REGULATED RIPARIAN HABITAT OFFSITE MITIGATION GUIDELINES FOR UNINCORPORATED PIMA COUNTY

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1.0 INTRODUCTION

Chapter 16.30 of the Floodplain and Erosion Hazard Management Ordinance No. 2010-FC5 (Ordinance) stipulates that an applicant (private property owner, government agency, land developer, or builder) can mitigate for unavoidable impacts to regulated riparian habitat (RRH) through onsite mitigation. If onsite mitigation is investigated and deemed not feasible for the applicant, then offsite mitigation may be proposed, per Section 16.30.050.D of the Ordinance:

"Mitigation banking or other alternative mitigation measures as approved by the Board. At the request of the property owner, and with Board approval, the mitigation plan requirement under this chapter may be waived by contributing funds to an account established and administered by the District for the purpose of offsetting damage to riparian habitat."

As outlined in the Ordinance, an offsite mitigation proposal must be reviewed and approved by Pima County Regional Flood Control District (District) and the Flood Control District Board of Directors (Board). Currently, there are three offsite mitigation options available, including:

(1) Restoration of disturbed or degraded RRH on another parcel of land that provides comparable or superior biological function similar to the RRH proposed for disturbance, with appropriate long-term protection measures;

(2) Land transfer proposals; and

(3) Payment of an in-lieu fee.

Offsite mitigation opportunities become an option only after the applicant has shown that avoidance is not possible, impacts to RRH have been minimized, and the ability to mitigate entirely onsite has proven unfeasible. Compensation for RRH loss (in-lieu fee) is not meant to replace avoidance and minimization.

This document, hereafter referred to as the Guidelines, describes how the in-lieu fee (ILF) program will function and be administered and provides guidance for alternative offsite mitigation options.

2.0 MITIGATION IN-LIEU FEE

2.1 IN-LIEU FEE OPTION - BACKGROUND

One option to compensate for disturbance of RRH is a fee in-lieu of onsite riparian habitat mitigation. The ILF program has been updated and simplified for ease of use by applicants, and incorporates changes to the riparian protection regulations adopted under Ordinance 2005-FC2 and 2010-FC5. During the process of updating the Guidelines several options for assessing how to calculate the ILF were examined (Appendices B and C). The ILF option selected for use in the Guidelines is based on the amount and type of habitat disturbed, standardized costs for onsite mitigation (derived from representative real project costs), and an adjustment for inflation. Inflation rates will be reviewed and adjusted an average of every two to three years.

The fee structure is based on the cost to mitigate onsite, with standard costs determined by the District. A cost is assigned to each onsite mitigation component and is incorporated into a spreadsheet (Appendix F), whereby the user can input parameters, such as acreage of disturbance, resulting in an ILF cost output. The following mitigation components are incorporated into the spreadsheet:

- Plant material (container trees and shrubs);
- Labor for plant material installation;
- Hydroseed (seed, mulch, water, cost for machinery, and labor to apply seed) (cost/acre);
- Irrigation system (materials and labor for installation) (cost/acre). Irrigation costs are calculated as a percentage of the plant material costs;
- Five years of maintenance (removal of noxious/invasive plant species, water, replacement plants, etc.). Maintenance costs are calculated as a percentage of the plant material costs; and
- Five years of monitoring within Class H and/or IRA habitat and three years of monitoring within xeroriparian habitat. Monitoring costs were estimated based on actual projects.

A standard value is assigned to each mitigation component and is based on average cost estimates obtained from local vendors and consultants. An explanation for how costs were obtained is provided in Appendix F. The spreadsheet allows each component of the mitigation plan to be calculated separately so that total mitigation costs can be accurately assessed for each project. For example, a single-lot property owner will typically pay a smaller fee than the developer of a commercial or residential property since they have the ability to minimize installation, seeding, and irrigation costs.

Although use of the standard ILF calculation spreadsheet is encouraged, applicants may hire a qualified professional to prepare an ILF estimate. If a qualified professional is used, their estimate shall account for mitigation components, as listed above, and follow requirements in the ILF checklist provided in Appendix G.

2.2 PROJECT SPECIFIC IN-LIEU FEE CALCULATION OPTIONS

As discussed in Section 2.1, applicants have options when calculating the ILF. The option selected will depend upon the type of development and mitigation proposed. How options are applied to a given project are described below.

1. **Flat fee table**. Applicant shall use the flat fee table for calculating the fee for acreage of disturbed RRH not mitigated onsite. Flat fee costs were calculated using the ILF calculation spreadsheet and are based on cost per acre to mitigate onsite. When choosing the ILF option to satisfy a project's mitigation requirement the flat fee table is a simple way to determine the fee for RRH disturbed. The flat fee table accounts for all components of a mitigation plan.

   Table 1 provides cost per acre for single-lot development. Table 2 provides cost per acre for Development Projects.

Table 1. ILF Single-Lot Development Flat Fee Table - Cost per Acre for RRH Disturbance

	XA	XB	XC	XD	IRA/H, H	IRA/XA	IRA/XB	IRA/XC	IRA/XD
Cost per Acre	$8,500	$7,500	$6,500	$5,000	$17,000	$12,500	$11,000	$9,500	$8,000

Table 2. ILF Development Project Flat Fee Table - Cost per Acre for RRH Disturbance

	XA	XB	XC	XD	IRA/H, H	IRA/XA	IRA/XB	IRA/XC	IRA/XD
Cost per Acre	$17,000	$16,000	$14,000	$12,000	$40,000	$30,000	$28,000	$25,000	$22,000

2. **ILF Calculation Spreadsheet**. The applicant may use the ILF calculation spreadsheet (Appendix F) when certain components of the mitigation requirement are not completed onsite. The ILF calculation spreadsheet allows an applicant to determine ILF costs for individual components of a mitigation plan (e.g., trees/shrubs, seeding, or irrigation, etc.). For example, an appropriate use of the ILF Calculation Spreadsheet would be when an applicant proposes planting only 50 percent of the required trees/shrubs onsite but placing 100 percent of the seeding requirement onsite.

   The “component” ILF would then represent the value of 50% of trees/shrubs and irrigation not implemented on the project site. Note, when calculating component values, percentages of the irrigation component must equal the percentage of trees/shrubs component.

3. **ILF Cost Estimate provided by a qualified professional**. If an applicant prefers, ILF cost estimates may be obtained from a qualified professional as an alternative to using the flat fee or spreadsheet calculations. Qualified professionals include: nurseries, landscape companies, landscape architects, biologist, botanist, or other qualified professionals that would design, supply, or install components required for onsite mitigation. Submittals shall follow requirements listed in the ILF checklist provided in Appendix G.

The applicant is responsible for selecting the option that is best suited to a particular project and incorporate into the mitigation proposal.

3.0 IN-LIEU FEE PROGRAM ADMINISTRATION

3.1 ADMINISTRATIVE PROCESSING OF IN-LIEU FEES

3.1.1 FEE COLLECTION

Single-lot Residential Development.

A single-lot residential development proposal disturbing more than 1/3 acre of RRH requires a Floodplain Use Permit (FPUP), which must be obtained prior to issuance of the building or grading permit. When onsite mitigation occurs, a Riparian Habitat Mitigation Plan (RHMP) is approved prior to issuance of the FPUP with mitigation occurring after construction is completed. When an ILF is proposed, fees are collected prior to issuance of the FPUP. This process ensures that a property owner compensates for disturbance of RRH prior to the impact occurring.

Collection Procedure

Fees will be collected prior to issuance of the FPUP. For projects that require a specific hold, such as Prior to Slab inspection (P2S) or Prior to Electrical inspection (P2E), submittal of the ILF may be delayed until the time of inspection. The applicant shall provide a written request to delay payment of the ILF, which will be reviewed on a case-by-case basis. Delayed ILF payments, if approved, must be received prior to the P2S or P2E inspection.

Commercial Development and Subdivisions

For projects following the development review process, ILF proposals are approved prior to Tentative Plat or Development Plan approval.

Collection Procedure

ILF payment must be received upon approval of the grading or paving plan, prior to issuance of the grading or paving permit. A note will be placed on the plat or plan that states that the ILF shall be paid prior to the authorization of any activity on the parcel.

Fines collected from RRH violations

On May 4, 2010, the Board adopted Ordinance No. 2010-FC5. The amended Ordinance allows the District to impose civil penalties for violations of the code, including violations related to the unpermitted disturbance of RRH. The District will pursue fines equal to the amount of the ILF value based on the amount of unpermitted disturbance. Fines obtained from violations resulting from RRH disturbance will be deposited into the ILF program bank account.

Administrative Processing

Payment of the ILF can be accepted via check or money order and shall be made payable to "Pima County Treasurer". When payment for the ILF is submitted, the applicant and/or property owner is issued a receipt, detailing the amount of the check/money order, check number, and project or FPUP number. This information is then placed into the ILF tracking database and deposited into the ILF program bank account.

3.1.2 ANNUAL REPORTING

An annual report, documenting the total amount of funds collected and disbursed throughout the year will be prepared at the end of each fiscal year. The report will document annual income deposited into the ILF program bank account, annual withdrawals for expenditures, a summary of property acquisitions by parcel number, and provide a brief section on funds spent for land stewardship activities and restoration.

3.2 DISTRICT EXPENDITURE OF IN-LIEU FEE PROGRAM FUNDS TO COMPENSATE FOR HABITAT LOSS

District priorities for expenditure of ILFs are:

Acquisition and Preservation

Preservation of high value habitat is best achieved through acquisition, which removes development pressure on riparian habitat. Acquisition-in-fee title of land containing riparian resources is an effective method for protecting and preserving intact habitat. Additional methods for the preservation of riparian resources is by protecting shallow ground water sources through acquisition or transfer of water rights, and protection of hydrologic functions and key features located in the watershed upstream of riparian areas.

Restoration and Enhancement

Restoration and enhancement of riparian vegetation can be a viable and desirable option for the use of ILF funds. The receiving area for restoration and/or enhancement of habitat must be able to support restoration efforts over the long term. Physical site characteristics, restoration objectives and design, and legal mechanisms that lead to long-term self-sustaining habitat must all be taken into account. Other restoration activities under this priority include land stewardship practices that allow degraded habitat to heal and naturally restoring processes that protect riparian habitat or water supply.

3.2.1 OPTIONS FOR EXPENDITURE OF IN-LIEU FEE FUNDS: ACQUISITIONS, LAND STEWARDSHIP, AND RESTORATION

Several options are available to the District for expenditure of ILF funds to compensate for impacts to RRH. Options include the following; acquisitions (land, water rights, conservation easements), land stewardship, and restoration.

3.2.1.1 ACQUISITIONS

Several types of acquisitions may be made with funds received through the ILF program and include land, water rights and/or conservation easements. All acquisitions are subject to Board review and approval.

3.2.1.1.1 *Land*. Land would be selected based upon the resource value as determined by the Riparian Acquisition Map (Section 5.0). Funds would be used to purchase land in fee-simple. Water, mineral, and other rights may or may not be included in the purchase. The land will additionally receive long-term protection through use of a conservation easement or restrictive covenant.

3.2.1.1.2 *Water Rights*. Water rights adjoining sensitive riparian areas may be purchased using ILF funds.

3.2.1.1.3 *Conservation Easements*. Conservation easements on lands containing high value riparian habitat may be purchased using ILF funds.

3.2.1.2 LAND STEWARDSHIP

In this option, funds would be distributed for stewardship of riparian habitat on existing Pima County-owned lands. Stewardship activities may include fencing to prevent unauthorized access by off-road vehicles and livestock, long-term monitoring, and invasive species control.

3.2.1.3 RESTORATION

Restoration techniques may be implemented on existing Pima County-owned lands. Restoration techniques may include hydroseeding disturbed areas, incorporating water harvesting features, installing check dams, or other low-cost methods to enhance and restore existing riparian habitat.

4.0 ALTERNATIVE OFFSITE MITIGATION OPTIONS

Several alternative offsite mitigation options are available to projects undergoing the development review process. Options include onsite mitigation occurring on an offsite parcel of land, a land transfer, or other offsite mitigation options. An alternative offsite mitigation proposal shall describe the relationship between the ecosystem functions being impacted on the project site and the functions which are compensated for by the proposed mitigation site.

Alternative offsite mitigation options available to single-lot property owners include (1) the option to mitigate on an offsite parcel of land in accordance with the onsite mitigation guidelines (Section 4.1.1) or (2) land transfer option (Section 4.2). Land transfer proposals will be reviewed on a case-by-case basis and are subject to the discretion and approval of the District and Board.

4.1 MITIGATION OF AN OFFSITE PARCEL OF LAND

4.1.1 ONSITE MITIGATION ON AN OFFSITE PARCEL OF LAND

Mitigation in accordance with the onsite mitigation guidelines may be performed on another parcel of land with approval of the District. The proposed parcel must contain comparable or superior riparian habitat or may only be used if the parcel is suitable for enhancement or restoration of degraded riparian habitat as determined by the District. A deed restriction that protects the mitigated area(s) in perpetuity must be recorded. Additionally, the parcel must adhere to the following mitigation standards[1]:

- If the proposed mitigation land will be split off from an existing parcel of land, the mitigation land shall be located and consolidated in the most biologically sensitive portion(s) of the property;
- Mitigation land shall be configured to minimize harmful edge effects;
- Mitigation land shall be contiguous with any conserved land on adjacent properties; Preferably, mitigation land should be located within the same watershed as that impacted by development;
- Mitigation land shall be free of all significant harmful land use practices that impair mitigation values (e.g., off-road vehicle use, livestock use/grazing, etc.), or if harmful land use practices have occurred in the past, the land may be restored and protected from future harmful land practices.

As an alternative to the onsite guideline requirement for providing mitigation on an offsite parcel of land, an applicant may propose mitigation through use of a Riparian Habitat Preservation Plan (RHPP).

[1]Adapted from standards drafted and approved by the Multi-Species Conservation Plan (MSCP) Implementing Agreement Committee

4.1.2 RIPARIAN HABITAT PRESERVATION PLAN

Mitigation of an offsite parcel of land for qualifying larger projects (those that are required to go through the platting, specific plan, comprehensive plan, and/or rezoning processes) may follow requirements of a Riparian Habitat Preservation Plan (RHPP). A RHPP is designed to support the success of onsite preservation of riparian areas and the mitigation of disturbed habitat, as well as serve the special needs of a given project within the context of its natural resources, both upland and riparian.

For qualifying projects, applicants may propose a RHPP as an alternative to the basic requirement. The minimum requirement for a RHPP is to meet the conservation goals and objectives of the Maeveen Marie Behan Conservation Land System (CLS). The RHPP must preserve, enhance, provide connectivity, overall function, and/or restore an impacted riparian system and/or its surrounding areas and is subject to the discretion and approval of the District and the Board.

A RHPP may be acceptable when traditional mitigation does not address unique ecological or project conditions, such as:

- Highly fragmented and/or degraded riparian habitat;
- Sites with other unique ecological functions where a blended preservation plan would be more functional or appropriate; and
- Linear projects, such as roadways and sewers, or linear portions of projects where avoidance is not possible and linear mitigation options would provide limited value.

A RHPP may include, but is not limited to:

- Alternative options for restoring degraded riparian habitat;
- Preserving or enhancing wash corridors containing riparian habitat and transition zones that were not mapped under the Riparian Classification Maps to increase connectivity;
- Conservation of adjacent uplands along riparian habitat to maintain diversity and watershed function;
- Combination of onsite and offsite conservation or mitigation; and
- Other conservation efforts that meet unique site ecological conditions including preservation of keystone species (e.g., ironwood and saguaro).

The RHPP must be equivalent to or exceed the ecological value of a traditional RHMP. Determination of equivalent ecological value will require an assessment of the offsite parcel(s) biological resources by a qualified professional and must reference and incorporate unique features identified by the Natural Resource Assessment Report (NRAR - Appendix D) into the RHPP. The NRAR must also address the overall connectivity and function of preserved riparian habitat on the offsite parcel(s) and how the proposed RHPP will enhance the overall function of riparian habitat.

Degraded habitats located on an offsite parcel can be restored in a number of ways, which may include direct restoration of degraded habitat or by restoring connectivity of habitat with techniques and land stewardship actions other than those outlined in the onsite mitigation guidelines. These techniques or actions may include:

- Cattle exclusion and/or regulation of grazing intensity or season,
- Noxious and/or invasive plant species control for the entire undeveloped RRH area and possibly upland areas. This option will depend upon the severity of the infestation, type of noxious and/or invasive species present, must be coincident with other restoration techniques, such as hydroseeding, and may not be used if a property owner has already been required to control invasive species,
- Short-term use of effluent for establishment of a mitigation area (i.e., spray fields to establish native seed mix),
- Abandonment of functioning wells in areas of shallow groundwater,
- Obtaining water rights for a particular property and transferring the rights to Pima County,
- Channel stabilization efforts,
- Water harvesting,
- Other restoration techniques that have also proven to have substantial riparian habitat benefits.

A condition for use of a RHPP is that a proposal must demonstrate long term sustainability. For example, effluent may be used to establish plants and/or the seed mix; however, long-term use of effluent may not be used to artificially increase the density of existing riparian habitat or to sustain high water use plant species that would require irrigating with effluent for the duration of the plant's life.

4.2 LAND TRANSFER

Applicants may propose transfer of land in-lieu of onsite mitigation. Land transfer proposals shall provide multiple benefits such as preservation of valuable habitat corridors, providing habitat connectivity and augmenting habitat preserved on public land, parks, preserves and habitat restoration projects.

To satisfy offsite mitigation requirements for disturbance to RRH, an applicant may choose to acquire land elsewhere in the County and transfer that land to the District for long-term protection of its riparian and biological resources. To assist the applicant in locating desirable parcels for land acquisition, the District has provided a land acquisition map indicating the general location of lands that may qualify for the land transfer option. This map is called the Riparian Acquisition Map (see Section 5.0). In addition to the map, a land acquisition checklist has been provided in Appendix H.

For land to qualify for RRH mitigation and transfer to the District, it must have biological and hydrological value that is of comparable or higher quality than the disturbed RRH. Values that must be considered include, but are not limited to, water availability, vegetation density, and biological productivity. An evaluation of these values by a qualified professional will be required as part of the applicant's land acquisition proposal. Selection of land appropriate for the land acquisition and transfer option shall be based on information provided by the applicant's NRAR (Appendix D).

Key points to consider when selecting land for transfer include the following:

- Preference will be given to land within the same watershed as the disturbed RRH. If land cannot be identified within the same watershed, transfer of land outside the watershed is an option;
- Land must have an equivalent or higher quality riparian habitat value (biological and physical) than the disturbed RRH;
- A biological evaluation of the land (NRAR), performed by a qualified professional is required;
- Include mechanisms to protect resources and conservation values in perpetuity; and
- All land acquisition proposals are subject to District and Board review and approval.

For applicants who are interested in the land transfer option, a **pre-submittal meeting with the District will be required prior to submittal of the mitigation proposal and NRAR.** Mitigation lands proposed for the land transfer option will be reviewed on a case-by-case basis and require **District pre-approval**.

The District will consider long-term management and monitoring costs for the transferred land and may at its discretion request a monetary donation or endowment from the beneficiary to cover management costs.

4.3 PROTECTION OF MITIGATION LAND

Long-term protection of mitigation land is critical to the success of the offsite mitigation program. Long-term protection can be achieved through transfer of mitigation land in fee title to the County or placement of a conservation easement or restrictive covenant on the mitigation land (Appendix E).

Proposals involving the setting aside of private land being utilized as mitigation under the Ordinance will require a restrictive covenant that is recorded with the property deed and runs with the land. These proposals will be evaluated individually based on the specific needs of each property and the covenants will include the following:

- The covenants will protect the mitigation area in perpetuity, restricting activities that negatively impact the natural resources or functions that support the mitigation area.
- Such a covenant would list specific stewardship activities and requirements for the property to protect the mitigation area in perpetuity.
- The land owner agrees that the County has rights of enforcement of the covenant conditions.

4.4 OTHER OFFSITE MITIGATION OPTIONS

A developer may purchase water rights that directly impact and/or support groundwater dependant riparian ecosystems. Acceptance of water rights for mitigation is subject to District and Board review and approval. This mitigation option requires District pre-approval and interested applicants are required to attend a **pre-submittal meeting with the District** to review proposed water rights acquisition(s).

5.0 LAND ACQUISITION CRITERIA

Land that may qualify for acquisition under the offsite mitigation program shall be selected based on the following criteria, which help to define inter-connected corridors associated with watercourses throughout the County:

Landscape Level:

- Landscape position (Maeveen Marie Behan Conservation Lands System (CLS) categories)
- Covered species habitat (Priority Conservation Areas)

Watershed/Project Site Level:

- Adjacency to existing preserves;
- Adjacency to major watercourses;
- Connectivity between riparian areas;
- Riparian Classification Maps – Riparian vegetation plant community (Class H vs. Xeroriparian) and density (Total Vegetation Volume);

- Water Availability (Class H, shallow groundwater/intermittent and perennial streams/springs);
- Hydrology/Hydraulics – Ability to support riparian vegetation (presence of FEMA floodplains or locally mapped floodplains);
- Adjacency to reaches of watercourses defined by the 2002 SDCP Report "Riparian Priorities" (available for viewing and downloading at http://www.pima.gov/CMO/SDCP/reports.html);
- Adjacency to existing District or County-owned property; however, this criterion is subject to verification of future uses of the land prior to being considered. Certain Pima County-owned land are set aside for future development;
- Within Habitat Protection Priority Areas or Private and state priority areas, pursuant to the Conservation Bond Program (2004 and 2010);
- Connectivity with parks, refuges, existing Pima County restoration projects, and undeveloped land;
- Adjacency to platted Natural Open Space (NOS);
- Special Elements (bosques, cottonwood/willow forests, springs, etc.);
- Historical perennial flows;
- Constructed vs. natural riverine systems; and
- Adjacency to or use of Transfer of Development Rights (TDR) Program and Sending Areas. Development rights are severed from these lands, which allows for higher density development in receiving areas (growth areas). TDR Sending Areas must have comparable RRH values.

The Riparian Acquisition Map (RAM) may be used to assist a property owner or developer in assessing property(s) for the criteria listed above. The RAM is a GIS based map that incorporates information derived from reports and data developed in support of the Sonoran Desert Conservation Plan (SDCP). These reports spatially define biologically sensitive lands at a landscape level. Additional information regarding the RAM can be found in Appendix H.

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