



## **BOARD OF SUPERVISORS AGENDA ITEM SUMMARY**

*Requested Board Meeting Date: December 2<sup>nd</sup>, 2014*

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### **ITEM SUMMARY, JUSTIFICATION &/or SPECIAL CONSIDERATIONS:**

The project is a proposal to make site security improvements as required by the FAA to Ryan Airfield and will impact 1.05 acres of Important Riparian Area with Underlying Class H (IRA/H) habitat and Hydroriparian habitat. Ryan Airfield is located at 9698 West Ajo Highway. The property is impacted by a regulatory floodplain associated with two unnamed washes and is also impacted by a FEMA Zone AO1 Special Flood Hazard Area. This development will impact over one-third of an acre of regulated riparian habitat. As such, the applicant is subject to compliance with Chapter 16.30 of the Pima County Floodplain Management Ordinance No. 2010-FC5 (Ordinance). Due to site constraints, the applicant is proposing to mitigate through contribution of an In-Lieu Fee. When the disturbance will be mitigated through contribution of an ILF, the mitigation proposal requires Flood Control District Board of Directors (Board) review and approval.

In order to comply with the Ordinance, the applicant is submitting a Riparian Habitat Mitigation Plan for approval by the Board. The Riparian Habitat Mitigation Plan must be approved prior to approval of the Floodplain Use Permit.

CONTRACT NUMBER (if applicable): N/A

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### **STAFF RECOMMENDATION(S):**

The ILF proposal presented conforms with the Ordinance and as such can be approved.

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**CLERK OF BOARD USE ONLY: BOS MTG.** \_\_\_\_\_

**ITEM NO.** \_\_\_\_\_

**PIMA COUNTY COST:** 0.0 **and/or REVENUE TO PIMA COUNTY:\$** 30,574.17

**FUNDING SOURCE(S):** N/A  
(i.e. General Fund, State Grant Fund, Federal Fund, Stadium D. Fund, etc.)

**Advertised Public Hearing:**

YES

NO

**Board of Supervisors District:**

 1 2 3 4 5

All

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**IMPACT:**

**IF APPROVED:**

If the Board approves the In Lieu Fee proposal, an amount of \$ 30,574.17 will be contributed to the Mitigation Bank and the development will be in compliance with the Ordinance.

**IF DENIED:**

The Building Site Construction Permit will be delayed until the applicant provides an alternative onsite and/or offsite riparian habitat mitigation plan that meets all Ordinance requirements.

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**DEPARTMENT NAME:** Regional Flood Control District

**CONTACT PERSON:** Eric Shepp/Patricia Gilbert **TELEPHONE NO.:** 4-4610/4606

**DIRECTOR'S SIGNATURE:** \_\_\_\_\_

*Suzanne Shields*  
Suzanne Shields, P.E.

**DATE:** November 19<sup>th</sup>, 2014

**FROM:** Suzanne Shields, P.E.

**TO:** Flood Control District Board of Directors  
Director

**SUBJECT:** **Approval of a Riparian Habitat Mitigation Plan Ryan Airfield Security Fence  
Improvements Located within Important Riparian Area with Underlying Class H  
Habitat and Hydroriparian Habitat (District 3)**

### **Background**

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**

The project is a proposal to make site security improvements as required by the FAA to Ryan Airfield located at 9698 West Ajo Highway (Exhibit A). These improvements will include replacing an existing perimeter fence and improving the maintenance access to the security fence on the airport side. The existing fence currently runs through two areas of mapped riparian habitat near the drainage culverts under State Route 86 (Ajo Highway). Improvements will include grading, addition of riprap, a debris guard, and a concrete maintenance road on the airport side of the fence at the washes. The current design of the fence improvements represents the best option to address all the federal required guidelines, site constraints, public safety issues, while minimizing the impact on the riparian area. The project site contains 43.17 acres of Important Riparian Area with Underlying Class H (IRA/H) habitat and Hydroriparian habitat and will impact 1.05 acres of the mapped riparian habitat (Exhibit B). The property is impacted by a regulatory floodplain associated with two unnamed washes and is also impacted by a FEMA Zone AO1 Special Flood Hazard Area.

DOWL HKM was hired to prepare a riparian habitat mitigation plan (Exhibit C) and to assess the project site for suitable on-site mitigation. Due to FAA maximum vegetation heights for instrument flight procedures, the effect of the vegetation on visual operations at the airport, and the lack of irrigation opportunities at the locations of disturbance; the airport does not find it feasible to mitigate on-site. As a result of the assessment the applicant is proposing to contribute \$30,574.17 in lieu of onsite habitat mitigation based on the ILF Calculation spreadsheet (Exhibit D).

Flood Control District Board of Directors

**Approval of Mitigation Banking Plan Ryan Airfield Security Fence Improvements located  
within mapped Important Riparian Area with Underlying Class H Habitat and Hydroriparian  
Habitat (District 3)**

November 19, 2014

Page 2

**ILF Calculation Spreadsheet**

**Disturbance: 1.05 acres and 1.05 acres to be mitigated**

Required Mitigation by Vegetation Type in Important Riparian Area with Underlying Class H (IRA/H) and Hydroriparian habitat	Total Plants (Mitigation) Required	Total Plants Mitigated Through ILF Contribution
90 trees/acre	85 trees (50% 15 gal, 50% 5 gal)	85 trees (50% 15 gal, 50% 5 gal)
100 shrubs/acre	189 shrubs (100% 1 gal)	189 shrubs (100% 1 gal)
Seeding	Seed disturbed and/or mitigated areas using approved method and seed mix	Standard seeding requirement
Irrigation	To be provided for 5 years	Standard drip irrigation requirement

**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.

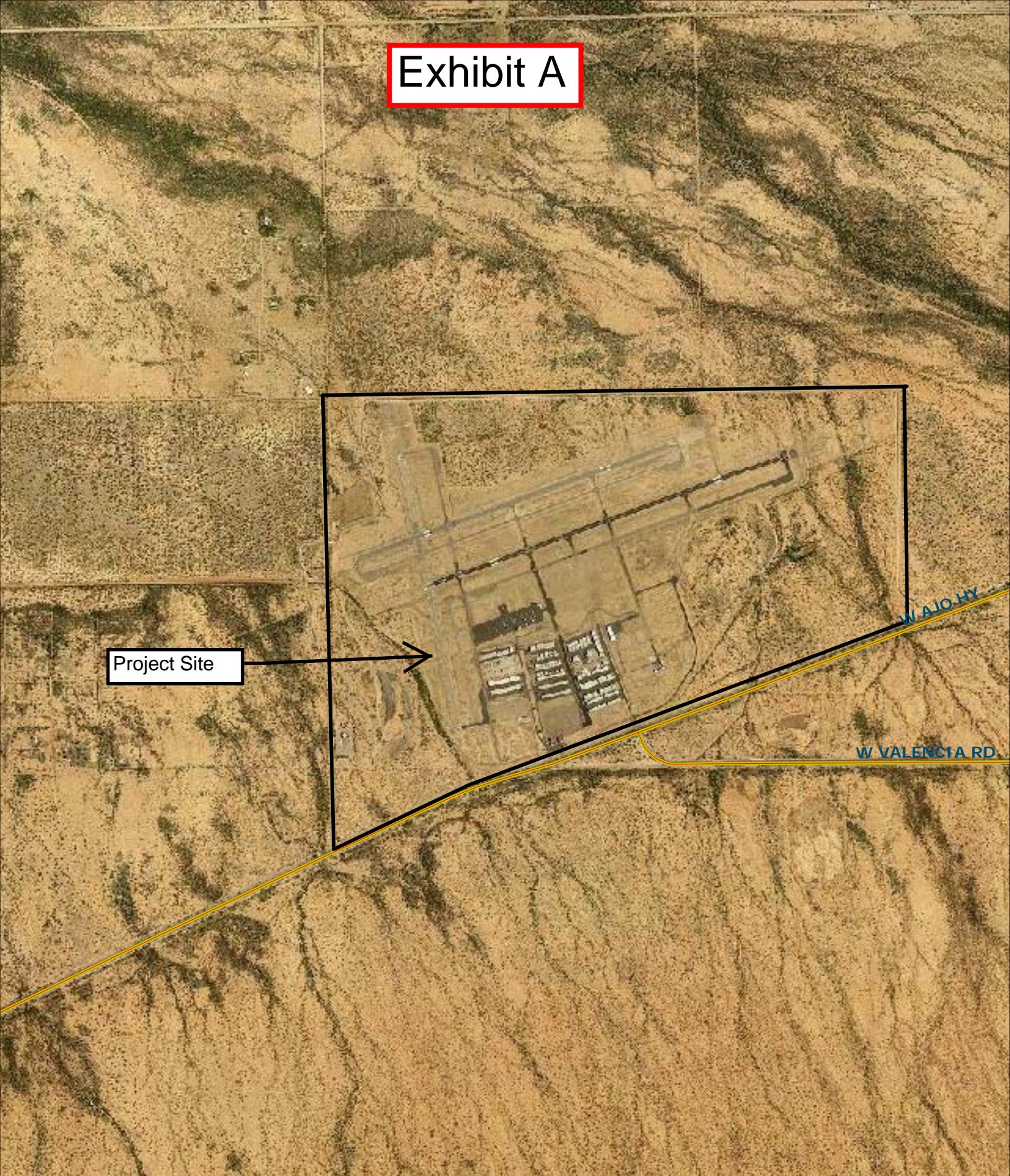
Exhibit A – Project Location

Exhibit B – Project Site – Riparian Classification Map

Exhibit C – Mitigation Banking In-lieu Fee Proposal

Exhibit D – Mitigation Banking In-lieu Fee Proposal

# Exhibit A

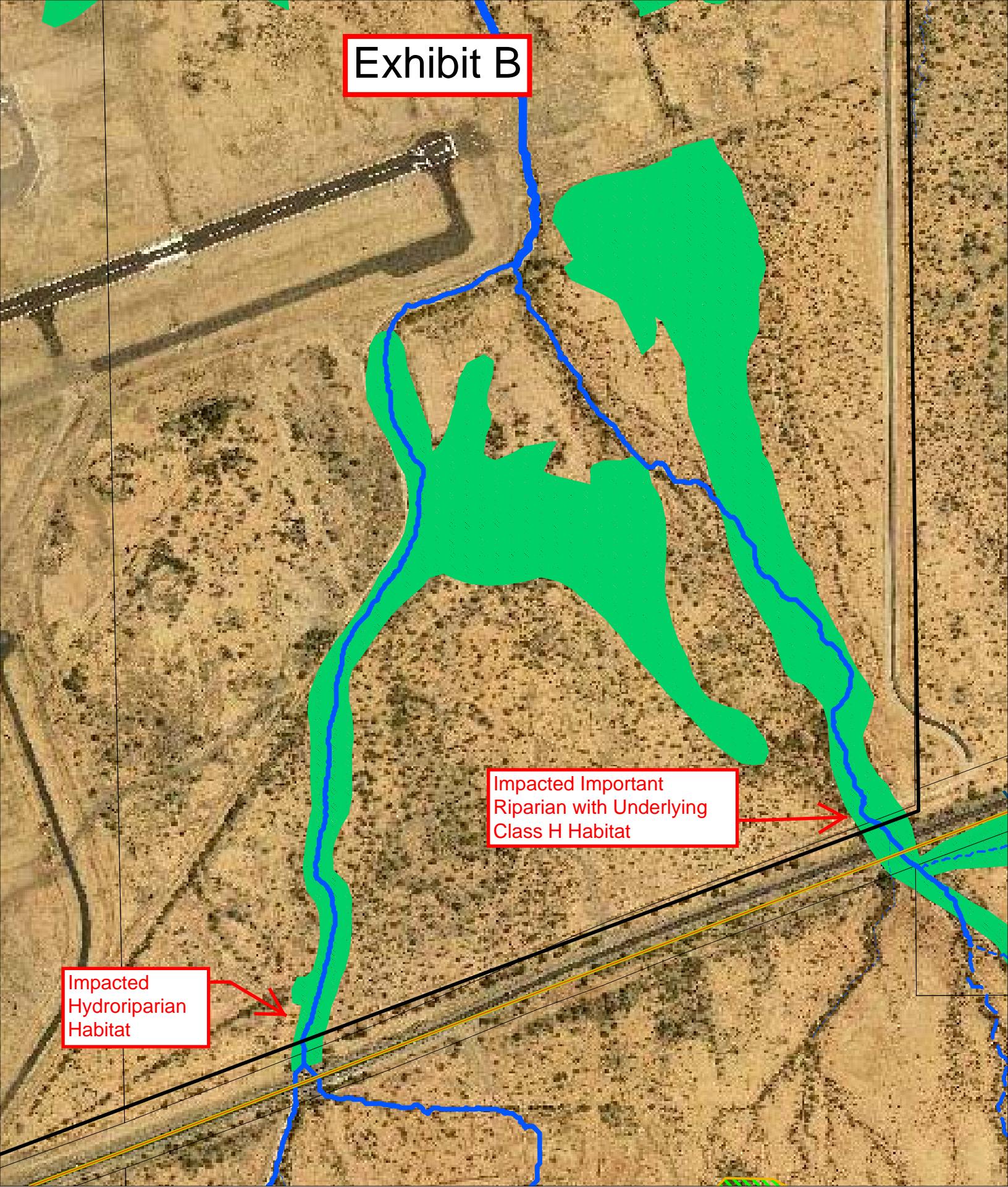


Ryan Air Field  
9698 West Ajo Highway  
BOS Meeting Date 12.02.2014

N



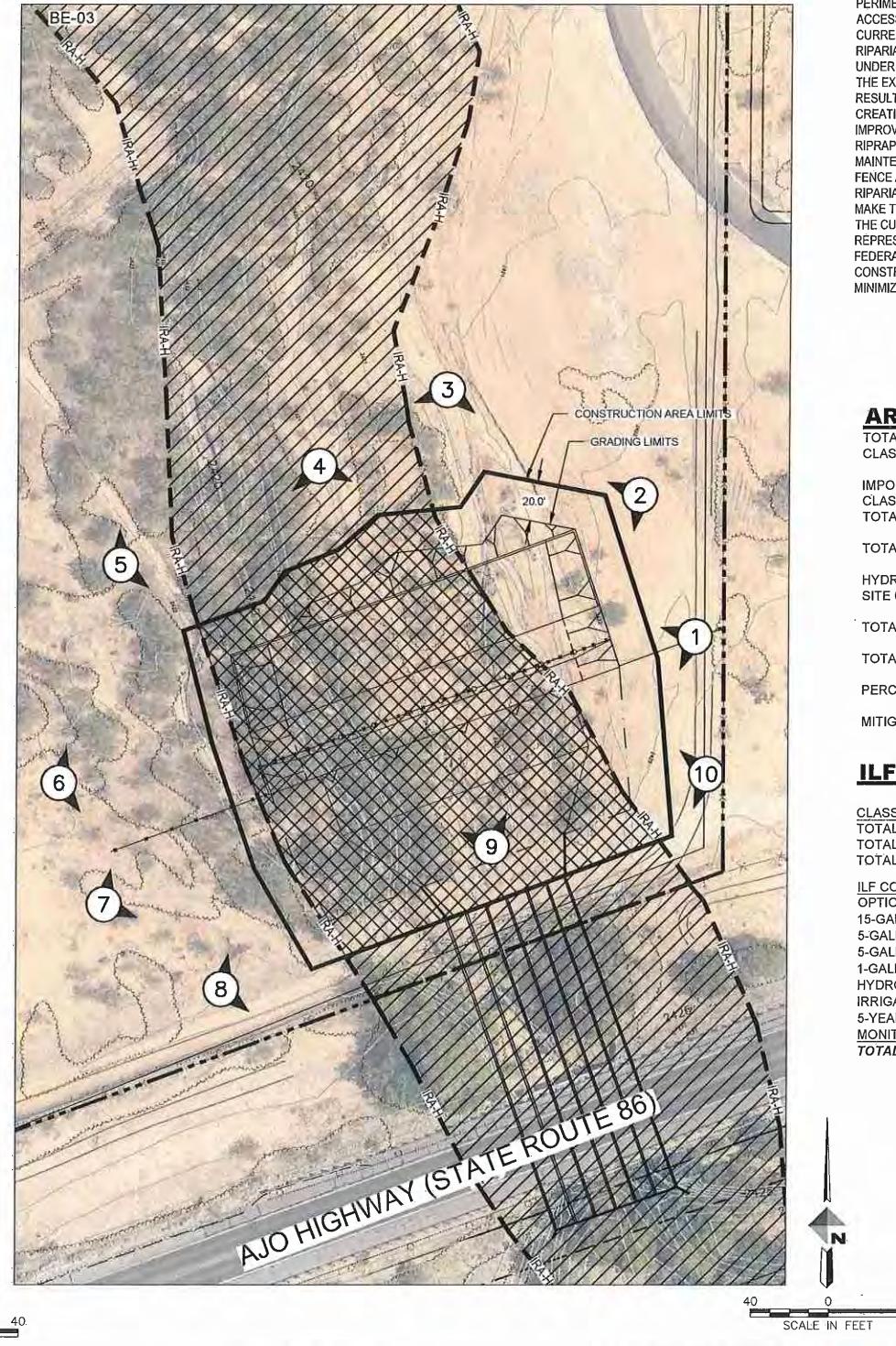
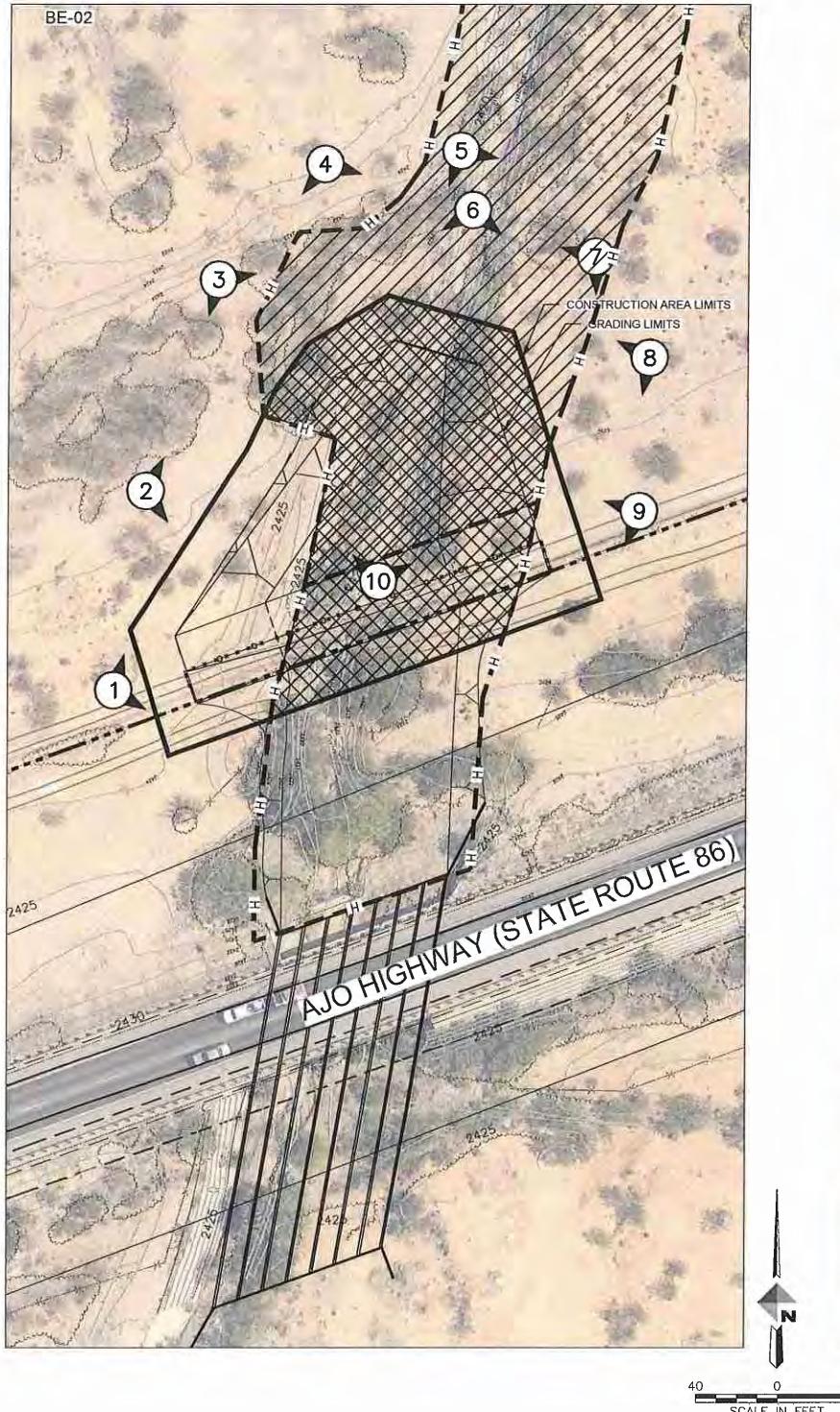
## Exhibit B



# Exhibit C

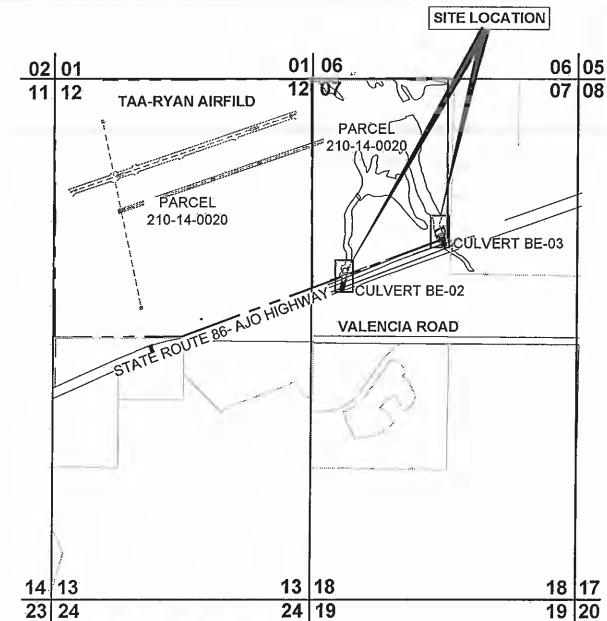
PROJECT NO. 20112229  
**RYAN SECURITY FENCE UPGRADES**  
 ADOT GRANT No. \_\_\_\_\_  
 FAA GRANT No. 3.04.0044.26/27  
 F.P.U.P. NO. 14-187

DOWL HKM FILE No: XXX-XX



## AVOIDANCE JUSTIFICATION

THE PROJECT IS PROPOSED TO MAKE SITE SECURITY IMPROVEMENTS AS REQUIRED BY THE FAA. THESE IMPROVEMENTS INCLUDE REPLACING AN EXISTING PERIMETER FENCE AND IMPROVING THE MAINTENANCE ACCESS TO THE SECURITY FENCE. THE EXISTING FENCE CURRENTLY RUNS THROUGH TWO AREAS OF MAPPED RIPARIAN HABITAT NEAR THE DRAINAGE CULVERTS UNDER STATE ROUTE 86 NUMBERED BE02 AND BE03. THE EXISTING FENCE HAS SUFFERED DAMAGE AS A RESULT OF STRONG WATER CURRENTS AND DEBRIS, CREATING GAPS IN THE FENCE AT THESE LOCATIONS. IMPROVEMENTS WILL INCLUDE GRADING, ADDITION OF RIPRAP, A DEBRIS GARD, AND A CONCRETE MAINTENANCE ROAD ON THE AIRPORT SIDE OF THE FENCE AT THE WASHES. DISTURBANCE OF THE RIPARIAN AREAS WOULD BE INEVITABLE IN ORDER TO MAKE THE REQUIRED IMPROVEMENTS TO THE FENCE. THE CURRENT DESIGN OF THE FENCE IMPROVEMENTS REPRESENTS THE BEST OPTION TO ADDRESS ALL THE FEDERAL REQUIRED GUIDELINES SITE CONSTRAINTS PUBLIC SAFETY ISSUES, WHILE MINIMIZING IMPACT ON THE RIPARIAN AREA.



PORTION OF T 15 S, R 11 E, SECTION 12, G&SRM, PIMA COUNTY, ARIZONA

## OWNER

TUCSON AIRPORT AUTHORITY  
 7005 S PLUMER AVE. TUCSON, AZ 85706

## SITE ADDRESS

9698 W. AJO HWY, TUCSON, ARIZONA  
 85735

## LANDSCAPE ARCHITECT

DOWL HKM  
 406 N CHURCH ST.  
 TUCSON, AZ 85701  
 PH: (520) 882-8696  
 FAX: (520) 624-0384  
 CONTACT: DAVID MARHEFKA, PLA

## AREA CALCULATIONS

TOTAL IMPORTANT RIPARIAN HABITAT UNDERLYING HYDRORIPARIAN CLASS H HABITAT ON SITE = 38.86 AC

IMPORTANT RIPARIAN HABITAT UNDERLYING HYDRORIPARIAN CLASS H HABITAT DISTURBED ON SITE = 0.61 AC; OFF SITE = 0.0 AC; TOTAL = 0.61 AC

TOTAL CLASS H RIPARIAN HABITAT (NON -IRA-H) ON SITE = 4.31 AC

HYDRORIPARIAN CLASS H HABITAT (NON -IRA-H) DISTURBED ON SITE 0.44 AC; OFF SITE 0.0 AC; TOTAL = 0.44 AC

TOTAL (IRA-H AND H) ON SITE = 43.17 AC

TOTAL (IRA-H AND H) HABITAT DISTURBED = 1.05

PERCENTAGE OF TOTAL MAPPED RRH DISTURBED = 2 %

MITIGATION AREA REQUIRED:  $1.05 * 1.5 = 1.57$  AC

## ILF CALCULATIONS

CLASS H OR IRA W UNDERLYING CLASS H HABITAT (H OR IRA/A)

TOTAL # OF TREES REQUIRED = 134 (15 gal) or 80(15 gal) and 80 (5 gal)

TOTAL # OF SHRUBS REQUIRED = 149 (5 gal) or 178 (1 gal)

TOTAL AREA OF SEED MIX REQUIRED = 1.05 AC

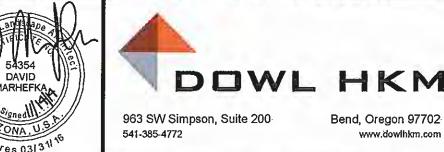
ILF COST ESTIMATE ( FEES OBTAINED FROM PCRCFD PROVIDED SPREADSHEET)

OPTION TO BASIC MITIGATION	
15-GALLON TREES = 85	\$6,327.78
5-GALLON TREES = 85	\$2,331.43
5-GALLON SHRUBS = 0	\$0.00
1-GALLON SHRUBS = 189	\$2,220.75
HYDROSEED = 1.05 AC	\$3,659.25
IRRIGATION = 1.05 AC	\$3,263.99
5-YEAR MAINTENANCE = 1.05 AC	\$4,895.98
MONITORING REPORT 5 YEARS	\$7,875.00
<b>TOTAL COST</b>	<b>\$30,574.17</b>

## LINE LEGEND

- - - PROPERTY LINE
- - - GRADING LIMITS
- - - 100 YEAR FLOOD LIMIT
- IMPORTANT RIPARIAN AREA WITH UNDERLYING HYDRORIPARIAN CLASS H HABITAT (RECTIFIED)
- IMPORTANT RIPARIAN AREA WITH UNDERLYING HYDRORIPARIAN CLASS H HABITAT DISTURBED
- CLASS H HABITAT (RECTIFIED)
- DISTURBED RIPARIAN AREA HYDRORIPARIAN CLASS H
- PHOTO POINTS

REVISIONS			
REV	DATE	DESCRIPTION	BY



RIPARIAN HABITAT MITIGATION IN-LIEU FEE PROPOSAL  
 RYAN AIRFIELD  
 PIMA COUNTY, AZ

PROJECT 41007  
 DATE 11/14/2014  
 SHEET 1  
 1 OF 1

## Calculating In-Lieu Fee Costs for Commercial and Subdivision Development

Shaded fields are editable - Enter value in Acres

# Exhibit D

<b>Class H or IRA w/ Underlying Class H Habitat (H or IRA/H)**</b>		Option to basic requirement (Xeroriparian)****	Option to basic requirement (Class H)****
Total mapped habitat onsite	43.17 Acre(s)		
Area of disturbed RRH	1.05 Acre(s)		
% of mapped habitat disturbed	2% Acre(s)		
Area of mitigation	1.58 Acre(s)		
Total number of trees required (90 trees/ac)	90	142 Trees	na
Total number of shrubs required (100 shrubs/ac)	100	158 Shrubs	170.1
			Trees
			Shrubs
<b>IRA w/ Underlying Xeroriparian Class A Habitat (IRA/XA)**</b>			
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)		0 Trees	0
Total number of shrubs required (90 shrubs/ac)		0 Shrubs	na
			Trees
			Shrubs
<b>IRA w/ Underlying Xeroriparian Class B Habitat (IRA/XB)**</b>			
Total mapped habitat onsite	C	Acre(s)	
Area of disturbed RRH		Acre(s)	
% of mapped habitat disturbed	#VALUE!	Acre(s)	
Area of mitigation	0.00	Acre(s)	
Total number of trees required (60 trees/ac)	60	0 Trees	0
Total number of shrubs required (80 shrubs/ac)	80	0 Shrubs	na
			Trees
			Shrubs
<b>IRA w/ Underlying Xeroriparian Class C Habitat (IRA/XC)**</b>			
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)	45	0 Trees	0
Total number of shrubs required (70 shrubs/ac)	70	0 Shrubs	na
			Trees
			Shrubs
<b>IRA w/ Underlying Xeroriparian Class D Habitat (IRA/XD)**</b>			
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)	30	0 Trees	0
Total number of shrubs required (x shrubs/ac)*	50	0 Shrubs	na
			Trees
			Shrubs
<b>ILF Calculation</b>			
15-gallon trees	85	\$6,327.78	
5-gallon trees	85	\$2,331.43	
5-gallon shrubs	0	\$0.00	
1-gallon shrubs	189	\$2,220.75	
Hydroseed	1.05 Acre(s)	\$3,659.25	
Irrigation	1.05 Acre(s)	\$3,263.99	
5-year maintenance	1.05 Acre(s)	\$4,895.98	
Monitoring Report	5 Years	\$7,875.00	
<b>Total Cost</b>		<b>\$30,574.17</b>	
If 20% of RRH is exceeded (add 5% surcharge)***		\$32,102.88	
If 40% of RRH is exceeded (add 10% surcharge)***		\$35,313.17	
If 60% of RRH is exceeded (add 20% surcharge)***		\$42,375.80	

Average Costs (Costs shown for plants are installed costs)	15-gallon tree	5-gallon tree	5-gallon shrub	1-gallon shrub	Hydroseed (per acre)	Irrigation (per acre) <sup>1</sup>	5-year maintenance (per acre) <sup>2</sup>	5-year monitoring (per acre per year)
	\$74	\$27	\$23	\$12	\$3,485	see notes	see notes	\$1,500

\*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.

\*\*\*Surcharge is applied to IRA and Class H habitat.

\*\*\*\*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.

<sup>1</sup>Irrigation calculated as 30% the cost of plant material (trees and shrubs)

<sup>2</sup>Maintenance calculated as 45% the cost of plant material (trees and shrubs)