

**Pima County Regional Flood Control District
Water Resources Division**

Development Review Mitigation Plan Checklist

Applicability: Pursuant to Chapter 16.30.050.A of the Pima County Floodplain and Erosion Hazard Management Ordinance No. 2005-FC2 (Ordinance), if an applicant demonstrates to the satisfaction of the District that alteration of regulated riparian habitat cannot reasonably be avoided, a mitigation plan shall be submitted to the District for approval when more than 1/3 acre (14,520 square feet) of regulated riparian habitat is disturbed.

Additionally, if the 1/3 acre (14,520 square feet) disturbance lies within either an Important Riparian Area (IRA) or Hydroriparian/Mesoriparian (Class H) habitat, and exceeds 5% of the total regulated riparian habitat on the property, the mitigation plan will require Pima County Board of Supervisors (BOS) approval.

Plan Review Timeframes: Review times are dictated by Development Services Subdivision Coordination Department. The Subdivision Coordination website can be viewed at: <http://www.pimaxpress.com/SubDivision/Default.htm>. When BOS approval is required, additional time may be necessary for final approval, which averages 3-4 weeks. The schedule for BOS regular session meetings as well as the Clerk of the Board (COB) deadline for agenda submittals may be viewed at: <http://www.pima.gov/cob/schedule.htm>. The mitigation plan shall be submitted as early as possible during the development review process. For subdivision plats, a Preliminary Riparian Mitigation Plan or "Mitigation Concept" will be required at the Tentative Plat submittal. The Preliminary Mitigation Plan will be evaluated for location and extent of disturbance relative to regulated riparian habitat, location of mitigation areas, and inclusion of field mapping/on-site vegetation survey information, if performed. The checklist items noted in grey below shall be included on the Preliminary Riparian Mitigation Plan. A final Riparian Mitigation Plan must be approved prior to Final Plat approval, and shall include all items noted on this checklist. The only exception is when BOS approval is necessary. A final mitigation plan must be approved by the BOS prior to approval of the tentative plat, to prevent unnecessary expense and effort on behalf of the applicant, should the BOS request changes to the mitigation plan and/or site design. Revisions to the plat or development plan that may affect any component of the riparian habitat mitigation plan will require submittal of a revised mitigation plan for additional review and approval.

Submittal Requirements: The mitigation plan shall follow the requirements outlined in the *Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines* (Guidelines), which can be viewed at: <http://rfcd.pima.gov/riparian/mitigat/mitstand.pdf>.

Avoidance Justification:

- During the planning phases of the project, the location and extent of Regulated Riparian Habitat on the project site shall be evaluated for the proposed use. Site improvements shall be designed to avoid and minimize disturbance to riparian habitat areas. If the parcel to be developed contains developable areas outside of the Regulated Riparian Habitat, but improvements are encroaching into the habitat, evidence that no reasonably practicable alternative exists to the proposed impacts and evidence that the impact has been minimized to the maximum extent practicable will be requested at the time of mitigation plan submittal. The applicant shall provide justification regarding why habitat could not be avoided. Examples of why habitat could not be avoided include site constraints, such as steep slopes which are regulated under the Zoning Code or public health and safety considerations such as traffic control (location of access roads relative to major roadways).

Mitigation Plan Checklist

The following list is provided as minimum mitigation plan requirements. Additional information may be requested upon review of the mitigation plan.

- The mitigation plan shall be prepared at the same scale as the plat or development plan.
- Scale, north arrow, location map, brief description of site location, project number and other general information as appropriate for the project.

- Label the plan “Riparian Habitat Mitigation Plan”
- Show site specific limits of the Regulated Riparian Habitat. Include the riparian habitat classification type in the legend and label the line type on the plan. Use the following line type and legend descriptions:

<u>Line Type Description</u>	<u>Legend Description</u>
IRA	Important Riparian Area (with underlying class...)*
H	Class H habitat*
XA -D	Class (A, B, C, or D) Xeroriparian habitat*
* add (rectified or field verified) as applicable	

- Existing site topography (1 or 2 foot contour interval, if available).
- Proposed finished grades within the mitigated area. Finished grades shall be depicted by contours (1 or 2 foot contour interval) or by other methods that clearly depict the finished grades and slope conditions.
- Limits of disturbance/grading limits, including building envelopes, septic systems, utilities, drainage infrastructure, off-site improvements, fire safety setbacks, etc. Temporary disturbance, such as equipment storage areas, shall also be included in the limits of disturbance.
- Most recent aerial photograph. Utilize the aerial photograph taken for the Native Plant Preservation Plan, or, if unavailable, aerial photographs from the MapGuide web site can be used: (<http://www.dot.pima.gov/gis/maps/mapguide/>).
- The mitigation area shall be shown as a detailed planting plan which indicates locations of individual trees and shrubs. For a Preliminary Riparian Habitat Mitigation Plan submittal, depicting the general location of the mitigation area is acceptable. The minimum size required for the mitigation area shall be 70% of the size of the area disturbed, or, if field mapping was performed, use planting densities found on-site to determine size of mitigation area (see Section 2 and/or Appendix F and G of the Guidelines). On-site mitigation shall be located to the extent practicable, in a manner that enhances the overall function of natural open space within the project area and contributes to the overall value of riparian habitat protected within the property. This can be accomplished by locating your mitigation area adjacent to existing habitat or by enhancing existing habitat. If this option is not possible due to site constraints, the mitigation area shall be placed in locations that receive sufficient water to facilitate growth and maintain healthy habitat (i.e., drainage swales, low-lying areas, detention basins, water harvesting basins, etc.). The mitigation area shall be one continuous area in a density that creates habitat, as the site allows. Mitigation areas are to be located away from improved areas, where feasible, to prevent the desire to maintain in a manner similar to adjoining landscaped areas. For residential developments, placement of mitigation areas and protected riparian habitat within common areas maintained by the Home Owners Association (HOA) shall be required. Common areas containing mitigation plantings shall be delineated and labeled separately from “landscaped” common areas on the tentative and final plats.
- Mitigation plantings shall be installed per the approved planting methods outlined in the Guidelines. The following note shall be placed on the mitigation plan, “*Mitigation area(s) to be left in a natural state. No disturbance shall occur within the mitigation area(s) without RFCD review and approval*”
- Calculations and quantities for disturbance and mitigation. Calculations shall include the following; total area of regulated habitat on-site, by classification, area of regulated habitat which will be disturbed, by classification (for Class H or IRA, the area to be disturbed shall be multiplied by 1.5), minimum required mitigation area (70% of the size of the area disturbed), by classification, and the size of the mitigation area as proposed, by classification (mitigation area must be a minimum of 70% of the size of the area disturbed, unless technical data is provided that justifies an alternative planting density). Disturbance and mitigation calculations shall be in acres, to the nearest hundredth (ex., 0.33 acres). Plant quantity calculations shall include quantity of trees and shrubs, as required by the Guidelines, multiplied by the area of proposed disturbance, by classification (for Class H or IRA, the area of proposed disturbance shall be multiplied by 1.5 prior to multiplying by the quantity of trees and shrubs).

- Provide a planting list or schedule that identifies plant species, quantities and sizes at the time of installation. The planting schedule shall list a minimum of 3 tree species, no more than 75% of any one species and 5 shrub species, no more than 35% of any one species. This requirement may be modified upon submittal of an onsite plant survey performed by a qualified professional. A list of approved plant species can be viewed in Appendix A of the Guidelines. Tree and shrub sizes shall be in accordance with Guideline requirements (see pages 16-17 and 21-22).
- Seeding requirement. Mitigation area shall be seeded with a minimum of 12 species from the approved plant list (see Guidelines, Appendix A). Seeding methods include; hydroseeding, drill seeding with crimped straw mulch or broadcast seeding and raking into seedbed with straw or other approved mulch. Provide a list of the 12 species on the mitigation plan. Of the 12 species, 4 shall be shrubs, 4 shall be annuals/perennials/vines, and 4 shall be grasses. Add the following note, *“Mitigated area will be (insert method of seed placement) with a minimum of 12 species from the approved (Class H or Xeroriparian) plant list found in Appendix A of the “Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines.” If plant species listed on the mitigation plan are unavailable, replacements species from the approved plant list may be selected based upon availability. Of the 12 species, 4 shall be shrubs, 4 shall be annuals/perennials/vines, and 4 shall be grasses. Any changes to the seed mix shall be noted on the first monitoring plan submittal.”*
- Method of irrigation. Irrigation method shall include an automatic system such as drip, sprinklers, or other automatic irrigation system. The method of irrigation must demonstrate that adequate water will be provided to the new plants during plant establishment. Use of water harvesting methods is encouraged as a supplement to irrigation in addition to providing long-term benefits to the plants. A note shall be placed on the plan that identifies how mitigation plantings will be irrigated, including identification of an irrigation water source.
- Plant establishment. Native plants are well adapted to annual rainfall amounts in the Tucson Basin. To create a successful mitigation area, initial plant establishment is essential. Once a healthy root system is established (one to three years), plants shall be “weaned” from supplemental irrigation. The intent is to adjust the irrigation schedule until plants can survive on natural rainfall. This can be accomplished by decreasing the frequency of irrigation each year. While decreasing supplemental irrigation, monitor plant health. Establishment of the mitigation area will be considered successful when 80% of the plants are living and actively growing (without significant die back or loss) after one year without supplemental irrigation. During times of drought, the plants may require additional irrigation. Place the following note on the mitigation plan: *“Once plants have established (approximately 1 to 3 years after installation), supplemental irrigation will be decreased in accordance with Appendix C of the Guidelines.”*
- Place the basic statement of maintenance on the plan as outlined on pgs. 18 and 23 of the Guidelines.
- Identify construction methods that protect riparian habitat to be left unaltered.
- Identify the party(s) responsible for implementation of the mitigation plan, monitoring of the mitigation area and the entity or individual responsible for long term ownership and management of the mitigated area(s).
- Place the following note on the mitigation plan, *“Mitigation plan implementation shall be completed by the first growing season following completion of construction, which is projected to be (select one season) March-May, 20XX/July-September, 20XX/September-November, 20XX.”* If development of the site will not occur immediately, provide the note above with an approximate date of site development. A good rule of thumb to follow is that once riparian habitat has been impacted, mitigation must occur.
- An annual monitoring plan submittal for a period of five full years following mitigation plan implementation will be required to ensure the plan is implemented and maintained. The mitigation area shall be documented by establishing photo monitoring points. Photo monitoring points will be based upon site constraints, so that the entire mitigation area(s) is documented. A minimum of one photograph per monitoring point is required. If the mitigation area cannot be captured by one photograph, several points shall be used. Show location and directionality of the monitoring points on the mitigation plan. The monitoring plan shall be noted on the mitigation plan as follows, *“A monitoring plan, in accordance with the Guidelines, will be submitted annually for a period of five years following implementation of the mitigation plan. Any changes from the approved*

mitigation plan shall be noted on the monitoring plan submittal.” Submittals shall be labeled “Annual Monitoring Report for P12XX-XX” and sent to the following address: Pima County Regional Flood Control District, ATTN: Water Resources Division Staff, 97 E. Congress Street, 2nd floor, Tucson, AZ 85701. **Note address for sending monitoring plan submittals on the mitigation plan.** The individual or entity responsible for implementation and monitoring of the mitigation area shall provide an “as-built” mitigation plan with the first monitoring plan submittal. Any changes to the plant species composition shown on the mitigation plan due to availability shall be noted on the “as-built” mitigation plan. If the mitigation area is not progressing as anticipated, proposed corrective actions shall be provided in the annual monitoring report.

- Provide a note on the plan describing any deviations from requirements as outlined in the Guidelines. Describe any special site conditions, such as presence of noxious and/or invasive species, previous disturbance, etc.

Resources:

Chapter 16.30 of the Floodplain and Erosion Hazard Management Ordinance No. 2005-FC2
http://municipalcodes.lexisnexis.com/codes/pima/_DATA/TITLE16/

Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines
<http://rfcd.pima.gov/riparian/mitigat/mitstand.pdf>

Pima County Mapguide to view Regulated Riparian Habitat
<http://www.dot.pima.gov/gis/maps/mapguide/>

Chapter 18.07.080 of the Zoning Code for information on modified development standards
http://municipalcodes.lexisnexis.com/codes/pima/_DATA/TITLE18/