

# Operation and Maintenance Plan for Permanent BMPs at El Centro Aquatic Center

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## Background

The project is located in an area bounded by Park Avenue to the south, 4<sup>th</sup> Street to the east, 6<sup>th</sup> Street to the west, and Adams Avenue to the north. The following water quality best management practices (BMP) or flood control measures are proposed for the project area:

- Permeable underground storage in the East and West drainage areas and along the north and south sides of Park Avenue, between 4<sup>th</sup> Street and 5<sup>th</sup> Street.
- Above ground detention basins in the East and West drainage areas

The project's grading plans also show the locations of the BMPs.

## Maintenance Responsibility

The City of El Centro is the property owner and is responsible for BMP maintenance. Since the City is the owner, no access agreement or easement is necessary to maintain the BMPs. City funds will be used to support O&M activities to maintain BMP functionality. City Public Works maintenance staff are expected to perform the maintenance.

## Maintenance Actions and Frequency

Maintenance actions are generally grouped into two categories: routine and intermittent.

### Routine Maintenance

Routine inspections of above ground detention basins and cleanout structures for below ground storage areas (Permeable) are expected to be done twice per year. During these inspections staff evaluate if there is significant accumulation of trash, debris, or sediment that would need to be removed. Cleaning is done as needed based on the results of the inspections. The inspection frequency may be adjusted based on experience at the site (e.g., if inspections rarely find any material that needs to be cleaned out, then the inspection frequency can be reduced).

### Intermittent Maintenance

Intermittent maintenance activities include more substantial maintenance that is not required as frequently as routine maintenance. The most likely form of intermediate maintenance is removal of sediment from above ground detention basins where necessary to maintain the capacity of the basins. Given that most of the Aquatic Center is either impervious or maintained landscape areas and that rain is infrequent in El Centro, this type of maintenance is expected to be required approximately once every five to 10 years, with a frequency closer to once every 10 years being more likely.

## Maintenance Procedures

During each maintenance visit, the maintenance crew will evaluate the above ground basins and the cleanout structures for the below ground Permeable units by inspecting for the maintenance indicators in

Table 1. When a maintenance indicator is observed, the action described in the “Maintenance Actions” column will be taken.

Note that regardless of the projected maintenance type (routine or intermittent) described in the previous section, when a maintenance indicator is observed, the required maintenance action will be taken. For example, if significant sediment accumulation in an above ground basin is observed in year three instead, then the accumulated sediment will still be cleaned out, even though the estimated frequency was once every five to 10 years.

**Table 1. Maintenance Indicators and Actions for Vegetated BMPs**

Typical Maintenance Indicator(s) for Detention Basins	Maintenance Actions
Poor vegetation establishment	Repair/re-seed/re-plant or re-establish vegetation per original plans. Apply routine watering and controlled nutrient release to help establish vegetation.
Overgrown vegetation	Mow or trim as appropriate, but not less than the design height of the vegetation per original plans when applicable (e.g. a vegetated swale may require a minimum vegetation height).
Erosion due to concentrated irrigation flow	Repair/re-seed/re-plant eroded areas and adjust the irrigation system. Install rock-slope-protection to control concentrated flows.
Erosion due to concentrated storm water runoff flow	Repair/re-seed/re-plant eroded areas and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or re-grading where necessary.
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the basin or cleanout structures.
Standing water	Adjust irrigation system, remove any obstructions of debris or invasive vegetation, loosen or replace top soil to allow for better infiltration, or minor re-grading for proper drainage. If the issue is not corrected by restoring the basin to the original plan and grade, the Director of Public Works shall be contacted prior to any additional repairs or reconstruction.
Obstructed inlet or outlet structure	Clear obstructions.
Damage to structural components such as weirs, inlet or outlet structures	Repair or replace as applicable.