

East Bay Regional Park District

**Regional Maintenance Activities
Alameda and Contra Costa Counties**

ATTACHMENT D

**Mitigation Ratios for
East Bay Regional Park District
Regional Maintenance Activities**

ATTACHMENT D

MITIGATION RATIOS FOR EBRPD ROUTINE MAINTENANCE ACTIVITIES

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Culverts			
Replacement of Existing Culverts (replacement culverts with same length as prior culvert and equal or larger diameter).	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Constructing new Head & Tail Walls for culverts (may include replacement culvert with same length as prior culvert and equal or larger diameter).	Temporary and Permanent	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees. Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation from lentic, lotic or tidal waters, and successful revegetation with appropriate native species.	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas. Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement
Routine Maintenance of Existing Culvert (sediment and debris removal)	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Installation of Energy Dissipaters (Rock Riprap Armoring at Culvert Inlets or Outlets)	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation from lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>
Dredging			
Routine Maintenance Dredging of silt basins and ponds	Temporary	<p>Temporary Impacts: No mitigation necessary for dredging of silt basins and ponds that provide habitat for special status species.</p>	NA
Streambank, shoreline and Levee Stabilization			
Replacement of existing rip-rap or existing shoreline /levee stabilization	Temporary	No mitigation required for work performed within the prior footprint of bank armoring.	NA
Streambank, shoreline and Levee Stabilization			
Installation of new rip-rap, or other non-bioengineered bank stabilization	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Installation of new rip-rap in combination with bioengineered bank stabilization	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1:1 to 2:1 for Restoration 2:1 to 4:1 for Enhancement</p>
Installation of bioengineered bank stabilization.	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 0.5:1 for Restoration 2:1 for Enhancement</p>
Rock Ford Crossings			
Installation of new armored or natural rock ford crossings	Temporary & Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Maintenance of existing armored rock fords	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Clear Span Bridges, Spring boxes and Existing Shoreline Facilities			
Maintenance and Installation of Clear span bridges	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas. Note: Replacement of a culvert with a clear span bridge may create creek restoration credits.
Maintenance of spring boxes	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Maintenance of Existing Recreational Shoreline Facilities	Temporary	Temporary Impacts: Revegetation of disturbed vegetated surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic or shoreline vegetation was disturbed.
Material Removal			
Removal of Vessels from Waterbodies	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic or shoreline vegetation was disturbed.
Removal of Debris from Waterbodies (including hazardous man-made structures)	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic, shoreline, or riparian vegetation was disturbed.