

BOARD OF SUPERVISORS AGENDA ITEM SUMMARY

Requested Board Meeting Date: June 18, 2013

ITEM SUMMARY, JUSTIFICATION &/or SPECIAL CONSIDERATIONS:

The property owners, Jeremy and Shelley Sherman, are proposing to construct a single-family residence on property located at 7994 N. Pima Village Court, within Pima Canyon Estates Subdivision. The development will impact greater than one-third (1/3) acre Regulated Riparian Habitat (RRH). Therefore, the applicants are proposing to mitigate partially onsite while contributing an in-lieu fee (ILF) for the remaining amount. Because this development will impact Important Riparian Area with underlying Xeroriparian Class B and Xeroriparian Class C habitat, the applicant is subject to compliance with Chapter 16.30 of the Pima County Floodplain and Erosion Hazard Management Ordinance No. 2010-FC5 (Ordinance). Because more than five percent of the regulated riparian habitat mapped on the site will be disturbed and a portion of 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 partial onsite Riparian Habitat Mitigation Plan (RHMP) and partial ILF for Board approval. The mitigation proposal must be approved prior to issuance of a Floodplain Use Permit which specifies floodplain and building requirements for the proposed single-family residence.

CONTRACT NUMBER (If applicable):	N/A

STAFF RECOMMENDATION(S):

Conceptually, the combination onsite mitigation plan and ILF presented conforms to the Ordinance and, as such, can be approved.

CLERK OF BOARD USE ONLY: BOS MTG.
ITEM NO
PIMA COUNTY COST: 0.0 and/or REVENUE TO PIMA COUNTY:\$ 2,903.65
FUNDING SOURCE(S): N/A (i.e. General Fund, State Grant Fund, Federal Fund, Stadium D. Fund, etc.)
Advertised Public Hearing:
YES X NO
Board of Supervisors District:
1 x 2 3 4 5 All
IMPACT:
IF APPROVED:
Per the plan, habitat mitigation will occur onsite within the specifically designated areas and will be performed in compliance with Board approved mitigation standards with the remaining amount of mitigation contributed to the mitigation bank as an ILF in the amount of \$2,903.65. By performing a combination of onsite and offsite mitigation, the development will be in compliance with the Ordinance.
IF DENIED:
The applicant will not be able to continue with developing the property as currently planned and an alternative mitigation proposal will be required.
DEPARTMENT NAME: Regional Flood Control District
CONTACT PERSON: Carla Danforth/Marisa Rice TELEPHONE NO.: 11-1852/1816
DIRECTOR'S SIGNATURE: Suzanne Shields, P.E.



MEMORANDUM

Director's Office Regional Flood Control District



DATE: June 3, 2013

TO: Flood Control District Board of Directors

FROM: Suzanne Shields, P.E.

Director

SUBJECT:

Approval of a Riparian Habitat Mitigation Proposal for 7994 N. Pima Village Court, Located within Important Riparian Area with Underlying Xeroriparian Class B Habitat

and Xeroriparian Class C Habitat (District 1)

Background

Chapter 16.30 of the Pima County Floodplain and Erosion Hazard Management Ordinance No. 2010-FC5 (Ordinance) requires mitigation for disturbance of Regulated Riparian Habitat (RRH) exceeding one-third (1/3) of an acre. A Riparian Habitat Mitigation Plan (RHMP) approved by the Flood Control District Board of Directors (Board) is required for disturbance of Important Riparian Areas (IRA) or Class H (H) habitat exceeding one-third (1/3) of an acre that also exceeds five percent of the mapped IRA or H on the subject parcel. The adopted Mitigation Standards and Implementation Guidelines govern the type, amount, and location of required mitigation.

In addition to onsite mitigation, the Ordinance contains a provision for offsite mitigation, where appropriate. All offsite mitigation options, which are governed by the adopted *Offsite Mitigation Guidelines for Unincorporated Pima County*, require the Flood Control District Board of Directors (Board) review and approval.

Report

The owners, Mr. and Mrs. Jeremy Sherman, are proposing to construct a single-family residence (SFR) on property located at 7994 N. Pima Village Court, within Pima Canyon Estates Subdivision (Exhibit A). The property is mapped Important Riparian Area with underlying Xeroriparian Class B (IRA/XB) habitat and Xeroriparian Class C habitat (Exhibit B).

The owners hired Blue Agave Landscape Design to prepare the mitigation proposal. The landscape architect assessed the project site for suitable onsite mitigation areas and determined that completing mitigation entirely onsite is not possible due to the size of the parcel, extent of disturbance, and presence of existing vegetation. Therefore, to achieve compliance with the Ordinance, the owner will install a portion of the mitigation requirement onsite and convert the remaining acreage to a dollar amount, which will be contributed to the mitigation bank as a fee in-lieu of onsite mitigation.

All onsite mitigation planting will occur per the RHMP (Exhibit C), which shows the type, number, and planting location of vegetation to partially compensate for land disturbance. The mitigation areas are located within existing or disturbed habitat adjacent to the SFR. The areas are placed either directly downstream of the SFR to capture increased stormwater runoff from the new development or upstream of the SFR, within low-lying areas where stormwater will collect.

Flood Control District Board of Directors

Approval of a Riparian Habitat Mitigation Proposal for 7994 N. Pima Village Court, Located within Important Riparian Area with Underlying Xeroriparian Class B Habitat and Xeroriparian Class C Habitat (District 1)

June 3, 2013 Page 2

The remaining disturbed area will be compensated for through submittal of an in-lieu fee in the amount of \$2,903.65 (Exhibit D). The fee shall be paid prior to issuance of the Floodplain Use Permit. Any future development will require submittal of a separate mitigation proposal.

All species will be chosen from the approved plant list contained in the *Mitigation Standards and Implementation Guidelines*.

Disturbance: 20,581 sq.ft. (IRA/XB) \times 1.5 + 1,200 sq.ft. (XC) = 0.50 acres to be mitigated

Required Mitigation by Vegetation Type in Important Riparian Area with underlying Xeroriparian Class B Habitat and Xeroriparian Class C Habitat	Total Plants (Mitigation) Required	Total Plants (Mitigation) Actual
60 trees/acre (IRA/XB) 45 trees/acre (XC)	43 trees (50% 15 gal, 50% 5 gal), or 35 trees (100% 15 gal)	16 trees (15 gal) planted onsite 19 trees (15 gal) in-lieu fee contribution
80 shrubs/acre (IRA/XB) 70 shrubs/acre (XC)	58 shrubs (50% 5 gal, 50% 1 gal), or 47 shrubs (100% 5 gal)	22 shrubs (5 gal) planted onsite 25 shrubs (5 gal) in-lieu fee contribution
Seeding	Seed disturbed and/or mitigated areas using approved method and seed mix	Mitigated and disturbed areas to be hydroseeded with a minimum of 12 species from the approved Xeroriparian plant list
Irrigation	To be provided for 5 years (see Irrigation Notes)	Drip irrigation to be provided for 5 years (see Irrigation Notes)

Flood Control District Board of Directors

Approval of a Riparian Habitat Mitigation Proposal for 7994 N. Pima Village Court, Located within Important Riparian Area with Underlying Xeroriparian Class B Habitat and Xeroriparian Class C Habitat (District 1)

June 3, 2013 Page 3

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 riparian resources or towards restoration of degraded riparian habitat within Pima County. Additionally, the onsite mitigation proposed under the RHMP conforms to the Ordinance and associated mitigation standards and guidelines and, as such, can be approved.

Respectfully submitted,

Suzanne Shields, P.E.

Director and Chief Engineer

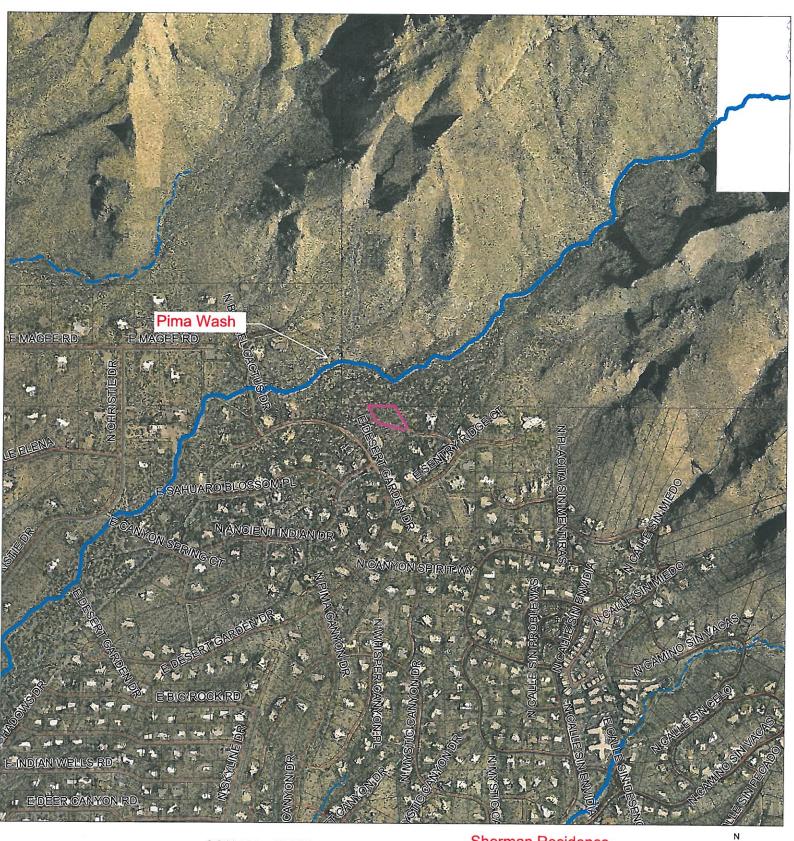
Attachments:

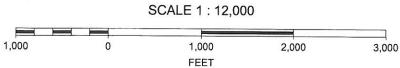
Exhibit A – Project Location

Exhibit B – Project Site - Riparian Classification Map Exhibit C – Riparian Habitat Mitigation Plan (RHMP)

Exhibit D – In-Lieu Fee Proposal

Exhibit A

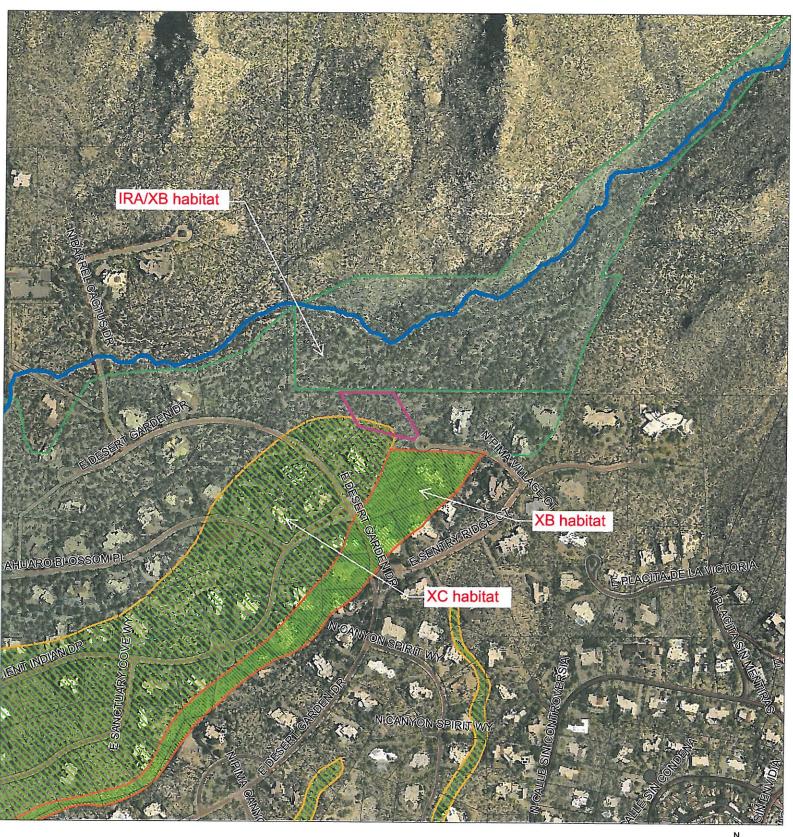


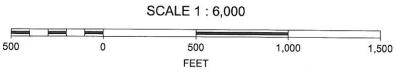


Sherman Residence 7994 N. Pima Village Court T12SR14ES32 BOS Meeting Date 6/18/13



Exhibit B





Sherman Residence 7994 N. Pima Village Court T12SR14ES32 BOS Meeting Date 6/18/13



Important Riparian Area with underlying

Xeroriparian Class B

56,975 SF

Calculations:

This site construction effects the Important Riparian area with underlying Xeroriparian Class B & Xeroriparian Class C Habitat

> Mitigation Calculations Mitigation Area A: 1,520 sqft Mitigation Area B: 1,870 sqft Mitigation Area C: 5,160 sqft Mitigation Area D: 1,070 sqft Mitigation Area E: 550 sqft

Mitigation Area F: 82 sqft

Mitigation Area Required: = 22,167 sqft Actual Mitigation Area on Plan: = 10,252 sqft

= 11,915 sqft under requirement (54%)

2839 N. Campbell Ave. Tucson, AZ 85719 (520) 591-2321

GENERAL NOTES:

INEKAL NO I ES:

MITIAGTION AREA WILL BE HYDOSEEDED WITH A MINIMUM OF 12 SPECIES FROM THE APPROVED

XERORIPARIAN PLANT LIST FOUND IN APPENDIX B OF THE 'REGULATED RIPARIAN HABITAT MITIGATION

STANDARDS AND IMPLEMENTATION GUIDELINES.' IF PLANTS LISTED ON THE MITTIGATION PLAN ARE

UNAVAILABLE, REPLACE SPECIES FROM APPROVED PLANT LIST MAY BE SELECTED BASED UPON

AVAILABILITY. OF THE 12 SPECIES,4 SHALL BE SHRUBS, 4 SHALL BE ANNUALS/PERENNIALS/VINES, AND

- MITGATION PLANTINGS TO BE IRRIGATED USING AN AUTOMATIC IRRIGATION SYSTEM INCLUDING 4-3/4" ELECT. VALVES, 1/2" POLY TUBING, EMITTERS AND DRIP EMITTERS PER IRRIGATION KEY ON
- MITIGATION PLAN IMPLEMENTATION SHALL BE COMPLETED BY THE FIRST GROWING SEASON
- MITIGATION PLAN IMPLEMENTATION SHALL BE COMPLETED BY THE FIRST GROWING SEASON FOLLOWING THE COMPLETION OF CONSTRUCTION WHICH IS PROJECTED TO BE SPRING OF 2014
 A MONITORING PLAN, IN ACCORDANCE WITH THE MONITORING SCHEDULE OUTLINED IN SECTION 3 OF THE GUIDELINES, WILL BE SUBMITTED OVER A FIVE YEAR PERIOD FOLLOWING IMPLEMENTATION OF THE RIPARIAN HBITAT MITIGATION PLAN. ANY CHANGES FROM THE APPROVED RHMP SHALL BE NOTED ON THE MONITORING PLAN SUBMITTAL

MONITORING PLAN SHALL LABELED

* ANNUAL MONITORING REPORT FOR FPUP NO. 13-147 RP
AND BE SUBMITTED TO:
PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT
ATTM.: WRD RIPARIAN REVIEW STAFF
97 E. CONGRESS STREET, 2ND FLOOR
TUCSON, AZ 85701

THE PROJECT OWNER/OR OWNERS SUCCESSORS, AGREE TO PRESERVE AND PROTECT THE MITIGATION AREA FOR THE DURATION OF THE PROJECT. FURTHER, THE PROJECT OWNER OR OWNERS SUCCESSORS AGREE TO ACTIVELY MAINTAIN THE MITIGATION AREA FOR A PERIOD OF NOT LESS THAN FIVE YEARS, MAINTENANC ACTIVITIES SHALL INCLUDE, BUT NOT BE LIMITED TO,

THE REGULAR OPERATION
OF THE IRRIGATION SYSTEM, THE REPLACEMENT OF DEAD TREES
AND SHRUBS, AND THE REMOVAL OF NOXIOUS AND/OR INVASIVE PLANT SPECIES.

MITIAGTION AREAS TO BE LEFT IN A NATURAL STATE. NO DISTURBANCE SHALL OCCUR WITHIN THE MITIGATION AREAS WITHOUT RFCD REVIEW AND APPROVAL. SUCH DISTURBANCE INCLUDES BUT IS NOT LIMITED TO SECONADRY IMPACTS SUCH AS THE PRESENCE OF LIVE STOCK, FENCING, INTENSIVE LANDSCAPING, OUTDOOR PLAY AREAS, ETC.

ONCE PLANTS HAVE ESTABLISHED (APPROXIMATELY 1 TO 3 YEARS AFTER INSTALLATION), SUPPLEMENTAL IRRIGATION SYSTEM WILL BE DECREASED IN ACCORDANCE WITH APPENDIX C

THE RIPARIAN HABITAT OUTSIDE OF THE GRADING LIMITS SHALL BE STAKED WITH WOOD STAKES AND FLAGGED WITH CAUTION TAPE TO INSURE THIS AREA REMAINS UNALTERED

9 ALL MITIGATION AREAS WILL BE MAINTAINED ON A REGULAR BASIS UNDER THE SUPERVISION OF THE PROPERTY OWNER. MAINTENANCE SHALL INCLUDE ACTIVITIES LISTED IN THE "MITIGATION PLANTING MAINTENANCE" SCHEDULE FOUND IN APENDIX C OF THE RIPARIAN HABITAT MITIGATIONSTANDARDS AND IMPLEMENTATION GUIDELINES

Calculations:

This site construction effects the Important Riparian Area with underlying Xeroriparian Class B.

and Xeroriparian Class C habitat as follows:

Area of disturbed Riparian Habitat w/ under class B: .47for Acres (20,581 sqft)
Mitigation Ratio for IRA/XB is 1:1.5
Area of mitigation - 2.7 Area (20,581 sqft) / Total Riparian Habitat of site: Area of mitigation = .47 Acres x 1.5 .70 Acres
Mitigation on site qualifies for a 30% reduction in Mitigation area:
43,560sqft x .70= 30,492 sqft. x .70= 21,344 sqft mitigation area required.

Total # of trees required = $60 \times .70 = 42$ Trees Total # of shrubs required = $80 \times .70 = 56$ Shrubs

All trees to be planted at 15 gal. size, all shrubs to be planted at 5 gal - qualifies for a 20% reduction in quantities required 42 trees - 20%=34 trees 56 shrubs - 20%=45 shrubs

IRA/ XB Plant totals

Area of disturbed Xeroriparian Class C Habitat: .027 Acres (1,200 sqft) Mitigation Ratio for IRA/XB is 1:1 Area of mitigation = .027 Acres x 1

.027 Acres Mitigation on site qualifies for a 30% reduction in Mitigation area: 43,560sqft x .027= 1,176 sqft. x .70= 823 sqft mitigation area required.

Total # of trees required = $45 \times .027 = 1$ Trees Total # of shrubs required = $70 \times .027 = 2$ Shrubs XC Plant totals

Hydroseed Mix

2.0	ATRIPLEX CANESCENS
4.0	MUHLENBERGIA RIGENS
2.0	MACHAERANTHERA TANACETFOLIA
1.5	ERICAMERIA LACRIFOLIA
1.0	BAILEYA MULTIRADIATA
3.0	MUHLENBERGIA PORTERI
2.0	PENSTEMON PARRYI
3.0	SPHAERALCEA AMBIGUA
2,0	ARISITIDA PURPUREA
4.0	HYPTIS EMORI
4.0	LEPTOCHLOA DUBIA

ENCELIA FARINOSA

Tree and shrub locations shall be

Shrubs shall be evenly placed

throughout the Mitigation Areas

Photo Monitoring Points (typ)

field verified by Owner

SITE INFORMATION:

Jeremy and Shelly Sherman Owner: 220202680 Parcel #

FPUP # 13-147RP

en nn Resider ima Canyon Estate . Pima Village Ct. **©** ₽ ≥ E G S

SCALE: 1"=20'-0" DESIGNED BY: DEAN ALEXANDER



DATE:1-1-13

3-3-13 5-15-13 5-21-13

A Riparian Mitigation Plan has been approved:
Date: 4313 Date: 613113 By: RFCD Marina Nice Any and all work must comply with the approved Habitiat Mitigation Plan for FPUP# 13-147 RP

Common Name

Engelmans Prickly Pear

Fairy Duster

Hackberry

Limberbush

Mormon tea

Catsclaw Acacia

Foothill Palo verde

Velvet Mesquite

Jojoba

Size

15a

15g

15g

(1- 24"bx)

(1-24" bx)

Qty. sym.

T1

T2

T3

5



Planting Key:

Botanical Name SHRUBS

Calliandra eriophylla

Celtis pallida

Ephedra viridis

Acacia greggii

Prosopis velutina

TREES

Simmondsia chinensis

Jatropha cardiophylla

Cercidium microphyllum

Opuntia engelmanii var. engelmannii

ODRONADO NATIONAL FORES

Calculations:

This site construction effects the Important Riparian area with underlying Xeroriparian Class B & Xeroriparian Class C Habitat

Mitigation Calculations

Mitigation Area A: 1,520 sqft Mitigation Area B: 1,870 sqft Mitigation Area C: 5,160 sqft Mitigation Area D: 1,070 sqft Mitigation Area E: 550 sqft

Mitigation Area Required: = 22,167 sqft Actual Mitigation Area on Plan: = 10,252 sqft differance

82 sqft

= 11,915 sqft under requirement (54%)

2839 N. Campbell Ave. Tucson, AZ 85719 (520) 591-2321

Mitigation Area F:

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- MITGATION PLANTINGS TO BE IRRIGATED USING AN AUTOMATIC IRRIGATION SYSTEM INCLUDING 4-3/4" ELECT. VALVES, 1/2" POLY TUBING, EMITTERS AND DRIP EMITTERS PER IRRIGATION KEY ON LANDSCAPE PLAN.
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MONITORING PLAN SHALL LABELED

* ANNUAL MONITORING REPORT FOR FPUP NO. 13-147 RP
AND BE SUBMITTED TO:
PINA COUNTY REGIONAL FLOOD CONTROL DISTRICT
ATTN.: WRD RIPARIAN REVIEW STAFF
97 E. CONGRESS STREET, 2ND FLOOR
TUCSON, AZ 85701

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Calculations:

56 shrubs - 20%=45 shrubs

This site construction effects the Important Riparian Area with underlying Xeroriparian Class B, and Xeroriparian Class C habitat as follows:

Total Riparlan Habitat of site:

Area of disturbed Riparlan Habitatat w/ under class B:

1.3 Acres
47for Acres (20,581 sqft) Mitigation Ratio for IRA/XB is 1:1.5 Area of mitigation = .47 Acres x 1.5 .70 Acres
Mitigation on site qualifies for a 30% reduction in Mitigation area:
43,560sqft x .70= 30,492 sqft. x .70= 21,344 sqft mitigation area required. .70 Acres

Total # of trees required = $60 \times .70 = 42$ Trees Total # of shrubs required = $80 \times .70 = 56$ Shrubs

All trees to be planted at 15 gal. size, all shrubs to be planted at 5 gal - qualifies for a 20% reduction in quantities required 42 trees - 20%= 34 trees

IRA/ XB Plant totals

Area of disturbed Xeroriparian Class C Habitat: .027 Acres (1,200 sqft)

Mitigation Ratio for IRA/XB is 1:1

Area of mitigation = .027 Acres x 1

Mitigation on site qualifies for a 30% reduction in Mitigation area: 43,560sqft x .027= 1,176 sqft. x .70= 823 sqft mitigation area required.

Total # of trees required = $45 \times .027 = 1$ Trees Total # of shrubs required = $70 \times .027 = 2$ Shrubs XC Plant totals

Jeremy and Shelly Sherman Owner:

220202680 Parcel #

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SCALE: 1"=20'-0" DESIGNED BY: DEAN ALEXANDER

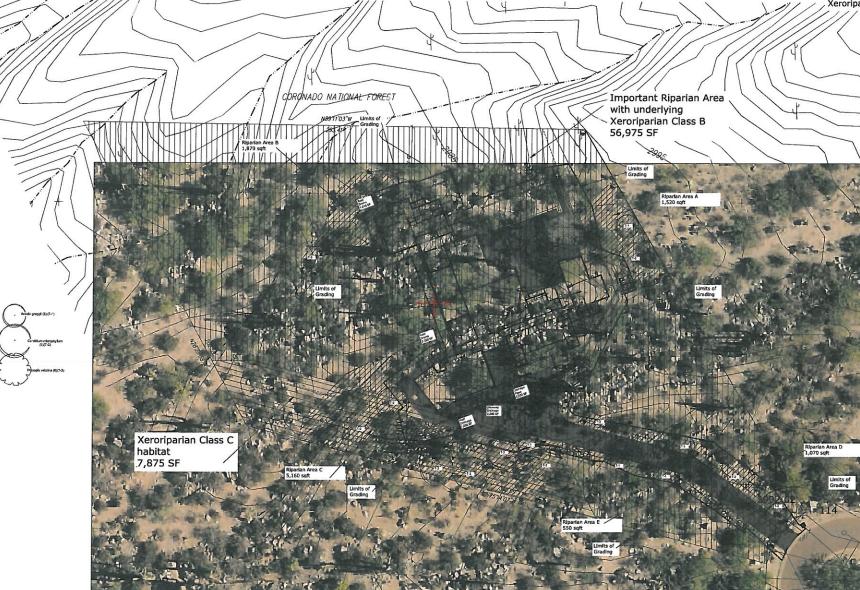


DATE: 1-1-13

REVISIONS:

SITE INFORMATION:

FPUP # 13-147RP



Common Name	Size	Qty.	sym.
Fairy Duster	5g	3	
Jojoba	5g	6	
Hackberry	5g	3	
Limberbush	5g	3	
Engelmans Prickly Pear	5g	4	
Mormon tea	5g	3	
Catsclaw Acacia	15g (1- 24"bx)	5	T1
Foothill Palo verde	15g (1-24" bx)	5	T2
Velvet Mesquite	15g	6	T3
	Fairy Duster Jojoba Hackberry Limberbush Engelmans Prickly Pear Mormon tea Catsclaw Acacia Foothill Palo verde	Fairy Duster 5g Jojoba 5g Hackberry 5g Limberbush 5g Engelmans Prickly Pear 5g Mormon tea 5g Catsclaw Acacia 15g (1-24"bx) Foothill Palo verde 15g (1-24"bx)	Fairy Duster 5g 3 Jojoba 5g 6 Hackberry 5g 3 Limberbush 5g 3 Engelmans Prickly Pear 5g 4 Mormon tea 5g 3 Catsclaw Acacia 15g 5 (1- 24"bx) 5 Foothill Palo verde 15g 5 (1-24"bx) 5

Tree and shrub locations shall be field verified by Owner Shrubs shall be evenly placed throughout the Mitigation Areas

Photo Monitoring Points (typ)

Hydroseed Mix

Rate(lb/acre)	Seed
1.5	ENCELIA FARINOSA
2.0	ATRIPLEX CANESCENS
4.0	MUHLENBERGIA RIGENS
2.0	MACHAERANTHERA TANACETFOLI
1.5	ERICAMERIA LACRIFOLIA
1.0	BAILEYA MULTIRADIATA
3.0	MUHLENBERGIA PORTERI
2.0	PENSTEMON PARRYI
3.0	SPHAERALCEA AMBIGUA
2.0	ARISITIDA PURPUREA
4.0	HYPTIS EMORI
4.0	LEPTOCHLOA DUBIA

Exhibit D: Calculating In-Lieu Fee Costs for Single-lot Development

Shaded fields are editable - Enter value in Acres

Class H or IRA w/ Underlying Class	U Uahitat	/H or IDA/UIX	*	Option to basic requirement	Option to basic requirement	
Total mapped habitat onsite	TTIADICAL	(H OF INA/H)		(Xeroriparian)****	(Class H)****	
Area of disturbed RRH			Acre(s)			
% of mapped habitat disturbed		#DIV/0!	Acre(s) Acre(s)			
Area of mitigation						
Total number of trees required (90 trees/ac)	90		D Acre(s) D Trees		8	
Total number of shrubs required (100 shrubs/ac)	100		O Trees O Shrubs	na	0	Trees
The state of the s				na	0	Shrubs
IRA w/ Underlying Xeroriparian Class Total mapped habitat onsite	s A Habi	tat (IRA/XA)**	The same of the sa			
Area of disturbed RRH			Acre(s)			
% of mapped habitat disturbed		100	Acre(s)			
Area of mitigation		#DIV/0!	Acre(s)			
			Acre(s)			
Total number of trees required (75 trees/ac)	75	1 27	Trees	0	na	Trees
Total number of shrubs required (90 shrubs/ac)	90	(Shrubs	0	na	Shrubs
IRA w/ Underlying Xeroriparian Clas	s B Habi	tat (IRA/XB)**				
Total mapped habitat onsite Area of disturbed RRH			Acre(s)	The state of the s		
			Acre(s)			
% of mapped habitat disturbed		#DIV/0!	Acre(s)			
Area of mitigation			Acre(s)			
Total number of trees required (60 trees/ac)	60	97) Trees	0	na	Trees
Total number of shrubs required (80 shrubs/ac)	80	c	Shrubs	0	na	Shrubs
IRA w/ Underlying Xeroriparian Clas	s C Habi	tat (IRA/XC)**				
Total mapped habitat onsite		Teach this but had	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	na	Trees
Total number of shrubs required (70 shrubs/ac)	70		Shrubs	0	na	Shrubs
IRA w/ Underlying Xeroriparian Clas	s D Habit	tat (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)	30	0	Trees	0	na	Trees
Total number of shrubs required (x shrubs/ac)*	50	0	Shrubs	0	na	Shrubs
ILF Calculation						
15-gallon trees	19		£1 E00 00	•		
5-gallon trees	0		\$1,520,00			
5-gallon shrubs	25		\$0.00			
1-gallon shrubs			\$575.00			
Hydroseed	0	A (-)	\$0.00			
Irrigation		Acres(s)	\$238.95			
		Acres(s)	\$405.00			
5-year maintenance for Xeroriparian***		Acres(s)	\$164.70			
5-year maintenance for H*** Total Cost	0.00	Acres(s)	\$0.00			
i otal Cost			\$2,903.65	I		

Average Costs (Costs shown for plants do not include installation costs)	15-gallon tree \$80	5-gallon tree	5-gallon shrub \$23	1-gallon shrub	Seeding (per acre)	Irrigation (per acre) \$1,500	maintenance (per acre)	year maintenance (per acre)
							Class H 5-year	Xeroriparian 5-

^{*}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.

^{***}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.