

This operation and maintenance statement applies to the Eagle Shadow (Site) for the proposed channel/basin system presented in Appendix E – Design Concept Plans to mitigate the Santa Cruz Wash flood hazard in the City of Maricopa, Pinal County, Arizona and is intended to meet the requirements for review of the CLOMR. The proposed channel/basin is located on private land; however, the City has oversight of the area to ensure that maintenance is performed. The Homeowners Association (HOA) and/or owners are responsible for ensuring that all necessary maintenance activities for the channel/basin system are accomplished, pursuant to a Maintenance Agreement with the City, to which this document is attached as an exhibit. The HOA Facilities Maintenance Supervisor will be responsible to notify the City of regular maintenance performance and provide annual maintenance reports.

The purpose of this statement is to establish the on-going operations and maintenance procedures for the channel/basin within the floodplain of the Santa Cruz Wash. The channel area may erode, scour, change shape, widen, and narrow over time. To address the potential changes, steps may need to be taken to restore the channel/basin corridor. These steps may include re-establishing the design grade along the channel/basin in locations where erosion has occurred. Also, as the result of erosion, trees and shrubs may become uprooted and other debris may buildup within the drainage corridor. Obstructions within the drainage corridor must be removed. Failure to provide maintenance may prevent the channel/basin from performing at its intended conveyance capacity. Maintenance is the responsibility of HOA, developers, owners, etc. for facilities on private property within drainage easements and/or tracts.

Ongoing maintenance of the designed improvements may be required to preserve the design integrity and purpose of the channel/basin system. Inspection is a requirement of maintenance. The following sections should be used to guide routine operations, inspections, and maintenance. The channel/basin may have sections that impact other adjacent property owners and/or agencies and the permitting requirements and conditions imposed by the jurisdictional agency need to be followed regarding the operation and maintenance guidelines.

A regular maintenance program will be required to have the channel/basin system perform to the level of protection as presented in the projects' plans and specifications. In conjunction with this CLOMR, the following Operation and Maintenance Plan has been provided below for the subject project:

Inspections of the improvements will be performed and documented on an annual basis. Additional inspections will be performed after significant storm events. The inspector reviewing and signing off on the channel inspection shall be a registered civil engineer licensed in the State of Arizona. Field inspection, photography, field surveys, and monitoring shall be performed by, or under the direct supervision of, the registered engineer. A field inspection report shall be completed and submitted to the City within fifteen (15) days from the time that an inspection of the subject flood control facility has been performed.

- The HOA and/or owners are responsible for ensuring that all necessary maintenance activities for the channel/basin are accomplished by the Facilities Maintenance Supervisor. The Facilities Maintenance Supervisor will be responsible to notify the City of regular maintenance performance and provide annual maintenance reports.
- Field Inspections are a necessary part of operation since early detection of gradual changes can reduce maintenance costs. Routine inspections provide a way to monitor the performance of the flood control facilities.
- Field Inspections shall be completed daily during those times when the flood waters in the conveyance channel/basin exceed a depth of two (2) feet over the length of the facility for a period exceeding 24 hours.
- Post-storm inspections should be performed as soon as possible after flood conditions have subsided. Although the flood control system is designed for 100-year flow conditions, it is still susceptible to damage during other flow conditions. Post-storm inspection records should be kept and maintained by the Facilities Maintenance Supervisor.
- Listed below are key elements to be inspected annually and following storm events:
 1. Side slope integrity: Monitor and address erosion along the channel/basin corridor side slope and along the development fill grading to provide continued stability.
 2. Vegetation: Review channel corridor vegetation health. Review potential for dying trees to fall or become uprooted during a flood event. Once established, minor grasses may be permitted to grow 6" to 12" before maintenance activities should commence. Shrubs are permitted between 24" to 36" in diameter and trees with a trunk diameter of up to 3"-9". Dead shrubs and trees must be removed.
 3. Erosion: Monitor areas for the development of erosion, headcutting, or undercutting of the channel/basin banks and flood control structures. Provide mitigation as required for areas of erosion to maintain the integrity of the flood control system within the defined drainage easement/tract.
 4. Sediment build-up: Monitor the depth of sediment deposition in the improved channel/basin and/or along the side slopes of the grading. Non-destructive markers in key places may be installed to establish normal operative channel depths so that sediment build-up is monitored. Removal of sediment must occur when sediment build-up has reached 6" at a maximum.

Maintenance activities for the improvements include, but are not limited to:

1. Removal of debris and excessive sediment build-up.
2. Repair or replacement of erosion damaged areas.
3. Installation of erosion control measures as needed.