impacts associated with seepage conditions. Appropriate shoring and possibly installing a periodic dewatering system below or near the groundwater table can reduce the potential for caving or excavations due to groundwater seeps.

## 6.2.2 Alvarado Campus

### Site Design BMPs

- Use unit pavers or other equivalent porous material to construct walkways, alleys and other low-traffic areas
- Preserve existing native trees to maximize canopy interception and water conservation
- Plant native trees and maximize canopy interception and water conservation
- Drain rooftops into adjacent landscaping prior discharging to the storm drain
- Install energy dissipaters at the outlets of new storm drains that enter Alvarado Creek

### Source Control BMPs

#### Materials Storage:

- All hazardous materials stored on-site will be stored in enclosures, such as cabinets, sheds, or similar structures that prevent contact with rain, runoff or spillage into the storm drain. Where not covered by the aforementioned, polyethylene cover will be used.

#### Trash Storage:

- Lids will be attached on all trash containers to reduce pollution introduction into the drainage system.