BOARD OF SUPERVISORS AGENDA ITEM REPORT



Requested Board Meeting Date: December 18, 2018

Approval of a Riparian Habitat Mitigation In-Lieu Fee Proposal for Placement of a Single Family Residence at 13190 East Placita Las Avenas, Located within Regulated Riparian Habitat (District 4)

Introduction/Background:

Chapter 16.30 of the Pima County Floodplain Management Ordinance No. 2010-FC5 (Ordinance) requires mitigation when cumulative disturbance of more than 1/3 acre of mapped riparian habitat occurs. If a project site contains suitable area(s) for mitigation, restoration, or enhancement, then on-site mitigation is required in accordance with the adopted Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines. The Ordinance contains a provision for mitigation banking when on-site mitigation is not feasible. All off-site mitigation proposals require Flood Control District Board of Directors (Board) review and approval.

Discussion:

In 2010, the property owners, the Goldbergs, applied for a permit to construct a single family residence on property located at 13190 East Placita Las Avenas. The property is mapped within Regulated Riparian Habitat and is classified primarily in Important Riparian Area with an Underlying Hydromesoriparian Habitat (Class H) and a small portion in Hydromesoriparian Habitat. The Goldberg's construction footprint was 28,314 sq. ft. (0.65 acres), therefore mitigation was required. The original Riparian Habitat Mitigation Plan (RHMP) proposed on-site plantings to mitigate for the disturbance. The Goldbergs never implemented the RHMP and, since the Goldberg's did not comply with the conditions of the permit a violation was placed on the property. To resolve the violation in a timely manner the Goldberg's decided to revise the RHMP from mitigating the disturbance with on-site plantings to proposing to pay a fee in-lieu of on-site mitigation.

Conclusion:

Acceptance of mitigation banking funds in-lieu of on-site mitigation is allowed under the Ordinance. Contributions to the mitigation bank for disturbance of this habitat will provide funds to be used toward purchase of high value resources or towards restoration of degraded riparian habitat within Pima County.

Recommendation:

The ILF proposal	presented con	forms with the Ordina	nce and, as such, the	e District recommend	ds approval.	
Fiscal Impact:						
\$9,272.75						
Board of Super	rvisor Distri	ict:				
□ 1	□ 2	□ 3	× 4	□ 5	□ All	
Department: Re	gional Flood	I Control District	Te	elephone: 724-460	0	
Department Dire	ector Signati	ure/Date:	un The	Als 11/2	7/18	_
Deputy County	Administrato	or Signature/Date:_	Co-		11/28/18	
County Adminis	trator Signa	ture/Date:	C. Ded	whowy	11/28/18	
					S	



FLOOD CONTROL

TO:

DATE: November 27, 2018

FROM: Suzanne Shields, P.E.

Symme Shalds

Director

Approval of a Riparian Habitat Mitigation In-Lieu Fee Proposal for Placement of a Single-Family Residence at 13190 East Placita Las Avenas, Located within Regulated

Riparian Habitat (District 4)

Flood Control District Board of Directors

Background

SUBJECT:

Chapter 16.30 of the Pima County Floodplain Management Ordinance No. 2010-FC5 (Ordinance) requires mitigation for mapped riparian habitat disturbances greater than 1/3 acre. If a project site contains suitable area(s) for riparian restoration, enhancement, or establishment, onsite mitigation occurs in accordance with the adopted *Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines*. The Ordinance contains a provision for mitigation banking, when on-site mitigation is not feasible. All offsite mitigation proposals require Flood Control District Board of Directors (Board) review and approval.

Report

In 2010, the owners of the property, the Goldbergs, applied for a permit to construct a single family residence on property located at 13190 East Placita Las Avenas (Exhibit A). The property is mapped within Regulated Riparian Habitat (RRH) and is classified primarily in Important Riparian Area with an Underlying Hydromesoriparian Habitat (Class H) and a small portion in Hydromesoriparian Habitat (Exhibit B).

The Goldberg's construction footprint was 28,314 sq. ft. (0.65 acres) therefore mitigation was required. The original Riparian Habitat Mitigation Plan (RHMP) proposed on-site plantings to mitigate for the disturbance. The Goldberg's never planted implemented the RHMP and, since the Goldbergs did not comply with the conditions of the permit a violation was placed on the property. To resolve the violation in a timely manner the Goldberg's decided to revise the RHMP from mitigating the disturbance with on-site plantings to proposing a fee in-lieu fee of on-site mitigation. The Goldbergs hired GROW Landscape Architecture, Planning and Design to prepare the Riparian Habitat Mitigation In-Lieu Fee Proposal (Exhibit C) and is proposing to contribute a fee of \$9,272.75 in lieu of onsite mitigation, based on a cost estimate (Exhibit D) that complies with the criteria found in the Regulated Riparian Habitat Off-Site Mitigation Guidelines for unincorporated Pima County.

Recommendation

Acceptance of mitigation banking funds in-lieu of onsite mitigation is allowed under the Ordinance. Contributions to the mitigation bank for disturbance of this habitat will provide funds to be used toward purchase of high value resources or towards restoration of degraded riparian habitat within Pima County

Attachments: Exhibit A – Project Location

Exhibit B – Project Site – Riparian Classification Map Exhibit C – Mitigation Banking In-lieu Fee Proposal

Exhibit D - In-Lieu Fee Cost Spreadsheet



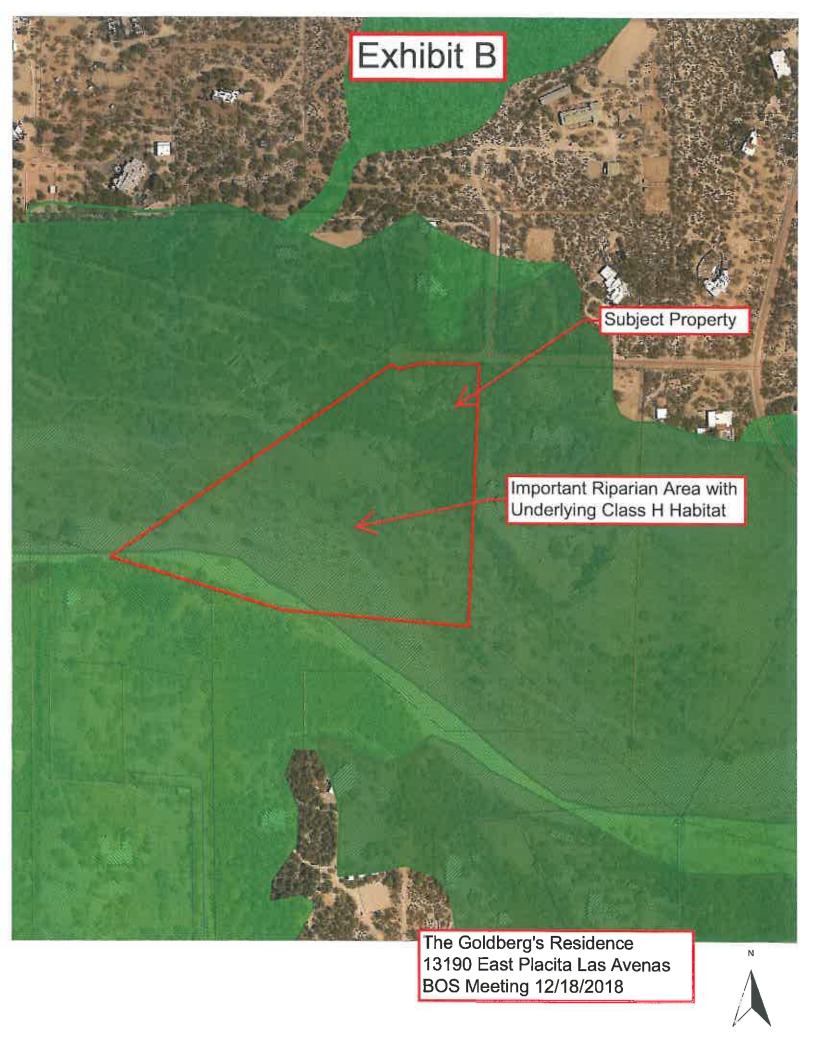


Exhibit C

Goldberg Residence

13190 East Placita Las Avenas Tucson, Arizona



Aerial ____

||cale: 1:200

GOUDERS MARK C 1919 PERCHATAL A MICHAE TUCSON AZ 6576-8211 P. (520) 749 - 627 -P. MARCH TUCSON AZ 6576-8211 LEGAL DESCRIPTION LA CERADILA BITATE 1 L-11 T BENDA AT STRONJ OF THE SCUTTH HALP OF SECTION ON TO ASSET 600TH, RANGE 15 BATT, GILA MID NAT RANGE 125 DAM TUCSON, FINA COUTTY ARIZONA PARCEL 4005-45-6421

OWNER

A SUBDIVISION OF PIMA COUNTY, FREQUENCY, ACCURDING TO THE PLAT OF RECORD OF THE PIMA COUNTY RECORDER IN BLOCK 25 OF MAPS AND PLATS, PAGE 73

ZONING AND LAND USE

131.0 EPLACITAL OF ENAS

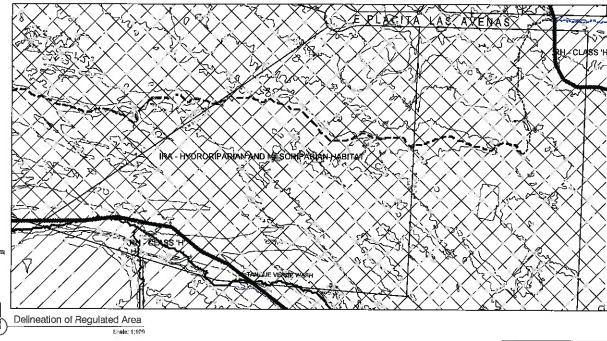
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FPUP #210-457 ERP

100 F OF STE LOCATED IN IRAH DE JRIPARIAN AND MES - XRIPARIPE AND RH UNDERLAND CLASS HE

EXISTING USE: SR, SUBURBAN RAPCH (& POLE FAMILY RE (IDENCE);

HEIGHT: 34" MAC ABO E FINISHED CRADE ALLOVABLE, (2 STORIES



DR	AWING INDEX	
RHMP-1	COVER SHEET	
RHMP-2	RHIP-IN ENTORY THE AERIAL	
DUMP 4	THE HARD COMMITTEE TO STREET, CANNOT MAKE THE	

RHMP-1

Cover Sheet

Residence

Goldberg



NEW GROWTH INVENTORY:

NOTE: ALL PLANTS SHOWN IN INVENTORY WERE RECORDED A: HABLE AND IN FAIR TO GOOD CONDITION AT TIME OF IN: ENTORY. NOTE: THERE WERE LITTLE TO NO NITURAL OCCURRING SHRUBS PRESENT AS A RESULT OF THE DENSE DECIDIOUS CANOPY OF THE AREA, THE INTRODUCTION OF SHRUBS TO THIS SICZONE MOULD RESULT IN ALTERING THE NATURAL COMDITIONS OF THE HABITAT.

THE	HABITAT.						
NO.	BIENTIFIC NAME	COMMON NAME	PIZE/ CAL,	NC.	SCIENTIFIC NAME	CCICN NAME	SIZE/ CA
1.	Acacia greggii -	Catclay: Acadia	< 2"	56.	Acacia constricta -	Whitthom Acacia	4"
2.	Prosocis velulina -	Vel et Mesquite	< 2"	57.	Proscois Velulina -	Velvet Mesquite	< 4"
3.	Prosopis velutina -	Velvet Mesquite	<2	58,	Acacia greggii -	Catclaw Acacia	44*
4.	Prc sopis velutina -	Velvet Mesquite	<2"	59.	Acacia greggii -	Catclaw Acacia	< 4"
5. 6.	Prosopis velutina -	Velvet Mesquite	< 4°	60,	Prosocis Velutina -	Velvet Mesquite	4"
7.	Prosopis velutine -	Vel\ et Mesquite	< 4"	61.	Prosopis Velutine -	Velvet Mesquite	< 4°
8.	Acacia graggii - Prosopis valuiina -	Catclaw Acada	< 4"	62.	Acacia greggii -	Catclaw Acacia	< 4" < 4"
9.	Acacia constricta -	Velvet Mesquite Whitethorn Acacja	< 4"	63. 64.	iloacia constricta - Acacia greggii -	Mhitthom Acacia Catclaw Acacia	< 4"
10.	Prosopis velutina -	Yelvet Mesquite	< 4"	65,	Prosopis Velutina -	Velvet Mesquite	4*
11	Prosopis velutina -	Velvet Mesquite	< 4"	66.	Procopis Valutina -	Velvet Mesquite	<4"
12.	Acacia constricta -	Whitethorn Acacia	<4"	67.	Prosopis Valutina -	Velvet Mesquite	< 4"
13.	Acacia constricta -	Whitethorn Acada	< 4"	68.	Proscais Velutina -	Velvet Mesquite	< 6"
14.	Prompis Jelulina -	Velvet Mesquite	<2	69.	Prosonis Velulura -	Velvet Mesquite	< 6"
15,	Prosouis valutina -	Velvet Mesquite	<2	70.	Prosopis Velutina -	Yelvet Mesquite	< 6"
16.	Acacia constricta -	Whitethorn Acacia	< 4"	71.	Prosopis Velutina -	Velvet Mesquite	< 6"
17.	Prosopis velulina -	Velvet Mesquite	< 2"	72.	Prosopis Velutina -	Velvet Mesquite	< 3"
18.	Prosopis elutina -	Velvet Mesquite	< 2"	73.	Prosopis Velutina -	Veliret Mesquite	< 6"
19.	Prosopis velutina -	Velvet illesquite	< 2"	74.	Prosopis Velutina -	Velvet Mesquite	< 4"
20.	Acacia greggii -	Catclaw Acacla	< 4"	75.	Prosopis Velulina -	Velvet Mesquite	- 4"
21.	Acacia greggii -	Catclay: Acacla	< 4"	76.	Prosopis Yelutine -	Velvet Mesquite	< 4"
22.	Prosopis valutina -	Velvet Mesquite	\ Z	77.	Acacia greggii -	Catclaw Acacia	4"
23.	Acacia greggii -	Catclay, Acadia	< 4"	78.	Acacia greggii -	Catclaw / cacja	< 4"
24.	Acacia greggii -	Catclaw Acacia	< 4"	79.	Prosopis Velulina -	Velvet Mesquite	< 4"
25.	Acacia greggii -	Catck w Acacia	< 4ª	80.	Prosopis Velutina -	Velvet Mesquite	< 4"
26.	Prosopis velutina -	Velvet Mesquite	< 4"	81.	Acacia greggli -	Catclau/ Acacia	< 4"
27.	Prosopis velutina -	Velvet Mesquite	< 8"	82.	Prosopis Velutina -	Velvet Mesquite	< 4"
28.	Prosopis velutina -	Velvet Mesquite	< 8"	83.	Prosopis Veluma -	Velvet Mesquite	< 4"
29.	Prosopis velutina -	Velvet Mesquite	< 8"	84.	Prosopis Velutina -	Velvet Mesquite	< 4"
30.	Prosopis velutina -	Velvet Mesquite	< 8"	85.	Acacia greggil -	Catclaw Acacia	# 4°
31.	Prosopis velutina -	Velvet Mesquite	< 4"	86,	Acacia greggii -	Catclaw Acada	< 4"
32.	Prosopis velutina -	Velvet Mesquite	A4"	87,	Acacia greggii -	Catclaw Acacia	< 4"
33,	Prosopis velutine -	Velvet Mesquite	< 4°	88.	Acacia greggii -	Catclaw Acada	4"
34.	Presopis velutine -	Velvet Mesquite	<4"	89.	Acacia greggii -	Catclaw Acacia	< 4°
35.	Prosopis velutine -	Velvet Mesquite	<4º	90.	Prosopis veluma -	Velvet Mesquite	< 4"
36.	Prosopis velutina -	Veluet Mesquite	< 4	91,	Acacia greggii -	Catclaw Acacic	< 4"
37.	Acacia greggii -	Catclaw Acacla	< 4"	92.	Acacia greggii -	Catclaw Acacia	< 4"
38.	Acacia greggii -	Catclaw Acacia	< 4"	93.	Acacia greggii -	Catclaw Acacia	< 4"
39.	Acacia greggii -	Catcle Acacia	< 4" < 4"	94.	Acadia greggii -	Catclaw Acacia	< 4"
40.	Acacia greggii -	Catclan Acada		95.	Acacia greggii -	Catclaw Acadia	< 4"
41. 42.	Prosocis velutina -	Velvet Mesquite	< 2	96.	Acacia greggii -	Catclaw Acada	< 4"
43.	Acacia graggii -	Catclaw Acadia Catclaw Acadia	<2	97,	Acada greggii -	Catclaw Acacia	< 4"
44	Acacia greggii - Acacia greggii -	Catclaw Acacia	< 2"	98.	Acacia greggii -	Catcla : Acecia Catclaw Acacia	< 4" < 4"
45.	Prosopis velutina -	Velvet Mesquite	< 4	100.	Acacia greggii - Acacia greggii -	Catcla / Acada	< 4"
46.	Acacia greggir -	Catclaw Acacia	<2	101.		Catclaw Acacia	< 4°
47.	Celtis laavigata -	Canyon Hackben;	< 4"	102	Acacia greggii -	Catcla v Acacia	<4"
48,	Prosopis velutina -	Velvet Mesquite	< 6"	103.		Catclaw Acacia	< 4"
49.	Prosopis velutine -	Velvet Mesquite	<4"	104.	Acecia graggii -	Catcle / Acada	< 4"
50.	Acacia constricta -	Whitethorn Acacia	< 4"	105.	Acacia greggii -	Catclew Acacia	< 4"
51.	Prosopis velutine -	Velvet Mesquite	< 4"	106.	Acacia greggii -	Catclew Acacia	< 4"
52,	Acacia greggii -	Catclaw Acacia	< 4"	107.	Acacia graggii -	Catclaw Acacia	< 4"
53.	Prosopis velutina -	Velvet Mesquite	< 4"	108.	Acacia greggii -	Catclaw Acacia	< 4"
54.	Acacia greggii -	Catclaw Acacia	< 4"	109.		Catclaw Aracia	< 4"
55.	Acecia greggii -	Catcla Acacia	< 4"	110.		Catclaw Acacia	< 4"
				111.	Асясія дгеддії -	Catclaw Acacia	< 4"
				112.	Prosopis velutina -	Veluet Mesquite	< 4"
				113.	Prosopis velutina -	Velvet Mesquite	< 2"
				114.	Acacia greggii -	Catclaw Acacia	< 4"
				115.	Acecia greggii -	Catclaw Acacia	< 4"
				116.		Catcla. · Acacia	< 4"
				117.	Acacia greggii -	Catclaw Acacia	< 4"
				118.	Prosopis velutina -	Velvet Mesquita	< 4"
				119	Prosonis velutina .	Velvet Mesouite	< A"

119. Prosopis velutina -

Velvet Mesquite

< 4"

CALCUL	ATI	101	15
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THIS SITE CONTAINS IMPORT ANT RIPARIAN AREA WITH UNDERLYING CLASS H

TOTAL REGULATED RIPARIAN HABITATION SITE AREA OF DISTURBED REGULATED RIPARIAN HABITAT REA GENITIGATION REQ. = 0.85 sent x 1,5 x 7011

TOTAL # OF TILEES REQUIRED = 90 x 0,85 acres x 1,5 TOTAL # C # SHRUEC REQUIRED = 100 x 0,85 acres x 1,5 87.73 = 98 trees 87.5 = 50 shrubs

7.4,080 s.f. (1: 00 acres) 28,314 s.f. (0.,5 ccrc.) 28,287.7 c.f. (0.6c 1 acre.)

TOTAL # 0.1 TREES PROPOSED FOR MITIGATION = 38

TOTAL # | 5 SHRUES, PROPOSED FOR MITIGATION = 0, (SEE NEW PLANT IN TENTORY, P. TES).

GENERAL NOTES:

- 1. MITIOATED AREAS MILL SE HYYDRAMEDEDED MITH THE PPPROJED HYDRORIPARIAN AND TIESCHPARIAN SED MILLISTED MIN BYENDIX S. OF THE "REGULATED RIPARIAN HABITAT MITIGATION STANDARES AND IMPLEMENTATION GUIDELINES".
- 2. MITIGATION PLANTINGS TO BE IRRIGATED USING AN AUTOMATIC DRIP IRRIGATION
- 3. PT UPCS ED MITIGATION AREAS TO BE IR: IGATED MANUALLY, VITH DRIP VALVES FRO: I STORUS WITTER CISTERNS. LOCATION TO CORRESPOND 1 1TH EXISTING RULTAIN BLE VINTER SUPPLIES.
- 4. A FIGHTORING PLAN, IN ACCORDANCE WITH THE GUIDELINES, WILL BE SUBMITTED ANNUALLY FOR A PERIOD OF FIVE (6) YEARS FOLLOWING IN-PLEMENTATION OF THE KITTIS THON PLAN.
- 5. THE PROJECT OWNER, AND/OR THE CYNERS SUCCESSORS, AGREE TO PRESENCE AND PROTECT THE INTRATION AREA FOR THE DURATION OF THE PROJECT. FURTHER, THE PROJECT OWNER AND/OR SUCCESSORS AGREE TO ... TILEY LIGHTAIN THE MITTING THE AREA FOR A PERIOS OF NOT LESS THAN FAME (6) YEARS, MAINTENANCE COTATIONS SHALL INCLUDE, BUT NOT BE IN JETO TO, THE REQUILAR OVERLINKON OF THE RINK ATION SYSTEM, THE REPLACEMENT OF DEAD TREES, AND THE RENC VALIOF NOXIOUS PLANT SPECIES
- 8. HITIGATIC-I ARE-19 TO BE LEFT IN A INTURAL STATE. UP DISTURBANCE SHALL OCCUR INTIRK THE MITIGATION AREAS WITHOUT RECO APPROVAL. SUCH DISTURBANCE INCLUDES BUT IN INTURNIED TO SECONDARY SIPACTS SUCH AS THE PRESENCE OF UT FENCIN'S, INTENSIVE LANDSCAPING, OUTDOOR PLAY AREAS, ETC.

7. PROPOLED MITMATION AREAS TO BE IRRIGATED MANUALLY, WITH DRIP THE ES FLORI STORING WATER CISTERNS. LOCATION TO CORRESPOND WITH EXISTING SUPTAINABLE VICTOR SUPPLIES.

APPROVED HYRDRORIPARIAN AND MESORIPARIAN SEED MIX:

THE APPROLED SEED MIX CAN BE PURCHASED FROM ONE OF THE FOLLOWING 1 PPRC LED

1 ALDIAND RESTOR VIION YUGSCH, AZ	(720) 352-1 #19
V:ILD SEED TEMPE, AZ	(601, 276-3513
DESERT ENTERPRICES WICKENBEF G, AZ	(602) 158-2446
GRANITE SEED & ALT LAKE CITY, UTAH	(1-01), 9-32-5040

THE APPROVED HYDRORIPARIAN AND MESORIP ARIAN SEED MIX SHALL INCLUDE THE POLLOWING.

And the course with the secretary of the Beauty of the Bea	2 i brico
Asterio a 20 c P. pto .: - 4	301
Selly price as to - Do. s. t. 14 gold	15.04.119
Directions make purchasium - E. to Dick :	2200 120
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Larra b Jon ta - Dree Cu	2
1 - 18 - 15 - 15 - 15 - 15 - 15 - 15 - 1	3.9.5.0.00
Cy - w Mariola	64.03
Publisher my mage - i to blome	4.74.10
S. how + 1 a.s. un - Stabe State	0041 4
free fore, I was a court boppered	20 - acre

MITIGATION SCHEDULE:

SCHOOL NAME	DNo. 4 No.	51.1	45 Lathtr
At UPP X	E. + + + - >	100-	s
Are	E day.		.9
CR 1400	4.29.7 (569)	10.6	a
6.4 miles	119 7 par	Tps -	

IN-LIEU FEE CALCULATIONS:

THE CITE CONTAINS IMPORTANT RIPARIAN AREA WITH UNDERLYIN & OLVES H. HYDRORIPARIAN , ND LIESORIPARIAN HABITAT,

TOTAL REGULATED RIPARIAN HABITAT ON DITE = 754,080 s.f. (18,00 acres) = 25,314 s.f. (0.75 acres) = 29,297.7 s.f. (0.653 acres) AREA OF DISTURBED REGULATED RIPARIAN HABITAT AREA OF MITISATION REQ. = 0,85 acres x 1.5 x 70% IN LIEU FEE FOR IRA H / HM, (METHOD 2 FOR OFFSITE MITIGATION) = \$9,272,75



Residence

Goldberg

Riparian Habitat Mitigation

RHMP - New Growth Inventory

Scale: 1" = 50' - 0"

Calculating In-Lieu Fee Costs for Single-lot Development

Shaded fields are editable - Enter value in Acres



eroriparian 5-

(per acre)

\$610

Option to basic Option to basic

requirement requirement (Xeroriparian)* (Class H)** Class H or IRA w/ Underlying Class H Habitat (H or IRA/H)** Total mapped habitat onsite 18 00 Acre(s) Area of disturbed RRH ú 65 Acre(s) % of mapped habitat disturbed 4% Acre(s) Area of mitigation 0.98 Acre(s) Total number of trees required (90 trees/ac) 85 86 Trees na 102.96 Trees Total number of shrubs required (100 shrubs/ac) 96 Shrubs na 114.66 Shrubs IRA w/ Underlying Xeroriparian Class A Habitat (IRA/XA)** Total mapped habitat onsite Acre(s) Area of disturbed RRH Acre(s) % of mapped habitat disturbed #DIV/0! Acre(s) Area of mitigation 0.00 Acre(s) Total number of trees required (75 trees/ac) 75 0 Trees 0 na Trees Total number of shrubs required (90 shrubs/ac) 90 0 Shrubs 0 Shrubs IRA w/ Underlying Xeroriparian Class B Habitat (IRA/XB)** Total mapped habitat onsite Acre(s) Area of disturbed RRH Acre(s) % of mapped habitat disturbed #DIV/0! Acre(s) Area of mitigation 0.00 Acre(s) Total number of trees required (60 trees/ac) 0 Trees 0 na Trees Total number of shrubs required (80 shrubs/ac) 0 Shrubs 0 na Shrubs IRA w/ Underlying Xeroriparian Class C Habitat (IRA/XC)** Total mapped habitat onsite Acre(s) Area of disturbed RRH Acre(s) % of mapped habitat disturbed #DIV/0! Acre(s) Area of mitigation 0.00 Acre(s) Total number of trees required (45 trees/ac) 0 Trees 0 na Trees Total number of shrubs required (70 shrubs/ac) 0 Shrubs 0 na Shrubs IRA w/ Underlying Xeroriparian Class D Habitat (IRA/XD)*** Total mapped habitat onsite Acre(s) Area of disturbed RRH Acre(s) % of mapped habitat disturbed #DIV/0! Acre(s) Area of mitigation 0.00 Acre(s) Total number of trees required (30 trees/ac) 0 Trees 0 Trees na Total number of shrubs required (x shrubs/ac)* 0 Shrubs na Shrubs ILF Calculation 15-gallon trees 88 \$7,040.00 5-gallon trees O \$0.00 5-gallon shrubs 0 \$0.00 1-gallon shrubs \$0.00 Hydroseed 0.65 Acres(s) \$575.25 Irrigation system (materials and labor for installation)*** 0.55 Acres(s) \$975,00 5-year maintenance for Xeroriparian**** Acres(s) \$0.00 5-year maintenance for H and/or IRA**** 0 65 Acres(s) \$682.50 Total Cost \$9,272.75 Class H 5-year rigation (pe 15-galion tree 5-gallon tree 5-gallon shrub 1-gallon shrub naintenance (pe Seeding (per acre) Average Costs (Costs shown for plants do not include installation costs) acre) acre)

\$23

\$6

\$885

\$1.500

\$1,050

\$25

\$80

^{*}Density determined by onsite plant survey.

^{**}Guideline plant density requirements have been provided. The applicant may choose to perform an onsite plant survey in accordance with TECH-116 to determine plant density.

^{***}Irrigation costs are calculated as a percentage of the plant material costs

^{****}Average cost based on annual plant water requirements, plant replacement @ 5% over five years, and invasive species control (cost for herbicide only).

^{*}Option to basic requirement for Xeroriparian Classes A-D: Reduce total plant quantity by 20% if 100% 15 gallon trees and 100% 5 gallon shrubs are used.

^{**}Option to basic requirement for Class H: Increase total plant quantity by 20% if 50% 15 gallon/50% 5 gallon trees are used and 100% 1 gallon shrubs are used.