

Arizona Solar Regional Mitigation Strategy Mitigation Fee Setting Webinar

March 25, 2015; 1:00-2:00 PM Arizona Time

Participant Dial-In: 1-888-850-4523; Passcode 672617

Webinar URL: http://anl.adobeconnect.com/az_solar_mitigation/

Presented by:

Lane Cowger and William Werner, BLM AZ State Office

March 25, 2015

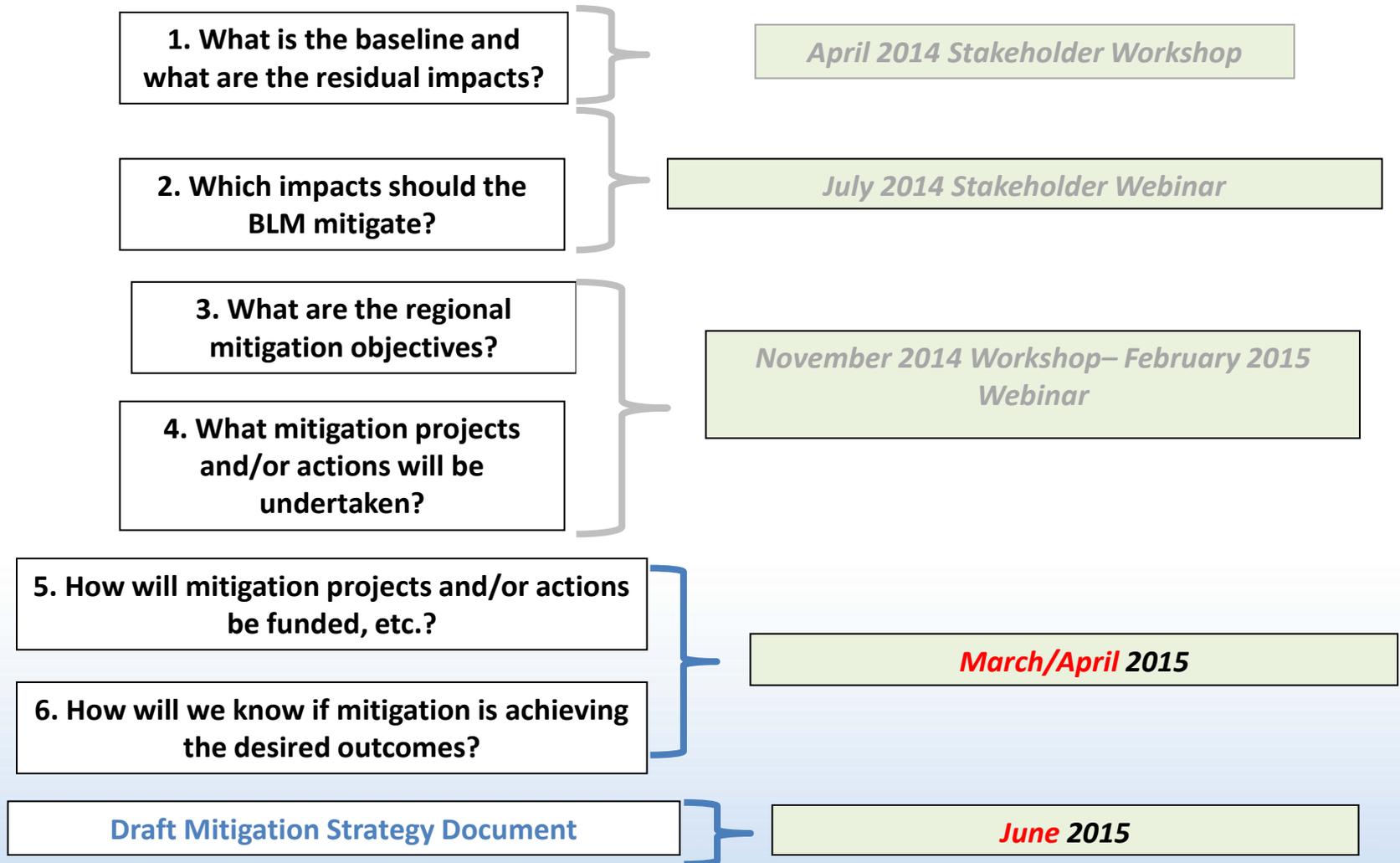
Call-In Instructions:

- *Please mute phone and computer when you are not speaking*
- *If you have a question, please click on “Raise Hand” under the Set Status icon (on status bar at top of web page)*
- *You will be called on to state your name, organization, question/comment. When you have finished speaking, please lower your hand and re-mute your phone*
- *Project website- http://www.blm.gov/az/st/en/prog/energy/solar/arizona_regional_mitigation.html/*

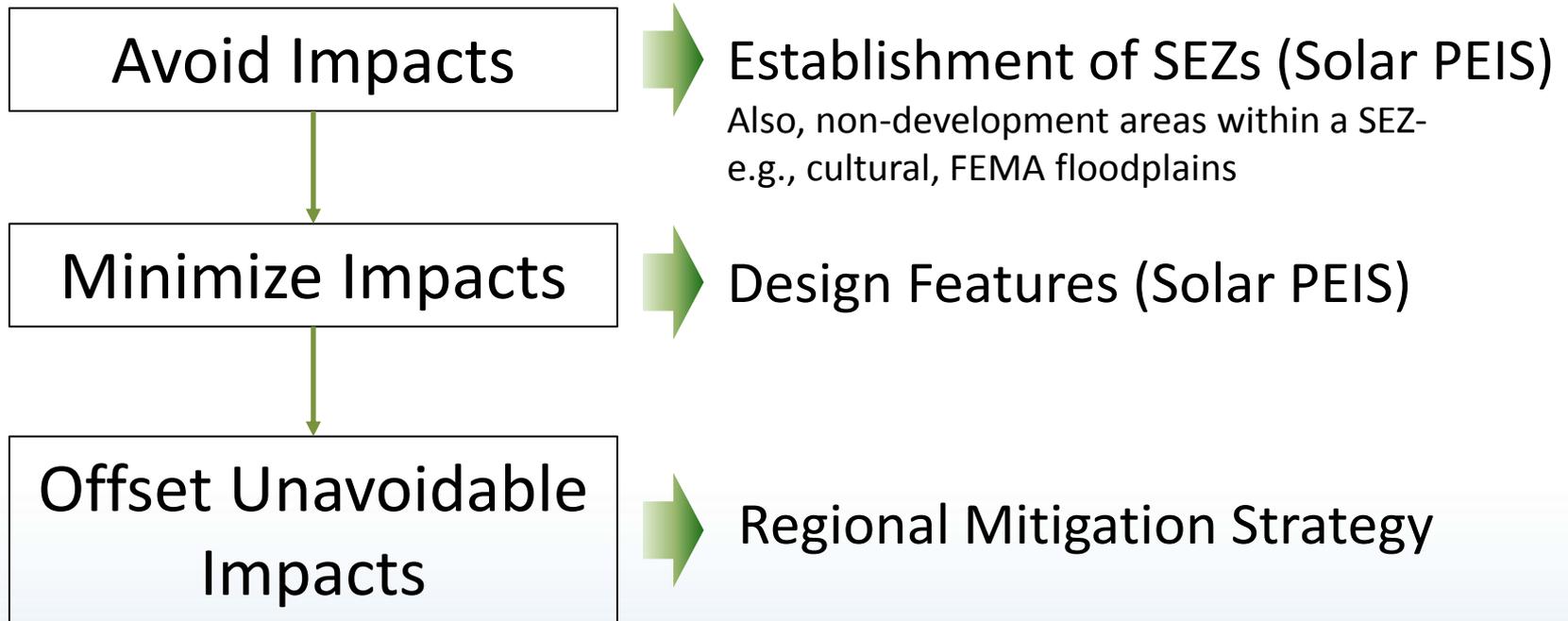
Goals for Today

- Explain rationale for mitigation fee and outline process for its development
- Introduce and discuss several examples of costs for mitigation actions
 - **Revegetation**
 - **Acquisition**
 - **Wildlife movement**

AZ SRMS Process - Updated



BLM Mitigation Hierarchy: Focusing our Discussion



Resources in AZ SEZs with the Potential for Residual Impacts from Solar Energy Development

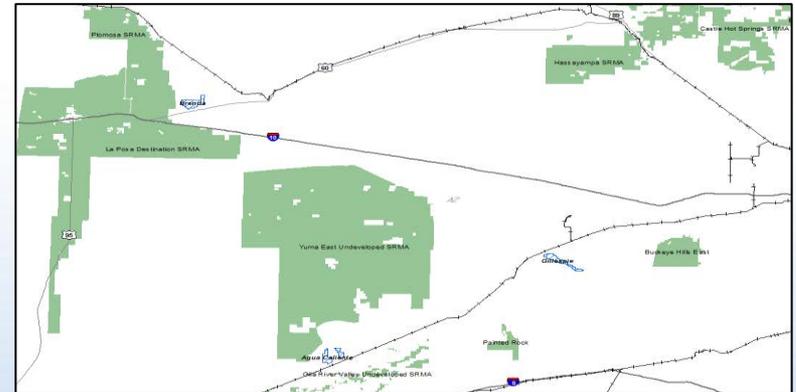
- Vegetation and Riparian Areas- Creosote Bursage and Desert Scrub
- Wildlife and Migratory Birds
- Animal Special Status Species
- Surface Water
- Soils/Erosion
- Visual
- Cultural Resources
- Native American Concerns
- Public Access and Recreation
- Specially Designated Areas



Creosote Bush-White Bursage Scrub Alliance

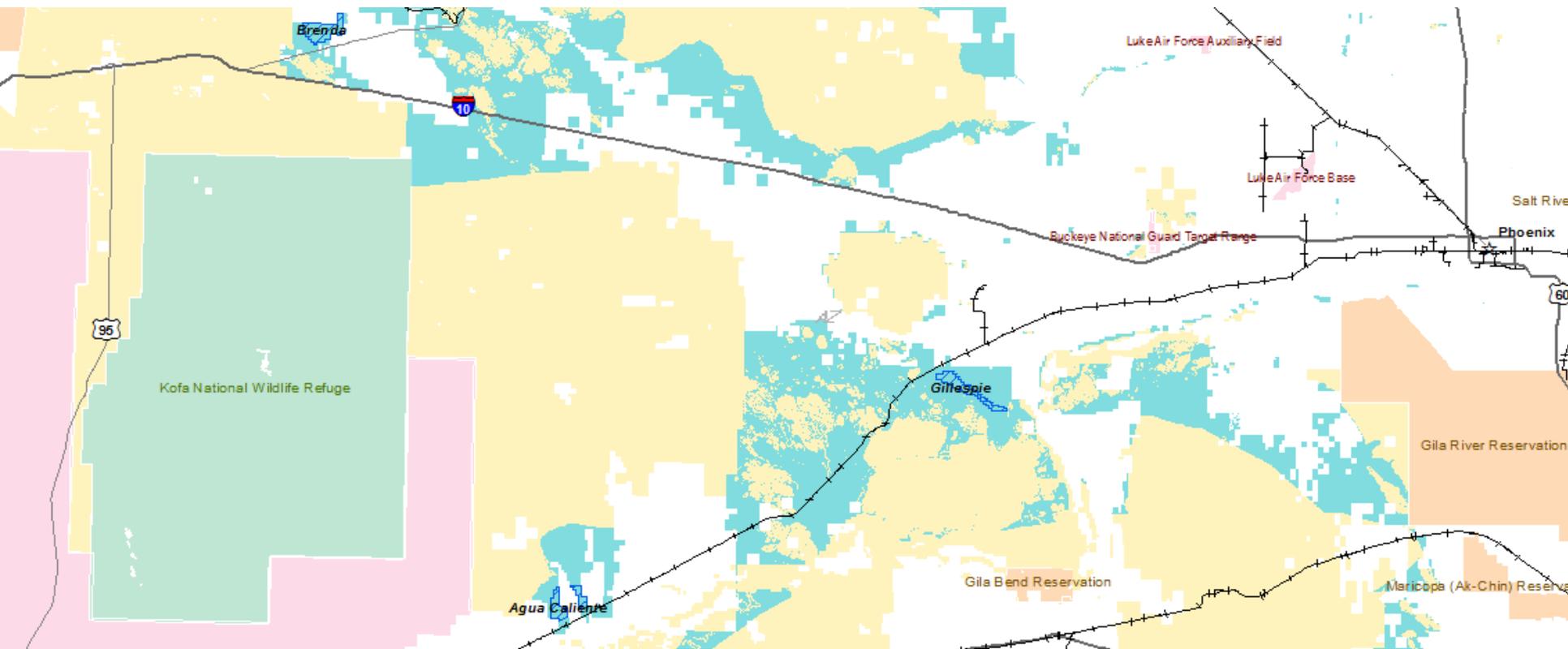


Sonoran population of Desert tortoise

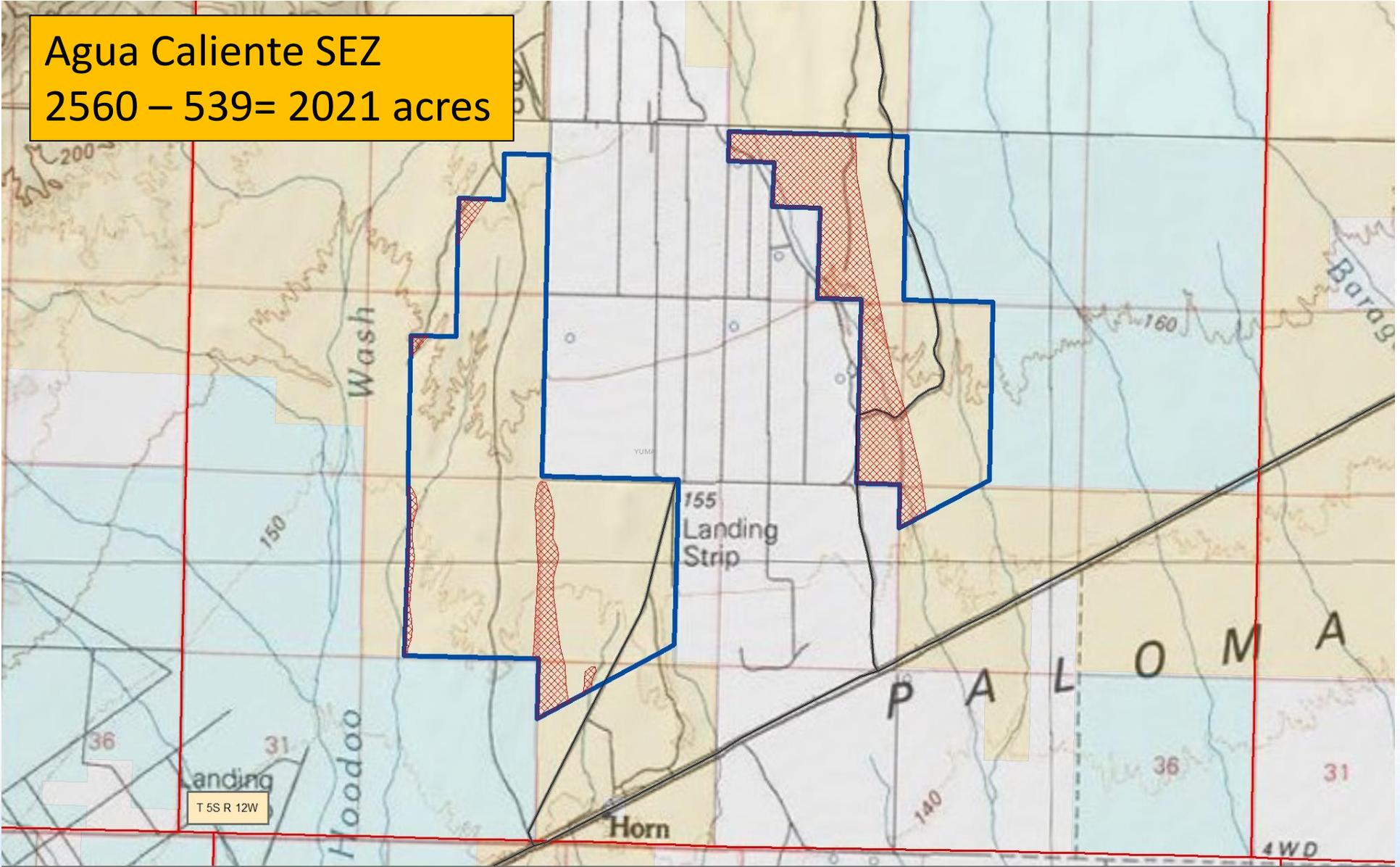


SRMAs in the Vicinity of the Arizona SEZs

Arizona's Three Solar Energy Zones (SEZs)



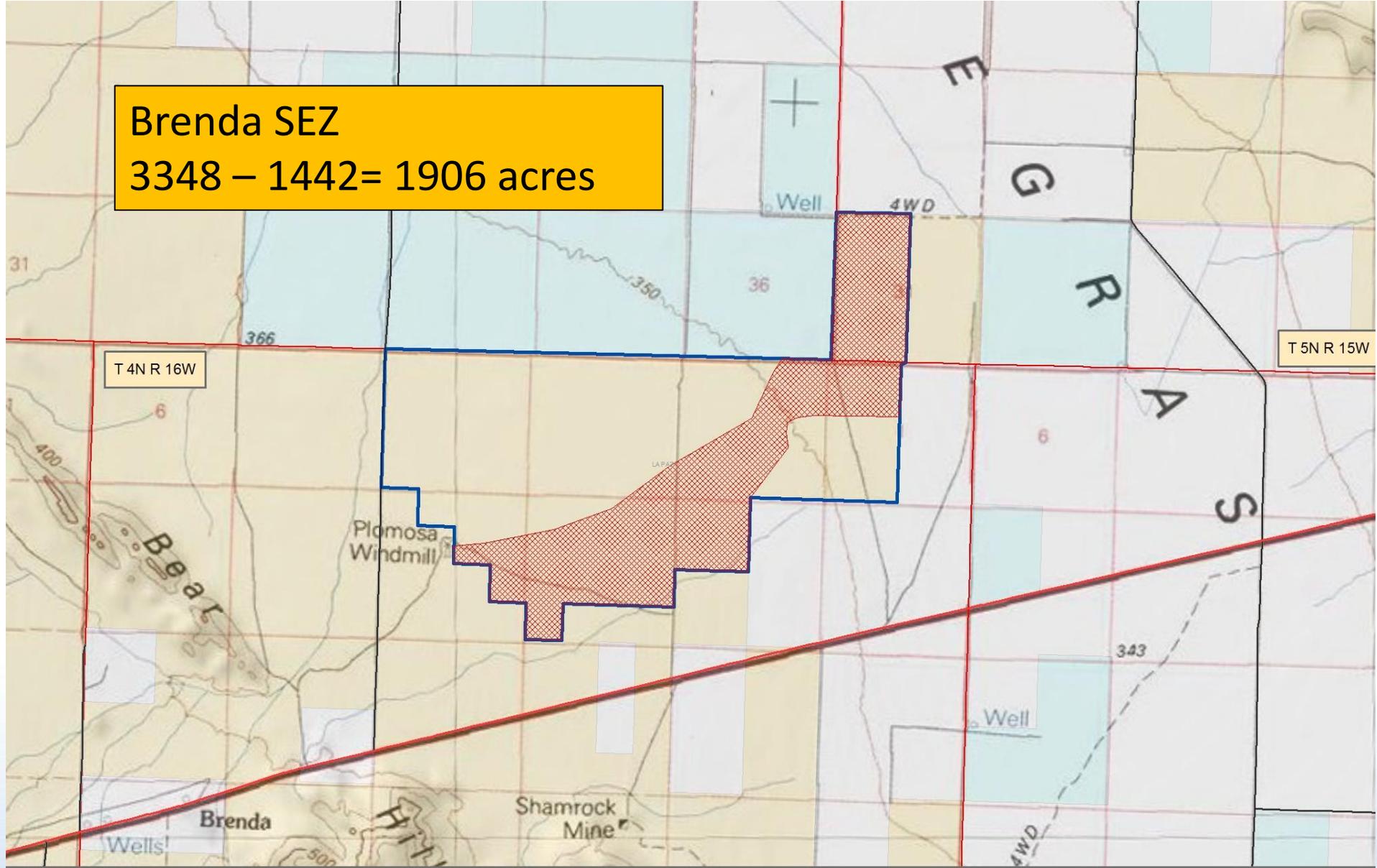
Agua Caliente SEZ
2560 – 539 = 2021 acres



 SEZ Non-Development Areas **AZ Surface Mgmt (no outlines)**
 SEZ Boundary  BLM

The Bureau of Land Management (BLM) makes no representations or warranties regarding the accuracy or completeness of this map. This map does not address encroachments or questions of location, boundary, and area, which an accurate survey may disclose. This

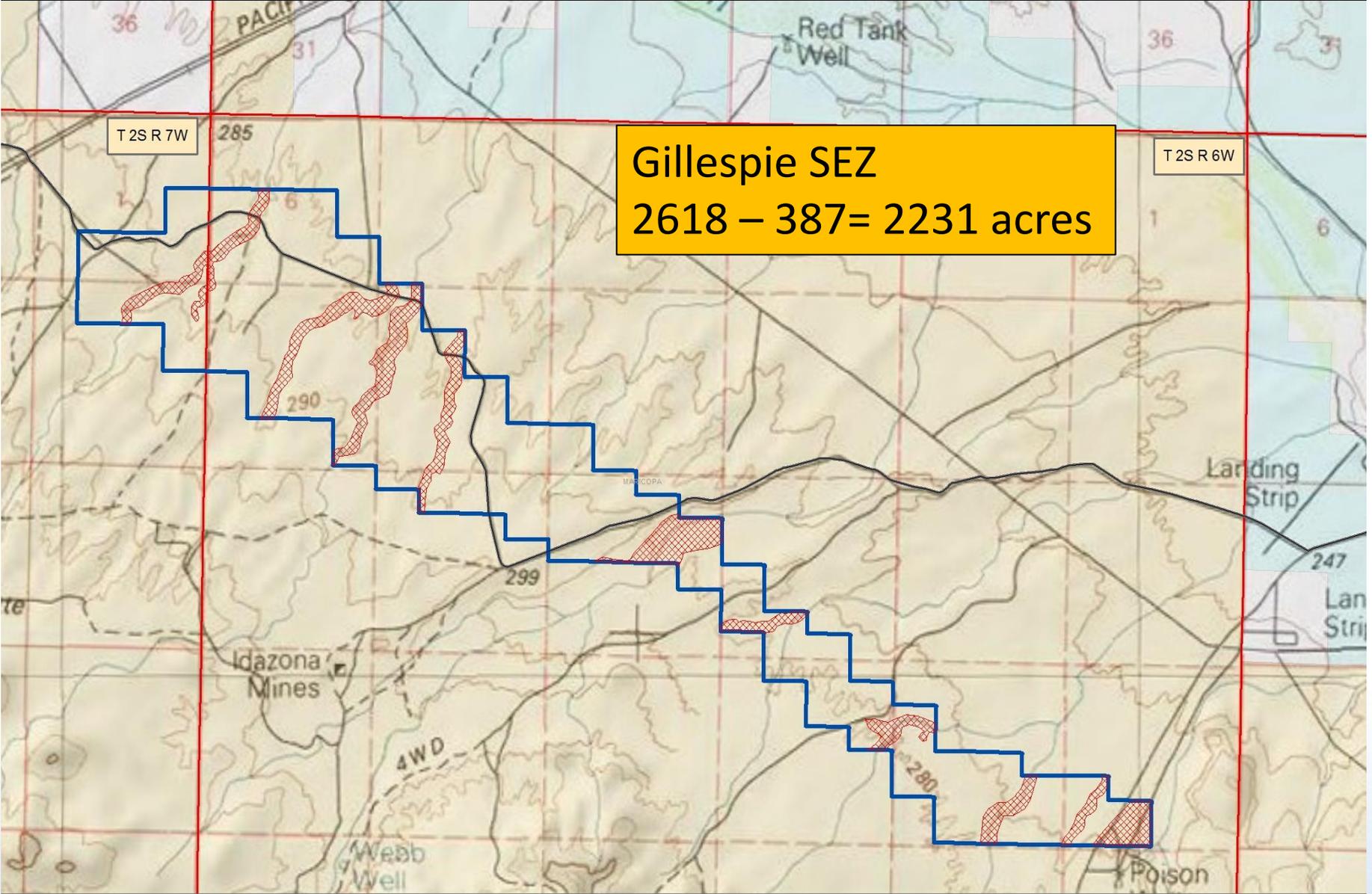
Brenda SEZ
3348 – 1442 = 1906 acres



 SEZ Non-Development Areas **AZ Surface Mgmt (no outlines)**
 SEZ Boundary  BLM

The Bureau of Land Management (BLM) makes no representation or warranties regarding the accuracy or completeness of this map. This map does not address encroachments or questions of local boundary and area, which an accurate survey may disclose. The





Gillespie SEZ
 2618 – 387 = 2231 acres

 SEZ Non-Development Areas **AZ Surface Mgmt (no outlines)**
 SEZ Boundary  BLM

The Bureau of Land Management (BLM) makes no representations or warranties regarding the accuracy or completeness of this map. This map does not address encroachments or questions of location, boundary, and area, which an accurate survey may disclose. This



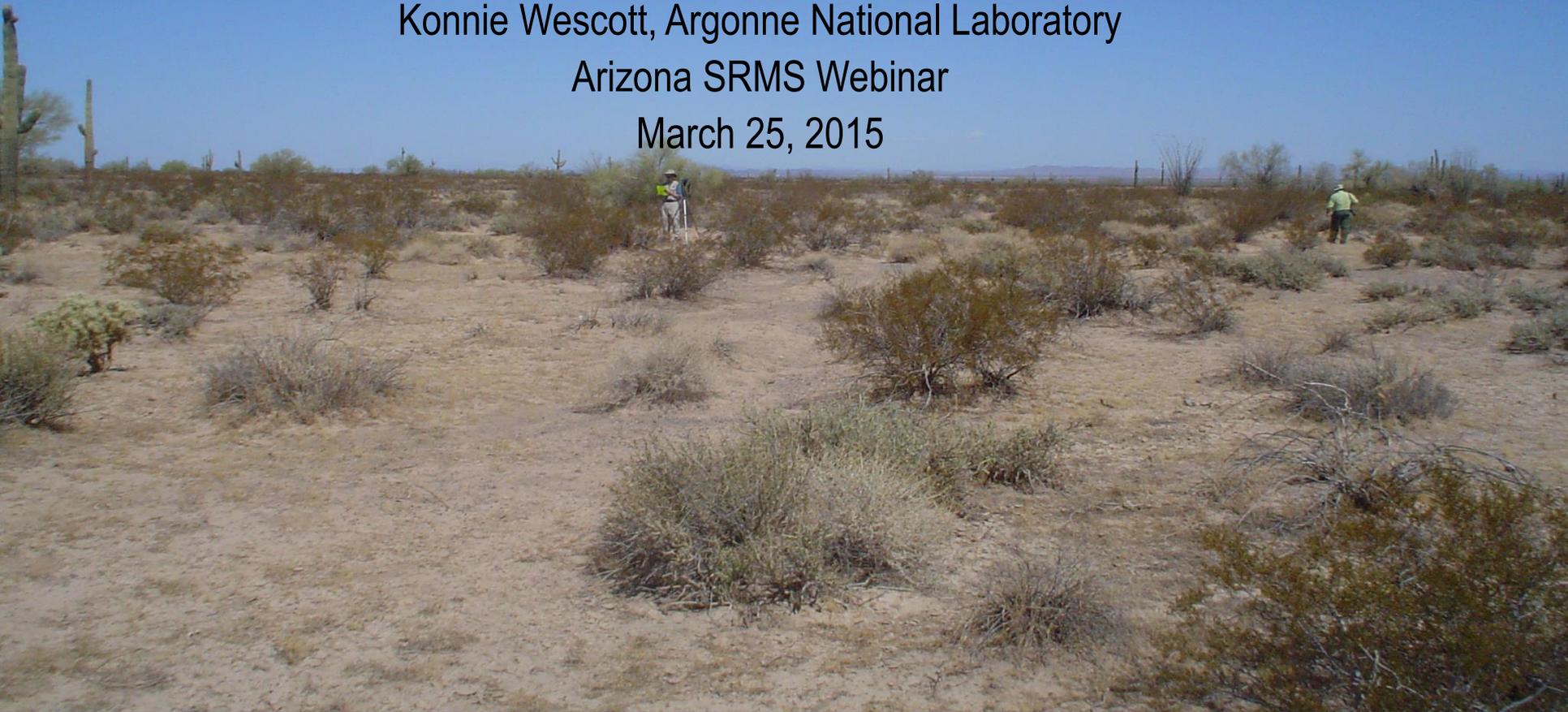
Establishing a Regional Mitigation Fee for Utility-Scale Solar Energy Development Within Designated Solar Energy Zones

Presented by:

Konnie Wescott, Argonne National Laboratory

Arizona SRMS Webinar

March 25, 2015

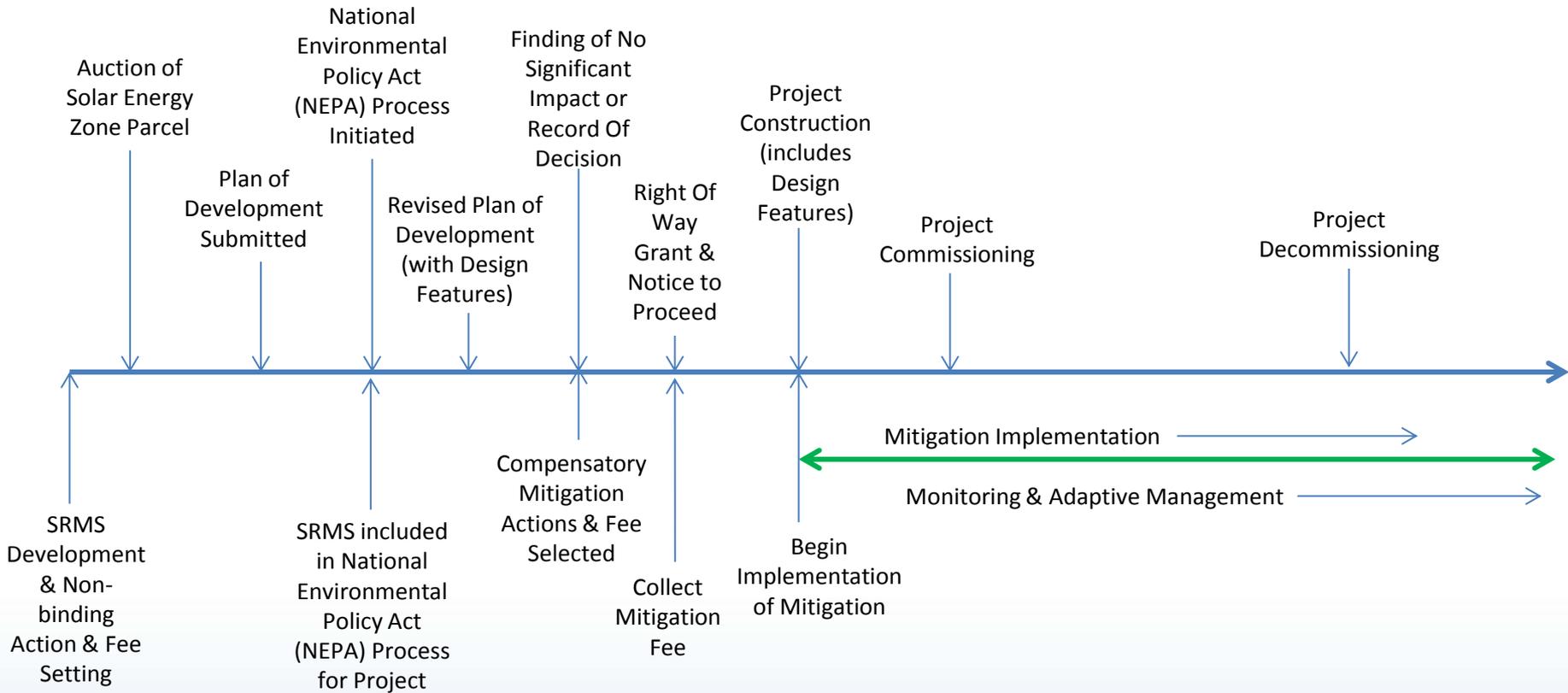


Solar Energy Regional Mitigation Fee

- Fee applies only to rights-of way within solar energy zones (SEZs).
- Fee decision to be made by BLM authorized officer and adopted through the project NEPA and decision (fee calculated just prior to leasing).
- Fee paid to BLM by a solar ROW grantee (may be managed by independent 3rd party)
- Purpose
 - Regional mitigation is designed to compensate for all or some of the residual impacts associated with development
 - May be used for one mitigation location/action or multiple locations/actions.

Draft Project Implementation Timeline

(Above Blue Line)



Mitigation Implementation Timeline

(Below Blue Line)

Solar Energy Regional Mitigation Fee (cont.)

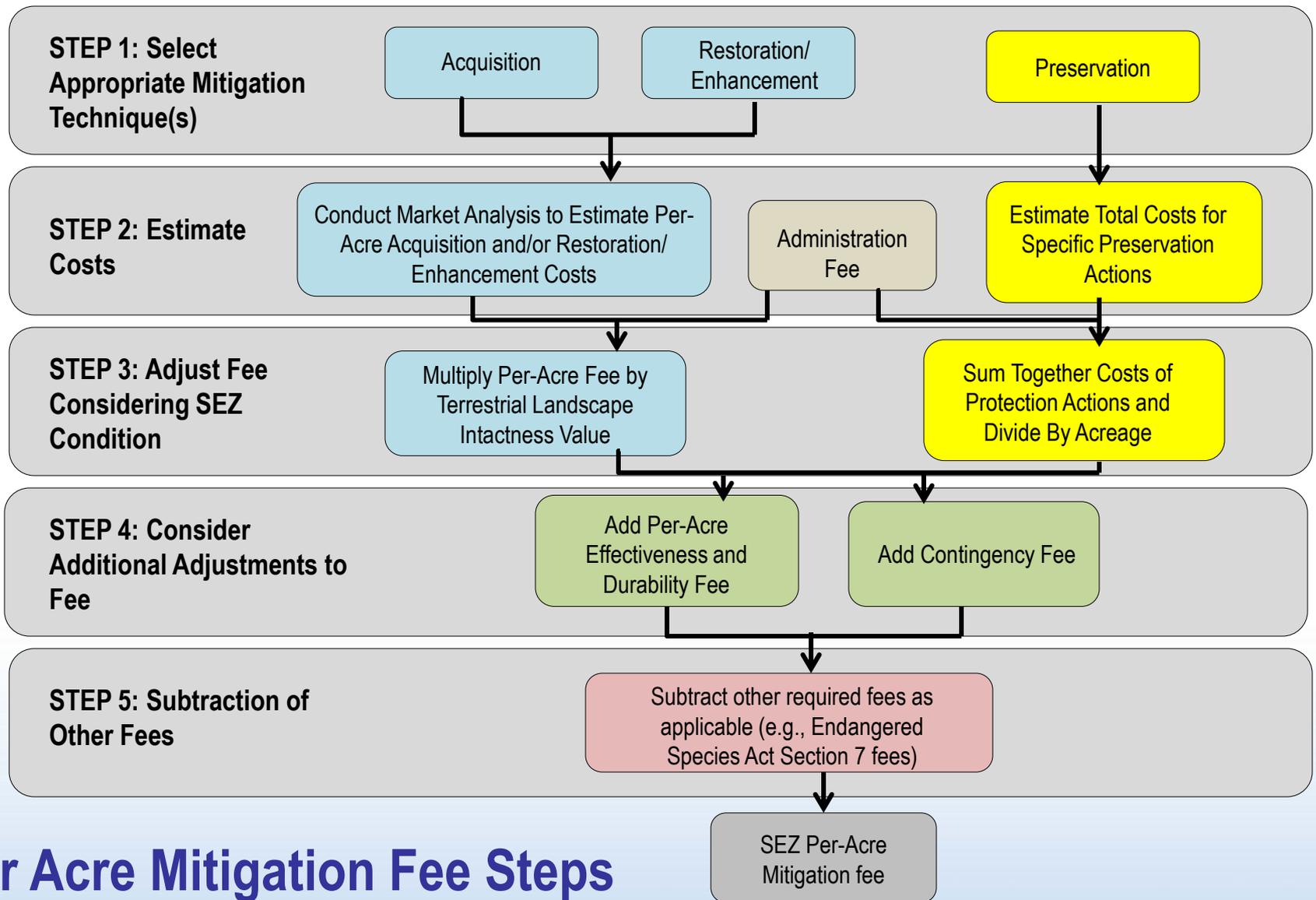
- Obligation Options
 - Funds, Banks, and Exchanges
 - Upon payment developer is released from further obligations for the successful accomplishment of regional mitigation actions.
 - Monitoring effectiveness and implementing adaptive management is the responsibility of BLM and/or the third-party manager of the fee received.
 - Proponent-responsible
 - Developers may opt to negotiate and conduct regional mitigation actions on their own.
 - BLM would require assurances of mitigation sites and actions and periodic evaluation of mitigation activities and effectiveness for the length of the SEZ project impact.
 - Would eliminate administration fees.

None of these options relieve the developer of on-site mitigation (PEIS Design Features, ROW stipulations) and associated costs

Calculating the Regional Mitigation Fee for Individual Rights-of-Way

$$\text{Project Mitigation Fee} = (\text{Acres Leased}) \times (\text{Per Acre Mitigation Fee})$$

One time fee paid by the developer funding mitigation over the life of solar project impacts.



Per Acre Mitigation Fee Steps

Step 1: Identification of the Mitigation Type

Step 2: Calculate a Base Per-Acre Fee

Options for Setting a Base Compensation Fee:

Acquisition of nonfederal land or rights in land: Cost to purchase and manage functionally equivalent acreage in the same ecoregion.

Restoration/enhancement of disturbed federal land: Cost to restore/enhance and manage similar disturbed lands and vegetation in the same ecoregion.

Preservation: Cost of a variety of mitigation techniques essential to preserve an area of land, including, but not limited to:

- amendments to existing land-use plans
- withdrawals from mineral entry or other use restrictions
- capital improvements to encourage preservation

Step 3: Calculate the Adjusted Base Per-Acre Fee

- Use the BLM Sonoran Desert Rapid Ecoregional Assessment Terrestrial Landscape Intactness models
- Estimate how residual impacts of solar development could affect condition and trend of the at-risk resource values at both local and regional scales.

$$\text{Adjusted Base Per-Acre Fee} =$$
$$\text{Base Per-Acre Fee} * \text{Terrestrial Landscape Intactness Value for SEZ}$$

Step 4A: Additional Adjustments to Fee

Add Per-Acre Effectiveness and Durability Fee

- To ensure all mitigation techniques chosen in Step 1 are effective and durable, a standard BLM effectiveness and durability fee should be applied to regional mitigation fees.
 - Assume that a durability fee would be necessary over years of anticipated impact to cover law enforcement and effectiveness monitoring.
- This fee is simply added to the per-acre fee calculated in Step 3. For Dry Lake SEZ the fee was \$20, for Arizona SEZs the fee has yet to be determined through market analysis.
 - Adjusted Fee (using Dry Lake SEZ example) = Step 3 Fee + (\$20 * # years of impact)

Step 4B: Additional Adjustments to Fee Include a Contingency Fee

- To account for any unanticipated future circumstances a contingency fee is assumed (amount to be determined).
- **BLM AZ requests examples of contingency fees from stakeholders.**

If we assume a contingency fee of 10%, the formula would be:

$$\text{Adjusted Base Per-Acre Fee} = \text{Step 4A Fee} * 1.10$$

Step 5: Subtraction or Addition of Other Fees

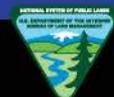
- Subtraction of other applicable required fees (e.g. Endangered Species Act Section 7 fees).
 - The Arizona SEZs are not located in areas subject to Section 7 permitting fees for federally-listed species under the Endangered Species Act; therefore no subtraction needed.
 - Additional fees may be determined to be needed to address other resource impacts (e.g., cultural, recreational); the need for these fees would be determined during project-specific NEPA

Management of Solar Regional Mitigation Fees

The BLM will select management options for SEZ mitigation fees that:

- are consistent with the BLM's Interim Regional Mitigation Policy (Manual Section 1794, June 2013)
- follow guidance for management of funds by an independent third party (BLM IM 2013-142)
- address accountability and tracking of funds expended

Questions?



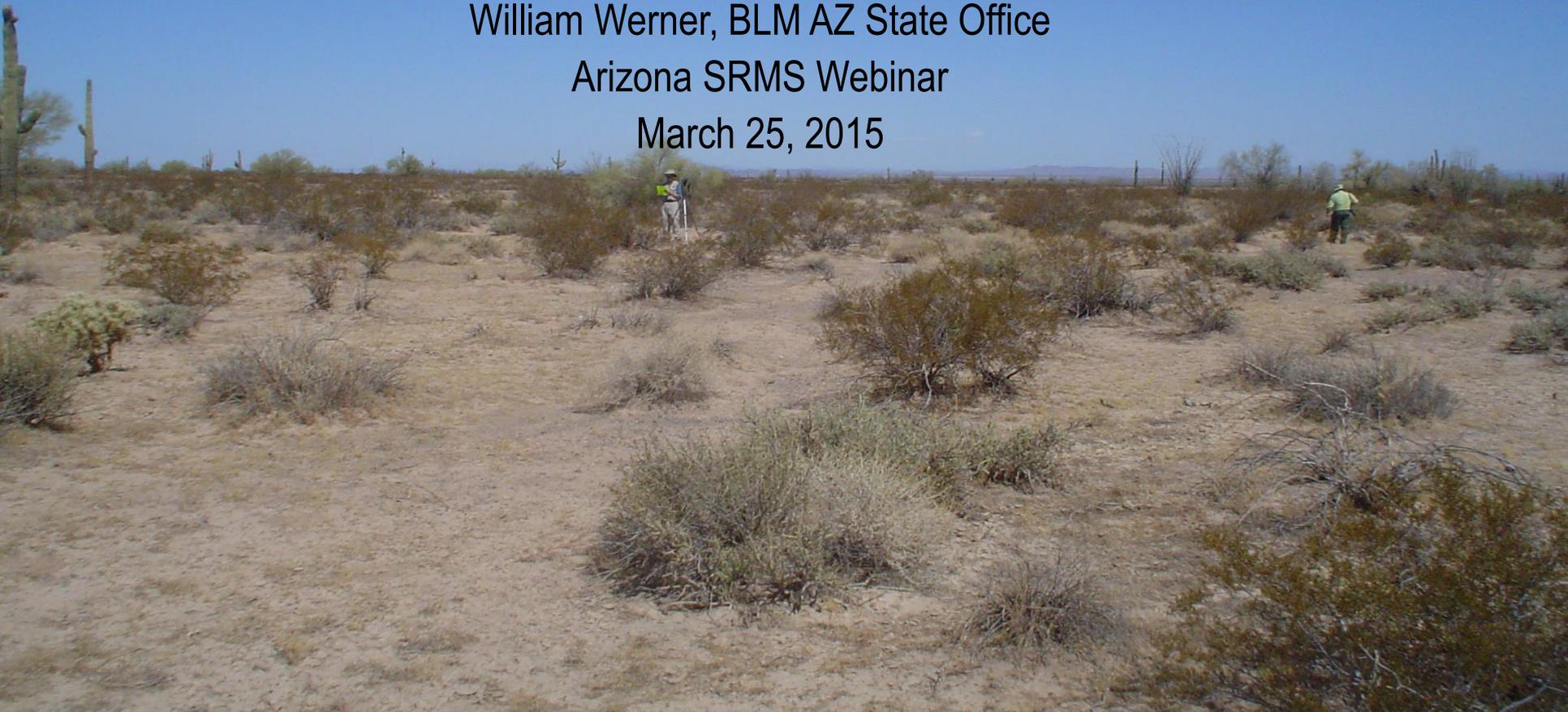
Examples of Cost Estimates for Regional Mitigation

Presented by:

William Werner, BLM AZ State Office

Arizona SRMS Webinar

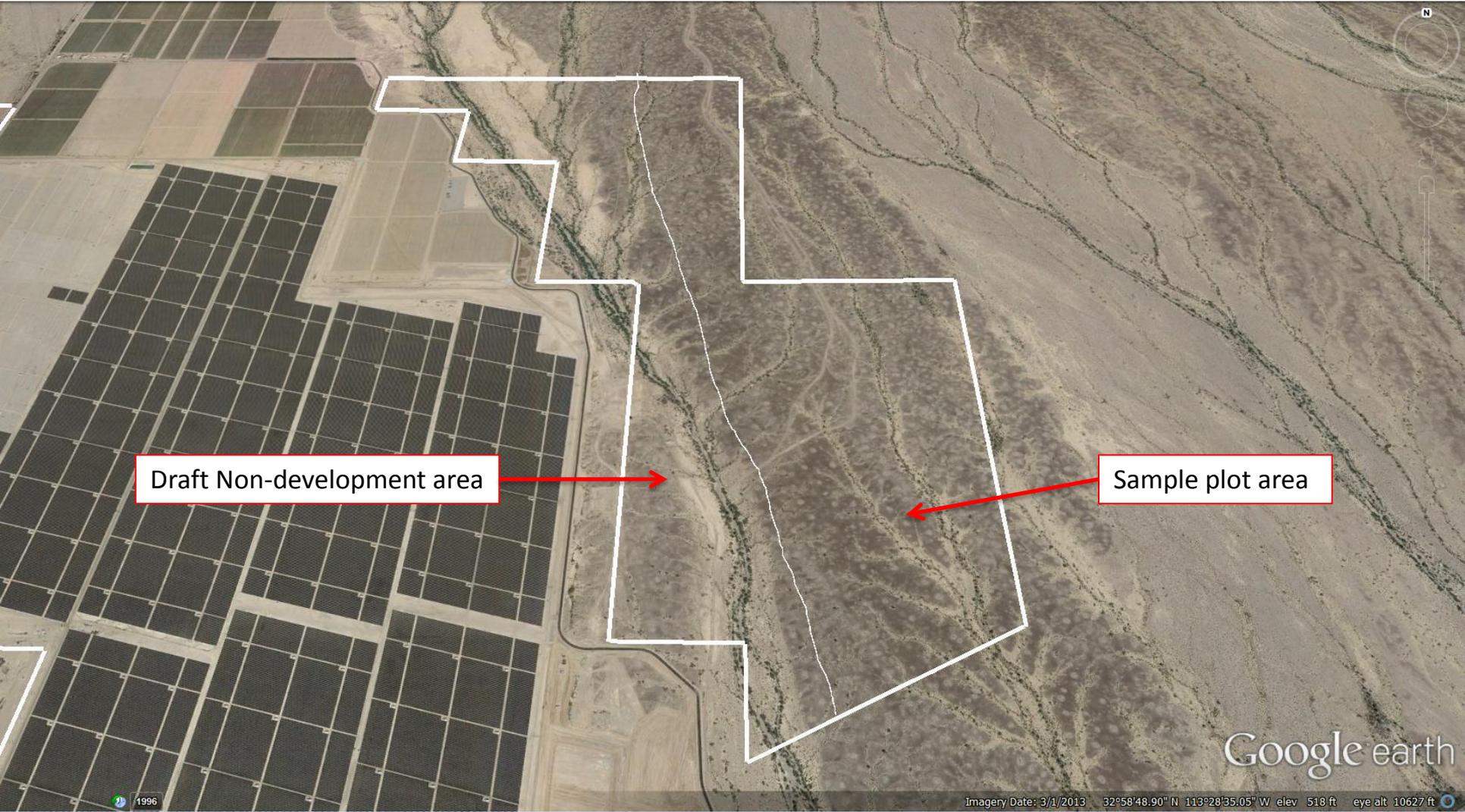
March 25, 2015



Cost Estimation

- Examples of costs based on mitigation proposals
 - Revegetation
 - Acquisition and access control
 - Earthen berm construction for mesquite bosque
 - Wildlife movement structures

Agua Caliente Vegetation Restoration Concept Plan



Agua Caliente SEZ 100 acre Sample Plot for Ironwood (*Olneya tesota*)



Agua Caliente SEZ Conceptual Vegetation Restoration

2021 acre developable area, est. 1112 Ironwood (*Olneya tesota*) on developable area (based on sample)

Tall pot method (30 inch x 6 inch for *Olneya tesota*)

Plant material \$75/tree

Dry Water System \$75/tree

Browser Cage \$15/tree

Installation \$20/tree

Plant maintenance for 1 year \$50/tree

Contingency @ 10% \$23.5 for soft estimates

Total \$258.5/tree

For Agua Caliente SEZ for 1112 trees x 3 @ \$258.5/tree = \$862,356 or **\$427/acre** of SEZ impacted

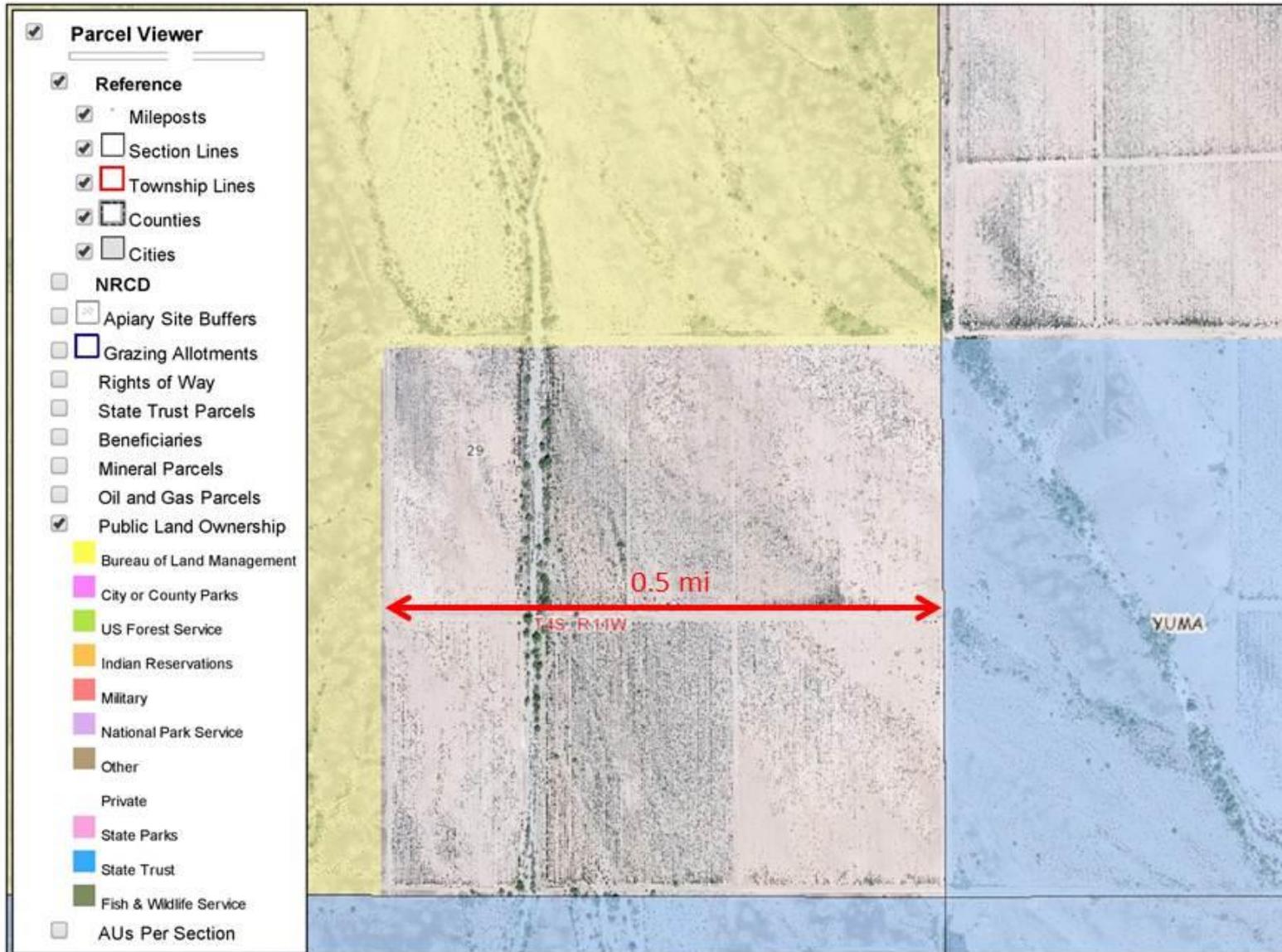
Seeding (for shrubs, e.g. *Simmondsia*, *Larrea*)

Seeding (Open Desert Scrub) @ \$1800/acre x 2 applications x 25% or the total area impacted = \$1,818,900 or **\$900/acre** of SEZ impacted

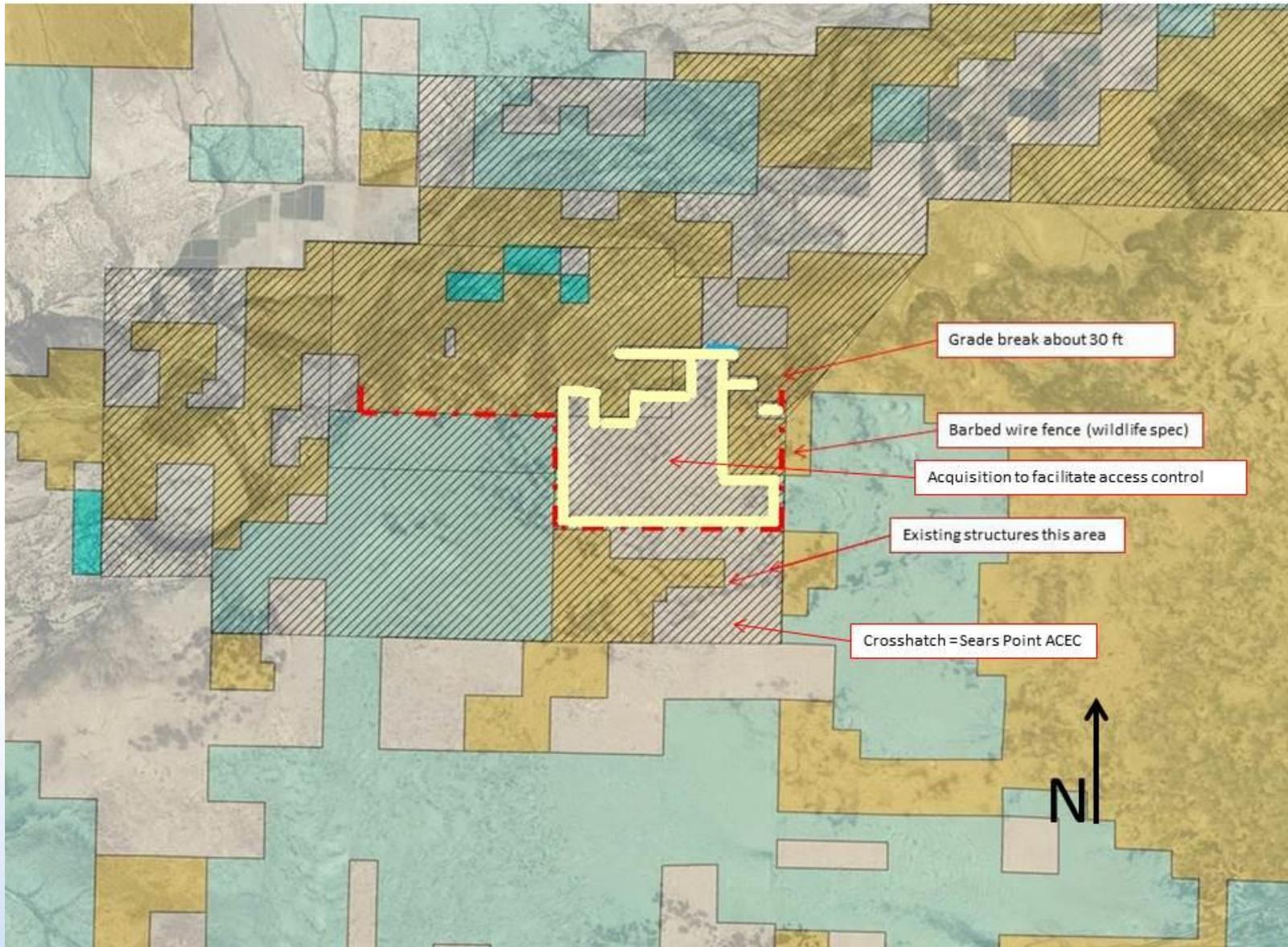
Land Acquisition (for restoration site)

160 acres @ \$500/acre = \$80,000 or **\$40/acre** of SEZ impacted

Conceptual Acquisition of Restoration Site



Sears Point acquisition and fencing for access control - concept plan for cost estimation



Sears Point Access Control Concept Plan

Acquisition

2120 acres @ estimated \$300/acre - \$500/acre = \$630,000 - \$1,020,000

Appraisals

14 parcels @ \$6,000/parcel = \$84,000

Hazmat

14 parcels @ \$3,000/parcel = \$42,000

NEPA

1 Environmental Assessment for whole project = \$10,000

Title Work

14 parcels @ \$500/parcel = \$7,000

Adjudication

Estimate \$5,000 as contingency

Fencing

6.75 miles @ estimated \$6,000/mile = \$40,500

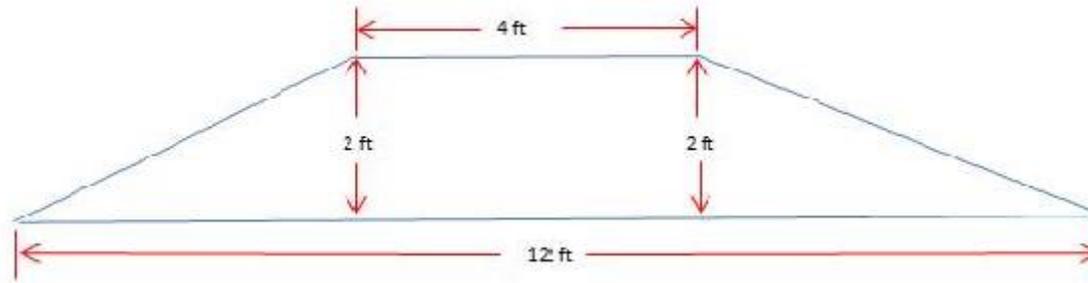
Signage

30 each @ \$70/sign and hardware = \$2100

Project Total

\$820,000 (land @ \$300/ac) - \$1,210,000 (land @ \$500/ac)
(\$390 - \$571/SEZ acre impacted)

Estimation of Berm Construction Cost



Cross sectional area = 16 ft^2

A berm with above cross section 100 ft long = $1600 \text{ ft}^3 = 59.2 \text{ yd}^3$

If earthwork costs are $\$55/\text{yd}^3$ then 100 ft long berm cost is $\$3,256$.

If 10 berms constructed per area, earthwork cost = $\$32,560$

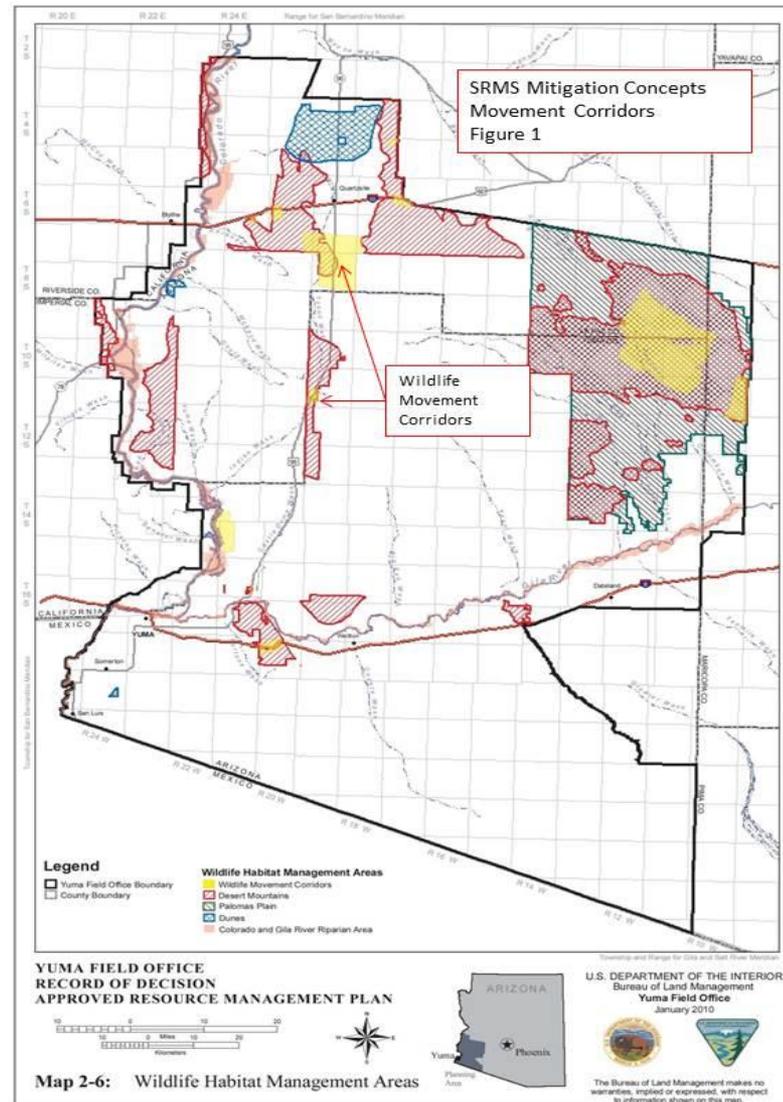
Contingency @ 10% = $\$3,256$

Mobilization/demobilization @ 5% = $\$1,791$

Total estimate for earthwork = $\$37,607$ (10 berms in 1 area with 1 set mob/demob cost)

La Posa Plain Wildlife Crossing Concept Plan Cost Estimation

Movement Corridors Identified in Yuma RMP





SRMS Mitigation Concepts
Movement Corridors
Figure 2

Crossing improvement area

U.S. 93 example cost estimate for overpass

Existing structures in Arizona - \$5,000,000/3 structures
(\$1,666,666/structure)

Existing structure in Nevada - 163 ft overpass \$1,800,000



Questions?



Next Steps and Comments

- Draft strategy distributed for stakeholder review - May 2015
- Public workshop to discuss draft strategy - June 2015
- Final strategy - August 2015
- Please submit comments by **April 20, 2015**
 - Proposed non-development areas
 - Goal and objectives- Crosswalk table
 - Candidate site matrix
 - Additional information on mitigation proposals and costs
 - Examples and rationale for contingency fees
 - Mitigation fee setting process