



Final Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation

Appendix H2, Cooperating Agency Comments on Draft Tier 1 EIS and Responses

July 2021



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ADOT Project No. 999 SW 0 M5180 01P



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US Department of the Interior (DOI)



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United States Department of the Interior

OFFICE OF THE SECRETARY
 Office of Environmental Policy and Compliance
 333 Bush Street, Suite 515
 San Francisco, California, 94104

July 8, 2019

In Reply Refer To:
 19/0143
 Filed Electronically

Ms. Karla Petty
 Division Administrator
 Federal Highway Administration
 4000 N. Central Ave., Suite 1500
 Phoenix, AZ 85012

Subject: Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation for Interstate 11 Corridor between Nogales and Wickenburg, Arizona, dated March 2019.

Dear Ms. Petty:

The Department of the Interior (Department) has reviewed the *Draft Tier 1 Environmental Impact Statement (EIS) and Preliminary Section 4(f) Evaluation for the Interstate 11 Corridor in Santa Cruz, Pima, Pinal, Maricopa, and Yavapai Counties, Arizona*, dated March 2019 and provides the following comments on behalf of its bureaus; the U.S. Bureau of Reclamation (Reclamation), the U.S. Fish and Wildlife Service (FWS), the U.S. Bureau of Land Management (BLM), and the U.S. National Park Service (NPS).

General Section 4(f) Comments

The Tucson Mitigation Corridor (TMC) is a 2,514-acre 4(f) designated property purchased in 1990 for approximately \$15 million. The land was purchased to partially mitigate biological impacts from the Central Arizona Project (CAP) Tucson Aqueduct-Phase B. Additionally, the CAP was modified to accommodate the TMC. In the Final EIS for the CAP Tucson Aqueduct-Phase B, Reclamation identified specific environmental commitments and mitigation measures to reduce project impacts. In accordance with the Fish and Wildlife Coordination Act of 1958 (PL 85-624, 16 U.S.C. 661 et seq.), Reclamation, Arizona Game and Fish Department (AGFD), FWS, and several public conservation groups agreed on a specific parcel (i.e., TMC) for mitigation. In 1990, Reclamation, FWS, AGFD, and Pima County signed a Cooperative Agreement. The Cooperative Agreement states:

"WHEREAS, lands described herein for fish and wildlife purposes shall not become subject to exchange or other transaction if those actions would defeat the initial purpose of their acquisition [16 U.S.C., section 663(d)]".

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ID	Topic	Response
1	General	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies.
2	Section 4(f)	Final Tier 1 EIS Chapter 4.6 incorporates the requested information on the TMC Cooperative Agreement and clarifies that the TMC was established in 1990 as a commitment made by Reclamation with USFWS, AGFD, and Pima County to partially mitigate biological impacts from the CAP Tucson Aqueduct-Phase B.

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The Master Management Plan (attached to Cooperative Agreement) prohibits any future development within the area other than existing wildlife habitat improvements or developments agreed to by Reclamation, AGFD, FWS, and Pima County.

In an effort to work with the Federal Highways (FHWA) and to accommodate FHWA's Programmatic EIS schedule, Reclamation identified preliminary conditions for a potential path to a programmatic Net Benefit determination for the TMC in a letter dated June 8, 2018. This letter stated that, "Based on the proposed process to identify, evaluate, and implement potential mitigation measures, Reclamation believes that a net benefit could be achieved, and Reclamation would concur with the application of the Net Benefit Programmatic Evaluation to the TMC."

3 Our understanding is that FHWA is requesting a higher level of commitment than what was provided in the June 8, 2018 letter prior to the Tier 1 EIS Record of Decision. Based on the lack of specificity and qualitative analysis inherent in a Programmatic EIS, Reclamation would not be able to provide a higher level of commitment on our concurrence for a 4(f) net benefit determination for the TMC.

After continued consultation with our TMC partners, the Department is requesting FHWA prepare an Individual Section 4(f) Evaluation for the TMC. Based on discussions with FHWA, it is our understanding that this change will not affect the overall EIS schedule.

4 The true value of the TMC is the functional and critical role the property plays in maintaining the primary wildlife movement corridor between the Roskrige Mountains, Ironwood Forest National Monument and west across Avra Valley to the Tucson Mountains and Saguaro National Park (SNP). The corridor supports multiple biological processes that are critical to the ecological health of SNP and Tucson Mountain Park, both Section 4(f) properties found within the Tucson Mountains that total approximately 44,818-acres. As a result of this role, Reclamation has viewed and managed the TMC as a Section 4(f) property of unique significance and critical importance.

General EIS Comments

Recommended Alternative

5 The Department continues to be concerned that the analysis at the Tier 1 level is insufficient to determine a Recommended Alternative or a Preferred Alternative in the Final EIS. The Recommended Alternative, which is 0.3 miles from SNP and 0.6 miles from Wilderness, should include the necessary studies to illustrate and further quantify the impacts the highway and cumulative effects of future multi-modal transportation and reasonably foreseeable subsequent development would have to park resources and visitors; specifically to wildlife movement and park wilderness values; impacting the view shed, diminishing natural sounds; diminishing night sky darkness and increasing air pollution.

The Tucson Mountain District of SNP was established to protect its natural resources, scenic beauty, and habitat from various threats associated with the growth of metropolitan Tucson. Because many wildlife species rely on the ability to move in and out of SNP to meet their water needs throughout the year, SNP works closely with adjacent land managers and neighbors to assist in providing habitat (and water sources) that maintain healthy wildlife populations.

3	Section 4(f)	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final EIS; the programmatic net benefit approach is no longer being pursued.
4	Wildlife	FHWA and ADOT recognize the critical role of the TMC in wildlife movement within Avra Valley. The analysis in Final Tier 1 EIS Section 3.14 and Chapter 4 consider this information. No change made.
5	Section 4(f), Wildlife	FHWA and ADOT recognize the significance of the efforts undertaken to preserve wildlife connectivity to Saguaro National Park and the surrounding area. The Draft Tier 1 EIS included substantial mitigation strategies to maintain connectivity. However, potential impacts to the Pima County Buffer Overlay Zone were not addressed under Wildlife Connectivity in the Draft Tier 1 EIS. The following changes were made to Final Tier 1 EIS Appendix E14 to discuss potential impacts to the Pima County Buffer Overlay Zone: <ul style="list-style-type: none"> Section E14.3.3 (Wildlife Connectivity) was updated to include a discussion of the Pima County Buffer Overlay Zone. Table E14-4 was updated to include the Pima County Buffer Overlay Zone. A qualitative analysis of potential effects to Pima County's Conservation Lands and the Pima County Buffer Overlay Zone was added to the Purple, Green, and Orange Build Corridor Alternative discussion in Appendix E14. A qualitative analysis of potential effects to Pima County's Conservation Lands and the Pima County Buffer Overlay Zone from the Recommended and Preferred Alternatives was also added to the Final Tier 1 EIS. In addition, further analysis and coordination regarding these areas during the Tier 2 EIS NEPA process was added to the list of potential mitigation strategies in the Final Tier 1 EIS. See GlobalTopic_1.

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These needs have been recognized and formalized through federal and local efforts. As mentioned above, Reclamation established the TMC to protect a critical wildlife corridor. Additionally, Pima County established the Pima County Buffer Overlay Zone, in part to: “3. Establish mechanisms that will protect the public preserves and result in an ecologically sound transition between the preserves and more urbanized development; 4. Assure the continued existence of adequate wildlife habitat and foster the unimpeded movement of wildlife in the vicinity of Pima County’s public preserves...” (Pima County Code of Ordinances § 18.67). Finally, the Sonoran Desert Conservation Plan has identified critical wildlife corridors within the project study area which connect the park to other adjacent conservation lands.

The Recommended Alternative directly impacts all three of these properties: it bisects the TMC, it overlaps 916 acres of the Buffer Overlay Zone, and “most of the corridor (94%) impacts one or more categories of the Conservation Land System” identified in the Sonoran Desert Conservation Plan (Pima County DOT Report, Appendix F, p. 267).

Based on the potential for significant adverse impacts to SNP, TMC, Ironwood National Monument, and Pima Pineapple Cactus (PPC), the Department recommends the Orange Alternative for the southern section of the corridor. Additionally, the Orange Alternative better serves planned growth areas, freight industry focus areas, and economic activity centers while still reducing travel time over the no build alternative. Our determination is based on an analysis of the potential impacts and the EIS which states the Orange alternative best responds to continued population and employment growth in the South Section; provides the most access to economic activity centers; reduced impact to wildlife corridors and linkages; and, would have fewer impact to PPC and its habitat.”

Overall the environmental impact under Segment B is less severe to wildlife connectivity and the federally endangered PPC. Therefore, as identified above, Segment B is the ideal selection for the southern end of the study area.

Pima Pineapple Cactus

The Department recommends that FHWA develops a preliminary effects analysis and mitigation strategy for the federally endangered PPC (*Coryphantha scheeri* var. *robustispina*) before Option D of the recommended alternative is finalized in the Record of Decision. If the effects analysis and mitigation strategy are deferred until Tier II, we recommend that all options for aligning I-11 through Pima County remain open.

Of all listed species that may be affected by the I-11 project, FWS is most concerned about effects to the PPC. Unlike other listed species that occur in the I-11 study area—which tend to occur in small numbers in restricted or relatively inaccessible habitats—the PPC occurs in significant numbers within all three of the I-11 build corridor alternatives. The recommended alignment for I-11 will bisect the PPC’s entire known range from south to north and will affect possibly hundreds of individual cactus plants. The proportion (percent) of the known range-wide population that will be affected is unknown but is likely to be significant.

FWS is currently aware of fewer than 8,000 extant PPC individuals across the range of the taxon. In addition, 1,837 are known to no longer exist, primarily due to development and mining.

6		See GlobalTopic_1.
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6 A primary concern is to assure that a path to avoid Endangered Species Act Section 7(a)(2) prohibitions against jeopardy is available before formal section 7 consultation on the cactus occurs during or after Tier II. That assurance can be provided only if PPC numbers and distribution within the build corridor alternatives, or at least the recommended alternative, have been assessed in advance, and only if I-11 planners and FWS are confident that project affects to those populations can effectively be avoided or mitigated.

There is currently insufficient information to determine whether impacts to the PPC that may result from the I-11 project can be mitigated or to assure that a jeopardy opinion from the FWS would not occur during formal consultation on the PPC. A potential jeopardy decision for the PPC due to potentially large losses of this endangered species is critical and poses a serious challenge to I-11 planners.

Central Arizona Project

7 Reclamation and the Central Arizona Water Conservation District (CAWCD) have design standards for facilities that encroach on CAP lands. These design standards protect the CAP facilities and the ability to perform Operation and Maintenance of project facilities. As I-11 reaches the design phase, we recommend coordination with CAWCD and Reclamation on the applicable design standards.

8 Segment U of the recommended alternative which spans north through the Hassayampa Plain and Tonopah Desert study area has the potential to affect wildlife movement over two concrete wash overchutes and a wildlife bridge. While the primary intent of overchutes is to maintain hydrological connectivity, wildlife use was considered in their design. Reclamation has performed long-term monitoring of multiple CAP wildlife bridge and concrete wash overchutes. Some overchutes currently being monitored have recorded total individual crossings by mule deer as high as 380 a month. It is expected that Segment U would devalue and reduce the wildlife utilization of the overchutes and the wildlife bridge in the surrounding area. Replacement of multiple wildlife crossing structures should be included as mitigation in Segment U.

Summary Comments

9 As Cooperating Agencies, we value our cooperative relationship and believe an Individual Section 4(f) Evaluation is the most appropriate evaluation moving forward. At its conclusion, if Segment D is still chosen as part of the preferred alternative, then the Department still believes the same conditions identified in Reclamation’s June 8, 2018 letter are still applicable to accomplish the required minimization under 23 CFR 774.3(a)(2) and the appropriate mitigation required to compensate for the loss and “use” of 453-acres (18% of the TMC) and all necessary measures to avoid defeating the initial purpose of its acquisition [16 U.S.C., section 663(d)]. The Department continues to be committed to consulting and collaborating on the analysis necessary to determine the best way to minimize and mitigate the effects of the proposed I-11.

Thank you for the opportunity to provide comments and a path forward to minimize impacts to the TMC and the features and values for which the property was established. The Department and bureaus would be available to meet to clarify any of our recommendations, and further assist the FHWA and ADOT with identification of appropriate measures for the benefit of wildlife.

7	General (Tier 2)	Comment noted. Draft Tier 1 EIS page 4-83 cited mitigation stating ADOT will comply with Reclamation and the Central Arizona Water Conservation District (CAWCD) design standards for facilities that encroach on CAP lands. This mitigation measure is also in Final Tier 1 EIS Chapter 4 and Chapter 7. No change made.
8	Wildlife	Both the Draft Tier 1 EIS and the Final Tier 1 EIS include a commitment to complete wildlife studies to determine the need for additional wildlife crossings along Segment U in the area of the overchutes. ADOT will continue to work with stakeholders and partners prior to and during the Tier 2 process to develop and fund appropriate studies to evaluate wildlife movement and roadway mortality. Sufficient time (at least 2 to 4 years) will be given for studies to acquire adequate data to guide the development of mitigation measures. Future studies in support of Tier 2 impact analysis would focus on refining information relating to specific impact areas within known wildlife linkages and corridors identified now and in the future. No change made.
9	Section 4(f)	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach is no longer being pursued. See GlobalTopic_1 and GlobalTopic_11. ADOT will coordinate with DOI during Tier 2 studies regarding potential project impacts to the TMC and to identify appropriate avoidance or minimization and mitigation measures as needed.

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10	General	See responses in subsequent pages specific to BLM, Reclamation, NPS and USFWS.
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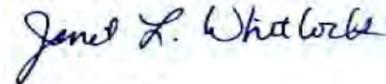
For additional comments from BLM, please see **Attachment 1 – Additional Comments from the BLM on the Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation for Interstate 11 Corridor between Nogales and Wickenburg, Arizona.**

For additional comments from Reclamation, please see **Attachment 2 – Additional Comments from Reclamation on the Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation for Interstate 11 Corridor between Nogales and Wickenburg, Arizona.**

For additional comments from NPS, please see **Attachment 3 – Additional Comments from NPS on the Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation for Interstate 11 Corridor between Nogales and Wickenburg, Arizona.**

Thank you for the opportunity to provide comments, and we look forward to continued work with the FHWA and ADOT. For questions regarding specific comments please contact: Mr. Lane Cowger with BLM at 602-417-9612 or via email at lcowger@blm.gov; Mr. Bob Lehman with FWS at 602-242-0210 or via email at Robert_lehman@fws.gov; Mr. Jeff Conn with NPS at 623-773-6250 or via email at jeffery_conn@nps.gov; Mr. Sean Heath with Reclamation at 623-773-6250 or via email at sheath@usbr.gov. For all other comments or questions please contact me at 415-420-0524 or via email at janet_whitlock@ios.doi.gov.

Sincerely,



Janet Whitlock
Regional Environmental Officer
Office of Environmental Policy and Compliance

Attachments

Cc
Shawn Alam, DOI
Jeff Conn, NPS
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Sean Heath, BOR
Courtney Hoover, DOI
Robert Lehman, FWS
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Bureau of Land Management (BLM)



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Appendix H2: Cooperating Agency Comments on Draft Tier 1 EIS and Responses

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
1	2.4.2.1	2-26		7	Cowger	"54" should be "60"- i.e., 297 minus 237= 60
2	2.4.5	2-33	Table 2-8		Cowger	Options Q2a and b and Q3 a and b are only mentioned in this table and nowhere else in the document. Elsewhere only Q2 and Q3 are referenced. This should be clarified or removed.
3	3.1	3.1-1		16-18	Cowger	It appears the concept that is being relayed here is that the recommended alternative may be one of the one of the defined alternatives or a hybrid of two or more of them. The sentence is missing a word or is otherwise unclear and thus fails to adequately relay this important idea. Suggest adding "not" between be and one in line 16 or changing "but" to "or" in line 17 or otherwise rewriting to make this concept clear.
4	3.1.2	3.1-3		16	Cowger	"alternatives" misspelled twice on this line
5	3.2	Table 3.2-2	3.2-9		D. Tersey	No mention of impacts to Ironwood Forest National Monument and access to the monument through Manville Rd. Potential to impact visual resources, noise levels, and visitor experience for the Ironwood Forest National Monument. Issue for Tier 2 analysis. Potential for high overall visual impact from Ironwood Forest national Monument because of high viewer sensitivity and superior, unobstructed views. Issue for Tier 2 analysis.
6	3.2	Table 3.2-2	3.2-10		D. Tersey	No mention that the alternative would significantly impact the Los Robles Archaeological district on the National Register. No mention of impacts to Ironwood Forest National Monument and access to the monument through Sasco Rd.
7	3.3	3.3-5		19-20	Cowger	Better language for BLM utility corridor definition- - "...within Bureau of Land Management (BLM) designated multi-use utility corridors, which are defined corridors for linear infrastructure development. These multi-use..." Avoids using "rights-of-way"- which are the road/pipeline/powerline authorizations themselves rather than the corridor
8	3.3	3.3-8		32	D. Tersey	The definition of wilderness is misleading, and sounds more like the definition of a national monument than a wilderness area. "Wilderness is protected and managed so as toError! Hyperlink reference not valid. preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude... may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

#	Topic	Response
	General	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies.
1	Chapter 2	See GlobalTopic_3
2	Chapter 2	See GlobalTopic_3
3	Chapter 3 Intro	See GlobalTopic_3
4	Chapter 3 Intro	See GlobalTopic_3
5	Recreation, Visual, Noise	Impacts to Ironwood Forest National Monument are addressed in the Draft Tier 1 EIS Section 3.4 on pages 3.4-8 to 3.4-9, and further discussion in Draft Tier 1 EIS Appendix E4 on pages E4-22 and E4-26. Final Tier 1 EIS Section 3.4.6 lists potential mitigation strategies to design the specific alignment of I-11 in such a way that access to recreation areas would be maintained. See GlobalTopic_1
6	Cultural Resources, Recreation	Draft Tier 1 EIS Section 3.7.2.1 (page 3.7-11, lines 20-21) indicated the 2,000-foot corridor of the Green Alternative overlapped edges of the Los Robles Archaeological District and Figure 3.7-1 illustrates the areas of overlap are outside the Ironwood Forest National Monument. The two overlapped edges include 20 to 25 acres of the 12,894-acre archaeological district (0.002 percent), and no archaeological sites have been recorded in those areas of overlap. In response to comments on the Draft Tier 1 EIS, Option F of the Recommended Alternative was shifted to reduce impacts to the Santa Cruz River floodplain and avoid wetlands and sensitive riparian areas, which also eliminated any overlap with the Los Robles Archaeological District. See the response to BLM Comment 5. Existing access to Sasco Road will be maintained.
7	Land Use	See GlobalTopic_3
8	Land Use	See GlobalTopic_3

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
						(Section 2(c) Wilderness Act of 1964) The primary purpose of wilderness is for unimpaired views and solitude and may also have scientific value.
9	3.3	3.3-10		42	Cowger	Global change: Any references in document to VMRA or VMCRMA should be changed to VMRMZ or Vulture Mountains Recreation Management Zone This stands for Vulture Mountain Recreation Management Zone, it's designation in the Bradshaw-Harquahala RMP. The VMRA/CRMA title was previously used under the assumption that the BLM and Maricopa County would enter into a cooperative agreement for management of the entire area. This is no longer the case.
10	3.3	3.3-10		44	Cowger	Add "parts of which are" before "managed" for clarity
11	3.3	3.3-17		37	Cowger	Issue for figures for this entire chapter: Somewhere the numbering of figures in this chapter became off by one. This is where I caught it. Here, Fig 3.3-9 is referenced in the text but it actually corresponds to Fig 3.3-8 on page 3.3-20. Check figures citations with the actual figures throughout chapter.
12	3.3	3.3-23		3-12	D. Tersey	No mention of Option D going through the Los robles Archaeological district.
13	3.3	3.3-25	Fig 3.3-10		Cowger	Another example of disconnect between textual reference and actual figure
14	3.3	3.3-37	Table 3.3-6	Wilderness (BLM)	Cowger	Assuming that the 456 acres of BLM wilderness encroachment is similar to footnote 2 that applies to the 6,133 acres of "National Monument (BLM)" above it whereby actual impacts to the national monument are not expected. Should have same/similar footnote if that is the case. If not, any encroachment/development of designated wilderness on BLM lands would be in conflict with Federal wilderness statutes. BLM opposes any development on these Congressionally designated Wilderness lands and would encourage ADOT/FHWA to modify their alternatives to avoid designated Wilderness.
15	3.3	3.3-46		6-8	D. Tersey	Some specially designated BLM lands have prohibitions against new right of ways in their plans that are because of congressional or presidential actions (National Monuments) that cannot be fixed by amending the RMP. This is true of the presidential proclamations for both Ironwood Forest and Sonoran Desert NMs.
16	3.3	3.3-48	Table 3.3-8		D. Tersey	Reasonably foreseeable effects from increased access could increase the damaging effects of increased access to parks, recreational facilities or open space. (Blue, green and purple alternatives.)
17	3.4	3.4-2	Table 3.4-1		Cowger	Much like NPS and USFS, many additional laws and policies apply to recreation on BLM lands beyond just the field office RMPs listed here. Should add: Federal Land Policy and Management Act (FLPMA) of 1976 Wilderness Act of 1964; AZ Desert Wilderness Act of 1990 43 CFR Parts 8200-8260

#	Topic	Response
9	Land Use	Based on further clarification from the BLM, "VMRA" and "VMCRMA" will be changed to "Vulture Mine Recreation Management Zone" or "Vulture Mine RMZ" throughout the Final Tier 1 EIS.
10	Land Use	See GlobalTopic_3
11	Land Use	Figure numbering will be corrected throughout the Final Tier 1 EIS.
12	Land Use	Option D under the Green Alternative does not bisect the Los Robles Archaeological District. See BLM Comment 6 response for more details.
13	Land Use	Figure numbering will be corrected throughout the Final Tier 1 EIS.
14	Land Use	Footnote 2 in Table 3.3-6 of the Draft Tier 1 EIS applies to the 456 acres of BLM wilderness encroachment, and the same footnote will be added to this value as well. These acreage estimates reflect what is present within the 2,000-foot-wide Project Area. However, assumptions on travel demand and typical sections were made as part of the analysis, and I-8 is not anticipated to be widened; therefore, direct impacts on the SDNM are expected to be avoided. This is an inventory of the entire 2,000-foot-wide Project Area and does not reflect the actual amount of land that would be impacted if Option K were to be selected.
15	Land Use	I-11 will not require right-of-way from the BLM National Monuments. FHWA and ADOT acknowledge the BLM prohibitions described. No change made.
16	Land Use, Indirect and Cumulative	The BLM comment is covered by the information in Table 3.3-8. No change made.
17	Recreation	A statement was added to the Final Tier 1 EIS in Section 3.4.2 acknowledging that many additional laws, policies, and plans apply to recreation on federal, state, and local lands beyond what was listed in Table 3.4-1 of the Draft Tier 1 EIS. ADOT will coordinate with the appropriate land-managing agencies, such as BLM, during the Tier 2 analysis to identify which laws, policies, and plans apply.

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
18	3.4	3.4-6	Figure 3.4-2		Schow	The Sonoran Desert National Monument Resource Management Plan states, "NT-1.1.5: The Anza NHT corridor and the Anza NHT Management Area will be an exclusion area for major utility-scale renewable energy development and new major linear LUAs. In the Lower Sonoran Field Office, utility development could continue on a case by case basis in existing utility multiuse corridors an only if impacts are determined to have a negligible to minor effect on resources." The purple and green alternatives go right through the management area. BLM suggests using the Juan Bautista de Anza NHT Corridor instead for the map. Would need to be considered in Tier 2 analysis and may require BLM resource management plan amendment to authorize right-of-way within NHT management area.
19	3.4	3.4-7	Figure 3.4-3		Pike	The proposed routes would transect one of only two OHV race areas allocated in the Hassayampa Field Office Resource Management Plan (RMP 2010) and travel through the Vulture Mine Recreation Management Zone (RMZ). The RMP at Recreation Resources (RR) 37 states "Motorized competitive speed races are authorized only in Special Recreation Management Zones (SRMAs) or Recreation Management Zones (RMZs) where an allocation for such use has been made". The Hassayampa SRMA and Castle Hot Springs RMZ (RMP at RR 116 and RR 87, respectively) are the only two such allocations. Therefore, the proposed route would potentially affect recreation that is relatively rare on the field office and highly sought after by the OHV race community and general public alike. There would also be potential effects to the Vulture Mine Recreation and Public Purposes Act Lease (R&PP) recently entered into with Maricopa County Parks Department, which formalizes the development of motorized and non-motorized recreation opportunities for the public over approximately 1000 acres adjacent to the proposed route.
20	3.7.3.1	3.7-8			D. Tersey	Section ignores Los Robles Archaeological District crossed by Segment D of the Green Alternative. District has high known archaeological site density.
21	3.7.3.1	3.7-8			D. Tersey	Suggest rewrite to better reflect that Green Alternative bisects Los Robles Archeological District
22	3.9	3.9-13		5-17	Cowger	Would be helpful to reviewers and public to clearly state in a table the acreage of BLM VRM classes (I through IV) crossed by each alternative.
23	3.9	3.9-13		16-17	Cowger	"VRM Class III areas are compatible with the BLM VRM objective." This does not make sense. Suggest change to "Management objectives for VRM Class III lands include partially retaining their existing character and allow for moderate change to the subject landscape. Hence, BLM is unlikely to require amendment to their..." Here's the full VRM III objective if needed to word this for ADOT/FHWA purposes- VRM Class III Objective: To partially retain the existing character of the landscape. Allowed Level of Change: The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should

#	Topic	Response
18	Recreation	A mitigation measure was added to Final Tier 1 EIS Section 3.4.6 stating that ADOT will coordinate with appropriate land-managing agencies during Tier 2 analysis to identify applicable laws, policies, and plans for each recreation site. This coordination may include a review of local resource management plans and modifications to those plans.
19	Recreation	Final Tier 1 EIS Section 3.4.6 includes a specific mitigation commitment to develop crossings that will maintain permeability of the OHV race course within the Vulture Mine RMZ.
20	Cultural Resources	Alignment was shifted to avoid overlap. See response to BLM Comment 6.
21	Cultural Resources	Alignment was shifted to avoid overlap. See response to BLM Comment 6.
22	Visual	A table clearly stating the acreage of BLM VRM classes (I to IV) on BLM land crossed by each alternative was added to Section 3.9 of the Final Tier 1 EIS.
23	Visual	Text in Section 3.9 of the Final Tier 1 EIS was revised as follows: "Management objectives for VRM Class III lands include partially retaining their existing character and allowing for moderate change to the subject landscape. Hence, BLM is unlikely to require amendment to their..."

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
						repeat the basic elements found in the predominant natural features of the characteristic landscape.
24	3.9	3.9-16	Fig 3.9-7		Cowger	VRM designations only apply on BLM-administered lands. The VRM data displayed in this figure is on all ownerships. Only an issue for the northern portion of the project area- central and south look fine. Apologies if this was a function of the data shared by BLM. Change this map, others like 3.9-10 with similar scales, and full project area maps displaying VRM to reflect this. Fix: ensure all VRM data is clipped to BLM lands only
25	3.12				Plis	The proposed routes would have only a minimal impact on salable minerals in BLM's Lower Sonoran Field Office (LSFO). The green route, and to some extent the orange route, would impact the access road into the Kilauea Crushers/Pioneer Landscaping crushed stone pit in T2S, R3W, section 12. Otherwise, BLM sees no adverse impacts to any other LSFO salable minerals operations or potentially minable areas. The net effect of these new transportation routes will likely be beneficial to our salable minerals operations in that they will create demand for product used in constructing the routes, and thereafter the routes will enhance the ability to move sand & rock to other customers. Active mining operations will be analyzed in detail in the Tier 2 document, and so will stop here.
26	3.12				Plis	The proposed routes would have a negligible impact on locatable minerals in BLM's Lower Sonoran Field Office (LSFO). The purple route entirely avoids areas of high locatable mineral potential. The green and orange routes would cut across the area of high locatable mineral potential in the Buckeye Hills, but the impact to the locatable minerals resources there would be negligible because there are no active locatable minerals operations there, and the routes avoid creating significant new disturbance in previously mined and prospected locations within that high potential zone.
27	3.12	3.12-1		13	Cowger	US or United States Forest Service not "National" FS
28	3.14	3.14-13	Table 3.14-3 and	4	Cowger	For biological discussion and referenced table, please include BLM Sensitive Species. Link included with comprehensive list and more info on applicability. https://www.blm.gov/policy/az-im-2017-009
29	3.14	20			Daehler	BLM LSFO RMP has designated wildlife movement corridors. These corridors are sometimes similar to AGFD corridors but not always. These corridors should be considered and steps taken to ensure wildlife movement through these areas. Link to LSFO wildlife corridor map- https://eplanning.blm.gov/epl-front-office/projects/lup/11856/39910/42108/LSDA-Map-06_Wildlife_Special_Status_Species.pdf
30	3.14	21		29	Daehler	The text on page 3.14-21 references many studies and figures 3.14-5 to 3.14-7 depict "Detailed on other wildlife linkage designs" but the figures do not appear to accurately represent all of the wildlife movement corridors identified in these studies. For example, the Gila River is an important wildlife movement corridor identified in the Arizona Wildlife Linkages. This linkage and many others do not appear in any of the figures and the

#	Topic	Response
24	Visual	The dataset shown in the map is the latest provided by the BLM. No change made.
25	Geology	New language was added to Final Tier 1 EIS Section 3.12.2 to address impacts to salable minerals. The analysis for the Final Tier 1 EIS found that impacts to salable minerals are anticipated to be negligible or minimal.
26	Geology	See response to BLM Comment 25.
27	Geology	"US Forest Service" will be used throughout the Final Tier 1 EIS.
28	Biological Resources	BLM sensitive species were included in the Biological Technical Memorandum – Table E14-13. Sensitive species were not included in the main body of the Draft Tier 1 EIS due to size limitations. No change made.
29	Biological Resources	Thank you for the additional information on BLM wildlife movement corridors. The BLM wildlife corridors that do not overlap with corridors evaluated in the Draft Tier 1 EIS are discussed in Section E14.3 of Appendix E14 of the Final Tier 1 EIS. A decision was made not to include all agency and county wildlife corridors on maps within the main body of the Tier 1 EIS. Impacts to all individual wildlife corridors will be evaluated further during the Tier 2 EIS process, as stated in Section 3.14.6 of the Final Tier 1 EIS.
30	Biological Resources	For the Draft Tier 1 EIS, FHWA and ADOT depicted wildlife corridors/linkages on the maps that AGFD modeled in detail, not all the linkages identified by the Arizona Wildlife Linkages Workgroup or corridors designated by other agencies. Several corridors not shown on the maps were discussed in the body of the Draft Tier 1 EIS; however, the Gila River corridor was only discussed as a natural wildlife corridor, not as a designated linkage in the Draft Tier 1 EIS.

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
						Gila River linkage is important considering that a new crossing is being proposed through this linkage area.
31	3.16	3.16-2		15-22	D. Tersey	Suggest splitting out impact summary discussion so each alternative is fully covered separately. An explanation of how much more resource impact the green alternative would have than the purple alternative would be helpful. Right now it is in the most basic relative terms.
32	3.17	3.17-15	Table 3.17-2		Cowger	Sonoran Valley Parkway ROD should be updated to 2019
33	4.3.1	4-12		24-32	D. Tersey	The entire IFNM (approximately 128,400 acres) is designated as a Special Recreation Management Area (SRMA). IFNM RMP Record of Decision page 69
34	4.3.1	4-12		24-32 and 38 through line 4 on pg 4-13	Cowger	<p>BLM understands that impacts to Ironwood Forest NM and Sonoran Desert NM will be primarily indirect or otherwise limited because corridors either avoid (Ironwood) or collocate with existing infrastructure (Sonoran Desert) rather than cross or extensively develop these national monuments. However, it is incorrect to state that these national monuments do not function as or designated as a "significant recreation area" within its RMP as stated in Line 26 (IFNM) or implied in the SDNM discussion. Both of these national monuments include multiple Special Recreation Management Area (SRMA) and/or Recreation Management Zone (RMZ) designations covering most or all of the BLM lands within them. Note that this is similar to the Vulture Mtn RMZ that is considered a 4(f) property, making the logic of not including these two monuments (or possibly the RMZs within them) while including Vulture Mtn very inconsistent.</p> <p>Regardless of 4(f) applicability, development of an interstate highway on or near these national monuments will impact the recreation that occurs on these monuments as well as the monument objects (i.e., ecological setting, cultural resources) justifying the designation of these monuments in the first place. At the very least, these impacts should be fully analyzed in the Tier 2 permitting for the project and avoidance, minimization, and mitigation appropriately used to decrease and ameliorate same.</p> <p>See extensive recreation discussion and designations in the RMPs for each monument</p> <p>Ironwood Forest NM RMP- https://eplanning.blm.gov/epl-front-office/projects/lup/78206/104878/128446/ROD_IFNM_Record_of_Decision_Approved_Resource_Management_Plan.pdf</p> <p>Sonoran Desert NM RMP- https://eplanning.blm.gov/epl-front-office/projects/lup/11856/40128/42157/01-SDNM_ROD-ARMP_FINAL_2012-09-19_web-with-Links_sans-map-pages.pdf</p>

#	Topic	Response
		FHWA and ADOT re-evaluated the Arizona Wildlife Linkages for the Final Tier 1 EIS and included the Gila River Linkage to the wildlife linkage/corridor maps.
31	Irreversible and Irretrievable Commitment of Resources	Specific resource impacts by alternative are not known at the Tier 1 level of analysis. Each alternative is compared with known qualitative level information. A more detailed quantitative analysis of the irreversible and irretrievable commitment of resources will be considered for the future Tier 2 analysis.
32	Indirect and Cumulative Effects	Text was revised in Section 3.17 of the Final Tier 1 EIS as follows: "The Record of Decision was issued April 29, 2019."
33	Section 4(f)	The Ironwood Forest National Monument bullet in Section 4.5.1 of the Final Tier 1 EIS was revised to include the following: "The BLM also designated the IFNM as a Special Recreation Management Area (SRMA). The SRMA is a management tool that allows the BLM to plan and implement recreation activities in a manner that ensures that the primary purpose of the property is protected. While the SRMA, in addition to the RMP, is an important planning tool for BLM to balance the needs of and demands upon multiple resources on the property, it is not the source for the original, formal designation of the property, and therefore, is not the source of the primary purpose of the property as defined by Section 4(f)."
34	Section 4(f)	<p>In determining whether a property is protected by Section 4(f), FHWA relies on the primary purpose of the property that is identified in the document that formally designates the property. In this case, Ironwood Forest National Monument was formally designated by Presidential Proclamation 7320 for the protection and management of "historic landmarks, historic and prehistoric structures, and other objects of historic and scientific interest." Under Section 4(f), this is the primary purpose of the property and the source of its significance. Other purposes, such as accommodating recreation as described in the Resource Management Plan for the property, are secondary to the primary purpose. In addition, this multi-resource focused site is not a wildlife or waterfowl refuge nor a historic site in its entirety. For these reasons, FHWA assessed that Ironwood Forest National Monument is not protected by Section 4(f).</p> <p>The Ironwood Forest National Monument bullet in Section 4.5.1 of the Final Tier 1 EIS was revised to include the following: "The BLM also designated the IFNM as a Special Recreation Management Area (SRMA). The SRMA is a management tool that allows the BLM to plan and implement recreation activities in a manner that ensures that the primary purpose of the property is protected. While the SRMA, in addition to the RMP, is an important planning tool for BLM to balance the needs of and demands upon multiple resources on the property, it is not the source for the original, formal designation of the property, and therefore, is not the source of the primary purpose of the property as defined by Section 4(f)."</p> <p>Along the same lines, the Sonoran Desert National Monument bullet in Section 4.5.1 of the Final Tier 1 EIS was revised as follows: "The Sonoran Desert National Monument (SDNM) is a publicly-owned property that is open to the public and managed by the BLM. The SDNM was designated in 2001 by Presidential Proclamation 7397 for the protection and management of objects of natural and cultural interest within the property. The SDNM objects include plant and animal resources as well as historical and archaeological resources. This formal designation serves as the definition of the primary purpose of the property as a whole. BLM's 2012 Sonoran Desert National Monument Record of Decision and Approved Resource Management Plan (RMP) specifically states that the Proclamation is the principal direction for management of the property; all other considerations are secondary to that edict. The RMP empowers the BLM to balance the availability and function of all resources within SDNM for multiple uses. Within the RMP, BLM identifies other, secondary uses (including recreation) that may be allowed under specific criteria so that the primary purpose of the property is supported. However, based on this information, FHWA determined recreation as a secondary use and the SDNM in its entirety is not protected by Section 4(f)."</p> <p>The Vulture Mountains RMZ (also known as the Vulture Mine RMZ and a subarea of the BLM's Hassayampa Management Unit) was formally designated under different circumstances. The BLM exercised the ability it was given by the Federal Land Policy and Management Act of 1976 to lease Vulture Mountains lands to Maricopa County for the specific purpose of providing recreation opportunities. It was a result of the lease and subsequent county planning activity that Vulture Mountains became the Vulture Mountains Recreation Management Zone (or RMZ). FHWA relies on the Act and BLM's subsequent lease of lands for recreation as the sources for the primary purpose of</p>

Appendix H2: Cooperating Agency Comments on Draft Tier 1 EIS and Responses

Bureau of Land Management

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
35	4.3.2		Table 4-2		D. Tersey	Table and associated maps need to reflect 4(f) historic property- Los Robles Archaeological District. Crossed by Green Alternative.
36	4.6	4-99		10 and 20	Cowger	BLM's Lower Sonoran Field Office has designated wildlife movement corridors that should be dealt with similar to the wildlife linkage discussed on lines 11 and 21 of this page. Map of these designated corridors is attached. Can also provide GIS data. More information on the corridor designations and restrictions is available in the Lower Sonoran RMP, linked above in these comments. Link to LSFO wildlife corridor map- https://eplanning.blm.gov/epl-front-office/projects/lup/11856/39910/42108/LSDA-Map-06_Wildlife_Special_Status_Species.pdf
37	Appendix E12				Kilbey	There is no study area buffer zone in the northernmost part of the central section study area at purple route R portion, Orange and Green route portion Q3.
38	Appendix E12	E12-12	Table E12-2		Kilbey	The table lists route portion Q2 as having subsidence feature. This conclusion is incorrect because the route segment passes through area of shallow covered bedrock. Therefore, no potential for valley-fill subsidence.
39	Appendix E12	E12-12	Table E12-2		Kilbey	The Table lists route portion L has having no earth fissure analysis area, but an Analysis Area on Figure E12-6 occurs adjacent to northeast.
40	Appendix E12	E12-12	Table E12-2		Kilbey	The Table lists route portion L as not having land subsidence potential, L segment is entirely within valley fill, it would be prudent to list portion L as having land subsidence potential as was rational for segment I2 and I1.
41	Appendix F	2			D. Tersey	Item (3) at the top of the page (consultation with management) has not occurred with the Ironwood Forest National Monument. Encourage ADOT/FHWA to discuss this directly with BLM Tucson Field Office and Ironwood Forests NM management as part of the Tier 2 analysis.
42	Appendix F	2			D. Tersey	BLM has designated the entire IFNM as a Special Recreation Management Area. Allocate the entire IFNM (approximately 128,400 acres) as a Special Recreation Management Area (SRMA). IFNM RMP Record of Decision page 69

#	Topic	Response
		the property for recreation and the protection of the property under Section 4(f). This clarification has been added to the discussion of Vulture Mountains RMZ in the Final Tier 1 EIS Section 4.6.2. As noted in the comment, Tier 2 studies will include a more detailed evaluation of the potential for indirect impacts to the resources of the IFNM and SDNM. During those Tier 2 analyses, ADOT will continue to coordinate with the BLM to identify appropriate measures to avoid, minimize, or mitigate impacts to these properties.
35	Section 4(f)	Los Robles Archaeological District was added to Table 4-2 in the Final Tier 1 EIS and Preliminary Section 4(f) Evaluation.
36	Biological Resources	Thank you for the additional information on BLM wildlife movement corridors. The BLM wildlife corridors that do not overlap with corridors evaluated in the Draft Tier 1 EIS are discussed in Section 3.14 of the Final Tier 1 EIS. The BLM wildlife corridors that do not overlap with corridors evaluated in the Draft Tier 1 EIS are discussed in Appendix E14 of the Final Tier 1 EIS. Impacts to all individual wildlife corridors will be evaluated further during the Tier 2 EIS process, as stated in Section 3.14.6.
37	Geology	Further coordination occurred with BLM on October 17, 2019. The comment was unclear in its reference to a buffer zone; clarification was requested from the BLM, and no further information was available. Therefore, no further action is required on this comment.
38	Geology	Figure E12-6 shows that the northernmost portion of Segment Q2 exists within the known Buckeye Active Land Subsidence Area. Therefore, Table E12-2 is deemed accurate and no revisions are planned. No change made.
39	Geology	The document characterizes segments as either encountering or not encountering earth fissures. The subject Earth Fissure Study Area is the Heaton Area. The extreme southwest corner of the subject area boundary is immediately adjacent to Segment L of the Purple Alternative. However, documented earth fissures in the Heaton Area are located far away from Segment L of the Purple Alternative. No change made.
40	Geology	The document characterizes segments as encountering or not encountering subsidence zones. This characterization is based on known, documented subsidence zones as published by the ADWR. This characterization is not based on subsurface hydrogeological conditions. No change made.
41	Section 4(f)	FHWA and ADOT conducted the analyses and evaluations described in the Draft Tier 1 EIS in consultation with the BLM. Consultation activities with BLM are documented in Table 4-6 of Chapter 4 of the Final Tier 1 EIS. ADOT will continue to coordinate with BLM during Tier 2 studies.
42	Section 4(f)	The Ironwood Forest National Monument bullet in Section 4.5.1 of the Final Tier 1 EIS was revised to add the following: "The BLM also designated the IFNM as a Special Recreation Management Area (SRMA). The SRMA is a management tool that allows the BLM to plan and implement recreation activities in a manner that ensures that the primary purpose of the property is protected. While the SRMA, in addition to the RMP, is an important planning tool for BLM to balance the needs of and demands upon multiple resources on the property, it is not the source for the original, formal designation of the property, and therefore, is not the source of the primary purpose of the property as defined by Section 4(f)."

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
43	General				Cowger	<p>BLM directs you to its August 2018 comments on the ADEIS (included in Errata to Appendix H section in Errata to Draft Tier 1 DEIS). These comments still generally apply, particularly regarding BLM's preference for the orange alternative for the entire length of the project and reasoning therefore. The orange alternative minimizes new disturbance and collocates new facilities where possible, thereby minimizing impacts to BLM designations and uses and sensitive resources throughout the project area. These include:</p> <ul style="list-style-type: none"> -Avoids Vulture Mountain RMZ -Avoids additional impacts to Sonoran Desert National Monument -Avoids additional impacts to Ironwood Forest National Monument -Avoids additional impacts to wildlife connectivity in the Lower Sonoran and Tucson Field Offices/Central and South Project Sections -Avoids additional impacts to the Juan Batista De Anza National Historic Trail -Avoids additional impacts to the Lower Gila Terraces and Historic Trails ACEC -Avoidance of additional impacts to outdoor recreation on BLM lands throughout the project area
44	General-minerals				Ernst	<p>There is no minerals section to review. There could be sand and gravel resources impacted as well as mining claims in the study area.</p> <p>An issue for Tier 2 specific analysis.</p>
45	General-Grazing				Whitbeck	<p>Livestock grazing is mentioned as a past and present action. Livestock grazing operations would be affected by all but the "no build" alternative. For the central section, impacts to grazing operations would be most with the purple alternative and least with the orange alternative.</p> <p>Issue for Tier 2 analysis.</p>
46	General-Grazing				Holden	<p>No rangeland management/livestock specific section. Project divides multiple allotments, potentially complicating livestock management.</p> <p>Issue for Tier 2 analysis.</p>

#	Topic	Response
43	General (Alternatives)	ADOT and FHWA acknowledge BLM's stated preference for the Orange Alternative for the entire length of the I-11 project. Chapter 6 of the Final Tier 1 EIS presents the Preferred Alternative and the basis for the recommendation.
44	General (NEPA), Geology	See responses to BLM Comment 25.
45	General (NEPA), Land Use	Impacts to livestock grazing operations on BLM land will be considered during the Tier 2 analysis.
46	General (NEPA), Land Use	Impacts on rangeland management and to livestock on BLM land will be considered during the Tier 2 analysis.

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US Bureau of Reclamation (Reclamation)



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Attachment 2 – Additional Comments from Reclamation on the Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation for Interstate 11 Corridor between Nogales and Wickenburg, Arizona.

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
1	Overall comment				Reclamation	Please characterize the impacts as to their context and intensity. For example, in the document the term “impacts” is used instead. This does not tell the reader if the effects are adverse or beneficial.
2	Overall comment				Reclamation	Reclamation feels that additional analysis would be helpful to completely evaluate the potential effects of the proposed action. The DEIS should provide sufficient detail to foster an informed decision and not preclude corridor choices in the future when that information is available. A ROD will be signed at the end of this NEPA process for a specific corridor that is based on a broad, programmatic approach. Put another way, by the time the Tier II NEPA analysis occurs the corridor has already been selected and the Tier II site specific analysis will not be used to make a truly informed decision on the corridor, only on the alignment within the chosen corridor. Selection of a corridor in the Tier 1 EIS deprives the decision maker and the public of evaluating the true impacts of the proposed action and alternatives. Recommend carrying multiple corridors forward to the Tier II NEPA analysis, particularly where the environmental impacts are controversial or additional information would facilitate an informed decision.
3	Overall comment				Reclamation	Use of “could” throughout document. For the environmental effects section, “could” is often used to characterize the potential for an impact to occur. For example, on page 3.9-33 line 27 “The visual intrusions related to the Build Corridor Alternatives could impact the visual resources and result in unsatisfactory visitor experiences.” In most cases, the document could be a little more definitive. In this instance, the build corridor alternatives would impact visual resources.
4	3.2	3.2-3	Table 3.2-1	Purple alt, corridor option C, 4th bullet	Reclamation	If this alternative is chosen, FHWA’s proposal to address disproportionate impacts to Environmental Justice populations is “targeted outreach”? At the Tier II level, the corridor decision has already been made so the potential menu of mitigation options is reduced.
5	3.2, 3.8.4	3.2-4, 3.8-11	Table 3.2-1, Table 3.8-4		Reclamation	“Potential for substantial noise impacts (15-dBA increase from existing).” On page 3.8-8 (line 2) it states there could be a 33 dBA difference between a low use area and a point near an existing interstate. This seems like it should be the baseline, or at least the worst-case scenario for the NEPA analysis.
6	3.2	3.2-4	Table 3.2-1	Purple alt, corridor option	Reclamation	“Better avoids impacts on Santa Cruz River in Pinal County” This statement is an outlier compared to the rest of the table. It would better avoid impacts compared to? Does this table compare environmental affects among alternatives and against the no action alternative?

#	Topic	Response
	General	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies.
1	General (NEPA)	Impacts can adversely affect one resource but be beneficial to another. For example, development could adversely affect biological resources, but be beneficial to economics. The narrative gives the reader the context intensity of the impact being detailed qualitatively. No change made.
2	General (NEPA)	FHWA is committed to, and required by NEPA to, examine and avoid potential impacts to the social and natural environment when considering approval of proposed transportation projects. FHWA chose to use a tiered EIS approach in their decisionmaking for I-11. Tiering refers to the process of addressing a broad, general program or proposal in an initial EIS, and analyzing a narrower site-specific proposal, related to the initial program, or proposal in a subsequent NEPA document. The CEQ regulations (40 CFR Parts 1500-1508) recognize the use of tiering as an option for complying with NEPA, as do FHWA regulations (23 CFR § 771.111(g)). The level of analysis completed for the I-11 Tier 1 EIS was appropriate to evaluate the corridor alternatives at the Tier 1 level. As part of the Tier 1 EIS process, the I-11 Tier 1 EIS methodology was drafted and provided to the Cooperating Agencies, including Reclamation, for review. There was agreement on the methodology by the Cooperating Agencies. See GlobalTopic_1.
3	General (NEPA)	The location and design of I-11 within the 2,000-foot-wide corridor is unknown at Tier 1; therefore, the Draft Tier 1 EIS describes potential impacts using “could” where actual impacts can occur, may vary, or cannot be definitively determined at a qualitative-level analysis. No change made.
4	Environmental Justice	The Tier 1-level Environmental Justice analysis is detailed in Draft Tier 1 EIS Section 3.5 and the outreach is in Chapter 5. See GlobalTopic_8. No change made.
5	Noise	ADOT and FHWA followed the prescribed methodology for evaluating noise impacts. The current text states that the noise measurements are consistent with the corresponding land use type. Rural areas (especially national parks) are much quieter than urban freeway areas, so it is not suitable to compare these extreme noise levels to one another. FHWA report FHWA-PD-96-046 provides federal, state, and local transportation agencies with standardized procedures for measuring and assessing highway-related noise, which is a requirement of the ADOT Noise Abatement Requirements (NAR). Regarding the 15-dBA substantial increase, FHWA and ADOT are required to follow the current NAR definitions and guidance. No change made.
6	General (NEPA)	Draft Tier 1 EIS page 3.2-1 describes Table 3.2-1 and Table 3.2-2 with the following paragraph. “Table 3.2-1 (Summary of Key Environmental Effects: Purple Alternative), Table 3.2-2 (Summary of Key Environmental Effects: Green Alternative), and Table 3.2-3 (Summary of Key Environmental Effects: Orange Alternative) provide a high-level summary of key considerations by corridor option to highlight more localized considerations that might be overlooked in an aggregate summary. These

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
				G, 1st bullet		
7	3.2	3.2-5	Table 3.2-1	Purple alt, corridor option 11, 5th bullet	Reclamation	Suggest delete "avoid" and just state minimize and mitigate for impacts since 99% of the soils have been mapped as prime and unique.
8	3.3.1.3	3.3-2			Reclamation	Wherever appropriate in this section, please include the CAP trail, a National Recreational Trail. The trail has only been partially completed but it is designated and included in CAP NEPA evaluations.
9	3.3.1.3	3.3-8			Reclamation	Land Management and Special Designated Lands Section Please describe all existing management plans (e.g., RMP, FMP, trail mgmt. plan, etc.) and evaluate consistency with those plans (40 CFR §1502.16(c))
10	3.3.1.4	3.3-21		31-35	Reclamation	Option X (and all alternatives) would cross the CAP and impact mitigation land on the north side of the canal.
11	3.3.5	3.3-47	Table 3.3-8, overall land use considerations		Reclamation	Under the purple alternative, it states that the corridor is "generally consistent with adopted plans". It is not consistent with the Master Management plan for the TMC. Is it "generally" consistent with RMPs, FMPs, HCPs, and local plans? (i.e., SNP, Ironwood NM, Avra Valley HCP, etc.)
12	3.4.2	3.4-2	Table 3.4-1		Reclamation	SNP also has a Comprehensive Trail Management Plan
13	3.4.2	3.4-2	1st para	2-9	Reclamation	Please add the CAP National Recreational Trail
14	3.4.6	3.4-13	Table 3.4-5, Federal Resource topic		Reclamation	Please add Saguaro National Park under the purple and green alternative. Both alternatives would affect recreation in the park.
15		3.7-2		39-40	Reclamation	Reword discussion of indirect effects. ACHP guidance posted on June 10, 2019 considers indirect effects to be caused later in time; therefore, visual and atmospheric effects from highway construction would be considered direct effects, not indirect effects. Link provided https://www.achp.gov/news/court-rules-definitions-informs-agencies-determining-effects
16		3.7-7		13	Reclamation	Given the considerable backlog in AZSITE (some 8,000 records) and the scale of the EIS, recommend supplementing

#	Topic	Response
		are the differentiating factors in comparing the three Build Corridor Alternatives against each other, by identifying locations where a particular option might provide better opportunities to avoid, minimize, or mitigate potential adverse impacts." No change made.
7	Soils	See GlobalTopic_8. No change made.
8	Land Use	Recreation sites that currently exist, are under construction, or within the regulatory permitting stage are addressed in Final Tier 1 EIS Section 3.4 Recreation. The Tortolita segment of the trail in Marana is not included as the CAP National Recreation Trail does not fit those criteria. Additional analysis on recreation trails will be part of Tier 2 analysis. No change made.
9	Land Use & General (NEPA)	During Tier 2 the existing and applicable land management plans would be reviewed and evaluated in the comparison of alternatives, and ADOT will continue to coordinate with appropriate land managing agencies. No change made.
10	Land Use	A few comments were received suggesting that ADOT coordinate with additional agencies/stakeholders, prior to and during, the Tier 2 NEPA process to determine future wildlife connectivity data needs and study design. Since AGFD is the Arizona expert on wildlife connectivity, ADOT has committed to coordinate with AGFD regarding future wildlife studies (see Final Tier 1 EIS Section 3.14.6 Biological Resources, MM-BiologicalResources-4). ADOT will identify additional agencies/stakeholders for coordination as segments of I-11 are funded for construction and relevant land managers can be determined for each I-11 segment. See GlobalTopic_8.
11	Land Use & General (NEPA)	See the response to Reclamation Comment 9. See GlobalTopic_1.
12	Recreation & General (NEPA)	See the response to Reclamation Comment 9. See GlobalTopic_1.
13	Recreation	Recreation sites that currently exist, are under construction, or within the regulatory permitting stage are addressed in Final Tier 1 EIS Section 3.4. Within the Study Area, the CAP National Recreation Trail does not fit those criteria. Additional analysis on recreation trails will be part of Tier 2 analysis. No change made.
14	Recreation	The list of resources in the table includes only those within the 2,000-foot-wide corridor. ADOT and FHWA have made a commitment to avoid direct impacts to the SNP. No change made.
15	Cultural	The cited ACHP document is a "news" posting, not formal ACHP guidance. The referenced District of Columbia court case (National Parks Conservation Association v. Todd T. Semonite, Lieutenant General, et al.) applies only to National Historic Landmarks. Because the case is still ongoing it is premature for FHWA to modify policy regarding assessment of direct, indirect, and cumulative effects pursuant to Section 106 of the National Historic Preservation Act. No change made.
16	Cultural	Cultural resource studies conducted for the Tier 1 EIS were not intended to be a detailed inventory and finding of effect that would typically be done to support project-level NHPA Section 106

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
						this analysis with a records check from the ASM Archaeological Records Office, and updating the tables and counts throughout the EIS to reflect this addition. Additionally, FHWA should consider conducting a spatial search using tDAR to gain access to records that might not otherwise be available from the ARO.
17		3.7-7		42-45	Reclamation	Why did FHWA exclude GLO maps as part of their identification process? These records will likely contain named structures not visible on modern aerials.
18		3.7-8		1-2	Reclamation	Was the preliminary classification submitted to anyone for consultation? SHPO? Tribes?
19		3.7-8		24-25	Reclamation	It would be useful to provide an estimation of how much of the alternatives have been surveyed in the last 10 years in addition to the total survey coverage provided. This will give the public an idea of how reliable the survey data are.
20		3.7-13		Table 3.7-4	Reclamation	Would be helpful to add a column or text in the header column for each alternative and show again the percent surveyed, so that readers don't have to go back 5 pages to find it and they can properly understand the site frequency in relation to percentage of land covered. For example, the orange alternative has almost twice as many sites, but also almost twice as much percentage surveyed.
21		3.7-15		Table 3.7-6	Reclamation	Why are the NRHP evaluations of archaeological sites not presented in a similar table to this one? I think that would be very helpful!
22		3.7-17		15-16	Reclamation	Why does FHWA not consider increased traffic from I-11 traffic to have the potential to adversely affect sites adjacent to highways that won't need new lanes added?
23		3.7-17		38	Reclamation	Why does FHWA not include known TCPs along the alignment as something that might be considered to have high impacts?
24		3.7-18		12-13	Reclamation	It seems unwise to identify non-surveyed areas as having moderate potential for unrecorded sites to be placed in the Low impact column. Many professionals can attest to finding substantial subsurface intact deposits in areas where they didn't expect to find much, especially in southern Arizona.

#	Topic	Response
		consultation. Those types of studies would be done for subsequent Tier 2 projects when proposed undertakings have more detailed design. The studies done and consultation with tribes and other consulting parties for the Tier 1 EIS were intended to compile and analyze readily available data to adequately consider and compare potential impacts on cultural resources at a level of detail appropriate for the Tier 1 decision regarding selection of a Preferred Alternative. See Final Tier 1 EIS Section 3.7 and Appendix E7 for more detailed explanations of the methodology and consultation history. No change made.
17	Cultural	General Land Office and other historical maps were reviewed to generally characterize the potential for unrecorded historic resources. See response to Reclamation comment 16. No change made.
18	Cultural	The Class I overview for historic districts and buildings prepared to support the Tier 1 EIS was distributed to all Section 106 consulting parties for review and comment. The overview documented the methods and results of the analysis, including the preliminary evaluations of unrecorded historic-period properties as not NRHP eligible, possibly eligible, or likely eligible, but the intent of the Tier 1 analysis was not to make formal determinations of NRHP eligibility. No change made.
19	Cultural	Many surveys conducted more than 10 years ago may not meet current standards but provide information worth considering. See response to Reclamation comment 16. No change made.
20	Cultural	The requested information is in the Draft Tier 1 EIS on page 3.7-9. See GlobalTopic_3. No change made.
21	Cultural	Draft Tier 1 EIS Table 3.7-6 was included because evaluating preliminary NRHP eligibility was the primary goal in the evaluation of historic buildings and districts. The archaeological evaluation characterized density of archaeological resources and potential levels of impact. NRHP eligibility for each individual archaeological site is included in the Class 1 KMZ data. This data is based entirely on previous evaluations. Eligibility determinations for archaeological sites would be made during Tier 2 studies. Therefore, this info was not summarized by option similar to Draft Tier 1 EIS Table 3.7-6. Information on NRHP eligibility for each archaeological site remains available within the KMZ data distributed for review with the Class I report addenda. No change made.
22	Cultural	Increases in traffic volumes might result in an incremental increase in noise impacts on any adjacent historic properties but would be unlikely to result in an adverse effect under Section 106. No change made.
23	Cultural	Impacts to traditional cultural properties are discussed in Draft Tier 1 EIS Section 3.7.4.3. No change made.
24	Cultural	The model of the potential for unrecorded archaeological sites and historic structures in unsurveyed areas is general, and distinctions between the categories of low and moderate cannot be interpreted as sharply bounded. Changing the classification as suggested would not alter the relative ranking of the Build Corridor Alternatives or the quantified component of the impact assessment that estimated the number of sites that might be affected along each Build Corridor Alternative. The first paragraph

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
						Recommend reclassifying moderate potential to the moderate impact section.
25		3.7-18		25-28	Reclamation	Doesn't this methodology skew the data to over-represent areas with more survey coverage?
26		3.7-20		16-19	Reclamation	The EIS did not have a sentence about the Purple Alternative but did include Orange and Green. Please add Purple.
27		3.7-22		1-26	Reclamation	This discussion seems to consider adverse effects to historic properties that have not previously been affected and adverse effects to historic properties that have been previously mitigated on equal footing. Some would argue that it makes more sense to favor impacting sites that have already been effected, rather than putting unaffected sites at risk of adverse effects. For example, the Dairy Site is already compromised, so why not impact it further rather than impacting a site that hasn't been compromised yet? Why not allow previous investigations in southern Arizona to carry some of the mitigation burden for FHWA?
28		3.7-22		37	Reclamation	Tables showing the number of sites that will be impacted by Options B, G, and Q3 would be helpful to give a sense of scale. You could also consider showing the values in previous tables in parentheses so people know these sites will be impacted no matter which alternative is selected.
29		3.7-29		15-29	Reclamation	Would it be possible to protect deeply buried deposits on the Santa Cruz by building over them, and not exposing them at all? Or is that not feasible given the scope of earthwork in these areas?
30		3.7-30		13	Reclamation	Why is there not discussion of cumulative effects in the text, but only bullet points in tables? Why is there no consideration of proposed projects that cross these alternatives, like Sun Zia and TEP lines, San Carlos Irrigation Project Rehab, or the expansion of wells and mines in these areas?
31	3.8.4.1	3.8-9		1	Reclamation	Stating a difference of 15 dBA seems an understatement since at the top of page 3.8-8 it says there could be a difference of 33 dBA.
32	3.8.4.1	3.8-9	2nd paragraph	7-12	Reclamation	The statement regarding noise impacts occurring out to 250 feet is not the case for Saguaro National Park. In the park where noise is an unwanted intrusion the effects would occur much farther out. How far into the park would visitors hear traffic from I-11?

#	Topic	Response
		of Draft Tier 1 EIS Section 3.7.4 acknowledges that areas rated as having potential moderate or even low levels of impacts could still result in a Section 106 finding of an adverse effect. No change made.
25	Cultural	Consideration of the model of the potential for unrecorded archaeological sites and historic structures compensates for varying extents of survey coverage, as does the quantified component of the impact assessment that estimated the number of sites that might be affected along each Build Corridor Alternative. No change made.
26	Cultural	The previous paragraph provides information about the Purple Alternative, and the numbers for all Build Corridor Alternatives are presented in Draft Tier 1 EIS Table 3.7-9. No change made.
27	Cultural	It appears this comment is focused on Pima County of the I-11 study area. See GlobalTopic_1.
28	Cultural	The requested information is included in Draft Tier 1 EIS Table 3.7-9 and on page 3.7-22. Draft Tier 1 EIS Table 3.7-9 conveys a sense of scale illustrating the impacts of the Build Corridor Alternatives are substantially more when compared to the No Build Alternative as discussed in the text. For example, Table 3.7-9 cites 80 to 130 sites within the 400-foot maximum width right-of-way would be impacted under the Build Corridor Alternatives compared to the 15 sites discussed within the text on the No Build Alternative. No change made.
29	Cultural	Potential avoidance measures would be investigated during Tier 2 studies. No change made.
30	Indirect and Cumulative	Draft Tier 1 EIS Section 3.17 is a consolidated discussion of indirect and cumulative effects. Final Tier 1 EIS Section 3.17.2 was revised to include the following projects: the SunZia Southwest Transmission Project, the new Tucson Electric Power transmission lines, and the proposed rehabilitation of the San Carlos Irrigation Project facilities.
31	Noise	The noise levels reported in Lines 1-2 of Draft Tier 1 EIS page 3.8-8 provide the range of measured existing noise levels at various locations throughout the study area, and do not indicate a 33 dBA change in noise levels at any one location. The 15 dBA on page 3.8-9 of the Draft Tier 1 EIS is the defined level of noise increase that could occur due to the transportation project. No change made.
32	Noise	FHWA and ADOT are required to follow the federal noise standards in 23 CFR 772 and the ADOT Noise Abatement Requirements (NAR or Noise Policy). A traffic noise impact occurs when the predicted noise levels approach or exceed the noise abatement criteria (NAC), or when predicted traffic noise levels substantially exceed the existing noise level. The Noise Policy defines a "substantial increase" of noise levels as 15 dBA. While predicted future noise levels may result in a perceptible change compared to existing noise levels, traffic noise impacts occur based upon the definition contained in 23 CFR 772.

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
33	3.8.4.1	3.8-9	3rd paragraph	23	Reclamation	Does the sensitive receptor count include visitors to SNP? The baseline for sensitive receptors along segment B of the orange alternative includes existing interstate traffic noise, segments C and D of the purple and green alternatives do not.
34	3.8.4.2	3.8-12	Table 3.8-5		Reclamation	The dBA numbers in this table are much different than the numbers in Table 3.8-3. Why are the noise levels so much lower for I-11 than existing interstates? Would the projected traffic levels on I-11 be much less than SR 85?
35	3.9.4.5	3.9-33		39-	Reclamation	<p>“Build Corridor Alternatives on new alignments where no road currently exists would increase sky glow the most because they would:</p> <ul style="list-style-type: none"> * Introduce new sources of light. * Provide transportation corridor access to the adjacent areas, which could encourage adjacent development based on local zoning.” <p>It is identified that segment D or C would result in High potential for light pollution because new segments would bring additional vehicles into the area but also attract residential and commercial development. It is expected that additional night lighting on the west side of the TMC would devalue and reduce wildlife utilization of the existing 7 siphon crossing structures and constructed highway overpasses. Artificial night lighting is known to adversely impact the behavior, foraging, movement, and predation of wildlife (Beier 2006). Artificial lighting can alter the light-sensitive cycle of different species and impair an individual’s ability to navigate through an area through disorientation from and attraction to that artificial light source (Beier 2006). The attraction of wildlife to artificial light sources varies by species, but it has been identified as a cause of decline in reptile populations (Perry and Fischer 2006). It is anticipated that a freeway that is artificially illuminated along with vehicle lights would obstruct individual animals from accessing and departing the Tucson Mountain Park and Saguaro National Park from the west.</p>
36	3.12.3	3.12-10	Table 3.12-9		Reclamation	The large number of acres for prime and unique farmlands for the southern section of the orange alternative does not seem possible. In this section it would be co-located with I-10 but segments C and D of the purple and green alternative would be breaking new ground.
37	3.13.4	3.13-20	1st para	5-7	Reclamation	Is this percentage of corridor approach consistently used for all resource topics? Or, is there a specific reason why it could only be applied here?
38	3.14	3.14.30		1-15	Reclamation	Bureau of Reclamation biologists have been performing long-term monitoring of multiple Central Arizona Project Canal wildlife bridge and concrete wash overchutes. Segment U of the recommended alternative which spans north through the Hassayampa Plain and Tonopah Desert study area comes

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		The NAC are based upon noise levels associated with interference of speech communication and are a compromise between noise levels that are desirable and those that are achievable. They are used as values that, when approached for exceeded, require the consideration of traffic noise abatement measures. See GlobalTopic_1.
33	Noise	Yes, the sensitive receptor data account for noise sensitive areas of frequent human use within the SNP. See GlobalTopic_1.
34	Noise	It is expected the predicted 2040 No Build noise levels would be different from those predicted for the Build Corridor Alternatives. 2040 No Build noise levels have been revised in the Final Tier 1 EIS. 2040 No Build noise levels in the Draft Tier 1 EIS were predicted from the edge of pavement, which placed the receivers closer to the roadway. The predicted 2040 No Build noise levels were revised to be calculated from the edge of right-of-way. Final Tier 1 EIS Section 3.8.3 describes revised predicted No Build noise levels.
35	Visual & Biological Resources	Table 3.14-10 in Section 3.14 of the Draft Tier 1 EIS addresses light pollution as an indirect impact of roadway construction but does not include it as a potential impact to the existing wildlife corridors on the TMC. This was added to Appendix E14.4.3 of the Final Tier 1 EIS. See GlobalTopic_1.
36	Farmlands	The Southern Section of the Orange Alternative consists of Segments A, B, and G, all of which traverse valleys where agriculture is common. Draft Tier 1 EIS Appendix E12.1.5.1 describes data sources and methodology for the prime and unique farmlands evaluation. No change made.
37	Water Resources & General (NEPA)	Final Tier 1 EIS Section 3.13.2 was revised to provide more consistency with the evaluation of the rest of the resources in the EIS, and to conform with the May 2019 Water Resources Methodology Addendum produced in collaboration with the US Army Corps of Engineers.
38	Biological Resources	Final Tier 1 EIS Section 3.14.6 includes mitigation commitments for ADOT to continue working with AGFD and other stakeholders prior to and during the Tier 2 process to develop and fund appropriate studies to evaluate wildlife movement and roadway mortality. Sufficient time (at least 2 to 4 years) will be given to ensure the studies acquire adequate data for guiding the development of mitigation measures. Future studies in support of Tier 2 impact analysis would focus on refining information

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						<p>within approximately 450 feet of a concrete wash overchute that is located north east of the proposed Segment U. While the primary intent of overchutes is to maintain hydrological connectivity, wildlife use was considered in their design. Some overchutes currently being monitored have recorded total individual crossings by mule deer as high as 380 a month. It is expected that Segment U would devalue and reduce the wildlife utilization of that overchute and the surrounding area. Devaluing that overchute would be coupled with the proposed Belmont development to the south and Douglas Ranch to the north. Two large scale communities that if built to full design would by themselves also devalue and reduce its use by wildlife. However, it is expected that a new major travel corridor would also attract additional businesses, residential development, and increase public access to these now secluded structures. As a result of that anticipated development and increased access it is expected that an additional CAP overchute and wildlife bridge approximately 1.2 and 2.4 miles to the west would also be devalued and their wildlife utilization reduced. Therefore the following mitigation for wildlife connectivity is being requested.</p> <p>The primary purpose of the concrete overchutes is for hydrological connectivity, but their secondary design consideration was wildlife movement so their recommended mitigation replacement is 1:1. Which is 1 replacement structure for each overchute that is expected to be permanently and significantly devalued by a project such as the proposed I-11. Due to the proximity of Douglas Ranch and Belmont development the recommended mitigation for the overchute east of the proposed segment is reduced to 0.5:1. Therefore the overchute found approximately 1.2 miles west also has a recommended mitigation replacement of 0.5:1. The wildlife bridge found 2.4 miles west is a mitigation structure designed and solely built for wildlife connectivity. It has a wildlife mitigation replacement value of 2:1. As with the overchutes the proximity of both planned developments has reduced the replacement value to 1:1. In the end the total requested mitigation replacement for dedicated and secondary CAP canal wildlife crossing structures is 2 total.</p>
39	3.14	3.14-57	Tucson Mitigation Corridor		Reclamation	<p>Specific mitigation related to the TMC includes: (1) relocating and reclaiming Sandario Road; (2) conducting wildlife studies prior to the Tier 2 process; (3) aligning I-11 wildlife crossing structures to match the existing CAP canal siphons (7 crossings total); (4) creating an additional wildlife crossing near the TMC, depending on the results of wildlife studies; (5) acquiring property (at a 1:1 ratio) to support additional wildlife connectivity corridors within Avra Valley for the number of acres of the TMC that will be impacted by I-11; and (6) implementing design restrictions, such as no interchanges in the TMC or immediate area, and minimizing the width of I-11 to limit the I-11 footprint in the TMC area (see Chapter 4 [Preliminary Draft Section 4(f) Evaluation] for more detail on these mitigation strategies).</p> <p>As previously mentioned, please make the following edit to number 4. (4) creating an additional wildlife crossing(s) near the TMC, depending on the results of wildlife studies;. Crossings needs to be plural by incorporating an S because no studies have been done that have identified how many new wildlife corridors would be needed to reach a Net Benefit.</p>

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		<p>relating to specific impact areas within known wildlife linkages and corridors identified now and in the future.</p> <p>The wildlife studies will determine the need for additional wildlife crossings.</p>
39	Biology, Section 4(f), Mitigation	<p>FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.</p> <p>See GlobalTopic_1 and GlobalTopic_11.</p> <p>The text in Section 3.14.5 and Appendix E14.5 was changed to reflect the potential need for more than one wildlife crossing and "at a 1:1 ratio" was revised to say, "at a minimum 1:1 ratio." Further mitigation will be determined during Tier 2 based on future wildlife studies.</p>

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						Item number 5 also requires that the reference to a 1:1 ratio be removed. Reclamation has not agreed to a 1:1 ratio and provided past written and verbal communication that it should be removed. A Net Benefit could not be accomplished with a 1:1 replacement ratio. The recommended replacement ratio would be based on the results of the proposed wildlife studies.
40	4	4-7, 4-94	First Bullet	4-94	Reclamation	<p>23 CFR 774.3(d) Programmatic Section 4(f) evaluations are a time-saving procedural alternative to preparing individual Section 4(f) evaluations under paragraph (a) of this section for certain minor uses of Section 4(f) property. Programmatic Section 4(f) evaluations are developed by the Administration based on experience with a specific set of conditions that includes project type, degree of use and impact, and evaluation of avoidance alternatives.</p> <p>Based on the language above, the document does not explain how an interstate through the TMC can qualify as a "certain minor use". It is a loss of 453-acres (18%) (Page 4-44) How is bisecting the entire length of a wildlife movement corridor considered a minor use?</p>
41	4	4-44	22		Reclamation	Reclamation requests the acreage totals for the TMC be corrected to 2,514-acres and identify the acreage loss as 18% from both the purple and orange alternatives. A loss of 453-acres from 2,514-acres is 18%.
42	4	4-55, 4-72, 4-73, 4-89, 4-95	Table 4-5	12, 4, 11-19	Reclamation	<p>The summary of use of the El Paso and Southwestern Greenway Trail should be categorized as No Use on page 4-55 due to information provided on page 4-72. It identifies the trail and states the following: These properties can be avoided though grade-separation or other means."</p> <p>Additionally, the El Paso and Southwestern Greenway Trail should also be removed from the bulleted list on Page 4-73 and the total number of Section 4(f) properties be reduced to 6 or 7 (depending on Manning house) in the text on lines 26 and 28.</p> <p>Additionally on page 4-95 it states: "Downtown Tucson: There are seven Section 4(f) properties that fall within 120' of either side of I-10. I-11 would expand the ROW 60 feet of either side, or 120 feet on one side or the other. There are 7 properties at risk, but a smaller number would be impacted."</p> <p>When evaluating the Levi H. Manning House, a 120' expansion from the east side of I-10 would only utilize a section of the parking lot while leaving the house unaffected and intact. Is this still a use? How far out does the 4(f) property extend?</p> <p>The EIS does not address whether FHWA evaluated other Net Benefit opportunities along Segment B. At a May 22, 2019 Cooperating Agency Meeting FHWA was asked and they stated they had not pursued a Net Benefit option with any other Section 4(f) properties including David G. Herrera and Ramon Quiroz Park. During that meeting they were informed an opportunity exists at Estevan Park located approximately 0.2-miles north. A Net Benefit can be achieved by relocating at the larger park and installing and upgrading newer and additional facilities for the local community. Only a Net Benefit was pursued by FHWA and ADOT on Segment D. "Section 4(f) properties should be identified as early as practicable in the planning and project development process in order that complete avoidance of the protected resources can be given full and fair consideration (23 CFR 774.9(a)". By not</p>

#	Topic	Response
40	Section 4(f)	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.
41	Section 4(f)	Final Tier 1 EIS Table 4-4 was revised as requested.
42	Section 4(f)	<p>Final Tier 1 EIS Chapter 4 and Table 4-5 were revised to consistently cite a no use determination for the existing portions of the El Paso and Southwestern Greenway Trail. The existing trail has been removed from the list of 7 properties at risk in Tucson. The planned portions of the trail were verified and remain in the list of properties at risk in Tucson. This information is in Final Tier 1 EIS Section 4.6.</p> <p>The potential right-of-way expansion along Option B could require acquisition of part of the NRHP-listed Levi H. Manning House property, a Section 4(f) use. The widened right-of-way could be limited to the parking lot on the property and not affect the house directly. Further Tier 2 analysis would be required to determine whether this would result in a Section 106 finding of no adverse effect and therefore a de minimis impact under Section 4(f).</p> <p>See GlobalTopic_1.</p> <p>FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.</p>

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						considering and pursuing a Net Benefit for the Herrera and Ramon Quiroz Park, FHWA and ADOT did not give full and fair consideration to the TMC. Based on information provided in Chapter 4, only 6 Section 4(f) properties are at risk in Tucson area. Please update page, 4-75 and 4-95.
43	4	4-60	Table 4-5		Reclamation	Reclamation requests that FHWA include the following italicized and underlined summary quantification in the results section of Table 4-5 to show total impact from use. The following information should be provided in the table summary and discussed further to properly identify use of Section 4(f) properties in Avra Valley and Tucson. Use (total acres): 453-acres (Purple), 453-acres (Green), 234-acres (Orange)
44	4	4-77		41	Reclamation	Please incorporate the following italicized and underlined edits which identifies and clarifies the extent of use of the TMC. In the Preliminary Draft Section 4(f) Evaluation, the Purple or Green Alternatives (Options C and D) would incorporate a portion 453-acres (18%) of TMC land, thereby using the TMC property.
45	4	4-77			Reclamation	Identified under Section 4(f) Legislation, Regulations, and Guidance for Net Benefit is the following information. Within the section titled Findings it states that in order to determine that the do-nothing and avoidance alternatives described in the Alternatives section are not feasible and prudent you must do the following which only occurs in the Tier 1 EIS and not Tier 2. "The net impact of the do-nothing or build alternatives must also consider the function and value of the Section 4(f) property before and after project implementation as well as the physical and/or functional relationship of the Section 4(f) property to the surrounding area or community." The physical and/or functional relationship is missing from the analysis. Please identify and evaluate the physical and/or functional relationship of the Section 4(f) property (Tucson Mitigation Corridor) to the surrounding area or community such as Saguaro National Park, Tucson Mountain Park, and further west across Avra Valley.
46	4	4-79		34-36	Reclamation	Please incorporate the following line. The Orange Alternative is co-located with I-10 in the Tucson area. The Orange Alternative would avoid the TMC but would impact more Section (f) properties than the Purple and Green Alternatives. Whereas the Purple and Green Alternatives would result in a greater loss of 453-acres to only 234-acres on the Orange Alternative. The Orange Alternative is not an avoidance alternative.
47	4	4-80		14-15	Reclamation	"Wildlife connectivity would be disrupted at the entrance and exit structures."

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43	Section 4(f)	Final Tier 1 EIS Table 4-4 presents acres of properties within each 2,000-foot-wide corridor. FHWA and ADOT assessed the potential for each property to be avoided through accommodation, corridor shift, or grade-separation. Comparisons between the Build Corridor Alternatives in Table 4-5 using acreages occurring within the 2,000-foot-wide corridors would misrepresent the potential for property impacts because (1) the preliminary Section 4(f) Evaluation demonstrates that some of the properties could be avoided and (2) for properties that potentially cannot be avoided, Tier 2 Project-level analysis will be required to determine actual acreages of impact from specific alignment alternatives. This is because a specific alignment alternative would have a maximum width of approximately 400 feet. For these reasons, FHWA did not add the requested acreages to the table. No change made. FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued. Final Tier 1 EIS Table 4-5 was revised from "Use-net benefit" to "Potential use" and the net benefit footnote was removed. See GlobalTopic_1.
44	Section 4(f)	The Tier 1 acreages are based on 2,000-foot-wide Build Corridors, not Project-level alignment alternatives. Use of corridor-based acreages would misrepresent potential property impacts because a specific alignment alternative would have a maximum width of approximately 400 feet. For this reason, FHWA did not add the requested acreages to the text. No change made.
45	Section 4(f)	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.
46	Section 4(f)	The referenced text clarifies that the Orange Build Corridor Alternative is not an avoidance alternative. It is a pass/fail test; either an alternative avoids Section 4(f) properties or it doesn't. The amount of acreage potentially impacted is not relevant; neither are comparisons of acreages potentially impacted with other alternatives. Further, use of corridor-based acreages would misrepresent potential property impacts because a specific alignment alternative would have a maximum width of approximately 400 feet. No change made.
47	Section 4(f)	Comment noted. Text in Final Tier 1 EIS Chapter 4.6 was revised to clarify that, while the width of the right-of-way potentially could accommodate such an arrangement, the design of a multilevel structure over a distance of approximately 2 miles (the length of the TMC's western boundary) would require

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						That would only be correct if you constructed the entrance and exit structures near the boundaries of the property. For that reason that would never be the recommended entrance and exit locations for a tunnel.
48	4	4-80		38, 43-44	Reclamation	<p>Please clarify the line identified below. While Sandario Road borders the western boundary of TMC and does result in the deaths of some wildlife by vehicle strikes and likely results in some intimidation, it is not an impermeable barrier to wildlife. Lots of mule deer and desert big horn are able to safely cross Sandario Road under current traffic conditions.</p> <p>Modify line 38 to the following. "Sandario Road would remain a temporal barrier to wildlife movements with inconsistent periods of traffic and the absence of traffic."</p>
49	4	4-80		20-22	Reclamation	<p>"The Orange Alternative would avoid the TMC Section 4(f) property but would impact Section 4(f) properties that are clustered in Downtown Tucson." FHWA did not identify or present any comparison of value or importance of the identified Section 4(f) properties on Segment B, C, and D. There is little to no information on their history, purpose, or value to adequately inform readers of the EIS.</p> <p>1) Santa Cruz River Park (multi use local park), 2) David G. Herrera and Ramon Quiroz Park (athletic fields and swimming pool), 3) Barrio El Membrillo Historic District, 4) El Paso and Southwestern Railroad District, and 5) Barrio Anita Historic District</p> <p>Whereas the 2,514-acre Tucson Mitigation Corridor functions as the primary wildlife movement corridor for approximately 44,818-acres (Tucson Mountain Park 20,000-acres and Saguaro National Park 24,818-acres) of two ecologically sensitive and unique parks both categorized as Section 4(f) properties. Even with minimization and mitigation in place such as multiple wildlife overpasses, an I-11 travel corridor would further isolate them. The existing wildlife linkage would be impaired and its ecological functions suppressed.</p>
50	4	4-82			Reclamation	<p>Need to clarify what is mitigation vs minimization. Mitigation is compensation by replacing or providing substitute resources such as purchasing additional land to compensate for the direct loss of 18% of the TMC. Minimization is where you limit the degree or magnitude of the action and its implementation such as constructing overpasses across I-11 within the TMC.</p> <p>1) CAP Design Option - Minimization 2) Remove and reclaim Sandario Road – Minimization 3) Relocate Sandario Road – Minimization 4) I-11 crossings within the TMC – Minimization 5) Acquisition of land and crossings structures for additional wildlife movement corridor(s) – Mitigation 6) Dark Skies compliant – Minimization 7) Visual Screening - Minimization</p>
51	4	4-83		7	Reclamation	Please edit Line 7 to make the word Corridor plural because no studies have been done to show the level of mitigation that will be needed.

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		extensive entrance and exit structures and provisions for emergency access in at least one location. The multi-level highway structure and entrance and exit structures would extend impacts onto the TMC property. Wildlife connectivity across Sandario Road would be disrupted by the structures. The structures would also be substantially more visually invasive than an at-grade highway.
48	Section 4(f)	Final Tier 1 EIS Section 4.6 acknowledges that Sandario Road has a barrier effect to wildlife movement.
49	Section 4(f)	See GlobalTopic_1.
50	Section 4(f) & Mitigation	FHWA and ADOT identified mitigation strategies that will be further refined in Tier 2. No change made.
51	Section 4(f)	Final Tier 1 EIS Section 4.6 was revised to clarify that future wildlife studies could identify multiple wildlife corridors.

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						Mitigation Recommended in Wildlife Studies Including Additional Wildlife Corridor(s)
52	4	4-91		11-18	Reclamation	Reclamation questions what FHWA identifies as severe disruption of communities along Segment B when compared to Segments C and D? It was previously requested that FHWA quantify and report the number of homes that would be disrupted and need to be removed on all three segments in order for proper comparison and analysis. Additionally, since a Net Benefit is part of this analysis FHWA should include a quantification of how many homes would potentially be removed from the acquisition of land and homes approximately 0.9 miles north of the TMC. This location has been previously discussed as a probable location for one new wildlife corridor. A preliminary count by Reclamation personnel identified that a minimum of approximately 101 homes located outside the I-11 right of way would require acquisition to restore that area into a new wildlife corridor.
53	4.6	4-95, 4-96	4-7		Reclamation	<p>“Downtown Tucson: There are seven Section 4(f) properties that fall within 120’ of either side of I-10. I-11 would expand the ROW 60 feet of either side, or 120 feet on one side or the other. There are 7 properties at risk, but a smaller number would be impacted.”</p> <p>Clarify how many and which properties would be impacted. Identifying 7 properties as part of the analysis when not all would be impacted inflates the level of impact for Segment B under Factor 1. On Page 4-96 it states Segment B would potentially impact 7 properties. It should be clarified to reflect what was identified in Table 4-7, that a smaller number would be impacted what specific properties would be in order to avoid overestimating the level of impact.</p> <p>As previously mentioned FHWA needs to provide background information on the other Section 4(f) properties located along the Orange alternative. There is an imbalance of information and on the TMC but nothing of equal comparison for the Orange alternative.</p>
54	4	4-96		23-25, 29-31	Reclamation	<p>As stated in accompanying letter, Reclamation feels that a programmatic evaluation is no longer a feasible approach and recommends an individual evaluation. Please revise accordingly.</p> <p>“The Recommended Alternative is the only alternative for which use of a Section 4(f) property could result in a beneficial outcome for the property.”</p> <p>As identified in a Department of Interior Points for Discussion document submitted to FHWA on March 28, 2019 there is a risk based on the assumption that a net benefit to the TMC could be reached given appropriate mitigation. If it is determined that one cannot be reached then under FHWA’s current evaluation either proposed segment through the TMC would not be the most prudent when compared to Segment B.</p>
55	4.6	4-96		29-31	Reclamation	“By achieving the programmatic net benefit finding, the Purple, Green, and Recommended Alternatives would substantially reduce and possibly eliminate remaining harm to the TMC property.”

#	Topic	Response
52	Community Impacts & Section 4(f)	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued. See GlobalTopic_1.
53	Section 4(f)	Tier 2-level engineering and design would allow ADOT to determine which of the seven properties identified would be impacted. Depending on the design it would be possible to miss some of the properties but not others. See GlobalTopic_1.
54	Section 4(f)	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.
55	Section 4(f)	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						How can the construction of the proposed I-11 reduce and eliminate remaining harm to the TMC property? Please Identify and incorporate into the referenced section.
56	4.6	4-97		20-26	Reclamation	<p>“Reclamation requested FHWA and ADOT follow a prescribed process to identify, evaluate, and implement mitigation measures. Wildlife studies shall be developed and completed, in coordination with Reclamation, prior to the Tier 2 EIS, to ensure adequate data is available for that process. AGFD and USFWS, as recognized authorities on wildlife, with coordination and input from the TMC Working Group, should use these studies to identify the Tier 2 preferred wildlife corridor location and design. FHWA and the Arizona Department of Transportation (ADOT) would consult with the TMC Working Group to develop the recommended approach, prior to Reclamation’s concurrence on a Tier 2 final Net Benefit Programmatic determination. Reclamation stated in their letter of June 8, 2018, co-alignment of the I-11, Sandario Road, and CAP canal crossings will provide the benefit of encouraging and enhancing conditions for wildlife movements across the TMC.”</p> <p>Please update the above paragraph to incorporate information from Reclamation’s June 8, 2018 letter to FHWA.</p>
57	4.6	4-97, 4-98			Reclamation	<p>Factor 5 address 7 elements of the project purpose and need while primarily evaluating the three alternatives as a whole and to a much lesser extent the segments used to construct the preferred alternative which is a hybrid of the three.</p> <p>1) Planned Growth Areas: Areas identified for anticipated future growth by municipal general and county comprehensive plans identifies prominent growth in Sahuarita along existing Interstate 19 and in Marana along existing Interstate 10. Growth while mild in size is anticipated on existing state route 86 which is a short distance from existing I-19. There is no forecasted or planned growth within Avra Valley or nearby that would justify the selection of Segment D and C. The two proximate growth areas identified in Sahuarita and Marana would logically be better served by the selection of Segment B through Tucson. Specifically within the EIS it states the following: “The Orange Alternative best responds to continued population and employment growth in the South Section; however, less growth is anticipated in the Tucson urbanized area compared to other portions of the Study Area”.</p> <p>As mentioned in the EIS the Orange Alternative best responds to continued population and employment growth in the South Section.</p> <p>2) Travel Time: Travel time in minutes for City pairs between Nogales and Casa Grande shows 117 minutes for Purple, 121 for Green, and 133 for Orange. The difference between the Purple (fastest) and Orange (slowest) is only a difference of 16 minutes.</p> <p>The Purple Alternative is the preferred with an improvement of 16 minutes travel time.</p> <p>3) As shown on Table 2-5 (2040 Vehicle Miles Traveled), Figure 2-14 (2040 Vehicle Miles Traveled for Passenger Cars and Trucks), and Figure 2-15 (2040 Vehicle Miles Traveled for Trucks), there would be a negligible increase (less than 1 percent) in VMT in the South Section with the Build Corridor Alternatives.”</p>

#	Topic	Response
56	Section 4(f) & Mitigation	<p>The referenced sentence was part of a net benefit discussion in the Draft Tier 1 EIS, which has been deleted because FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued. Final Tier 1 EIS Section 4.6 includes proposed mitigation measures addressing wildlife studies that would be needed along the west option in Pima County.</p> <p>See GlobalTopic_1 and GlobalTopic_11.</p>
57	Section 4(f)	<p>ADOT and FHWA acknowledge Reclamation’s support for Option B of the Orange Alternative. As discussed in Final Tier 1 EIS Section 4.8, the Least Overall Harm analysis would be completed during Tier 2.</p> <p>See GlobalTopic_1.</p>

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						<p>There is a negligible difference in VMT between the two alternatives and segments.</p> <p>4) Key Economic Centers: "The Orange Alternative provides the most access to economic activity centers, followed by the Purple Alternative" (p.2-32, 2-35) and within the southern section. So it is unclear why that Segment is identified as such a suitable option for growth and economic activity centers when Segment B is identified as the best option.</p> <p>As mentioned in the EIS the Orange Alternative provides the most access to economic activity centers.</p> <p>5) Alternate Regional Route: As previously mentioned for #3 there is a negligible increase in VMT for an Avra Valley alignment that leaves the only remaining justification for choosing one is that it provides an alternate regional route.</p> <p>Purple provides an alternate route over Orange.</p> <p>6) FHWA did not address or attempt to quantify the future acquisition of homes that would be needed to establish a new wildlife corridor required as mitigation for the loss of 453-acres and devaluing wildlife use of the TMC and the 7 siphon crossings within it. A past discussion with FHWA identified an area approximately 0.9-miles north of the TMC where a preliminary count by Reclamation personnel identified a minimum of 101 homes located outside the I-11 right-of-way that would require acquisition to restore that area into a new wildlife corridor.</p> <p>Within the EIS it states the Orange Alternative will result in less species isolation and less impact to the federally listed Pima pineapple cactus. Impacts to cultural resources would be comparable if not less along the Orange alternative.</p> <p>7) Substantial differences in costs: Capital costs for segment C (Purple) is \$2,371,714,000.00, \$2,082,061,000.00 for D (Green), and \$585,899,000.00 for B (Orange). That is a difference of \$1,785,815,000 more for constructing Segment C and \$1,496,162,000.00 more for Segment D over Segment B. It is far more costly to tax payers to construct new segments in Avra Valley then to improve and expand the existing Segment B.</p> <p>As identified within the EIS it is far less costly to construct Segment B.</p> <p>To summarize the 5 Factors: Factor 1 favors construction of Segment B. Factor 2 slightly favors Segment C. Factor 3 results in a negligible difference in VMT. Factor 4 favors Segment B. Factor 5 favors Segment C. Factor 5 favors Segment C. Factor 6 favors Segment B. Factor 7 favors Segment B. That is a difference of 4 to 3 in favor of Segment B.</p>
58	4	6-7		17-18	Reclamation	<p>"The adverse effects on the low-income and minority populations in Tucson have the potential to exceed those borne by non-environmental justice populations."</p> <p>This is a very general statement. How do they have the potential and what quantification has been done to show the level of impact in both areas? Incorporate the preliminary quantification of homes that would be removed from the acquisition of land and homes approximately 0.9 miles north of the TMC. This location has been previously discussed as a</p>

#	Topic	Response
58	Section 4(f)	<p>The number of individual property impacts will be quantified during Tier 2 studies when Project-level alignment alternatives are identified. At that time, a Project-level environmental justice analysis will be undertaken that will compare the effects of the options that are being carried forward for further analysis by ADOT.</p> <p>See GlobalTopic_1.</p>

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						probable location for one new wildlife corridor. A preliminary count by Reclamation personnel identified that a minimum of approximately 101 homes located outside the I-11 right of way would require acquisition to restore that area into a new wildlife corridor.
59	4.6	4-102		42	Reclamation	See comment #48 for suggested language.
60	6	6-17			Reclamation	<p>Reclamation disagrees with the recommended alternative and believes Segment B would be a better fit over Segment D. After evaluating the seven elements of Factor 5 previously identified and clarified above, Segment B better serves: 1) Planned Growth Areas, 2) Key Economic Activity Centers, 3) results in less species isolation, impacts to the listed Pima pineapple cactus and comparable or less impacts to cultural resources, and 4) significantly lower capital costs for construction.</p> <p>The 2,514-acre TMC was established in 1990 for a present-day cost of approximately \$15 million. It was acquired as mitigation for the construction of the Tucson Aqueduct of the Central Arizona Project (CAP) canal. The true value of the TMC is the functional and critical role the property plays with maintaining the primary wildlife movement corridor between the Roskruge Mountains, Ironwood Forest National Monument and west across Avra Valley to the Tucson Mountains. The corridor supports multiple biological processes that are critical to the ecological health of Saguaro National Park and Tucson Mountain Park, both Section 4(f) properties found within the Tucson Mountains.</p> <p>Additionally the 1990 Cooperative Agreement in which the TMC was established states the following: "WHEREAS, lands described herein for fish and wildlife purposes shall not become subject to exchange or other transaction if those actions would defeat the initial purpose of their acquisition [16 U.S.C., section 663(d)]. No section 4(f) property located along Segment B within Tucson was established with or currently has a federal statute with a comparable level of protection.</p>
61	6	6-7		3-9	Reclamation	<p>"The Purple and Green Alternatives also are located closer to Tucson Mountain Park, the Tucson Mitigation Corridor (TMC), and Saguaro National Park (SNP) –West and designated wilderness within the park). A new interstate in this area would result in varying degrees of change in noise, light, air quality, and visual character for SNP-West, Tucson Mountain Park, and the TMC. After careful consideration, FHWA and ADOT determined Orange Alternative impacts are unmitigable, whereas impacts under the Purple and Green Alternatives could be mitigated."</p> <p>1) How did FHWA and ADOT determine those impacts within Avra Valley can be mitigated but not along the Orange alignment through Tucson? You can mitigate for noise, light, and air quality in Tucson the same way you can in Avra Valley.</p> <p>2) The differences between the two is impacts to Section 4(f) properties. There is the claim to not being able to mitigate impacts to some identified properties, such as the losses of certain homes or structures in historic districts. But you also have no guarantee of being able to effectively mitigate impacts to the TMC. The whole purpose of adequate time for wildlife studies is to determine if and how a Net Benefit could be reached, but there is no guarantee the measures to reach one</p>

#	Topic	Response
59	Section 4(f)	See the response to Reclamation comment 48.
60	General (Alternatives)	See GlobalTopic_1
61	Section 4(f), General (Alternatives)	<p>FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.</p> <p>See GlobalTopic_1.</p>

Appendix H2: Cooperating Agency Comments on Draft Tier 1 EIS and Responses

Bureau of Reclamation

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						can be identified or acquired. If they could be identified there is no guarantee from FHWA that those mitigation measures can be acquired and properly implemented to reach one. So there are risks and challenges for both segments.

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[Transmittal e-mail]	Not applicable	Response to substantive comments contained in the attached letter are on the following page.
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Rietz, Jessica

Subject: FW: BOR additional comments
Attachments: Additional BOR comments on I-11 1_2_19.pdf

From: Yedlin, Rebecca (FHWA) [<mailto:Rebecca.Yedlin@dot.gov>]
Sent: Thursday, January 2, 2020 1:56 PM
To: 'jfife@azdot.gov' <jfife@azdot.gov>; Tracy D. McCarthy <tmccarthey@acstempe.com>
Cc: Jones, Laynee <laynee.jones@aecom.com>; Katie Rodriguez (KRodriguez@azdot.gov) <KRodriguez@azdot.gov>
Subject: FW: additional comments

Yep...

Happy New Year – Rebecca

From: Heath, Sean M [<mailto:sheath@usbr.gov>]
Sent: Thursday, January 2, 2020 11:50 AM
To: Yedlin, Rebecca (FHWA) <Rebecca.Yedlin@dot.gov>; Lirange, Aryan (FHWA) <Aryan.lirange@dot.gov>
Cc: Bommarito, Thomas A <tbommarito@usbr.gov>
Subject: additional comments

Rebecca,

Here are some additional comments expanding on the importance of gene flow when looking at wildlife connectivity and the TMC. Let me know if there are any questions, or if any of the biologists have questions they can reach out to Tab directly also.

Thanks

Sean Heath
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 Phoenix Area Office, Bureau of Reclamation
 6150 W. Thunderbird Road
 Glendale, AZ 85306-4001
 623-773-6250 (office)
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sheath@usbr.gov

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Additional Reclamation comments for an Individual 4(f) evaluation for the TMC

Identified in the March 2019 *Draft Tier 1 EIS and Preliminary Section 4(f) Evaluation for the I-11 Corridor*, the recommended alternative through Avra Valley would bisect the 2,514-acre Tucson Mitigation Corridor (TMC) resulting in a use of 453-acres (18 percent) of the TMC. As the Official with Jurisdiction over the TMC, Reclamation feels it is important to clearly identify constraints, minimization, and mitigation measures that are required as part of the Individual Section 4(f) Evaluation, as well as emphasize the unique and special significance of the TMC. The TMC was purchased in 1990 for a current value of approximately \$15 million to partially mitigate biological impacts from the Central Arizona Project (CAP) Tucson Aqueduct-Phase B. Additionally, the CAP was modified to accommodate the TMC. The property functions as the “primary wildlife movement corridor” for approximately 44,818-acres (Tucson Mountain Park 20,000-acres and Saguaro National Park 24,818-acres) of two ecologically sensitive and unique parks; both categorized as Section 4(f) properties. The true value of the TMC is the functional and critical role the property plays with maintaining connectivity between the Roskrige Mountains, Ironwood Forest National Monument and east across Avra Valley to the Tucson Mountains and Saguaro National Park (SNP). The corridor supports multiple biological and physical processes that are critical to the ecological health of both Section 4(f) parks. As a result of this role, Reclamation views and manages the TMC as a Section 4(f) property of unique and special significance and of critical importance as identified within the FHWA Section 4(f) Policy Paper.

“The regulation incorporates this aspect of the statute in the definition of feasible and prudent avoidance alternative which states that “it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.” In effect, the first part of the definition recognizes the value of the individual Section 4(f) property in question, relative to other Section 4(f) properties of the same type. This results in a sliding scale approach that maximizes the protection of Section 4(f) properties that are *unique or otherwise of special significance* by recognizing that while all Section 4(f) properties are important, some Section 4(f) properties are worthy of a greater degree of protection than others.”

Since at least 1916, starting with the efforts of the Tucson Mountain Game Protective Association, wildlife within the Tucson Mountains have been actively managed (Brown, 2012). Tucson Mountain Park (TMP) was established in 1929 to preserve the natural and scenic resources of the Tucson Mountains and to provide opportunities for outdoor recreation in a natural setting (Pima County, 2007). In 1931, Arizona established the Tucson Game Refuge on the federal and private lands encompassing the Tucson Mountains and its piedmont, an area that ultimately became the Tucson Mountain Wildlife Area (AGFD, 2017). A 15,360 acre area of TMP was placed under federal management in 1961 by President John F. Kennedy, as a district of Saguaro National Monument, in part for its “*significant wildlife qualities*”(Proclamation No. 3439). Additional protections within the Tucson Mountains were added in 1976 with the Congressional designation of the Saguaro Wilderness (P.L. 94-567), and further protections were added in 1994 when the property was elevated to National Park status through a Congressional designation (P.L. 103-364). In 1988, Pima County established a Buffer Overlay Zone around

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[Entire letter]	Section 4(f)	<p>FHWA and ADOT appreciate the additional comments and information from Reclamation. FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued. FHWA recognizes that Reclamation is the official with jurisdiction (OWJ) over the TMC.</p> <p>See GlobalTopic_1.</p> <p>As a clarification, Reclamation Table 1 contained in this comment lists properties, some of which do not qualify for protection under Section 4(f). Final Tier 1 EIS Section 4.5 addresses the Section 4(f) applicability for the TMC, TMP, SNP, TMWA, and IFNM.</p>
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both TMP and SNP to “assure the continued existence of adequate wildlife habitat and foster the unimpeded movement of wildlife in the vicinity of Pima County’s public preserves” (Pima County, 1988; Figure 1).

Isolation of the Tucson Mountains

The role the TMC plays in preserving ecological health and maintaining important biological processes is what makes it unique and of special significance when compared to the other Section 4(f) properties in the I-11 study area. The fact that the Tucson Mountains and its piedmont are virtually isolated or fragmented from the surrounding landscape further supports the unique and special significance of the TMC (NPS, 1995; Perkl et al., 2018). Habitat fragmentation occurs when continuous habitat is broken apart into distinct pieces and isolated (Bennett and Saunders, 2010). Removal of native vegetation in areas utilized as wildlife habitat and movement areas causes disruptions to various ecosystem and biological processes such as humidity, ground and air temperature, nutrient cycling, structure and composition of vegetation, and litter decomposition.

Decades of conservation biology studies have demonstrated that isolation of wildlife and plant populations is a fundamental consequence of habitat fragmentation resulting from land use conversions and development such as construction of linear features (e.g., highways and canals) that restrict or eliminate immigration and emigration (Bennett and Saunders, 2010). Effects of highways are particularly acute, with negative road effects outnumbering positive effects 5:1 (Fahrig and Rytwinski, 2009). Isolation affects the following types of wildlife movements: (1) Regular movements of individuals between parts of the landscape to obtain different requirements (food, shelter, breeding sites), (2) seasonal or migratory movements of species at regional, continental or inter-continental scales, and (3) dispersal movements (immigration, emigration) between fragments, which may supplement population numbers, increase the exchange of genes, or assist recolonization if a local population disappears (Bennett and Saunders, 2010). These disruptions to wildlife movement can lead to extirpation, or local extinctions of these species in these areas (Coffin, 2007).

When populations become small and isolated they become vulnerable to stochastic event processes that normally pose little threat to larger populations. Those processes include: (1) Stochastic variation in demographic parameters such as birth rate, death rate, and the sex ratio of offspring, (2) loss of genetic variation, which may occur due to inbreeding, genetic drift, or a founder effect from a small population size, (3) fluctuations in the environment, such as variation in rainfall and food sources, which affect birth and death rates in populations, and (4) small isolated populations are particularly vulnerable to catastrophic events such as disease, fire, or drought (Bennett and Saunders, 2010). Some populations within SNP and TMP are becoming vulnerable to extirpation and the reduced possibility of recolonization. Populations within the Tucson Mountains are at risk because the mountain range is almost completely surrounded by some form of development (NPS, 1995).

Species within SNP that have limited habitat within park boundaries and are particularly vulnerable to extirpation due to isolation include kit foxes, badgers, antelope jackrabbit, sidewinders, desert iguanas, and a number of smaller animals (Swann et al., 2018). If these small populations “blink out” due to stochastic processes, they may never be replaced if animals

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cannot move back into the area. Preventing the extirpation of these species in the park depends on connectivity with populations outside the park. Loss of these species from SNP has implications, given that the NPS Organic Act specifically states that national parks are managed to protect wildlife and other natural and cultural resources in perpetuity (16 U.S.C. § 1).

There are very few studies with a proper Before-After-Control-Impact design that have demonstrated mitigation measures (e.g., tunnels, overpasses, etc.) creating a neutral or positive effect for wildlife, especially for non-game species (Benitez-Lopez et al., 2010). Given the known impacts of highways on wildlife, we must assume that loss or damage to the TMC would result in adverse effects on wildlife in the Tucson Mountains, potentially including extirpation of vertebrate species from SNP.

Fish and Wildlife Coordination Act

The TMC is compensation for wildlife movement disruption between the Tucson Mountains and west across Avra Valley, as well as preservation of habitat for a number of special status species (Reclamation, 1983). In the Final EIS for the CAP Tucson Aqueduct-Phase B, Reclamation identified specific environmental commitments and mitigation measures to reduce project impacts. Among those was the acquisition of the TMC, which the U.S. Fish and Wildlife Service (USFWS) stated the importance of in a comment later dated February 14, 1985. Within it they state:

“Without acquisition of this corridor, we believe the mitigation plan is grossly inadequate and would not come close to adequately addressing wildlife impacts”.

Following the establishment of the property in 1990, Reclamation entered into a Cooperative Agreement (CA) with Pima County, Arizona Game and Fish Department (AGFD), and USFWS for management and oversight of the TMC. The agreement was characterized as a “general plan” under the FWCA and has no termination date (AGFD, 2017). The CA states the following:

“lands described herein for fish and wildlife purposes shall not become subject to exchange or other transaction if those actions would defeat the initial purpose of their acquisition [16 U.S.C., section 663(d)].”

The existing Master Management Plan also prohibits any future developments within the TMC, other than wildlife habitat improvements.

In order for the recommended alternative to be chosen FHWA and ADOT cannot defeat the initial purpose of the property as mentioned in 16 U.S.C., section 663(d). Evaluating potential impacts to the purpose of the property requires knowledge of the connectivity, and ecosystem and biological processes associated with the property. Ensuring the preservation of connectivity through the TMC would require more than just the construction of wildlife bridges and compensation for the loss of 453-acres; it would require that the key ecosystem and biological processes that the TMC was specifically acquired for would continue. Those processes were identified by Reclamation prior to acquisition, in comment letters from Subject Matter Experts, and in the March 1984 Fish and Wildlife Coordination Act Report (FWCA Report), written by

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the USFWS, the agency Congress entrusted with certain duties to consult on federal proposals to impound, divert, or otherwise control or modify any stream or other body of water (16 U.S.C., section 663(d)). As the Official with Jurisdiction over the TMC, Reclamation also has the right to identify and interpret the initial purpose of its acquisition.

Comment letters were received by Reclamation from The Wildlife Society (TWS) on May 16, 1983 and The Desert Tortoise Council (DTC) on December 1, 1983. Both are categorized as Non-Government Organizations but also subject matter experts in the fields of wildlife science, management and conservation, and desert tortoise conservation.

TWS stated the following within their letter:

“However, I would like to strongly recommend the idea of land acquisition for a wildlife movement corridor. The purchase of land, as suggested in the Information Packet would do several things. First, it would counterbalance the actual habitat loss due to construction itself. Secondly, it could mitigate for the residual migration disruption still occurring after wildlife bridges are constructed. More importantly, the purchase would reduce the possibility of the Tucson Mountains becoming a biological island. In effect, a fenced canal route along the West Side of the Mountains would greatly increase the probability of the Tucson Mountain area terrestrial wildlife populations being genetically cut off from a larger population base. Scientific studies of islands, in the geographic sense and as isolated populations of living organisms, have illustrated the problems inherit with the island situation. The Chapter again commends the Bureau for considering this idea, for 2 reasons. First, the biological considerations related to insularization (gene-flow problems, inbreeding, loss of vigor) through construction of the project, weakens island-situation populations.”

The DTC stated:

“We urge you to consider acquiring this corridor (sections 10, 11, 14, and 15, T.14S., R.11E.) for several reasons. This corridor lies within habitat supporting the Tucson Mountains desert tortoise population. Because few tortoise populations are known to occur in the Sonoran Desert, habitat acquisition would help ensure continued existence of this population. In addition, this land would provide a corridor for movement of desert tortoises from the Tucson Mountains to nearby foothill and mountain areas, thus providing continued gene flow and potential for population expansion. Numerous wildlife species besides the desert tortoise would enjoy similar benefits from acquisition of this wildlife corridor.”

Prior to the concept of a wildlife movement corridor being accepted by Reclamation, an internal memo was written by the project biologist titled *Justification for Acquisition of Land to Mitigate for Biological Impacts from Tucson B Aqueduct*, which identified three primary objectives of its proposed acquisition (Reclamation, 1983). The first objective (which were ordered by importance) was:

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“1) To mitigate for the movement disruption impacts, not totally compensated for by wildlife crossing structures over the aqueduct, by providing a long-term movement corridor for wildlife between the Tucson Mountains and wildlife habitat to the west.”

The internal memo also stated that:

“wildlife movements across the aqueduct will permit bisected populations to maintain gene flow and will allow use of habitat on both sides of the aqueduct.”

The FWCA Report for Phase B of the Tucson Aqueduct, Central Arizona Project was prepared under the authority of and in accordance with Section 2(b) of the FWCA (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). It was developed as a detailed fish and wildlife report on the effects of Phase B of the Tucson Aqueduct. The Report was developed in coordination with and approved by AGFD. The report includes a description of wildlife movement needs that were documented in the AGFD Biological Resource Inventory for the Tucson Division Phase B Central Arizona Project (1983). The USFWS and AGFD documented that wildlife within the project area move for both long- and short-terms needs. Of equal, if not greater importance than daily movement are the long-term movements (FWS, 1984). Seasonal use areas are where valuable resources are found usually miles apart, requiring extensive journeys before they can be reached. Total population numbers and the dispersal of excess animals require the ability to utilize and access both long- and short-term use areas (FWS, 1984). Most importantly, the following statements were made in the 1984 FWCA Report:

“This dispersal also promotes gene flow between local populations, reducing the possibility of inbreeding especially with very small populations.”

“In addition to interference with normal gene flow within a population, the division of habitat into 2 or more parcels may affect the total number of animals that could be supported in each parcel versus the number of animals the habitat could support.”

“Islanding is a term developed by population biologists to describe the isolation of a population of animals from other populations by some physical or climatic barrier. Inbreeding, reduced viability due to small population size, and increased vulnerability to habitat disturbance are the usual result of islanding which often leads to the elimination of wildlife populations.”

“Some wildlife movement across the canal must continue in order to permit divided populations to maintain gene flow and all use of habitat on both sides of the alignment.”

“With only fencing and crossings, there would still be a long term loss of 50-70% of the mule deer population due to genetic isolation and insufficient habitat. With the movement corridor, fencing and crossings, mule deer impacts would be only about 10%, and these would be centered near Black Mountain and near the northern crossing area.”

The 1983 Reclamation internal memo written by the project biologist identified the purpose and primary objective of the property seven years before it was established, which is to provide a long-term wildlife movement corridor to maintain normal gene flow. Additionally, the

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1984 FWCA Report summarized the most important purpose of the TMC, which is to promote and maintain normal gene flow while avoiding genetic isolation of populations within the Tucson Mountains. Genetic isolation and normal gene flow was also identified by TWS and DTC as among their principle concerns. Connectivity is a general scientific concept that covers wildlife movement among habitat blocks and the multiple biological and ecosystem processes occurring in those blocks. Among those processes, promoting and maintaining normal gene flow through long-term movements, while avoiding genetic isolation of populations, is the principle process of connectivity (FWS, 1984). Therefore, the primary purpose of the TMC was developed as a result of data first collected and analyzed by AGFD in their 1983 biological resource inventory and further interpreted by the USFWS in their 1984 FWCA Report, objectives identified within the 1983 Reclamation memo, and concerns communicated by high value subject matter experts, years before it was established in 1990. The primary purpose of the TMC is to mitigate for the movement disruption impacts, not totally compensated for by the wildlife crossing structures over the aqueduct, by providing an undeveloped and long-term movement corridor for wildlife to maintain and promote normal gene flow while avoiding genetic isolation of the Tucson Mountains and wildlife habitat to the west.

Evaluation of Gene Flow and Connectivity

Roads often result in a broad spectrum of detrimental effects on wildlife populations. Among those effects is the isolation of habitat blocks that threaten the viability of secluded populations (Fahrig, 2003). Reductions and obstructions of the movements of species may decrease the probability of their successful movement between habitat blocks, which affects whether individuals of a species can re-enter the area and replace individuals – potentially an entire small population – that have died due to stochastic events. In addition, reduction of movements of species may affect gene flow, a complex process influenced by several intrinsic and extrinsic factors (Burgman and Lindenmayer, 1998; Corlatti et al., 2008). Gene flow is defined as the movement of genes among populations (Mitton, 2001). Genetic theory suggests that the reduction of gene flow between subpopulations may lead to greater inbreeding and loss of genetic diversity within blocks (Wright, 1943; Frankham et al., 2002; Corlatti et al., 2008).

Dixon et al. (2006) reported that collection and analysis of genetic material from corridor-connected patches alone can support qualitative inferences, whether gene flow has or has not occurred. Utilization of gene flow is more advantageous for determining corridor success because animal presence or use of a corridor does not indicate corridor success (Gregory and Beier, 2014). For example, a corridor may be occupied by a population that does not interact with populations in the blocks or if the corridor is a sink for surplus individuals from those blocks; animal presence within the corridor would not achieve the corridor's conservation goal (Gregory and Beier, 2014). Utilization of a Corridor Success Index can indicate gene flow success with values close to one, or failure with values close to zero (Gregory and Beier, 2014). Initial baseline conditions within the Tucson Mountains would need to be established by utilizing a subset of species adequately representative of the taxa found within the Tucson Mountains (Powell et al., 2007). When evaluating gene flow in locations such as Avra Valley, genetic divergence should be evident after 10 generations for effective population sizes of approximately 60 per patch, 20 generations for effective population sizes of approximately 100 individuals, and 10-20 generations for populations of 400-2000 individuals (Hare et al., 2011; Gregory and Beier, 2014).

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Other examples of gene flow monitoring for connectivity includes the jaguar (*Panthera onca*), ocelot (*Leopardus pardalis*), and Sonoran pronghorn (*Antilocapra americana sonoriensis*). All three species are found within southern Arizona where fragmentation and inadequate gene flow are among the most significant threats to those species. Administered by the FWS, the jaguar recovery plan (2016a) under Biological Constraints and Needs, states that maintaining stable (large) population sizes and connectivity among jaguar populations is essential to the recovery of the species. Small, isolated populations can suffer from the deleterious effects of inbreeding and decreased genetic variation (Mills, 2006; Frankham et al., 2007), resulting in loss of genetic representation and resiliency. Maintaining connectivity allows for gene flow and dispersal and helps prevent these effects and avoids genetic divergence. Genetic distance was identified as the chosen measure of connectivity between jaguar populations in the Sonora and Jalisco Core Areas because it is a numerical measure of the genetic difference and times of divergence between species or populations (NEI, 2001; FWS, 2016a). In the comparison of closely related species or populations, the effect of polymorphism needs to be considered, and one has to examine many proteins or genes. For this reason, it is customary to measure the genetic distance between populations in terms of allele frequencies for many genetic loci (NEI, 2001).

When evaluating the core areas for the jaguar in Sonora and Jalisco, it was determined within the 2016 Draft Recovery Plan that no significant increase in genetic distance between populations, and no significant increase in inbreeding within each population would be acceptable (FWS, 2016a). An evaluation timeframe of 15 and 30 years (three and six generations) was chosen based on standards by the International Union for the Conservation of Nature. To identify if threats had been reduced to an extent that the jaguar population is no longer at risk of a ≥ 30 percent decline because its area of occupancy, extent of occurrence, and/or habitat quality, as well as actual or potential levels of exploitation have been stable for at least 30 years (six generations, inclusive of a 15 year evaluation (3 generations) required to downlist (FWS, 2016a). Using currently available genetic markers (e.g., microsatellites), it is unlikely that a change in genetic distance over 15 and 30 years would be detected (assuming all connectivity is lost between the Sonora and Jalisco Core Areas), if jaguar populations in Core Areas maintain their current sizes of 300 and 350 individuals, respectively (Miller, 2014). However, if either population were to fall much below 100 individuals (reduction in population size in addition to loss of connectivity), then a 15- and 30-year time frame would be responsive to shifts in genetic distance, and would indicate both a loss of connectivity, a reduction in genetic diversity, and a reduction in effective population size, in either or both Core Areas. Additionally, as new genetic technology is developed, the ability to detect subtle changes in the genetic distance between the Core Areas, due to a loss in connectivity, even if not accompanied by a reduction in population sizes, will likely be possible within a 15- and 30-year time frame. For further information, see Appendix D of the 2016 Draft Recovery Plan for the protocol to genetically monitor the jaguar (FWS, 2016a).

The process for evaluating Sonoran pronghorn is different from the jaguar because of a prior study that measured heterozygosity and allelic richness for nuclear DNA markers (Culver and Vaughn, 2015). In addition to Downlisting Criterion that must be met, metrics that monitor gene flow include a minimum level of 49 percent heterozygosity and a minimum of 1.96 allelic richness for population segments (Culver and Vaughn 2015). Heterozygosity is a measure of

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genetic variation in natural populations with results for low heterozygosity attributed to forces such as inbreeding. As estimated by Culver and Vaughn (2015), average heterozygosity (across 16 microsatellite loci developed specifically for Sonoran pronghorn) of 10 population segments is 62 percent (range 54 to 68 percent); this level of heterozygosity is not considered an immediate threat to the subspecies. Allelic richness is a measure of the average number of alleles that takes into account rarity and commonness of alleles and provides an additional measure of genetic diversity that complements heterozygosity. These genetic criterion must be met in addition to achieving the population size criteria, because captive breeding and other management efforts could result in an increase in population numbers without obtaining acceptable levels of genetic diversity (FWS, 2016c).

A genetic augmentation plan for the ocelot is currently being developed, but the 2016 recovery plan identifies that heterozygosity levels, allelic diversity, gene flow, level of inbreeding, and census and effective population sizes, are all important to estimate in managing declining populations (FWS, 2016b). In order to maintain genetic variability, it is recommended that connectivity among populations occurs through natural dispersal rather than by translocation. Adequate natural corridors for dispersal should be more reliable, because they do not rely on long-term commitments by management agencies to translocate animals and better incorporate natural spatial behavior. In addition, natural connectivity avoids or minimizes the risk to individual animals by capture and handling, and avoids the disruption of local populations by removal or supplementation (FWS, 2016b).

While impacts to the TMC could be most detrimental to wildlife populations within the Tucson Mountains, adjoining properties west of the TMC would also be measurably degraded. A total of eight Section 4(f) properties or protective designations, including the TMC itself, benefit from the gene flow facilitated by this linkage (Table 1). Although the TMC is a relatively small parcel, it functions as a conduit, facilitating gene flow to expansive areas of protected open space.

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Table 1. Section 4(f) & Special Designation Properties with Wildlife Values Adjacent to the Tucson Mitigation Corridor

Property	Official with Jurisdiction	Acres	Significance
Tucson Mitigation Corridor	U.S. Bureau of Reclamation	2,514	Federal property established through the Tucson Aqueduct Phase B EIS ¹ .
Tucson Mountain Park	Pima County Natural Resources, Parks, & Recreation	20,000	Created by a federal land withdrawal by the Dept. of the Interior in 1929 for use as a state game refuge and county-managed park. ²
Saguaro National Park, Tucson Mountain District	National Park Service	24,830	Lands included in Tucson Mountain Park designation in 1929; became NPS unit in 1961 by Presidential Proclamation ³ ; elevated to National Park status by Congress in 1994 ⁴ .
Ironwood Forest National Monument	Bureau of Land Management	129,000	Established by Presidential Proclamation, 2000 ⁵
Tohono O'odham Nation Reservation	Tohono O'odham Nation	2,700,000	Established by Presidential Proclamation, 1917 ⁶
Saguaro Wilderness	National Park Service	13,005	Designated by Congress, 1976 ⁷
Tucson Mountain Wildlife Area	Arizona Game & Fish Department	84,058	Designated by the Arizona Game & Fish Commission, 1931 ⁸
Tucson Mountain Park Historic District	National Park Service	28,708	Eligible for the National Register of Historic Places with State Significance ⁹

¹ Final Environmental Impact Statement: Tucson Aqueduct Phase B, a Feature of Central Arizona Project. 8/14/85. <https://www.energy.gov/sites/prod/files/2015/04/f22/EIS-0122-FEIS.pdf>

² Clemensen, A.B. 1987. Cattle, copper, and cactus: the history of Saguaro National Monument. Historic Resource Study. National Park Service. Denver, CO.

³ Presidential Proclamation 3439, 11/15/1962; 76 Stat. 1437. Enlarging the Saguaro National Monument. <https://www.govinfo.gov/app/details/STATUTE-76/STATUTE-76-Pg1437>

⁴ Public Law 103-364: To establish the Saguaro National Park in the State of Arizona, and for other purposes. (108 Stat. 3467; Date: 10/14/1994). <https://www.govinfo.gov/content/pkg/STATUTE-108/pdf/STATUTE-108-Pg3467.pdf>

⁵ Presidential Proclamation 7320, 6/9/2000; 65 FR 37259. Establishment of the Ironwood Forest National Monument. <https://www.govinfo.gov/app/details/FR-2000-06-13/00-15112>

⁶ Presidential Proclamation 2524, 2/1/1917; Reserving Certain Lands in the State of Arizona for the Papago Indians in Arizona.

⁷ Public Law 94-567: An act to designate certain lands within units of the national park system as wilderness; to revise the boundaries of certain of those units, and for other purposes. (90 Stat. 2692; Date: 10/20/1976). <https://www.govinfo.gov/content/pkg/STATUTE-90/pdf/STATUTE-90-Pg2692.pdf>

⁸ Arizona Administrative Code. Section R12-4-802(A)(31). Tucson Mountain Wildlife Area. https://apps.azsos.gov/public_services/Title_12/12-04.pdf

⁹ Determination of Eligibility: Tucson Mountain Park Historic District. 2019. Arizona State Historic Preservation Office.

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Conclusion

When FHWA is preparing the Individual Section 4(f) Evaluation the TMC should be identified as a property of unique, or otherwise of special significance, due to its critical role as the primary movement corridor for SNP and TMP, both significant Section 4(f) properties. An important component of that evaluation is 16 U.S.C., section 663(d) of the FWCA, which describes the use of acquired properties and the prohibition against exchange or other transactions that would defeat the initial purpose of the acquisition. For any development to occur within the TMC, FHWA and ADOT cannot defeat the initial purpose of the TMC's acquisition. The determination requires the development of adequate mitigation and minimization measures, and as the project proponents FHWA and ADOT are responsible for developing them. Once developed they would be reviewed by the TMC Working Group which is composed of Reclamation, USFWS, National Park Service, Arizona Game and Fish Department, and Pima County to determine if the measures are adequate. The working group may also consult outside specialists to further evaluate the effectiveness of proposed measures.

Success would be measured beyond the commitment and construction of crossing structures and acquisition of land for supplemental corridors. As previously mentioned, their existence is not a measure of success for maintaining and promoting normal gene flow. A study by Gregory and Beier (2014) identified that populations within a corridor may not interact with populations in nearby habitat blocks, or a corridor may be a sink for surplus individuals from those blocks and animal presence within the corridor would not necessarily achieve the corridor's conservation goal. If minimization and mitigation developed for the TMC were inadequate and/or genetic divergence of taxa was identified, then the initial purpose would be defeated. Adaptive management would not be a reasonable option to correct non-compliance because there is no guarantee additional measures would help or be feasible.

Properly evaluating normal gene flow requires the evaluation of baseline conditions by looking at a subset of species representing taxa found within the Tucson Mountains and west across Avra Valley. To come to a scientifically based conclusion, I-11 would then have to be constructed and follow up evaluations 10 to 20 generations or 10 to 50 years later would determine if conservation and mitigation measures worked. Prior to or without those evaluations it would be extremely challenging to conclude that I-11 did not defeat the initial purpose of the TMC. Reclamation understands the challenge this presents to FHWA and ADOT, but Reclamation and the TMC Working Group are willing and interested in continuing the consultation to review over your future development of minimization and mitigation measures.

At the conclusion of the Individual Section 4(f) Evaluation if Segments C or D are chosen as part of the preferred alternative, then Reclamation believes the same conditions identified in our June 8, 2018 letter are still applicable and necessary to accomplish needed minimization under 23 CFR § 774.3(a)(2), 16 U.S.C., section 663(d) and mitigation required to compensate for the loss and "use" of 453-acres.

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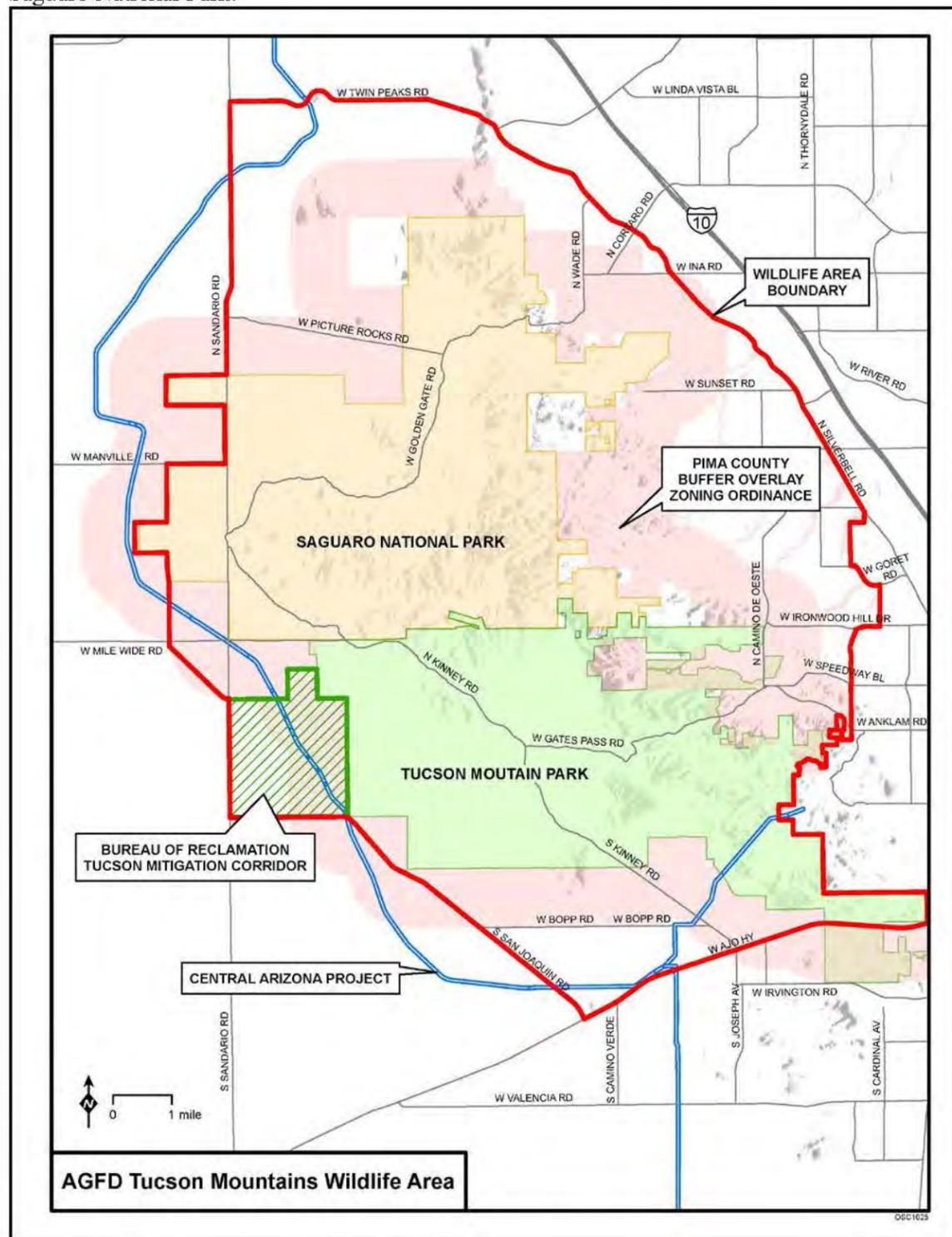
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Figure 1. Pima County established Buffer Overlay Zone around both Tucson Mountain Park and Saguaro National Park.



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National Park Service (NPS)



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Attachment 3 – Additional Comments from NPS on the Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation for Interstate 11 Corridor between Nogales and Wickenburg, Arizona.

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
1	1				NPS-AS	We appreciate the additional specificity included about potential, future multi-modal uses. We suggest including a discussion of these potential indirect and cumulative effects in the Executive Summary. In-depth discussion on this topic comes late in the document (Volume II, Section 3.17), and the question of how the impacts of future multimodal impacts will be addressed is left open until that point.
2	2				NPS-AS	We acknowledge the difficulty in selecting an alignment that will minimize impacts to sensitive resources. For a project of this magnitude, it is unavoidable for some resources to be degraded or entirely lost if a Build Alternative is selected. In the southern section the current narrative appears to give more weight to protecting the known archeological resources along the current I-10 (Orange) than the known environmental resources and unknown archeological resources along the Recommended Alternative (Purple). We suggest adding explanatory text to describe how these resources/Section 4(f) properties are evaluated relative to each other.
3	3				NPS-AS	We appreciate the addition of Table 6-1 for providing a summary comparison of the alternatives relative to the Purpose and Need. We encourage a similar summary table that provides a side-by-side comparison of the relative impacts on sensitive resources for each of the alternatives.
4	4				NPS-AS	We appreciate the new text describing the economic impact of tourism. While this infrastructure could bring more people, more quickly to Saguaro NP; we also seek to protect the underlying qualities the public seeks and natural resources at Saguaro NP. NPS supports the protection of the qualities driving this economic sector as the other sectors served through this project are developed.
5	ES1.2	ES-2	2	8-12	NPS-AS	We appreciate the addition of specifically naming potential future multimodal uses.
6	ES1.3	ES-4	1	5-7	NPS-AS	We request clarifying whether the committed projects also need to have NEPA analysis completed. This was a criteria listed in the previous draft. It would clarify to the reader if a decision document has been completed.
7	ES1.3	ES-5	Figure ES-3	N/A	NPS-AS	Please label Casa Grande Ruins National Monument and including line symbology for "National Trails" that would identify the Juan Bautista de Anza National Historic Trail.
8	ES1.6.1	ES-7	3	33-35	NPS-AS	This statement connotes that NPS supports the conclusions of the environmental screening. Rather, we request that additional analyses be conducted before selecting an alternative.

#	Topic	Response
	General	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies.
1	General (NEPA), Indirect and Cumulative	A summary discussion of potential indirect and cumulative effects was added to the Final Tier 1 EIS Executive Summary, Section ES.6.3.
2	General (NEPA), Cultural Resources, Section 4(f)	See GlobalTopic_1.
3	General (NEPA)	Chapter 6.5.3 of the Final Tier 1 EIS gives a comparison of resources within the 2,000-foot-wide corridors of the Recommended and Preferred Alternatives.
4	General (NEPA), Economic	FWHA and ADOT acknowledge NPS's mission to protect the natural resources at Saguaro NP and the underlying qualities they offer to the public. No change made.
5	ES, Chapter 2	Comment noted. No change made.
6	ES, Chapter 2	The criteria for including projects in the No Build Alternative is whether or not they are included in the current ADOT five-year construction program and the Arizona Statewide Travel Demand Model No Build model run.
7	General (NEPA), Figures	The Casa Grande Ruins National Monument was not labeled on project maps because of its size and distance from the study area. The Juan Bautista de Anza National Historic Trail is shown on mapping within Chapter 4 of the Final Tier 1 EIS. As the depiction of the trail layer is only legible through the use of multiple mapping insets, it was not added to the project base map used for most of the graphics in the EIS. No change made.
8	ES, Chapter 2	This statement only relays that stakeholder partners were consulted during this initial process to identify corridor options for further evaluation and study. The statement describes a part of the process leading up to the development of the Build Corridor Alternatives that were evaluated within the Draft Tier 1 EIS. No change made.

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
9	ES1.6.2.1	ES-10	Bullet 1	2-8	NPS-AS	We request that this description also note that the corridor may also include freight rail, passenger rail, and utility corridor in the future and may substantially exceed the 400' width.
10	ES1.7	ES-12	1	1-19	NPS-AS	Please add Designated Wilderness in this list with a standalone bullet.
11	ES1.9.1.2	ES-17	1	13-14	NPS-AS	Suggest adding language to clarify that these estimates are maximums, and that time savings are primarily from Casa Grande northward.
12	ES1.9.1.2	ES-17		28-29	NPS-AS	If construction impacts within downtown Tucson are discussed, it is also important to discuss impacts in other locations for all alternatives. It has been indicated that the Recommended Alternative could be engineered to be as narrow as 100'. We suggest clarifying whether this narrower alignment could not also be achieved for the Orange Alternative or including an analysis of impacts with this narrower corridor.
13	ES1.9.2	ES-20	Table ES-2, 2nd row		NPS-AS	If construction impacts within downtown Tucson are discussed, it is also important to discuss impacts in other locations for all alternatives. During our DOI/ADOT/FHWA meeting in April 2019, it was indicated that the Recommended Alternative could be engineered to be as narrow as 100'. We suggest clarifying why this narrower alignment could not also be achieved for the Orange Alternative or including an analysis of impacts with this narrower corridor.
14	ES1.9.2	ES-22	Figure ES-8	N/A	NPS-AS	We suggest including symbology for designated Wilderness to identify the several Wilderness areas within the project area including the Saguaro Wilderness, Pajarita Wilderness, North and South Maricopa Mountains Wilderness, Sierra Estrella Wilderness, and others.
15	ES1.9.3	ES-23	1	1-14	NPS-AS	We suggest also noting noise-related mitigations as a bullet in this list: "Minimizing noise impacts to national parks and designated Wilderness areas."
16	1.4.1	1-8	1	21-44	NPS-AS	We appreciate the additional discussion regarding multimodal transportation within the corridor.
17	1.5.2	1-18	Table 1-3	N/A	NPS-AS	We suggest clarifying whether these estimates include the 20,000 daily riders projected from the Arizona Passenger Rail Corridor Study referenced earlier on page 1-8.
18	2.2.4	2-10	N/A	40-44	NPS-AS	We suggest adding a summary statement describing how potential cumulative effects would be treated if/when these additional modes are implemented.
19	2.4.1	2-25	Figure 2-11	N/A	NPS-AS	This figure includes boundaries for some public lands like Ironwood Forest NM, but not all (including Saguaro NP). Please revise.

#	Topic	Response
9	ES, Chapter 2	The I-11 interstate facility would not exceed 400 feet in width. If other modes of transportation propose co-location with I-11 in the future, that would be dependent upon the availability of additional corridor/ROW width adjacent to I-11 at that time. I-11 would not preserve additional ROW for other modes of transportation. The co-location of additional facilities would require separate environmental studies. No change made.
10	ES	This EIS was prepared consistent with FHWA Technical Advisory T 6640.8A and its identification of resource areas. FHWA does not include Designated Wilderness as a resource area.
11	ES, Purpose & Need	Draft Tier 1 EIS Section 2.4.2 contains more detail on the analysis of travel time.
12	ES, Chapter 2	Existing I-10 is already greater than 100 feet wide and the Tucson option entails co-locating with this facility. In Tier 2, it is possible that a new I-11 facility width may be as narrow as 100 feet depending on traffic volumes and location context, but that will be analyzed and determined at that time. The width of I-11 would be in addition to the existing width of I-10. See GlobalTopic_1.
13	ES, Chapter 2	See response to NPS comment 12.
14	General (NEPA), Figures	Designated Wilderness can be found on Draft Tier 1 EIS Figure 3.3-4 (Land Management and Special Designated Lands). No change made.
15	Noise	The list is only a sampling of the mitigation committed to. No change made.
16	General (NEPA)	Comment noted. No change made.
17	Purpose & Need	The estimates do not include the projected ridership from the Arizona Passenger Rail Corridor Study. Passenger rail is not included in the No Build alternative as it is not a funded project. The No Build alternative represents the existing transportation system along with committed improvement projects that are programmed for funding. No change made.
18	Chapter 2	The methods for treating reasonably foreseeable future actions are summarized in Section 3.17.1.2 of the Final Tier 1 EIS. No change made.
19	General (NEPA), Figures	National Monument boundaries are shown on Figure 2-11 of the Draft Tier 1 EIS because their boundaries do influence the corridor alignments over larger areas. Other land ownership is called out to help orient the reader, but boundaries are not shown to reduce clutter and focus on the specific data being presented. No change made.

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
20	2.4.3.1	2-30	Figures 2-14 & 2-15	N/A	NPS-AS	We appreciate the information conveyed in these new figures since the previous draft. We suggest adding more narrative to describe the figures. As the explanatory text on page 2-28 indicates there would be less than 1 percent increase in VMT with any of the build alternatives. It's difficult to reconcile that projection with the large influx of freight traffic projected to be re-routed from the I-5, along with the other population growth statistics and figures already presented. Also, please consider adding similar figures for the current conditions, which may clarify anticipated changes to VMT.
21	2.4.5	2-34	Table 2-9	N/A	NPS-AS	We suggest including an additional column to this table which captures the total cost of each alternative, by multiplying the annual operational & maintenance costs by the 20 year life of the project and add to the initial cost. This information would help clarify the overall cost comparison for all options.
22	3.2	3.2-2	Table 3.2-1	N/A	NPS-DS	Additional information on the TMC would be helpful for readers. Suggested text: after "Crosses wildlife linkage area associated in Avra Valley" ... "and the Tucson Mitigation Corridor (TMC), a designated conservation area set aside in perpetuity to provide wildlife connectivity between the valley and Tucson Mountains as part of Central Arizona Project (CAP) mitigation."
23	3.2	3.2-3	Table 3.2-1	bullet 7	NPS-DS	For clarity, under bullet 7, please add after the word "unobstructed views;" "these issues cannot be resolved, but some site-specific mitigation measures would be identified during Tier 2..."
24	3.2	3.2-4	Table 3.2-1	bullet 1	NPS-DS	Under bullet 1 re: siphons, add to end of sentence, "although they would be significantly longer." Also replace the word "crossings" with "overpasses" or "underpasses", since these two types are very different in their effectiveness. For consistency with the TMC, it is assumed that these are overpasses, but should be clarified here.
25	3.2	3.2-4	Table 3.2-1	bullet 2	NPS-DS	Suggest clarification of what is meant by "alignment of wildlife structures with i-11 would avoid greater fragmentation of wildlife crossing areas." This statement may refer to alignment of Sandario Road, but that's not a wildlife structure.
26	3.2	3.2-9	Table 3.2-2	N/A	NPS-DS	See above comments for Purple Alternative; since language is essentially the same as for that alternative, this section should also be revised accordingly.
27	3.3.1.3	3.3-4	Figure 3.3-1	N/A	NPS-AS	Saguaro NP is labeled but not shown in this map. Please include the park's boundary and all designated wilderness areas in this map and in public meeting materials.
28	3.3.1.3	3.3-8	4	31-36	NPS-AS	We appreciate the inclusion of this text regarding Wilderness impacts. It's important that the coordination with agencies to understand consequences (described in the last sentence) should occur before a ROD is issued for Tier I. Suggested addition after last sentence: "This coordination should occur before a ROD is issued for Tier 1."
29	3.3.1.4	3.3-14	Figure 3.3-5	N/A	NPS-AS	Designated Wilderness is a Planned Land Use at several locations within the project area, including Saguaro NP. It's important to NPS that this category be added to the map.

#	Topic	Response
20	Purpose & Need	The paragraph on page 2-28 of the Draft Tier 1 EIS discusses VMT for the Build Alternatives in detail. The table on page 2-31 of the Draft Tier 1 EIS states that the Build Alternatives increase VMT between 2% and 5%.
21	Chapter 2, Cost Estimate	See GlobalTopic_3.
22	Biology	The information requested to be added is discussed in detail in the resource chapters. This table is designed to be a summary only and needs to remain concise. No change made.
23	Visual	The requested additional language is not included in the Final Tier 1 EIS as the impact to Saguaro National Park is detailed in that bullet as written. See GlobalTopic_1.
24	Biology	Table 3.2-1 is meant to be a summary table only. Further discussion of the wildlife crossings on the TMC is included in Section 3.14.4.3 Wildlife Connectivity of the Final Tier 1 EIS. The type of wildlife crossing will be determined in Tier 2 when design options are known. No change made.
25	Biology	See GlobalTopic_1.
26	Biology	See the response to NPS Comment 25.
27	Land Use	The boundary for Saguaro National Park was included on Figure 3.3-1. Special designations, including the NPS Wilderness, are included on Figure 3.3-4. No change made.
28	Land Use	See GlobalTopic_1.
29	Land Use	Special designations, including the NPS Wilderness, are included on Figure 3.3-4 (Land Management and Special Designated Lands). No change made.

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
30	3.3.1.4	3.3-20	Figure 3.3-8	N/A	NPS-AS	We appreciate the inclusion of this figure and the detailed inset map.
31	3.4.3	3.4-2	1	2-9	NPS-AS	We suggest including designated wilderness areas in this introductory paragraph because of their standalone Congressional designations and the unique recreation opportunities offered to the public. We have noted and appreciate the inclusion of wilderness impacts such as in the last paragraph of page 3.4-5.
32	3.6.4.5	3.6-18	Table 3.6-8	N/A	NPS-AS	The top 3 sections of this table (separated by yellow bars) seem to be lacking titles/labels.
33	3.6.6	3.6-19	1	27-38	NPS-AS	We suggest that these surveys would be more beneficial to the Tourism Sector if used to select the best corridor in Tier I, rather than the relatively minor adjustments to the specific alignment made in Tier II.
34	3.6.6	3.6-21	Table 3.6-9	N/A	NPS-AS	We suggest adding a bullet to the table under the Purple Alternative describing how environmental impacts from the project (e.g. sound, light, views, etc) could degrade tourists' experience and impact this sector of the economy. Suggested text: "Alternatively, environmental impacts (such as noise and light pollution and viewshed impacts) from a major highway so close to major high-value tourist attractions such as the Arizona-Sonora Desert Museum, Saguaro National Park, and Tucson Mountain Park could degrade tourist experience and impact this sector of the economy."
35	3.7.2.4	3.7.2.4	1	29-30	NPS-RB	Suggest replacing the word "inventory" with "available information" since most of the Purple and Green alternatives have had significantly less cultural resource inventory than the Orange Alternative.
36	3.7.2.2	3.7-4	Table 3.7-1	N/A	NPS-AS	The "Response to Invitation" status can be updated to "Accepted". NPS accepted on October 18, 2018 via email to Alan Hansen as requested.
37	3.7.3.1	3.7-8	2	33-37	NPS-AS	The introductory text of this section indicates that the majority of the all three alternatives are unsurveyed. We suggest adding the word "known" to the text comparing the number and density of sites along each route.
38	3.7.3.2	3.7-14	Table 3.7-5	N/A	NPS-AS	Tumacácori NHP is listed as "Tumacácori National Monument" in this location and several others in the document.
39	3.8.3.1	3.8-7	Table 3.8-2	Mon 35c	NPS IMR-NR	We appreciate the inclusion of new ambient noise monitoring data, including the Discovery Trail site measured by NPS in 2016. Our main concern remains for the FHWA procedure for characterizing the existing noise environment. In FHWA-HEP-10-025, FHWA defines the existing noise level as the worst noise hour resulting from the combination of mechanical sources and human activity usually present in a particular area. This definition of a worst case noise hour is inconsistent with ANSI/ASA 12.100 and other standards for measurement of natural quiet in protected areas. Furthermore, we argue that use of a worst case noise hour for the affected environment is likely to underestimate noise impacts in Saguaro National Park and other wilderness areas.

#	Topic	Response
30	Land Use	Thank you for your comment. No change made.
31	Recreation	The three wilderness areas are identified in Section 3.4.2 of the Final Tier 1 EIS. This EIS was prepared consistent with FHWA Technical Advisory T 6640.8A and its identification of resource areas. FHWA does not include Designated Wilderness as a resource area.
32	Editorial	The titles have been provided in revised Final Tier 1 EIS Table 3.6-1.
33	Economic	Conducting visitor surveys and estimating the impacts on recreational activities/visitor spending is beyond the scope of Tier 1-level studies. These activities could be included as part of Tier 2 studies, as indicated in Section 3.6.6. No change made.
34	Economic	See GlobalTopic_1 and GlobalTopic_3.
35	Cultural Resources	See GlobalTopic_1 and GlobalTopic_3.
36	Cultural Resources	ADOT and FHWA acknowledge NPS accepted the invitation to be a Section 106 consulting party, and appreciate their input and participation during the ongoing consultation process. Table 3.7-1 was not repeated in the condensed Final Tier 1 EIS.
37	Cultural Resources	See GlobalTopic_3.
38	General, Cultural Resources	See GlobalTopic_3.
39	Noise & General (NEPA)	The Federal-Aid Highway Act of 1970 (23 U.S.C. § 109(i)) specifically addresses the abatement of highway traffic noise. This law mandates FHWA to develop highway traffic noise standards and requires promulgation of highway traffic noise level criteria for various land use activities. The law further provides that FHWA not approve the plans and specifications for a federal-aid highway project unless the project includes adequate highway traffic noise abatement measures to implement the appropriate noise level standards. FHWA has developed and implemented regulations for the analysis and mitigation of highway traffic noise in federal-aid highway projects. The FHWA highway traffic noise regulation, 23 CFR 772, constitutes the official federal noise standards, which include Noise Abatement Criteria for different types of land uses and human activities. ANSI/ASA S12.100 2014 Edition, December 5, 2014 is not approved by ANSI. Please see website https://global.ihf.com/doc_detail.cfm?document_name=ANSI%2FASA%20S12%2E100&item_s_key=00646705&csf=ASA

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
40	3.8.3.1	3.8-7	Table 3.8-2	Mon 35c	NPS IMR-NR	To ensure that impacts to existing sound environment at Saguaro National Park are not underestimated, NPS staff have committed to making new ambient sound measurements in the next couple of months within the western part of the Saguaro National Park, Tucson Mountain unit. For assessment of potential noise increase and potential need for noise mitigation, we respectfully request that ADOT consider including this new data in the Tier 1 Final EIS, in the Tier 2 Draft EIS, or both.
41	3.9.3.1	3.9-7	2	13-20	NPS-AS	The Tucson Mountains should also be listed for the southern section.
42	3.9.3.6	3.9-19	2	8-11	NPS-AS	Please add this statement: "Tumacácori NHP received dark sky status in May 2018 from the International Dark Sky Association (https://www.darksky.org/tumacacori-national-historical-park-becomes-100th-designated-international-dark-sky-place/)."
43	3.10	3.10-9			NPS-DM	The document states: "The approximate distance from the Class 1 air shed range to the Study Area is 7,900 feet for Option A; 6,800 feet for Option B; 1,700 feet for Option C; and 1,300 feet for Option D. The variation in distance between the Corridor Options in this portion of the Analysis Area is not considered to be notable as transportation sources do not significantly contribute to visibility impairment in the Class I areas" The suggestion that the impact to visibility does not vary by alternative despite the differences in distance from the alternatives to Saguaro NP is not supported by a quantitative analysis of the proposed project, nor does the statement consider the differences in impacts on criteria pollutants in Saguaro NP, such as concentrations of NO2, particulate matter, and CO. Furthermore, this appears to be contradicted by statements elsewhere in the air quality analysis (page 3.10-22 line 13, page 3.10-23 line 38) that indicate that alternatives that are closer to Saguaro NP have greater potential to impact air quality in the Class I area. In addition, on page 3.10-18, line 29, the DEIS acknowledges that the build corridor alternatives may adversely impact visibility and other AQRVs in the park. A quantitative analysis using an EPA-recommended near-field air quality model (such as AERMOD) is needed in order to determine the differences in impacts among the alternatives to air quality in Saguaro NP. This should include an air quality impact analysis for impacts to the park at its west unit for the Green and Purple alternatives, and at its east and west units for the Orange alternative. The air quality analysis needs to address impacts to the National Ambient Air Quality Standards (NAAQS) for the criteria pollutants (NO2, PM10, PM 2.5, and carbon monoxide) for all the appropriate averaging periods for each pollutant, and it should include both construction and operational phases of the project. The air quality analysis for both of the phases also needs to address impacts to air quality related values (AQRVs), specifically deposition and near field visibility. Impacts to AQRVs, including deposition of total

#	Topic	Response
		The Tier 1 Noise Analysis identified all noise sensitive receivers and land uses. Noise measurements were taken to adequately represent existing noise levels. The TNM Noise Model was used to predict 2040 projected noise levels throughout the corridor and included noise levels adjacent to parks and recreational areas. The Tier 2 Noise Analysis will require additional noise monitoring and more detailed noise modeling to correspond with the precise roadway alignment for I-11. Mitigation analysis will need to be performed and land use planning will be addressed. No change made.
40	Noise	The I-11 Project Team appreciates the NPS desire to collect additional noise data. ADOT conducted noise measurements within SNP for the Tier 1 analysis at the locations identified by NPS and in presence of its staff. ADOT welcomes all relevant information for Tier 2 analysis that is consistent with the applicable federal procedures and regulations. Future noise levels and impacts will be determined with the TNM Noise Model once the roadway profiles and design have been completed and mitigation measures will be recommended in Tier 2. See GlobalTopic_1.
41	Visual	See GlobalTopic_3.
42	Visual	Updated text is included in Section 3.9.2 of the Final Tier 1 EIS: "Within southern Arizona, three places are designated by International Dark-Sky Association: Tumacácori NHP, Oracle State Park, and Kartchner Caverns State Park."
43	Air Quality & General (NEPA)	The Tier 1-level analysis does not include a quantitative comparison of impacts between each alternative. These recommendations will be taken into consideration when planning quantitative analysis during the Tier 2 studies. See GlobalTopic_1 and GlobalTopic_8.

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						nitrogen and total sulfur, should be calculated and compared to the deposition analysis threshold of 0.005 kilograms per hectare year (kg/ha/yr) per the Federal Land Managers Air Quality Related Values Workgroup (FLAG) guidance from 2010. Deposition impacts may be calculated with AERMOD in the near field. The impacts to visibility in the near field should follow the recommendations in the FLAG document. The near field visibility impacts (less than 50 km from the source to the boundary of the Park) should be assessed with the EPA VISCREEN model (a screening model), or in the case of very significant predicted coherent plume impacts predicted by the VISCREEN analysis, the EPA PLUVUE model should be employed.
44	3.10	3.10-16		6	NPS-DM	The document states: "For all Build Corridor Alternatives, air quality effects are driven by the behavior of vehicles in the transportation network." Location and distance of particular build corridor alternatives will also likely affect the air quality impacts on Saguaro NP.
45	3.10	3.10-23		32, 37, 39	DM	In its discussion of the alternatives through the southern section near Tucson, the document indicates that the Orange alternative (along the existing 1-10 corridor) would relieve congestion more effectively than either the Green or Purple alternatives. It also states that the Orange alternative is farthest from Saguaro NP and thus least likely to negatively impact air quality in the park. Earlier in Section 3.10, the analysis indicated that reducing congestion is preferable for reducing air quality impacts. Thus, it appears that in this area the recommended alternative will be less likely to reduce congestion and more likely to negatively impact air quality at Saguaro NP than the Orange alternative.
46	3.10				DM	Please include an analysis of the impacts of induced growth from the Purple and Green alternatives on air quality in Saguaro NP.
47	3.14.1	3.14-2		7-11	NPS-DS	Please add relevant language from the Organic Act of 1916: "The Organic Act establishes the fundamental purpose of the parks is to conserve scenery, natural resources, historic objects and wild life in them and to provide for the enjoyment of them "in such manner and by such means as will leave them unimpaired for future generations."
48	3.14-9	3.14-43		18-23	NPS-DS	The statement that wildlife movement could potentially be improved seems plausible for the Santa Rita-Tumacacori linkage, but not seem plausible for the other two linkages where there are not existing highways that could be improved and where i-11 represents a significant new impact. This is probably an inadvertent mistake, so recommend limiting this paragraph to the SR-T linkage, or (if it's not a mistake) explaining in more detail how the other two linkages would be improved.
49	3.14-9	3.14-44		36-38	NPS-DS	Because the impacts of the Green and Purple alternatives are really very similar in the South Section, as described in previous sections, recommend re-writing this sentence to say, "The Green Alternative has the greatest potential to disrupt wildlife linkages and connectivity, slightly more than the Purple Alternative and significantly more than the Orange alternative." If this is too general a statement for the whole corridor, then sentence could be re-written to make the distinction between

#	Topic	Response
44	Air Quality	Agreed and this is accounted for in the air quality impact assessment methodology. This will be included in the quantitative analysis during the Tier 2 studies. See GlobalTopic_1.
45	Air Quality	See GlobalTopic_1.
46	Air Quality	See GlobalTopic_1.
47	Biological	See GlobalTopic_3.
48	Biological	The Ironwood-Picacho Linkage crosses I-10 and, therefore, could be improved with a wildlife crossing of I-10; therefore, reference to this linkage and the Santa Rita-Tumacacori linkage were retained in the noted text. The Coyote-Ironwood-Tucson Linkage abuts but does not cross I-10; therefore, it was removed from this list of linkages in Section E14.4.3.
49	Biological	Comment noted. See GlobalTopic_1 and GlobalTopic_3.

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						the Green and Purple alternatives in the North and South Sections.
50	3.14.5	3.14-54			NPS-DS	p. 3.14-54. "Wildlife Connectivity." As indicated elsewhere in our comments, NPS should be listed anytime the other stakeholders (AGFD, BLM, BOR, etc.) are listed who will determine wildlife connectivity, due to our agency's strong interest in the TMC.
51	3.14.5	3.14-54	Table 3.14-11	Column two, cell one	NPS-JC	Please add the words "invasive and" before noxious in the first sentence.
52	4.4.3.3.	4-77		21-24	NPS-DS	The TMC is a very sensitive area with significant history that should be included here for a full perspective of the potential environmental impacts. We suggest the following text be inserted in line 23, (after the first sentence): "The TMC was established to reduce impacts from the Central Arizona Project (CAP) on wildlife movement across the Avra Valley. Based on several years of wildlife studies by BOR, AGFD, and other agencies, it provides a strategic linkage between about 45,000 acres of habitat to the east within Tucson Mountain Park and Saguaro National Park, and over 2.5 million acres of open space to the west on the Tohono O'odham Nation and Ironwood Forest National Monument."
53	4.4.3.3	4-77		30-33	NPS-DS	Please add in line 32 (after the words "own NEPA process") "with extensive collaborative involvement from the public, environmental organizations, and government agencies,..."
54	4.4.3.3.	4-80 and 4-81		40-45, 1-7	NPS-DS	We greatly appreciate the inclusion of the tunnel discussion as part of potential net benefit for the TMC. As indicated in our comments elsewhere, achieving a net benefit is possible but is a high bar, and a tunnel has a high chance for success compared to other mitigations. Although Sandario Road negatively impacts wildlife, it is not nearly the barrier that I-11 would be, and mitigations along Sandario would be less expensive and more effective than mitigations for I-11.
55	4.4.3.3.	4-81 through 4-84			NPS-DS	The proposed mitigations are excellent for standard highways such as I-10, where a highway has already been constructed and there is a goal to restore some of the wildlife connectivity that has been lost. In these cases, any improvement in wildlife connectivity is positive for wildlife. For a net benefit to be achieved is a different standard and a different scale of mitigation, because currently there is no interstate highway or multi-modal transportation corridor that runs through the TMC. In the end, the net benefit must be a true benefit that results in larger populations, greater connectivity, increases genetic exchange and diversity, and maintains or enhances high biological diversity in the Tucson Mountain area that the TMC was designed to protect. This benefit may be achievable but requires a more expansive view of mitigations than is presented here.
56	4.4.3.3	4-82		21-32	NPS-DS	In line 23, add to end of sentence, "although they would be significantly longer." Also replace the word "crossings" with "overpasses" or "underpasses", since these two types are very different in their effectiveness. For consistency with the TMC, it is assumed that these are overpasses, but should be clarified here.

#	Topic	Response
50	Biological	Comment noted. NPS is a Stakeholder. See GlobalTopic_3.
51	Biological	Comment noted. The suggested edit was not made as the heading for the columns is entitled "Noxious and Invasive Species." No change made.
52	Section 4(f)	See GlobalTopic_1 and GlobalTopic_3.
53	Section 4(f)	See GlobalTopic_3.
54	Section 4(f)	Comment noted. FHWA will undertake an individual Section 4(f) evaluation for the TMC; the programmatic net benefit approach will no longer be pursued.
55	Section 4(f)	Comment noted. FHWA will undertake an individual Section 4(f) evaluation for the TMC; the programmatic net benefit approach will no longer be pursued. See GlobalTopic_1, GlobalTopic_3, and GlobalTopic_11.
56	Section 4(f)	See GlobalTopic_1 and GlobalTopic_3.

#	Section	Page	Paragraph/Bullet/Figure	Line	Reviewer	Comments
57	4.4.3.3	4-82		3-35	NPS-DS	Please add language to clarify if Sandario Road will be removed (as stated in line 7 and 23) or relocated to align with I-11. If the road is not removed, but re-located, it should be noted that this would widen the transportation corridor, which has the potential to offset the benefit of co-aligning the road with I-11. Perhaps there is a traffic analysis of Sandario Road elsewhere in the document. NPS assumes that some percentage of the traffic on this long N-S road would be expected to be diverted to I-11 if the highway were to be constructed following the same general route.
58	4.4.3.3	4-82		40-41	NPS-DS	Please list "NPS" as one of the agencies that would be involved in the design and implementation of wildlife studies in this paragraph and elsewhere, such as on page 4-83, lines 7-8.
59	4.4.4.2	4-87	2	16-25	NPS-AS	We request that similar text is added to the Noise section (3.8) to indicate that noise impacts are only being considered for impacts to human receptors and not to wildlife within parks and Wilderness areas, per FHWA regulation.
60	6	6-22	Table 6-4		NPS-DM	The document indicates that in the southern section, the impacts to resources from the recommended alternative can be mitigated. Table 6-4 lists only potential prohibition of interchanges in the Avra Valley as a mitigation strategy for air. Please explain how this will mitigate air quality impacts to Saguaro NP that result from choosing the build corridor most likely to impact the park.
61	3.9.4.5 6		9, 27		NPS-DM	The document states that from the perspective of viewpoints in Saguaro NP, the Green and Purple alternatives "would be incongruous in the overall setting and would create Co-Dominant (daytime) or Dominant (nighttime) visual contrast due to scale. Recreational viewers will have middle ground views of the Green and Purple Alternatives, and the overall visual impact is likely to be high because of high viewer sensitivity and superior, unobstructed views. The CAP Design Option will have slightly higher visual impacts, as it is aligned closer to both the park areas compared to Option C and Option D (Sandario Road Portion)." It further states "The visual intrusions related to the Build Corridor Alternatives could impact the visual resources and result in unsatisfactory visitor experiences." Chapter 6 indicates that impacts can be mitigated but does not identify specific mitigations for visual impacts. Please explain how visual impacts to Saguaro NP from the recommended alternative can be mitigated, particularly since the viewpoints are generally located at a higher elevation than the proposed build corridor.
62	6				NPS-DM	Simulations of the corridor, produced at a suitable scale, could more clearly show potential changes in the landscape. NPS requests the simulations be prepared in accordance guidance in Chapter 5 of the Guide to evaluating visual impact assessments for renewable energy projects, available at: https://irma.nps.gov/DataStore/Reference/Profile/2214258
63	6.1	6-3	Table 6-1	N/A	NPS-AS	This table is very helpful for making a side by side comparison of how the alternatives meet the Purpose & Need. We respectfully request that a similar table is included in this

#	Topic	Response
57	Section 4(f)	See GlobalTopic_1.
58	Section 4(f), Biological	A few comments were received suggesting that ADOT coordinate with additional agencies/stakeholders, prior to and during, the Tier 2 NEPA process to determine future wildlife connectivity data needs and study design. Since AGFD is the Arizona expert on wildlife connectivity, ADOT has committed to coordinate with AGFD regarding future wildlife studies (see Final Tier 1 EIS Section 3.14.6 Biological Resources, Wildlife Connectivity T2-Biological Resources-3). ADOT will identify additional agencies/stakeholders for coordination as segments of the I-11 are funded for construction and relevant land managers can be determined for each particular I-11 segment.
59	Noise, Section 4(f)	The requested text was not added to the Noise section of the Tier 1 EIS. The evaluation of noise impacts to wildlife within Parks and Wilderness areas is part of the Biological Resources analysis for the Tier 1 EIS. No change made.
60	Air Quality	The analysis found that there was no difference between Build Alternatives in regional air quality. Localized air quality will be evaluated in Tier 2. The prohibition of interchanges is expected to reduce traffic congestion and associated vehicle idling reduces motor vehicle emissions and has the potential to reduce local air quality impacts. See GlobalTopic_1.
61	Visual	The mitigation strategies to address visual impacts are in Draft Tier 1 EIS Section 3.9.5 and Final Tier 1 EIS Section 3.9.6. No change made.
62	Visual	Simulations will be considered as part of the Tier 2 analysis. See GlobalTopic_1.
63	General (NEPA)	The Final Tier 1 EIS now includes a summary table comparing the relative impacts of the Build Alternatives.

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
						summary section that includes the comparative costs and impacts of each alternative.
64	6.2.2	6-6	1	26-36	NPS-AS	Because of the elevated interest in this section (Sahuarita to Marana), we suggest more detailed data for the projected travel times, costs, and break-down of impacts for the Purple/Recommended Alternative and Orange/I-10 Alternative for this segment. Data for these metrics have been aggregated for longer reaches, making it difficult to make a side-by-side comparison of the costs and benefits of these options over this more limited stretch.
65	Appendix F	1	2		NPS-AS	We request clarification on the process and timing (Tier I or Tier II) of determining Constructive Use impacts on Saguaro NP. Additionally, we suggest clarification on whether the separately designated Saguaro Wilderness should be included in this Constructive Use analysis.
66	Appendix F	11			NPS-AS	We realize that it is probably an inadvertent mistake, but the National Park Service disagrees with the statement that "Saguaro National Park is managed as the public park and for natural resource preservation; it is not a wildlife or waterfowl refuge." As a protected area for wildlife adjacent lands open to development, hunting, and other disturbances, the park is an important refuge for wildlife and its "significant wildlife qualities" are named in the park's enabling legislation. More importantly, the Organic Act of 1916 establishes that the fundamental purpose of the parks is to conserve scenery, natural resources, historic objects "and wild life" so as to leave them unimpaired for future generations. We request that it be removed and be replaced with language more consistent with the NPS Organic Act and enabling legislation of the TMD.
67	Appendix F	29			NPS-AS	We appreciate the inclusion of the 5 letters from NPS and 2 sets of meeting notes from our face-to-face discussions in Appendix F. It appears that additional documents pertinent to this section (NPS letters dated 9/30/16, 11/3/16, 12/16/16, 3/17/17, 11/3/17, 8/6/18, and notes from our in-person meeting on 8/10/18) are not included. We can readily provide copies if needed.
68	Appendix F	7	Table 1 to Part 772 - Noise Abatement Criteria		IMR-NR (RS)	The Noise Abatement Criteria in Table 1 to Part 772 are arguably insufficient to address remoteness from sights and sounds of people and Congress' stated intent (in Public Law 103-364) to protect opportunities for solitude in the Saguaro National Park, Tucson Mountain unit. We request a constructive use analysis that considers the projected noise increase (ambient degradation) for Saguaro National Park locations, based on existing median and residual sound levels that might reasonably address existing conditions of quiet in protected areas, pursuant to ANSI/ASA S12.100.

#	Topic	Response
64	General (NEPA)	See GlobalTopic_1.
65	Section 4(f)	The assessment of the potential for constructive use in the Tier 1 Section 4(f) evaluation (Draft EIS and Final EIS) is preliminary. See GlobalTopic_1.
66	Section 4(f)	When FHWA determines whether a property is protected by Section 4(f), three tests are applied. The first two tests are whether the property is publicly owned and the second is whether it is publicly accessible. SNP achieves each of those tests. The third test is determining the primary purpose of the property. In making that determination, FHWA examines the documentation establishing the formal designation of the property. In the case of SNP, Presidential Proclamation 3439 established the Tucson Mountain Unit in 1961 (then known as a national monument). In 1994, Congress formally designated SNP. In that designation, Congress reaffirms the purpose of the SNP, which is to protect the integrity of its natural resources, scenic beauty, habitat protection, and opportunities for public enjoyment, education, and safety within the property. Because of the multi-pronged purpose of the park and the public enjoyment element, FHWA determined that SNP is protected under Section 4(f) as a park, not a wildlife or waterfowl refuge. SNP is managed by NPS under the Organic Act, which empowers NPS to promote and regulate the use of SNP and other properties within its jurisdiction in a manner that conserves the multiple elements of significance. While the Organic Act is critical to managing the property, it is not the source of SNP's specific, formally designated purpose as defined by Section 4(f). No change made.
67	Section 4(f)	Table 4-12 of the Final Tier 1 EIS, which lists the points of agency coordination that pertain to Section 4(f) properties or issues, was revised by adding the documents NPS requested, as appropriate. Letters dated 9/30/16 and 11/3/17 are not relevant to Section 4(f), so they were excluded from the table.
68	Section 4(f), Noise	During Tier 2, ADOT will undertake a Project-level quantitative noise analysis as well as a review of the Preliminary Section 4(f) Evaluation that includes the constructive use analyses. The Federal-Aid Highway Act of 1970 (23 U.S.C. § 109(i)) specifically addresses the abatement of highway traffic noise. This law mandates FHWA to develop highway traffic noise standards and requires promulgation of highway traffic noise level criteria for various land use activities. The law further provides that FHWA not approve the plans and specifications for a Federal-aid highway project unless the project includes adequate highway traffic noise abatement measures to implement the appropriate noise level standards. FHWA has developed and implemented regulations for the analysis and mitigation of highway traffic noise in federal-aid highway projects. The FHWA highway traffic noise regulation, 23 CFR 772, constitutes the official federal noise standards, which include Noise Abatement Criteria for different types of land uses and human activities. ANSI/ASA S12.100 2014 Edition, December 5, 2014 is not approved by ANSI. Please see website https://global.ihf.com/doc_detail.cfm?document_name=ANSI%2FASA%20S12%2E100&item_s_key=00646705&csf=ASA No change made.

Appendix H2: Cooperating Agency Comments on Draft Tier 1 EIS and Responses

National Park Service

#	Section	Page	Paragraph/ Bullet/ Figure	Line	Reviewer	Comments
69	Appendix F	7	Table 1 to Part 772 - Noise Abatement Criteria		IMR-NR (RS)	The Noise Abatement Criteria in Table 1 to Part 772 are arguably insufficient to address remoteness from sights and sounds of people and Congress' stated intent (in Public Law 103-364) to protect opportunities for solitude in the Saguaro National Park, Tucson Mountain unit. We request a constructive use analysis that considers the projected noise increase (ambient degradation) for Saguaro National Park locations, based on existing median and residual sound levels that might reasonably address existing conditions of quiet in protected areas, pursuant to ANSI/ASA S12.100.

#	Topic	Response
69	Section 4(f), Noise	See response to NPS Comment 68.



Federal Aviation Administration



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ID	Comment Document
1	<p>Sent: Monday, August 5, 2019 8:16 AM To: Lirange, Aryan (FHWA) <Aryan.lirange@dot.gov> Cc: Yedlin, Rebecca (FHWA) <Rebecca.Yedlin@dot.gov>; Jay Van Echo (JVanEcho@azdot.gov) <JVanEcho@azdot.gov> Subject: RE: I-11 Tier 1 Draft EIS</p> <p>Aryan,</p> <p>My apologies. I had no comments. I had a phone call from Jay, and called him back and left a message saying that the FAA had no comments on the routes and there was no impact to the proposed routes.</p> <p>Sorry for taking so long to get back to you.</p> <p>Please let me know if you need anything else from me.</p> <p>Jared</p> <p>Jared M. Raymond Community Planner - PHX 610 Federal Aviation Administration Western-Pacific Region, Airports Division Phoenix Airports District Office 3800 N Central Avenue, Suite 1025 Phoenix, AZ 85012 (P) 602-792-1072 (F) 602-792-1061 Jared.Raymond@FAA.GOV</p> <hr/> <p>From: Lirange, Aryan (FHWA) Sent: Monday, July 29, 2019 12:50 PM To: Raymond, Jared <AWP> <jared.raymond@faa.gov> Cc: Yedlin, Rebecca (FHWA) <Rebecca.Yedlin@dot.gov>; Jay Van Echo (JVanEcho@azdot.gov) <JVanEcho@azdot.gov> Subject: I-11 Tier 1 Draft EIS</p> <p>Jared.. I wanted to reach out to you to ask if the FAA submitted comments to the Tier 1 DEIS. The comment period ended on July 8th, and the project study team just reported back to FHWA that they have no record of comments from the FAA.</p> <p>Can you confirm if we missed your comments or if the FAA does not have any comments on the I-11 Tier 1 DEIS?</p> <p>Also, do you think we will need the one on one meeting with FAA and the team on Aug 13th? If FAA has no comments to discuss we will go ahead and cancel that meeting. The intent of that meeting is to discuss your comments and seek clarification etc.</p> <p>Please let us know. Thank you.</p> <p><i>Aryan</i> Aryan Lirange, PE Senior Urban Engineer FHWA Arizona Division 4000 North Central Avenue, Suite 1500 Phoenix Arizona 85012-1906 (phone) 602 382.8973 (cell) 602 999.2921 (fax) 602 382.8998 (eMail) aryan.lirange@dot.gov ADOT MD 005R</p>

ID	Topic	Response
1	General	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies.

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Federal Railroad Administration (FRA)



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ID	Comment Document
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1200 New Jersey Avenue, SE
Washington, DC 20590

May 14, 2019

I-11 Tier I EIS Study Team
c/o ADOT Communications
1655 West Jackson Street
Mail Drop 126F
Phoenix, AZ 85007

**Re: Interstate 11 Corridor Draft Tier 1 Environmental Impact Statement
Federal Railroad Administration Review**

To Whom It May Concern:

The Federal Railroad Administration (FRA) has reviewed the Draft Environmental Impacts Statement (DEIS) for the Interstate 11 (I-11) Corridor, along with the associated errata. The DEIS outlines several alternatives, and all of the alternatives, including the Preferred Alternative, preserves the existing rail corridor. Impacts to rail are very minor, and the document describes that all planning efforts have been made to coordinate with the rail line owners and protect the exiting rail right-of-way. As such, FRA has no comment on the DEIS.

For all future FRA involvement on this project, please continue to contact Amanda Ciampolillo, FRA Environmental Protection Specialist, at 617.494.2173 or amanda.ciampolillo@dot.gov.

Sincerely,

Stephanie B. Perez, PG
Supervisory Environmental Protection Specialist
Environmental & Corridor Planning Division

ID	Topic	Response
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1	General (NEPA)	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies. ADOT and FHWA will continue to consider impacts to rail corridors and coordinate with rail line owners, as needed.
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US Army Corps of Engineers (USACE)



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-----Original Message-----

From: Rice, Jesse M CIV USARMY CESPL (US) [mailto:Jesse.M.Rice@usace.army.mil]
 Sent: Tuesday, December 18, 2018 3:27 PM
 To: Jay Van Echo; Yedlin, Rebecca (FHWA); Aryan Lirange
 Cc: Eileen Dunn; Katie Rodriguez; Diebolt, Sarah (Sallie) CIV USARMY CESPL (US)
 Subject: USACE Comments on the I-11 ADEIS (SPL-2016-00483)

Jay, Rebecca, and Aryan,

Please see the attached comments on the I-11 ADEIS. The comments regarding recommended alternative's LEDPA potential are similar to what we discussed back in October, so I hope they aren't unexpected. I look forward to discussing this more with the team in the coming months.

Please let me know if any of the comments are unclear; it's been a challenge to catch up with the study while juggling other priorities.

Thank you,

Jesse Rice
 Project Manager
 Regulatory Division, Arizona Branch
 Phoenix, AZ
 Los Angeles District, U.S. Army Corps of Engineers Jesse.M.Rice@usace.army.mil

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Cover page email	General	<p>During the initial scoping process for the I-11 Tier 1 EIS, USACE anticipated a low level of participation due to the lack of an associated Section 404 permit action. At their request, USACE was designated a Participating Agency on June 20, 2016. USACE has since developed a more defined process to merge Section 404 permitting with tiered National Environmental Policy Act (NEPA) analyses. In order to provide a greater level of input throughout the remainder of the study, USACE requested Cooperating Agency status in a letter dated October 25, 2018. FHWA has accepted this request, and USACE is now a Cooperating Agency.</p> <p>USACE submitted the attached comments based on a review of the Administrative Draft Tier 1 EIS. Due to the timing of the receipt of this letter in relation to the publication of the Draft Tier 1 EIS, not all comments were incorporated into the Draft Tier 1 EIS. Comments addressed in the Final Tier 1 EIS are noted below.</p> <p>Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies.</p>
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U.S. Army Corps of Engineers Comments on the Administrative Draft Tier 1 Environmental Impact Statement for the I-11 Corridor			
Comment Number	Page Number	Line or Specific Location	Comment
1	2-12		Table 2-2 lists Wetlands and Lakes as well as 100-year floodplains as criteria. Potential Waters of the U.S. (WUS) may also include aquatic resources which are neither wetlands, lakes, or have a mapped floodplain. This was likely not previously commented on by the Corps since the ASR stated that the NHD and NWI datasets would be used, which include other areas that are potential WUS.
2	2-35	15-17	These two sentences are repeated at the conclusion of the section. Recommend removing.
3	3.13.1	20-21	This introductory paragraph is imprecise. While the types listed are always WUS, many (if not most) WUS in Arizona are ephemeral. Ephemeral tributaries must have a significant nexus to a Traditional Navigable Water (TNW) to be jurisdictional, which is determined on a case-by-case basis. Furthermore, some TNW's in the study area can be ephemeral (i.e. TNW reaches of the Santa Cruz River).
4	3.13-1	22	Special Aquatic Sites are defined at 40 CFR 230.3(q-1). Wetlands are a subclass of special aquatic sites, and this special treatment is nationwide (not just AZ, which is how the text was interpreted). For projects that would impact a special aquatic site, it must clearly be proven that no practical alternatives exist that would avoid special aquatic sites for non-water dependent projects (such as transportation). This requirement is in addition to the LEDPA requirement that applies to all projects requiring an individual permit. Please see 40 CFR 230.10(a)1-3 for full details.
5	3.13-1	25-27	The sentence stating "Section 404 also the permitting process..." needs to be revised. It may be more helpful to summarize the 404(b)1 Guidelines, which establish the definition and requirement for LEDPA. You could also summarize the various permit levels which may be used to authorize Tier 2 projects (NWP vs RGP vs IP).
6	3.13-2	20-21	The Act is more commonly known as the Rivers and Harbors Act of 1899. Under Section 14, entities wishing to make alterations to, or temporarily or permanently occupy or use, any USACE authorized Civil Works project must receive USACE authorization under 33 USC 408 (Section 408).

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1	Water	The Waters of the US analysis was revised to utilize the National Hydrography Dataset, as described in Final Tier 1 EIS Section 3.13.2. An assessment of unnamed watercourses identified in the National Hydrography Dataset was added throughout Final Tier 1 EIS Section 3.13.
2	Water	This edit was made to the published Draft Tier 1 EIS.
3	Water	The Final Tier 1 EIS Section 3.13.1 was revised to state that, "the goal of the Clean Water Act (33 U.S.C. Section 1251 et seq.) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Waters of the US regulated under the CWA include traditional navigable waters, their tributaries, and adjacent wetlands (33 CFR 328.3)." The team added an analysis of unnamed watercourses, which are likely to be ephemeral, to the Waters of the US analysis throughout Final Tier 1 EIS Section 3.13.
4	Water	The Final Tier 1 EIS Section 3.13.1 was revised to remove the reference to wetlands in Arizona and added details regarding permitting requirements, including those within special aquatic sites. A description of the Least Environmentally Damaging Practicable Alternative concept has also been added.
5	Water	Additional information regarding the CWA Section 404 permitting requirements and the 404(b)(1) Guidelines was added to Final Tier 1 EIS Section 3.13.1. Section 3.13.5 of the Final Tier 1 EIS includes a statement that specific permits required under Section 404 of the CWA would be identified during Tier 2 analysis. Final Tier 1 EIS Section 3.13.5 now includes a mitigation measure stating Tier 2 projects will obtain all necessary permits and approvals.
6	Water	The Final Tier 1 EIS Section 3.13.1 was revised to include the Rivers and Harbors Act of 1899 and additional detail on Section 14 of the Rivers and Harbors Act (33 USC Section 408). USACE has confirmed that the Santa Cruz River Study does not overlap the I-11 analysis area; therefore, no related changes have been made to the Final Tier 1 EIS.

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U.S. Army Corps of Engineers Comments on the Administrative Draft Tier 1 Environmental Impact Statement for the I-11 Corridor			
Comment Number	Page Number	Line or Specific Location	Comment
6 (cont.)			Proposed alterations must not be injurious to the public interest or impair the usefulness of the USACE project. Nearly all Civil Works projects in Arizona are operated and maintained by a non-federal sponsor (e.g. flood control districts). If any facilities are built as a result of the Corps's Santa Cruz River Study, any alterations of those facilities would be subject to the 408 process. Please see: https://www.spl.usace.army.mil/Missions/Section-408-Permits/ https://www.usace.army.mil/Missions/Civil-Works/Section408/
7	3.13-11	19-22	While this statement is true, it doesn't quite characterize the portions of the Gila River within in the study area. There are extensive perennial and intermittent reaches near for a 20 mile stretch (from the Tuthill Road bridge to Gillespie Dam). Much of this area contains confirmed wetland conditions.
8	3.13-11	26-27	This paragraph appears to focus on the North Section. The Salt and Lower Gila are not located in the North Section so this sentence seems out of place.
9	3.13-15	4-7	It may be worth reiterating the fact that the NWI data is imprecise for mapping wetlands. The analysis indicated that Option K has the highest acreage of potential wetlands, there are no known wetlands occurring in this option.
10	Chapter 6	-	As discussed during meetings with ADOT and FHWA, and outlined in our October 25, 2018 letter, we suggest that a concise discussion be provided regarding the recommended alternative and its potential to be determined the LEDPA in the future under the 404(b)1 Guidelines. Particular attention should be given to the proposed crossing of the Gila River due to the presence of a special aquatic site (wetland), which merits additional scrutiny under the 404(b)1 Guidelines [40 CFR 230.10(a)3].

7	Water	Final Tier 1 EIS Section 3.13.3 was revised to state that the Gila River contains perennial flows largely due to effluent from wastewater treatment plants and irrigation return. A discussion of wetlands along the Gila River that incorporates field observations, desktop review, and previous jurisdictional delineations of wetlands was added to Final Tier 1 EIS Section 3.13.3. The detailed documentation can be found in the Final Tier 1 EIS Appendix E13.
8	Water	The references to the Salt and Gila Rivers were removed from this paragraph in Final Tier 1 EIS Section 3.13.3.
9	Water	Final Tier 1 EIS Section 3.13.3 was revised to state that NWI data were created from remote data sources and may not be representative of ground conditions. The team revised the wetlands analysis to exclude features identified as "riverine" wetlands from the analysis because the NWI identifies most surface waters within Arizona as "riverine" wetlands; however, this classification is known to be highly inaccurate as most surface waters in the state are not wetlands. As a result, areas identified as "riverine" wetlands are excluded from this analysis."
10	Water	A discussion of the Recommended and Preferred Alternatives that addresses effects to water resources including the refinement of Option F is in Final Tier 1 EIS Section 3.13.4. The Preferred Alternative in the Final Tier 1 EIS is different from the Recommended Alternative, and the changes incorporated into the Preferred Alternative reduce impacts to Waters of the US. Permitting actions under Section 404 of the Clean Water Act, and determination of the LEDPA, will occur during Tier 2 studies. If USACE determines the Preferred Alternative does not contain the LEDPA during Tier 2 studies, additional alternatives outside of the Preferred Alternative may be considered at that time. See GlobalTopic_2.

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U.S. Army Corps of Engineers Comments on the Administrative Draft Tier 1 Environmental Impact Statement for the I-11 Corridor			
Comment Number	Page Number	Line or Specific Location	Comment
(10 cont.)			<p>While there is discussion in Appendix E13 of the various impacts of each option, there is no overall discussion regarding the impacts of the hybrid corridor alternative that was ultimately recommended. In some parts of the hybrid alternative, segment options with higher impacts to Waters of the U.S. (particularly options F, N, and R) were chosen over others with much less impact (G, M/Q2, and Q3).</p> <p>Based on the information presented, the recommended alternative does not appear to contain a potential LEDPA since there are practicable alternatives (as defined by the Guidelines) with less adverse impacts to the aquatic ecosystem. Therefore, the recommended alternative does not comply with the 404(b)1 Guidelines and cannot be permitted under Section 404 of the Clean Water Act.</p>
11	6-29		Recommend including other mitigation strategies that were discussed in other areas of the document for Water Resources (i.e. avoidance, minimization, mitigation). In particular, there needs to be more details on the actions taken at the Tier 2 phase to ensure that the recommended alternative will be the LEDPA.
12	E13-3	5-11	Same comment as 3.
13	E13-7,8	22 (p7)-19 (p8)	The process for identifying wetlands seems to fit more appropriately under Section E13.3 (Methodology).
14	E13-9	5-34	It's not clear what the methodology was for identifying potential non-wetland WUS since only a limited description is provided. Page E13-16 (lines 22-25) provides more information, but it is not supported by the tables and figures (See other comment 15)
15	E13-16	13-15	The reach of the Santa Cruz River from the Tubac gage to Continental gage (Tubac to Green Valley) also has TNW status (please refer to the reference cited in line 15).

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10	Water & Mitigation	Final Tier 1 EIS Section 3.13.5 lists measures to avoid, minimize, and mitigate impacts to Waters of the US. The LEDPA will be determined in Tier 2.
11	Water	See GlobalTopic_2 and GlobalTopic_6.
12	Water	See response to USACE Comment 3.
13	Water	The process used for identifying wetlands was moved to Section 3.13.2 in the Final Tier 1 EIS.
14	Water	Final Tier 1 EIS Section 3.13.2 includes revised text describing how non-wetland Waters of the US were identified. The National Hydrography Dataset was used to identify potential Waters of the US. The miles of such waters were calculated separately for each corridor option, including the End-to-End Build Corridor Alternatives, the Recommended Alternative, and the Preferred Alternative.
15	Water	Final Tier 1 EIS Section 3.13.3 was revised to state that USACE has determined that two reaches of the Santa Cruz River, from the Tubac gage to the Continental gage near Green Valley, and from the Roger Road Wastewater Treatment Plant to the Pima County/Pinal County border, located within or adjacent to the Analysis Area are TNWs.

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U.S. Army Corps of Engineers Comments on the Administrative Draft Tier 1 Environmental Impact Statement for the I-11 Corridor			
Comment Number	Page Number	Line or Specific Location	Comment
16	Throughout Appendix E13	Table E13-3 E13-8 E13-12	Based on the tables and figures, it appears that only named drainages were considered. Limiting the estimate of WUS to named streams or canals severely underestimates the amount of potential WUS, and doesn't follow the methodology described. Whether or not a stream has a name is not a qualifier for jurisdictional status. Since there are three TNW's located in close proximity to corridor alternatives, it is likely that several unnamed washes will have a significant nexus and could be found jurisdictional in the tier 2 level of analysis. Additionally, if ADOT chooses to request a Preliminary Jurisdictional Determination (PJD) or forgo a determination from the Corps during the Tier 2 phase, then all aquatic features would be treated as potentially jurisdictional and subject Section 404 of the Clean Water Act.
17	E13-23	31-32	There are actually 3 reaches of the Gila River which have been designated a TNW. Only one occurs within the study area, downstream of all corridor options.
18	E13-40-41	E13.6.1.4	Much of the impacts described in E13.6.1.1 also apply to WUS. This discussion must be included in E13.6.1.4. Subparts C-G of the 404(b)(1) Guidelines several aspects of impact that can be considered from NEPA viewpoint.
19	E13-42	16-33	In order to continue the quantitative analysis that occurred earlier in the appendix, there should be a table summarizing the estimated linear feet of potential WUS and acres of potential wetlands in each alternative (Purple, Green, Orange). This discussion is purely qualitative, and it is very difficult to weigh the full impacts of each alternative without referring back to several sections of the appendix.
20	E13-43	E13.6.5	Specific designs and footprints will be considered at a Tier 2 level of analysis. However, general discussion of design features that would reduce impacts to WUS should be provided. For example, structures could be designed to maintain existing flow characteristics and habitat connectivity. Direct impacts could be minimized by spanning drainages (where feasible), reducing the number of piers that must be placed in WUS, or minimizing maintenance through the use of self-cleaning culverts.

16	Water & General (NEPA)	An assessment of unnamed watercourses identified in the National Hydrography Dataset was added throughout Section 3.13 of the Final Tier 1 EIS. Impacts to potential Waters of the US, including unnamed watercourses, was considered in the decision-making process to identify the Preferred Alternative.
17	Water	Final Tier 1 EIS Section 3.13.3 was revised to remove reference to TNWs outside the Study Area and states that a 6.9-mile reach of the Gila River, from Powers Butte to Gillespie Dam, is designated as a TNW. This reach begins approximately 3 miles south of Corridor Option R but does not cross the Analysis Area.
18	Water & General (NEPA)	The discussion of potential Waters of the US in Section 3.13.4 of the Final Tier 1 EIS was revised to use the framework outlined in the 404(b)(1) Guidelines. This framework includes the applicable effects discussed in the Sensitive Water Resources section.
19	Water	The analysis presented in Section 3.13.4 of the Final Tier 1 EIS was revised to quantify miles of potential Waters of the US and acres of potential wetlands within the End-to-End Build Corridor Alternatives, the Recommended Alternative, and the Preferred Alternative. This analysis of impacts to potential Waters of the US was considered in the decision-making process to identify the Preferred Alternative.
20	Water	Final Tier 1 EIS Section 3.13.5 was revised to describe design features and best management practices that could be implemented during Tier 2 studies to minimize negative impacts to Waters of the US. Final Tier 1 EIS Section 13.3.5 now includes a mitigation measure requiring ADOT to explore minimization and mitigation techniques during Tier 2 studies.

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U.S. Army Corps of Engineers Comments on the Administrative Draft Tier 1 Environmental Impact Statement for the I-11 Corridor			
Comment Number	Page Number	Line or Specific Location	Comment
21	E13-43	29-30	<p>Mitigation related to a Section 404 permit would need to be completed per 33 CFR Part 332, and are not limited to permanent impacts or impacts to wetlands. To ensure no net loss of resources, mitigation is often considered for loss of ephemeral drainages or for significant temporary impacts.</p> <p>It is recommended to remove the text on line 30 regarding the 3-to-1 ratio since nothing has been determined at this time. Mitigation ratios are determined on a case-by-case basis that considers the functions and services being lost at the impact site versus what is being gained through mitigation.</p>

21	Water & Mitigation	The language regarding specific mitigation ratios has been removed from Final Tier 1 EIS Section 3.13.5 and Appendix E13.
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US Environmental Protection Agency (USEPA)



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
 75 Hawthorne Street
 San Francisco, CA 94105-3901

June 26, 2019

Karla S. Petty
 Arizona Division Administrator
 Federal Highway Administration
 4000 North Central Avenue, Suite 1500
 Phoenix, AZ 85012

John S. Halikowski
 Director
 Arizona Department of Transportation
 206 South 17th Avenue, MD 100A
 Phoenix, AZ 85007

Subject: Draft Tier 1 Environmental Impact Statement for the Interstate 11 Corridor Project (CEQ# 20190043)

Dear Ms. Petty and Mr. Halikowski:

Thank you for the opportunity to review the Draft Tier 1 Environmental Impact Statement (DEIS) for the Interstate 11 Corridor Project (I-11). Our review was completed pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), Section 309 of the Clean Air Act, and Section 404 of the Clean Water Act.

Throughout the programmatic analysis for I-11, EPA has provided written and verbal feedback to the Federal Highway Administration (FHWA) and Arizona Department of Transportation (ADOT) during monthly Cooperating Agency meetings and at multiple coordination points, including comments provided on the project Purpose & Need (December 28, 2016), Alternative Selection Report (November 3, 2017), and Administrative DEIS (August 6, 2018). The extensive early coordination on the development of this DEIS has resulted in efficiencies in the environmental review process and the early identification and resolution of many concerns previously raised by EPA.

We thank FHWA and ADOT for working so closely with our agency throughout the early coordination process, and look forward to continued coordination as we strive to further avoid and minimize impacts to environmental resources. We provide the following recommendations for consideration as you begin to prepare the Final Tier 1 EIS (FEIS).

Mitigation Strategy for the I-11 Corridor

EPA is encouraged to see the robust list of mitigation strategies and measures that have been included in Table 3.14-12 and Table 6-4 in response to early feedback provided by EPA and other cooperating agencies. We understand that FHWA and ADOT are in the process of further developing these mitigation strategies and measures, and that additional detail will be identified in the FEIS.

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1	Impact Avoidance, Minimization, and Mitigation	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies. Impact avoidance, minimization, and mitigation measures are summarized in Chapter 7 of the Final Tier 1 EIS.
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Recommendations for the FEIS:

- Include information on the timing for implementation of each mitigation measure (e.g. pre-construction, construction, operation), as well as the parties responsible for implementing the identified mitigation. This will enable both ADOT and the public to better track these commitments throughout the span of the project, from programmatic analysis through to project-level analysis, construction, and operation.
- While we understand the goal of achieving a net benefit for wildlife connectivity within the Tucson Mitigation Corridor (TMC) is specific to this section 4(f) property, we recommend that the FEIS strive to identify mitigation measures with the potential to achieve this goal across all wildlife linkage areas within the I-11 corridor.
- As the prohibition of exits and interchanges has been identified as an important mitigation measure within the TMC, we recommend that the FEIS identify whether there are additional sensitive environmental areas within the I-11 Corridor that would benefit from a future prohibition on the construction of exits and interchanges.

Indirect and Cumulative Impacts of the I-11 Corridor

EPA continues to be concerned about the extensive indirect and cumulative impacts that are likely to result from construction of a future I-11 freeway, particularly as the recommended alternative directly fragments large intact habitat blocks in each of the project sections. This is of immediate concern within the northern section of the project area (Segment U) where extensive development has been proposed within the Hassayampa River floodplain, both impacting the hydrology of this important ecological resource, and limiting the potential for future habitat connectivity across a vital East-West wildlife movement corridor.

Recommendations for the FEIS:

- Provide a revised and detailed mitigation strategy for indirect and cumulative impacts in Section 3.17.6 of the EIS, and disclose the timing and parties responsible for implementing the proposed mitigation strategies and measures. While FHWA and ADOT may not be the responsible parties for mitigating each of the indirect and cumulative impacts, NEPA requires that all relevant, reasonable mitigation measures be identified, even if they are outside the jurisdiction of the lead agency (See *40 Most asked Questions Concerning CEQ's National Environmental Policy Act Regulations*).
- Include additional detail on the long-term planning efforts that have been, or will be, initiated with Metropolitan Planning Organizations, local jurisdictions, resource agencies, and landowners to cooperatively plan development and ensure that indirect and cumulative impacts are avoided and minimized to the greatest extent possible throughout the I-11 corridor.
- Identify in the FEIS strategies to ensure that the important East-West wildlife movement corridors that exist between White Tank Mountain Regional Park, the Belmont Mountains, and Bighorn Mountains/Hummingbird Springs Wilderness Areas, as well as North-South along the Hassayampa River, remain viable in light of the indirect and cumulative impacts expected throughout this area.

Coordination with the Sonoran Valley Parkway

It is unclear how the future I-11 project will be integrated with the proposed Sonoran Valley Parkway project, despite its significant overlap with the recommended alternative for I-11. Figure 2-2 of the DEIS identifies the Sonoran Valley Parkway project as an "Important Regional Corridor". The DEIS

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2	Biology; Impact Avoidance, Minimization, and Mitigation	General information on the timing for implementation is included in Section 3.19 of the Final Tier 1 EIS and the responsible party for all measures is ADOT.
3	Impact Avoidance, Minimization, and Mitigation	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach is no longer being pursued. ADOT committed to conducting wildlife connectivity studies in advance of the Tier 2 studies corridor-wide (see Section 3.14.6 in the Final Tier 1 EIS). Development of specific mitigation strategies for each wildlife linkage would be based upon these future wildlife studies. No change made.
4	Biology	Section 3.14.6.2 of the Final EIS identifies minimizing the construction footprint for Pima pineapple cactus habitat areas as well as through the TMC. No other equally sensitive areas were identified during Tier 1 EIS analyses. Tier 2 studies will revisit environmental conditions at the time of implementation and determine whether any additional sensitive areas are present. No change made.
5	Indirect and Cumulative Impacts, Biology	ADOT committed to conducting wildlife connectivity studies in advance of the Tier 2 studies corridor-wide (see Section 3.14.6 in the Final Tier 1 EIS). Development of specific mitigation strategies for each wildlife linkage would be based upon these future wildlife studies. No change made.
6	Indirect and Cumulative Impacts	Mitigation strategies to address indirect effects were included in both the Draft Tier 1 EIS and Final Tier 1 EIS. These include ADOT's commitment to be an active participant in broader efforts to cooperatively plan in the I-11 Project Area, as well as prohibiting interchanges in the Avra Valley area. Section 3.17 in the Final Tier 1 EIS includes these mitigation measures. All mitigation commitments that address direct and indirect impacts would also mitigate cumulative impacts.
7	Indirect and Cumulative Impacts	Details regarding long-term planning efforts are dependent on the planning processes for each individual organization, jurisdiction, and/or agency. ADOT commits to participating in these efforts but does not have the jurisdiction to lead them. Section 3.17 of the Final Tier 1 EIS was revised to include this mitigation measure.
8	Biology	ADOT committed to further study impacts to wildlife linkages crossed by the Preferred Alternative, including each east-west arm of the White Tank linkage (see Final Tier 1 EIS Section 3.14.6). Most of the project area for the Preferred Alternative is west of the Hassayampa River floodplain and would not restrict north-south wildlife movement within the linkage. No change made.
9	Chapter 2, General (NEPA)	The Preferred Alternative and the Sonoran Valley Parkway are both located within a BLM multi-use corridor along the Sonoran Desert National Monument. The I-11 Preferred Alternative overlaps with portions of the BLM's Selected Alternative for the Sonoran Valley Parkway identified in the Record of Decision. The two transportation facilities have different purpose and needs; I-11 is an interstate and the Parkway allows for local access. The specific alignment and design of I-11 will be determined during Tier 2 studies, including any potential tie-ins to the Sonoran Valley Parkway. No change made.

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9 goes on to state that, “Consolidating both the parkway and I-11 within the same BLM multi-use corridor would be compatible with its intended use and would minimize the number of new linear transportation facilities through this environmentally sensitive area.” However, Page 166 of the recently published Final EIS for the Sonoran Valley Parkway states that “there are no known plans for how the I-11 may or may not tie into the proposed Parkway”.

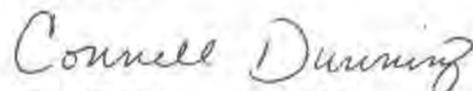
Recommendations for the FEIS:

- Provide additional detail on how future segments of I-11 could be integrated with the proposed Sonoran Valley Parkway project.
- Confirm that the Sonoran Valley Parkway project will not preclude the consideration of alternative alignments in the project area during tier 2 analysis for I-11.
- Coordinate with the Bureau of Land Management to ensure that the Record of Decision for the Sonoran Valley Parkway project confirms that any preservation of right of way will not preclude considering a reasonable range of alternatives during tier 2 analysis for I-11.

10 We note that effective October 22, 2018, EPA no longer includes ratings in our comment letters. Information about this change and EPA’s continued roles and responsibilities in the review of federal actions can be found on our website at: <https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act>.

Thank you for the opportunity to review the Draft Tier 1 EIS for the Interstate 11 Corridor Project. We look forward to continued collaboration with your agencies to further reduce impacts to environmental resources of concern. If you have questions regarding our comments, please contact Clifton Meek, the lead reviewer for this project, at 415-972-3370 or mEEK.clifton@epa.gov.

Sincerely,



Connell Dunning, Acting Manager
Environmental Review Branch

Cc via email:

- Aryan Lirange, Federal Highway Administration
- Rebecca Yedlin, Federal Highway Administration
- Jay van Echo, Arizona Department of Transportation
- Carlos Lopez, Arizona Department of Transportation
- Jesse Rice, U.S. Army Corps of Engineers
- Cheri Boucher, Arizona Game & Fish Department
- Bob Lehman, U.S. Fish and Wildlife Service

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10	Chapter 2	Tier 2 studies will follow all applicable NEPA and environmental study requirements, which include identifying and evaluating a reasonable range of alternatives based on current conditions and other transportation facilities planned or present at the time of implementation. ADOT and FHWA have been in coordination with the BLM (as an I-11 Cooperating Agency) and the City of Goodyear (as an I-11 Participating Agency) throughout the Tier 1 EIS process; this coordination would continue during Tier 2 studies. No change made.
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US Fish and Wildlife Service (USFWS)



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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
333 Bush Street, Suite 515
San Francisco, California, 94104

In Reply Refer To:
19/0143

Filed electronically

August 30, 2019

Ms. Karla Petty
Division Administrator
Federal Highway Administration
4000 N. Central Ave., Suite 1500
Phoenix, AZ 85012

Subject: Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation for Interstate 11 Corridor between Nogales and Wickenburg, Arizona, dated March 2019.

Dear Ms. Petty:

The Department of the Interior (Department) has reviewed the *Draft Tier 1 Environmental Impact Statement (EIS) and Preliminary Section 4(f) Evaluation for the Interstate 11 Corridor in Santa Cruz, Pima, Pinal, Maricopa, and Yavapai Counties, Arizona*, dated March 2019 and provides the attached specific comments on behalf of the U.S. Fish and Wildlife Service.

Thank you for the opportunity to provide comments, and we look forward to continued work with the FHWA and ADOT. For questions regarding the FWS specific comments, please contact Bob Lehman, the FWS Transportation Liaison, at (602) 889-5950 or robert_lehman@fws.gov. For all other comments or questions, please contact me at 415-420-0524 or via email at janet_whitlock@ios.doi.gov.

Sincerely,

Janet Whitlock
Regional Environmental Officer

Attachment

Cc
Shawn Alam, DOI
Jeff Conn, NPS
Lane Cowger, BLM
Sean Heath, BOR

Robert Lehman, FWS
Aryan Lirange, DOT
Joseph Mathews, SOL
Roxanne Runkel, NPS
Rebecca Yedlin, DOT

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US Fish and Wildlife Service Specific Comments

The U.S. Fish and Wildlife Service (FWS) has reviewed the *Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation* for the proposed I-11 corridor from Nogales to Wickenburg, Arizona. Our comments conform to policy outlined in the *U.S. Fish and Wildlife Service Manual*, Section 505, FW 3-4, concerning review of environmental documents and are provided below.

Comments on Key Factors of the EIS

In this section, we update our comments on key factors that we considered in our review of the July 2018 administrative draft of the EIS.

Factor 1. Clear description of Tier 1 level of analysis and appropriate level of analysis

The objective and analytical approach of Tier 1 were clearly described in the Reviewer Guide of the 2018 draft EIS, and in the Introduction and Executive Summary of the current (March 2019) public review draft. The primary purpose of Tier 1 work is to compare differences among the build corridor alternatives (purple, green, and orange) and corridor options (sections of corridor alternatives) to allow a 2,000-foot-wide recommended alternative to be identified that would advance to Tier 2 for further NEPA analysis. FHWA and ADOT considered three factors—purpose and need, impacts, and mitigation—in selecting the recommended alternative. Pre-Tier 2 site-specific and species-specific studies will facilitate decision making during Tier 2 when I-11 planners refine the 2,000-foot corridor down to a 400-foot right-of-way.

The issue of how appropriate Tier 1 analyses were in identifying the recommended alternative is somewhat subjective and depends in part on the emphasis particular agencies and stakeholders place on competing and sometimes incompatible resource values. Our emphasis is on wildlife; however, all stakeholders have the same right to equal consideration during Tier 1 data gathering and analysis. In the end, there are few clearly right choices or clearly wrong choices involved in selecting a recommended alternative. There is, however, the obligation for planners to be fully informed when making those choices.

Factors 2-4. Use of available technical data to evaluate impacts and propose mitigation

What is not subjective is the severity of impacts the recommended alternative is likely to have on particular resources and the level of detail needed to fully inform decision makers about those impacts. One risk of a tiered NEPA process is that a recommended alternative will advance to Tier 2 based on inadequate data.

ADOT referred to the I-11 Tier 1 analysis as a “desktop” analysis. It was qualitative, not quantitative, and relied on literature, digital spatial data, and other information from resource and regulatory agencies, not on new field work or new research. The inventory of biological resources (Chapter 3.14 and Appendix E14) begins with a landscape-level view of vegetation and wildlife in each biotic community in the I-11 study area (e.g., semidesert grassland, Sonoran desertscrub), and from there addresses species and their habitats at increasingly finer scales, i.e.,

ID	Topic	Response
1	General (NEPA)	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies. Comment conveys an accurate understanding of the I-11 Tier 1 study process and biological resources methodology. No change made.

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2	General (NEPA)	See GlobalTopic_1 and GlobalTopic_2.
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by build corridor alternative, corridor option, and finally specific localities (e.g., important bird areas), species groups (threatened and endangered species) habitat types (riparian), drainages, and areas included in wildlife and habitat management plans.

The effects analysis was also qualitative. It considered impacts among build corridor alternatives and corridor options that involve new roadway versus options that are co-located with existing roads and interstate highways. To determine if particular corridors would disproportionately affect wildlife habitat, I-11 planners generated acreage calculations for the amount of overlap of biotic communities, important bird areas, riparian and other specific habitats, and proposed and designated critical habitats of ESA listed species within corridor options. Planners also determined the number of wildlife linkages each corridor option would cross, and estimated the amount of fragmentation that would occur within large intact blocks of habitat. Chapter 3.2 of the draft EIS, provides a summary of key environmental impacts.

Mitigation strategies for listed species and other wildlife are stated in preliminary form for all corridor options (see Tables 3.14-11 and Table 3.14-12), for example, for Option A and threatened and endangered species:

Avoid widening I-19 to the east along the Santa Cruz River and impacting habitat; conduct pre-construction surveys [for listed species] where appropriate; and consult with the USFWS, as needed.

Thus, Tier 1 work summarized potential I-11 impacts by identifying what species and other biological resources occur in the project area, where they occur, and to what extent those resources overlap project boundaries. Mitigation needs were addressed in general terms, as illustrated above, and were deferred to Tier 2 for further development. More specific mitigation measures, e.g., for individual species within particular corridor options, would be difficult to address without work on the ground; however, the field studies required to assess impacts and mitigation needs in greater detail are not planned until after Tier 1, as part of pre-Tier 2 field studies.

Factor 5. Clarity

No comment other than to say that presentation of data in the tables and figures of Chapter 3.14 and Appendix E14, and related discussions in the text, are clear and readable.

2

Factor 6. Process of Identifying a Recommended Alternative

In theory, the recommended alternative is the one that will best meet the purpose and need and result in the fewest impacts, or at least result in impacts that can be mitigated and reduced to an acceptable level. In practice, however, FHWA and ADOT identified a recommended alternative that is a hybrid mostly of the purple and green alternatives which are composed of many corridor options with few existing roadways and interstate highways. The recommended alternative will require new construction along eight of its nine corridor options, and includes one corridor (Option D) that will have ecological and biological effects far greater than any build corridor alternative considered. The recommended alternative will open relatively undeveloped areas of

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2 central Arizona to municipal, urban, and suburban development; will reduce the natural values of national and regional parks and monuments in the Avra Valley west of Tucson; will place a new bridge across one of the few undeveloped reaches of the Gila River near Phoenix (Option N); will reduce irrigation recharge in the Gila River and threaten marshlands and riparian areas that support listed bird species (Options N and R); and in the case of Option D, will severely impact the endangered Pima pineapple cactus (PPC) (*Coryphantha scheeri* var. *robustispina*) and the Tucson Mitigation Corridor (TMC), an existing mitigation property west of Tucson.

In contrast, eight of nine corridor options that comprise the orange build alternative would be co-located with existing interstate highways (I-19, I-10, I-8) and other state and county roadways (the reverse of the recommended alternative), and its effects to wildlife, other biological resources, and natural landscape values would be minor compared to the recommended alternative.

Specific EIS and Section 4(f) Comments

In this section, we address concerns about adverse effects the recommended alternative is likely to have on certain species and wildlife conservation lands involving FWS authorities.

Pima Pineapple Cactus

3 Here we re-emphasize the following key points from our 2018 review of the draft EIS:

- Option D of the recommended alternative is likely to have the greatest impact on the PPC of any corridor alternative or option considered in the EIS.
- We recommend that PPC field surveys to determine numbers of individual cactus plants and acres of habitat inside the recommended alternative occur before Option D is finalized in the Record of Decision.
- The objective of field studies will be to assess if impacts to the PPC associated with the recommended alternative can effectively be avoided or mitigated. We acknowledge ADOT’s commitment, stated in the current EIS draft, to survey suitable PPC habitat within all corridor options one year prior to Tier 2.
- Mitigation and compensation for PPC losses will be possible only if those losses do not involve a substantial proportion of the remaining PPC population, which is unknown, and to the extent that PPC conservation bank credits or mitigation lands are available for purchase.
- If impacts to the PPC within the recommended alternative cannot be mitigated, ADOT will need to choose among other corridor alternatives and options where PPC numbers are likely to be lower.
- We recommend that all options for aligning I-11 through Pima County remain open until the potential effects of the recommended alignment are understood.

4 **Section 4(f) Evaluation for the Tucson Mitigation Corridor**

5 Option D of the recommended alternative includes the CAP Design Option (hereafter CAP Design) that would align I-11 and Sandario Road, a county road that currently borders the

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3	Biological	See GlobalTopic_1. Mitigation strategies and future Tier 2 analysis commitments included in the Final Tier 1 EIS relevant to PPC include: <ul style="list-style-type: none"> • Participate, support, and commit to long-term invasive and noxious weed management efforts in the I-11 Corridor. To effectively combat noxious and invasive weeds, a coordinated effort across federal, state, and local levels is required. Noxious and invasive weed control on BLM or USFS lands would occur in accordance with previously approved environmental assessments. Long-term management of invasive and noxious weeds would be necessary to minimize indirect and cumulative effects to the Pima pineapple cactus and its habitat. • Minimize construction footprint through quality Pima pineapple cactus habitat, survey suitable habitat 1 year prior to the Tier 2 process to inform design, implement long-term control of invasive and noxious weeds; and negotiate compensatory mitigation with USFWS, as needed. • Negotiate compensatory mitigation with USFWS during the Tier 2 process if impacts to ESA-listed species or habitat are determined likely to occur. In addition, corridor alignments can be shifted during the Tier 2 process to avoid PPC populations or prime habitat; the necessity of shifting the corridor alignment would be evaluated during Tier 2 after surveys for PPC have been completed.
4	General (NEPA)	See GlobalTopic_1.
5	Section 4(f), Cultural Resources	FHWA revised the Preliminary Individual Section 4(f) Evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued. See GlobalTopic_1.

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5 TMC’s western boundary, through the TMC alongside the existing Central Arizona Project (CAP) aqueduct. Among other proposed mitigation measures, ADOT would include wildlife crossings in the I-11 and Sandario Road designs to match wildlife crossings in the TMC that were built into the CAP when the aqueduct was constructed.

FHWA and ADOT have determined that the CAP Design will result in a net benefit to the TMC, given extensive mitigation efforts designed to reduce adverse effects of the proposed action. However, the U.S. Bureau of Reclamation (BOR) manages the TMC under a Master Management Plan that prohibits future development other than existing wildlife habitat improvements and other developments agreed to by all signatories, including the FWS.

The CAP Design clearly and directly conflicts with the property’s stated purpose and provisions of the Master Management Plan. The proposed action will significantly and irreversibly alter the property, and there is no reason to conclude that those changes will not involve adverse effects to wildlife that will outweigh potential benefits. In fact, we have difficulty foreseeing any positive outcome for the TMC property under the CAP Design. If approval for use of the TMC is not forthcoming, FHWA and ADOT will need to consider Option B under the orange alternative for siting I-11 (Option C of the purple alternative also includes use of the TMC). Instead, the project proponents have concluded that there are no feasible and prudent alternatives to the CAP Design.

FWS fails to see how the purposes of the TMC property can be furthered or made better by aligning a new interstate highway through the property. The 4(f) evaluation states that moving Sandario Road from its present location on the property’s western edge into the TMC will eliminate the road’s barrier effect; however, the extent to which Sandario Road represents a barrier to wildlife movements is not documented, and even if it is a barrier, we fail to see why I-11 is needed to mitigate for Sandario Road’s adverse effects on wildlife movements.

FWS questions ADOT’s conclusion that there are no feasible or prudent alternatives to the CAP Design. The evaluation also found 7 properties in Tucson—3 historic buildings, a historic railroad, 2 city parks, and a hiking trail—that cannot be accommodated or avoided, thus, would require approval for use under Section 4(f) if they were part of the recommended alternative, and we cannot adequately explain why these properties were dismissed as infeasible and/or imprudent alternatives.

Option N, Option R, and PLO 1015 Lands on the Gila River

6 We continue to have reservations about Option N of the recommended alternative, which would require a new bridge crossing of the Gila River west of Phoenix, as opposed to co-locating I-11 with SR 85 (Option Q2 of the green alternative), which crosses the river further downstream and is our preference.

Construction of a new bridge at the proposed crossing will impact the endangered Yuma Ridgeway’s rail (YRR) (*Rallus obsoletus yumanensis*), and possibly the threatened western yellow-billed cuckoo (*Coccyzus americanus*) and endangered southwestern willow flycatcher (*Empidonax traillii extimus*), due to habitat loss and elevated disturbance levels.

6	General (NEPA), Biological Resources, Section 4(f)	See GlobalTopic_2.
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6 Of particular concern would be the permanent loss of irrigation runoff that currently helps to recharge the Gila River and maintain marsh and riparian habitats at the Option N crossing and along river reaches upstream and downstream of the crossing. The Option N alignment would bend sharply to the west after the river crossing and would eliminate 8.5 miles of irrigated pasture and croplands along the Gila River. Option R, which begins at SR 85 and continues west, would eliminate another 5.8 miles of irrigation lands. We recommend that status assessments of rails, cuckoos, flycatchers and their habitats occur during pre-Tier 2 studies within all reaches of the Gila River that may be affected by bridge and roadway construction. During those studies, ADOT should carefully consider how the loss of irrigation recharge in the Gila River will affect marsh and riparian habitats within affected areas.

6 Another concern associated with Option N is the intersection of the 2,000-foot-wide build corridor alternative with several small parcels of FWS National Wildlife Refuge (NWR) lands managed by AGFD as the Gila River Waterfowl Management Area under Public Land Order (PLO) 1015. ADOT has determined that these NWR lands can be avoided when the narrower (400-foot-wide) I-11 alignment is established during Tier 2. During the preliminary Section 4(f) evaluation, ADOT determined that proximity effects of aligning I-11 near these refuge lands would not be so severe that the lands could not continue to fulfill their function as wildlife habitat. However, we recommend that these lands be surveyed during pre-Tier 2 field studies to assess what wildlife species are currently using the lands and to more carefully analyze the effects that I-11 may have on that wildlife. We also recommend that all options for aligning I-11 in the vicinity of the Gila River west of Phoenix (including Option Q2) remain open until pre-Tier 2 wildlife studies have been completed and potential effects of all possible alignments are well understood.

Tumamoc Globeberry

7 ADOT is aware that this species occurs in Pima County within corridor Options C and D, and that the species has seriously declined in Pima County in recent years. We recommend that a status assessment for this species be conducted and that the species be included in mitigation strategies that may be developed within those corridor options.

Other Special Status Species and Managed Lands for Wildlife

8 The EIS states that ADOT will work with federal, state, and local agencies before and during Tier 2 to evaluate potential impacts to all special status species and to avoid or minimize those effects. We encourage I-11 planners to apply the same due diligence to any and all lands managed for wildlife values that may lie in or near the path of the future I-11 corridor. We also encourage planners to coordinate with government agencies and private organizations that are signatories to FWS habitat conservation plans (HCPs), e.g., the City of Tucson HCP, and multi-species conservation plans (MSCPs), e.g., Pima County MSCP.

Conclusions

- 9 From a wildlife perspective, the orange alternative is the preferred alternative overall, and Option B of that alternative, which would align I-11 through Tucson, is preferable to Option D of the recommended alternative.

7	Biological	In the Draft Tier 1 EIS, ADOT committed to work with federal and state agencies as well as affected municipalities during the Tier 2 process to evaluate potential impacts to other sensitive species listed by these entities. Tumamoc globeberry will be included in these Tier 2 evaluations as it is listed as a species of concern by Pima County. If the species continues to decline, it is also possible that it would be considered at least a Candidate Species under the Endangered Species Act by the time this section of I-11 begins the Tier 2 process and would be evaluated at that level. The list of T&E species will be evaluated in Tier 2. If the Tumamoc Globeberry is listed at that time, it will be evaluated as such. No change made.
8	General (NEPA), Biological	Final Tier 1 EIS Section 3.14.6 and Chapter 7 include mitigation commitments to work with AGFD and relevant stakeholders in determining wildlife connectivity data needs and study design, to fund and facilitate those studies, and to work with stakeholders to identify solutions to facilitate the wildlife movement. Because AGFD is the Arizona expert on wildlife connectivity, ADOT has committed to coordinating with AGFD regarding these studies and to identify additional agencies and stakeholders involved as segments of I-11 are funded and relevant land managers can be determined for each I-11 segment.
9	General (NEPA), Biological & Section 4(f)	See GlobalTopic_1 and GlobalTopic_11. FHWA revised the Preliminary Individual Section 4(f) Evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.

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- It is the FWS’s opinion that the draft preliminary 4(f) analysis is inadequate to conclude that there are no feasible and prudent alternatives to the CAP Design.
- The requirement of all possible planning to minimize effects of the proposed action has not been met with respect to the Tucson Mitigation Corridor.
- FWS urges the project proponents to consider options other than the CAP Design for aligning the future I-11 roadway; however, we will defer to any decision BOR makes regarding 4(f) use of the Tucson Mitigation Corridor.

The FWS looks forward to continuing our cooperation with FHWA and ADOT on the I-11 project. If you have questions or wish to discuss our comments and concerns, please contact Bob Lehman, the FWS Transportation Liaison, at (602) 889-5950 or robert_lehman@fws.gov.

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US Forest Service (USFS)



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ID	Comment Document			
	United States Department of Agriculture	Forest Service	Coronado National Forest Supervisor's Office	300 West Congress St. Tucson, AZ 85701 520-388-8300 Fax: 520-388-8305

File Code: 1900
Date: July 1, 2019

Ms. Rebecca Yedlin
FHWA Environmental Coordinator
4000 N. Central Avenue, Suite 1500
Phoenix, AZ 85012

Dear Ms. Yedlin:

The Coronado National Forest (CNF) has reviewed the Federal Highway Administration (FHWA)/Arizona Department of Transportation (ADOT) I-11 Tier 1 Draft Environmental Impact Statement (DEIS). Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA) (42 USC 4321, et seq) and under the guidance of the 2018 Coronado National Forest Land and Resource Management Plan (Forest Plan).

The Forest Plan is a strategic management tool providing guidance to CNF over the next 15 years with a focus on the following: ecosystem restoration and resiliency, visitor experiences, access to National Forest System (NFS) lands, preservation of open spaces, and communities, collaboration, and partnerships. Per the Forest Plan, "In recent years, the Forest Service has been prioritizing relationships between national forests and surrounding communities, as well as communities of interest. There is a growing realization that the Coronado National Forest will need to work in partnership with other entities to sustain the natural and social environment within its boundaries. All agencies and nongovernmental organizations that manage wildlife, fish, rare plants, and their habitats need to work together as complete partners, rather than relying on an individual group or agency to bear the burdens of management and conservation."

While the recommended I-11 alternative does not directly impact CNF lands, the Forest Service operates under many of the same rules and legislations guiding the management of the Department of Interior (DOI) including the National Environmental Policy Act (1969), the Endangered Species Act, and The Wilderness Act (1964). The Coronado National Forest and Saguaro National Park share a boundary and a history of partnership. The Forest Plan stresses the importance of maintaining and enhancing collaborative relationships with partners and communities to promote and develop consistency among resource plans and integrate common goals and strategies. The CNF has an active partnership with Saguaro National Park and a shared conservation mission. The CNF does not support Option D of the Recommended Alternative which parallels the Central Arizona Project (CAP) canal through the Avra Valley and affects sensitive and irreplaceable resources of Saguaro National Park and other DOI managed lands. The CNF prefers an option which would be co-located with I-19 and I-10 through Pima County and the Tucson urban area for the southern section. This option best avoids potential adverse impacts to sensitive biological resources in the area including vegetation and wildlife habitat, threatened and endangered species, and scenic resources. The CNF would like to see this route fully analyzed in the Tier II EIS.

In addition to our support of partnership and resource protection, the CNF has the following comments regarding the Tier I DEIS:

ID	Topic	Response
1	General	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies. ADOT and FHWA recognize Coronado National Forest's (CNF) need and strategic goal of working in partnership with other entities and organizations that manage wildlife, fish, rare plants, and their habitats.
2	General	ADOT and FHWA acknowledge CNF preference for Option B. See GlobalTopic_1.



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Ms. Rebecca Yedlin

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Comments

- 3 - The Tier 1 EIS is not evaluating wilderness as a resource. Wilderness is scattered throughout the document as a 4(f) resource, Land Use, recreation, etc. The CNF would like to see wilderness added as its own section in Chapter 3 Affected Environment and Environmental Consequences in the Tier II study. All wilderness areas are part of one National Wilderness Preservation System and their management must be consistent with the Wilderness Act and establishing legislation. As per section 2(c)(2) of the Wilderness Act, wilderness is managed to preserve natural conditions that, “has outstanding opportunities for solitude or a primitive and unconfined type of recreation.” Wilderness provides more than just recreation and scenic opportunities.
 - o How will the impacts to solitude be evaluated?
 - o How will impacts to wilderness character be evaluated?
 - o What mitigation will occur?

The CNF recommends using the Forest Service Manual (FSM) Chapter 2320 Wilderness Management for guidance. Per the Forest Service Manual Chapter 2320, “Manage the wilderness resource to ensure its character and values are dominant and enduring. Its management must be consistent over time and between areas to ensure its present and future availability and enjoyment as wilderness. Manage wilderness to ensure that human influence does not impede the free play of natural forces or interfere with natural successions in the ecosystems and to ensure that each wilderness offers outstanding opportunities for solitude or a primitive and unconfined type of recreation. Manage wilderness as one resource rather than a series of separate resources. Where a choice must be made between wilderness values and visitor or any other activity, preserving the wilderness resource is the overriding value. Economy, convenience, commercial value, and comfort are not standards of management or use of wilderness (sec. 2320.6)”
- 4 - 3.16 Irreversible and Irretrievable Commitment of Resources, 3.16.3 Potential Impacted Resources, page 3.16-1: the CNF would like to see wilderness added to the list of Potential Impacted Resources. Wilderness is a unique and vital resource with measureable impacts that can be assessed at direct and indirect levels. As with other measureable resources, impacts to wilderness would have irreversible and irretrievable commitments.
- 5 - 6.4 Impact Avoidance, Minimization, and Mitigation, Table 6-4 Corridor Wide Mitigation Strategies: the CNF recommends adding wilderness as a Resource Area to this table. Wilderness is a managed resource with measureable impacts.

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3	General (NEPA)	This Tier 1 EIS was prepared consistent with FHWA Technical Advisory T 6640.8A. FHWA does not include Wilderness as a stand-alone resource area in their EIS documents. The Draft Tier 1 EIS evaluated wilderness in appropriate sections (including Section 3.3 Land Use, Section 3.9 and Appendix E9 Visual, and Chapter 4 Section 4(f)). No change made.
4	Irreversible and Irretrievable	Direct and indirect impacts to wilderness have been evaluated in the Final Tier 1 EIS in Section 3.3 Land Use, Section 3.9 and Appendix E9 Visual, and Chapter 4 Section 4(f). No change made.
5	General (NEPA)	See response to USFS Comment 3.

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Ms. Rebecca Yedlin

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Air

- 6 - Saguaro National Park was designated a Class 1 airshed and has been granted protection under the Clean Air Act. Visibility is monitored in parks and wilderness areas as part of the IMPROVE program, a cooperative effort that includes the U.S. Forest Service. Visibility impairment results largely from small particles in the atmosphere. The primary visibility impairing pollutants are ammonium sulfate, ammonium nitrate, coarse mass, and organic carbon. Motor vehicles are the primary source of ammonium nitrate in the atmosphere. Increasing motor vehicle traffic on the border of SNP would have negative effects on visibility and the Class 1 airshed designation of SNP. The CNF requests that the following measures are implemented during the next phase:
 - o 1. Define air quality related values (AQRV) in SNP and initiate action to protect those values.
 - o 2. For each air quality related value, select sensitive indicators, monitor, and establish the acceptable level of protection needed to prevent adverse impacts (FSM 2120).
 - o 3. Determine the potential impacts of proposed facilities in coordination with State air quality management agencies. Make appropriate recommendations in the permitting process following established Prevention of Significant Deterioration application review procedures for major emission sources. Requests to air quality management agencies for consideration of class II values in the permit process are appropriate (FSM 2120).
- 7 - In 3.10.4.1 Purple Alternative, page 3.10-19 at 3, and 3.10.4.2 Green Alternative, page 3.10-22 at 30: states that from an air quality planning perspective, the Purple or Green alternatives may have a small benefit for regional air quality by shifting traffic away from the existing roadways and reducing congestion and delay. This statement has no citation for reference. Would it be equally likely that the increased Vehicle Miles Traveled (VMT) of a Build Alternative offset potential air quality improvements?

Environmental Justice

- 8 - Section 3.5 Community Resources, Title VI, and Environmental Justice, Figures 3.5-4 (page 3.5-17) and 3.5-5 (page 3.5-18): These figures do not have consistency in representing Tribal Lands. In Figure 3.5-4 the Tohono O’odham and Pascua Yaqui are represented as Census Tracts but Figure 3.5-5 represents them as Tribal Lands. CNF requests new Figures showing consistency in representation. (Same comment applies to Figures 3.5-7 (page 3.5-20) Low-Income Populations – South Section and 3.5-8 (page 3.5-21) Low-Income Populations – Central Section).
- 9 - At 3.5.3.3 Environmental Justice page 3.5-23 at 13, it mentions Tribal Lands in relation to minority and low-income. Please provide a citation for the reference where this material can be found. Interstate design standards are based on avoidance and minimizing impacts to Tribal lands. Under these standards, why are these community demographics not visually represented in the maps? The CNF requests it be added to the maps.

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6	Air Quality	ADOT and FHWA recognize the importance of Saguaro National Park and the concern that the Recommended Alternative would have a negative effect on visibility and the Class I airshed designation of Saguaro National Park. See GlobalTopic_1.																																																							
7	Air Quality	This statement is supported by data provided in the Draft Tier 1 EIS, which summarized the results of the travel demand modeling. Higher system VMT, when compared to the no build, means vehicles are diverting from using existing roads and driving farther to use I-11. Table 2-5 of the Draft Tier 1 EIS provided 2040 VMT data: <div style="text-align: center;"> <p>Table 2-5 2040 Vehicle Miles Traveled</p> <table border="1"> <thead> <tr> <th>Section</th> <th>No Build Alternative</th> <th>Purple Alternative</th> <th>Green Alternative</th> <th>Orange Alternative</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="text-align: center;">Passenger Cars and Trucks</td> </tr> <tr> <td>South</td> <td>30,088,800</td> <td>30,255,800</td> <td>30,126,400</td> <td>30,301,100</td> </tr> <tr> <td>Central</td> <td>6,190,200</td> <td>8,108,900</td> <td>7,577,000</td> <td>6,422,600</td> </tr> <tr> <td>North</td> <td>2,478,100</td> <td>2,487,800</td> <td>2,585,000</td> <td>2,605,200</td> </tr> <tr> <td>Total</td> <td>38,757,100</td> <td>40,852,500</td> <td>40,288,400</td> <td>39,328,900</td> </tr> <tr> <td colspan="5" style="text-align: center;">Trucks</td> </tr> <tr> <td>South</td> <td>4,175,200</td> <td>4,196,000</td> <td>4,177,300</td> <td>4,211,800</td> </tr> <tr> <td>Central</td> <td>946,000</td> <td>2,052,500</td> <td>1,748,200</td> <td>990,400</td> </tr> <tr> <td>North</td> <td>205,000</td> <td>211,400</td> <td>246,700</td> <td>240,000</td> </tr> <tr> <td>Total</td> <td>5,326,200</td> <td>6,459,900</td> <td>6,172,200</td> <td>5,442,200</td> </tr> </tbody> </table> <p><small>SOURCE: ADOT 2018.</small></p> </div> <p>Reductions in emissions from improved travel times and reduced congestion for the Build Corridor Alternatives may be partially offset by the increase in VMT caused by new freight travel patterns as more trucks begin to utilize the corridor. For the past several decades, even with the growing VMT, there has been an overall downward trend of total pollutant emissions in the Study Area from mobile sources due to federal regulations on motor vehicles to reduce tailpipe emissions. Additionally, the US has seen a trend of increasing sales of electric vehicles.</p> <p>No change made.</p>	Section	No Build Alternative	Purple Alternative	Green Alternative	Orange Alternative	Passenger Cars and Trucks					South	30,088,800	30,255,800	30,126,400	30,301,100	Central	6,190,200	8,108,900	7,577,000	6,422,600	North	2,478,100	2,487,800	2,585,000	2,605,200	Total	38,757,100	40,852,500	40,288,400	39,328,900	Trucks					South	4,175,200	4,196,000	4,177,300	4,211,800	Central	946,000	2,052,500	1,748,200	990,400	North	205,000	211,400	246,700	240,000	Total	5,326,200	6,459,900	6,172,200	5,442,200
Section	No Build Alternative	Purple Alternative	Green Alternative	Orange Alternative																																																					
Passenger Cars and Trucks																																																									
South	30,088,800	30,255,800	30,126,400	30,301,100																																																					
Central	6,190,200	8,108,900	7,577,000	6,422,600																																																					
North	2,478,100	2,487,800	2,585,000	2,605,200																																																					
Total	38,757,100	40,852,500	40,288,400	39,328,900																																																					
Trucks																																																									
South	4,175,200	4,196,000	4,177,300	4,211,800																																																					
Central	946,000	2,052,500	1,748,200	990,400																																																					
North	205,000	211,400	246,700	240,000																																																					
Total	5,326,200	6,459,900	6,172,200	5,442,200																																																					
8	Environmental Justice	Census Tract data inventorying all tribal lands in the study area were collected and included in the analysis and are listed in Draft Tier 1 EIS Appendix E5, Demographic Data to Support the Title VI, Environmental Justice, and Limited English Proficiency Analysis. For example, demographic data for the Tohono O’odham Nation Schuk Toak District was shown as Census Tract 9408; while Tohono O’odham Nation San Xavier District was shown as Census Tract 9409. While the color and shading of the tribal lands layer in the Draft Tier 1 EIS figures were inconsistent, these inconsistencies were limited to the mapping and were not substantive to the analysis. As there is no change to the data presented in the maps, they were not revised nor included in the Final Tier 1 EIS. No change made.																																																							
9	Environmental Justice	See response to USFS comment 8.																																																							

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	Ms. Rebecca Yedlin 4
10	<ul style="list-style-type: none"> - In Figures 3.5-4, 3.5-5, 3.5-6, 3.5-7, 3.5-8, 3.5-9 Census Tracts (CT) part of the Study Area Demographics legends for Minority and Low Income maps. The DEIS does not have an explanation in the chapter, or within the maps, about what these percentages represent. The CNF requests that an explanation is included about what CT represents.
11	<ul style="list-style-type: none"> - Why were Minority and Low Income Demographics not represented for the Tohono O’odham Nation or Pascua Yaqui Tribe (Figures 3.5-4 through 3.5-9)? Demographic analyses have been completed for the Tohono O’odham Nation. The CNF requests this information be added to the Low Income Populations and Minority Populations Figures because the current maps do not represent Tribal demographics. How can an accurate analysis of potential impacts to these Nations be completed without this information?
	Recreation and Economic Impacts
12	<ul style="list-style-type: none"> - 3.4 Recreation, Table 3.4-1 Agencies and Policies and Regulations for Managing Recreation page 3.4-2: The Wilderness Act should be added to NPS Policy of Regulation column.
13	<ul style="list-style-type: none"> - 3.6.6 Future Tier 2 Analysis age 3.6-19 at 33: “The Tier 2 EIS also can take advantage of the recently released Outdoor Recreation Satellite Accounts.” The U.S. Forest Service is a Federal Recreation Council Member for the Bureau of Economic Analysis Outdoor Recreation Satellite Account. We anticipate that I-11 could have effects on CNF managed NFS lands. We would like to see a comprehensive study of the direct and indirect effects to recreation and tourism and the effects of I-11 in the Tier 2 EIS.
14	<ul style="list-style-type: none"> - The DEIS did not identify any properties in the study areas under the Department of Transportation’s Federal Highway Administration Recreational Trails Program (RTP). Will any areas or properties acquired, leased, or under easement of RTP funding be impacted by any of the proposed alternatives? Once these lands are acquired, they are to remain a public trail for a minimum of 25 years. The CNF requests that if present, these areas be identified, summarized, and a discussion of potential mitigation strategies be included. If these areas are not present, please include a statement that this program was analyzed for impacts.
15	<ul style="list-style-type: none"> - Table 4-1 Parks, Recreation Areas, and Wildlife/Waterfowl Refuges Protected by Section 4(f) in the Study Area page 4-15: Features/Attributes column: Forest should be 1.8 million acres, not 1.7 million acres. Also “forest” is listed as one of the multiple uses, please correct as “forest” is not a use of USFS lands.
16	<ul style="list-style-type: none"> - Per U.S. Department of Transportation Federal Highway Administration Section 4(f) guidance, “The programmatic evaluation does not apply if a feasible and prudent alternative is identified that is not discussed in this document. The project record must clearly demonstrate that each of the above alternatives was fully evaluated before the Administration can conclude that the programmatic evaluation can be applied to the project.” FHWA and ADOT propose using the programmatic net benefit for use of the Tucson Mitigation Corridor (TMC) property. The CNF requests that FHWA and ADOT

ID	Topic	Response
10	Environmental Justice	See response to USFS comment 8.
11	Environmental Justice	See response to USFS comment 8.
12	Recreation	The Wilderness Act was added to Final Tier 1 EIS Section 3.4.2.
13	Recreation, Economics	Additional studies of direct and indirect effects to recreation and tourism will be included in Tier 2. See GlobalTopic_8. No change made.
14	Recreation	The FHWA list of Recreational Trails Program (RTP) sites was reviewed in January 2020 and no RTP areas or properties were identified within the study area. Future Tier 2 analysis will update the list of recreation sites and this would include revisiting the process of identifying FHWA RTP properties and restrictions on those properties.
15	Section 4(f)	Final Tier 1 EIS Table 4-1 was updated to correct the cited forest as 1.8 million acres and the multiple uses revised to list: sustaining sky island ecosystems, mining, range grazing, wilderness, recreation.
16	Section 4(f)	FHWA revised the Preliminary Individual Section 4(f) Evaluation for the Final Tier 1 EIS; the programmatic net benefit approach will no longer be pursued.

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Ms. Rebecca Yedlin

5

16 use individual findings for the TMC property as the applicability of programmatic evaluation has not been met according to the standards defined by U.S. Department of Transportation Federal Highway Administration Section 4(f) guidance.

Alternatives

17 - The recommended alternative bisects the 2,514 acre TMC used for wildlife habitat and connectivity and rare plant preserve to offset adverse impacts from the CAP. Any alternative which impacts the TMC nullifies the purpose for which it was preserved and is contrary to management guidelines that explicitly prohibit development on these lands. The CNF strongly opposes any alternative which impacts the TMC.

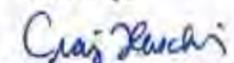
18 - Several studies have rigorously documented the induced travel effect, in which added highway capacity leads to added vehicle travel. This often results in congestion reducing benefits being overstated and environmental impacts being understated. In 2015, the California Department of Transportation (Caltrans) sponsored a review of research on the induced travel effect to inform transportation analysis guidance in response to new laws in California, such as Senate Bill 743. This bill prohibited the use of vehicle level of service (LOS) and similar measures as the sole basis for determining significant transportation impacts under the California Environmental Quality Act. In keeping with the best available science to support transportation models and predictions, has ADOT and FHWA accounted for the induced travel effect in the transportation models used to predict travel times of each alternative?

19 - Chapter 6 Recommended Alternative 6.2 Differentiating and Substantive Impacts: the CNF would like to see VMT used as an evaluative tool along with the qualitative measure of level of service (LOS) for each road section. Currently it is only in 6.2.4 Casa Grande to Buckeye at 26.

20 - 3.10.4 Environmental Consequences pg. 3.10-16, states that, "Transportation strategies associated with the Build Corridor Alternatives generally affect emissions by having one or more of the following effect:" Reducing VMT and/or vehicle trips is listed. According to Table 2-5 2040 Vehicles Miles Traveled page 2-29, all Build Alternatives increased VMT as compared to the No Build Alternative. Please provide a citation or reference of how the Build Alternatives reduce VMT.

If you have any questions about the CNF's comments, please contact Emily Reynolds at 520-388-8311. We look forward to reviewing the results of the Tier 2 studies, including the mitigation to avoid or minimize adverse impacts to these resources. The CNF looks forward to future coordination with FHWA and ADOT.

Sincerely,


for KERWIN S. DEWBERRY
Forest Supervisor

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17	General (Alternatives)	See GlobalTopic_11.
18	Chapter 2	Forecasts from the Arizona Statewide Travel Demand Model do not account for the induced travel effect. Statewide model forecasts were used for comparative analysis of alternative corridor travel time performance. No change made.
19	Chapter 2	Six metrics were developed to evaluate how effectively each alternative met the I-11 Purpose and Need: access to planned growth areas, reduction in travel time, level of service, percent increase in VMT, serving economic activity centers, and providing an alternative regional route. All six metrics were considered in determining the Recommended and Preferred Alternatives. The results of this evaluation are summarized in Draft Tier 1 EIS Table 6-1. All six metrics have also been considered in determining the Preferred Alternative; this evaluation is documented in Final Tier 1 EIS Chapter 6. Vehicle Miles Traveled (VMT) was evaluated based on end-to-end alternatives only. Calculation of VMT by segment is beyond the scope of this Tier 1 analysis and will be completed during Tier 2 studies.
20	Chapter 2, Air Quality	This statement was intended to convey the range of strategies transportation projects generally employ to affect emissions. They include reducing VMT, reducing congestion, and improving vehicle speeds. No change made.

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Arizona Game and Fish Department (AGFD)



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1	General	Thank you for your input and continued cooperation and interest in the I-11 Corridor Tier 1 EIS. FHWA and ADOT value the technical expertise and feedback on the Draft Tier 1 EIS provided by Cooperating Agencies.
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July 8, 2019

Karla S. Petty
 Arizona Division Administrator
 Federal Highway Administration
 4000 N. Central Ave., Suite 1500
 Phoenix, AZ 85012

Re: AGFD Comments on FHWA-AZ-EIS-19-01-D, Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation (Draft Tier 1 EIS) for the Interstate 11 Corridor between Nogales and Wickenburg, AZ project (Federal Highway Administration and ADOT) (April 5, 2019) and Errata (April 25, 2019)

Dear Ms. Petty:

The Arizona Game and Fish Department (Department) has a key role in the conservation of wildlife populations and the habitats upon which these species rely in trust for the use and enjoyment of Arizona’s citizens. The Department also views and supports projects such as the Interstate 11 Corridor as an important component of this state’s economic development. These two positions are compatible with each other so long as planning avoids, to the extent practical, adverse impact to environmental components and where impacts are unavoidable, effective mitigation is in place to offset impacts.

1

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) have worked cooperatively with the Department throughout the Tier 1 NEPA process. The Department appreciates that extensive information about the wildlife, habitat, and wildlife-related recreation within the Study Area has been incorporated into the Affected Environment section of the DEIS which identifies Species of Greatest Conservation Need (SGCN) and Species of Economic and Recreational Importance (SERI); hunting and other wildlife recreation activities, the importance of ecotourism and outdoor and wildlife-related recreation to Arizona’s economy; and the recognition of Game Management Units. The Department also appreciates the level of detail of project impacts to habitat fragmentation and ADOT’s intent to address wildlife connectivity through pre-Tier 2 studies to identify the crossing structures, design features, and other measures to facilitate wildlife movement across freeways.

While section-specific comments on the DEIS were requested by ADOT/FHWA, the Department first wanted to comment on some overarching issues in the analysis of effects and recommended mitigation measures. Section-specific comments on the DEIS can be found in the appendix to this letter.

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Mitigation Strategies

2 While many species- and site-specific analyses are appropriate under a Tier 2 level analysis process, the decision to identify a single 2,000-foot wide and 280-mile long corridor has landscape-level implications for habitat fragmentation, habitat loss, wildlife movement, and wildlife related recreation may not meet the intent of NEPA. It seems appropriate to mention that Sonoran desert tortoise habitat is being managed under a Candidate Conservation Agreement with Assurances and lack of adequate protective action on a swath of land this large may be sufficient to lead to a petition for relisting this species. The Tier 2 analysis will refine the 2000-foot corridor down to a 400-foot right-of-way which could result in direct impacts to over 12,000 acres (400-foot width by approximately 250 miles of new infrastructure). Impact avoidance and minimization measures alone will not be adequate to mitigate the landscape-scale cumulative loss and degradation of habitat. Therefore, a clear acknowledgment is needed that mitigation for habitat loss throughout the corridor, through a combination of habitat preservation and acquisition, is an appropriate mitigation strategy (See 23 CFR 777.5 - FHWA policy permits the expenditure of federal funds by FHWA and State DOTs for habitat mitigation, including establishment of wetlands and acquisition of lands).

2	Biology – Mitigation for habitat loss	The Tier 1 EIS is in compliance with NEPA per 40 CFR 1508.28. See GlobalTopic_8. A mitigation strategy was added to Final Tier 1 EIS Section 3.14.5 for general wildlife habitat loss stating that during the Tier 2 process ADOT will coordinate with AGFD and other stakeholders to determine compensation for wildlife habitat loss based on the results of the Tier 2 wildlife studies.
3	Biology – Mitigation for habitat loss	See response to AGFD Comment 2. Final Tier 1 EIS Chapter 7 summarizes the mitigation measures and Tier 2 analysis recommendations to facilitate compliance in Tier 2 studies. This list of mitigation measures will be presented in the Tier 1 Record of Decision (ROD) and represent commitments that shall be implemented in Tier 2 projects within the I-11 corridor. Project-specific mitigation strategies beyond those listed in Final Tier 1 EIS Chapter 7 of the Final Tier 1 EIS and the ROD will be developed prior to, and during, the Tier 2 process when a specific roadway section has been identified and funded to move forward. A comprehensive Programmatic Mitigation Plan will not be completed as part of the Tier 1 EIS process.
4	Section 4(f) – Tucson Mountain Wildlife Area OWJ	When considering whether Section 4(f) may apply to Tucson Mountain Wildlife Area (TMWA), FHWA and ADOT first determined whether the property in its entirety is under public ownership and is open to the public (see 23 CFR 774.17). The documentation provided to FHWA and ADOT confirms that the TMWA is a mix of publicly-owned properties that are open to the public and privately-owned properties that are not open to the public. Therefore, the TMWA is not protected by Section 4(f). See Final Tier 1 EIS Section 4.5 for further detail on this determination.

3 *Arizona Game and Fish Commission Policy A1.9 and Department Policy 12.3* states the Department shall seek compensation at a 100% level, when feasible, for actual or potential habitat losses resulting from land and water projects. FHWA’s policy authorizing the expenditure of federal Title 23 funds for compensatory mitigation is consistent with the Commission’s Policy for compensating for project-related loss of wildlife habitat. A *Programmatic Mitigation Plan* should be developed in consultation with the Department that identifies key corridor areas and strategies to focus habitat mitigation efforts prior to and during Tier 2 implementation. This Plan can focus on maintaining or enhancing key wildlife linkages and movement areas; vegetation restoration/habitat preservation for special status species, the Sonoran desert tortoise; invasive, non-native vegetation control/abatement; runoff and erosion prevention, limiting introduction of nutrients and pollutants and fire abatement strategies for areas identified as high occurrence and/or risk. In addition, key elements of the *Programmatic Mitigation Plan* should be included within the Tier 1 Record of Decision (ROD).

Section 4(f) Finding for the Tucson Mountain Wildlife Area

The Department does not concur with the finding in the DEIS, Section 4.3.1, that the Department’s Tucson Mountain Wildlife Area (WA) does not qualify for Section 4(f) protection. Significant wildlife refuges are protected by Section 4(f). Significance is determined in consultation with officials having jurisdiction over those properties (23 CFR 774.11).

4 On February 1, 2017, the Department submitted to FHWA a seven-page letter, with attachments (Appendix F of the DEIS). This memorandum outlined the history of the Tucson Mountain WA, stating that the publicly-owned portions of this wildlife management area qualify as a *significant* state wildlife refuge pursuant to 23 U.S.C. §138, 49 U.S.C. §303, and 23 CFR 774.11. Furthermore, while the Tucson Mountain WA is open to the public, public access does not interfere with the primary purpose of the refuge (see 23 CFR 774.11(d)). The Department’s letter outlined the *significance* of the Tucson Mountain WA which functions as an open wildlife

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4 migratory corridor from the Tucson Mountains and Saguaro National Park to Ironwood Forest National Monument, the Tohono O’odham Nation, and the Roskruges to prevent genetic isolation and species extirpation.

5 DOT Regulation 23 CFR 774.11 states that, unless the official(s) with jurisdiction determine that the property is not significant, “the Section 4(f) property will be presumed to be significant” (emphasis added). 23 CFR 774.11(c). The Department’s “significance determination” of the Tucson Mountain WA is subject to review by FHWA for reasonableness. 23 CFR 774.11(d). FHWA’s Section 4(f) Policy Paper at 3.1 states that FHWA will make an independent evaluation to assure that the official’s finding of “significance” is reasonable. In situations where FHWA’s determination overrides that of the official with jurisdiction, “the reason for FHWA’s determination should be documented in the project file and discussed” in the EIS. The FHWA project file does not contain any such documents of a determination by ADOT or FHWA that the Department’s “significance” finding for the Tucson Mountain WA is unreasonable, or that the Wildlife Area is not a significant state resource. The only documentation is an October 31, 2018 Memorandum from ADOT to FHWA (Appendix F) that analyzes Arlington, Robbins Butte, and Powers Butte Wildlife Areas and concludes that these Wildlife Areas are Section 4(f) resources. The Tucson Mountain Wildlife Area is not mentioned in this analysis. FHWA also agreed that the Department-managed Public Land Order 1015 Lands in the lower Gila River Wildlife Area are Section 4(f) Properties¹.

FHWA’s position is found at Page 4-12 of the *Errata*:

Tucson Mountain Wildlife Area. This area is managed by various agencies and is made up of publicly and privately-owned land. This broad area does not qualify for Section 4(f) protection; however, Tucson Mountain Park, Saguaro National Park (SNP), and the Tucson Mitigation Corridor (TMC) fall within this Wildlife Area and do qualify for Section 4(f) protection.

This conclusory statement - that the Tucson Mountain WA “does not qualify” for Section 4(f) protection - is an inadequate basis for overriding the State’s significance determination. It lacks rationale for why it does not qualify, therefore, the decision is arbitrary and capricious.

6 There can be more than one official with jurisdiction for the same Section 4(f) property (23 CFR 774.17). In the case of a wildlife or waterfowl refuge, the official(s) with jurisdiction are the official(s) that own or administer the property in question. BOR, as owner of the 2,514 acre Tucson Mitigation Corridor, is an Official with Jurisdiction. The Arizona Game and Fish Commission and Department, as the administrating agency of the Tucson Mountain WA, is also an Official with Jurisdiction.

¹ Table 4-1, *Errata to the Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation (“Errata”)* (April 2019).

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5	Section 4(f) – Tucson Mountain Wildlife Area significance	As stated in the response to AGFD Comment 3, TMWA is not protected by Section 4(f) because it is not publicly owned and accessible to the public. Because the TMWA is not a property afforded protection under Section 4(f), its significance for the purposes of Section 4(f) is irrelevant.
6	Section 4(f) – Tucson Mountain Wildlife Area OWJ	The Official with Jurisdiction (OWJ) either owns or is empowered to represent the agency owner on matters related to the property. The OWJ for the Tucson Mitigation Corridor is Bureau of Reclamation. Because the TMWA is not a property afforded protection under Section 4(f), the OWJ for the property for the purposes of Section 4(f) is irrelevant. FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach is no longer being pursued.

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6 The Department believes it is appropriate that the Tucson Mountain Wildlife Area be added as a Section 4(f) Property to Table 4-1 to Ch. 4, *Errata to the Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation* as the FHWA determination is not consistent with federal statutes cited above. In addition, ADOT and FHWA should engage in direct coordination with the Department in connection with any Programmatic Section 4(f) evaluation of the use of the Tucson Mountain WA as a corridor for the I-11 freeway. ADOT and FHWA should also consult with the Department, as an Official with Jurisdiction over the Tucson Mountain WA, in a decision involving a programmatic Net Benefit agreement for TMC. If either the BOR or the Department does not concur with a net benefit finding, FHWA should conduct an individual project Section 4(f) evaluation of TMC.

Detail in 4(f) Determinations

7 The DEIS does not describe how the Section 4(f) determinations were reached for the Option B Tucson Alternative, versus the Options C and D Tucson Mitigation Corridor (TMC) Alternatives. It is difficult for the reader to understand what type and level of coordination with landowners occurred, and if the potential to mitigate and/or achieve Net Benefit was examined for the Tucson 4(f) properties. Without this additional detail, the level of analysis for the TMC versus the downtown Tucson 4(f) properties appears disparate enough to preclude a fair comparison. The fact that there are more Section 4(f) properties through downtown Tucson does not directly correlate to the collective greater significance of those properties when compared to the TMC, or the lack of ability to mitigate the properties. The DEIS should provide more detail about the coordination and analysis that occurred on the downtown Tucson Section 4(f) properties and describe how the significant impacts to the Tucson Mitigation Corridor could be considered a “Minor Use” that qualifies for a Programmatic 4(f) determination.

Compensation Proposed for the Tucson Mitigation Corridor

8 Table 3.14-12 proposes “acquiring property (at a 1:1 ratio) to support additional wildlife connectivity corridors within Avra Valley for the number of acres of the TMC that will be impacted by I-11.” A freeway through the center of the Tucson Mitigation Corridor, which was set aside as mitigation for the CAP’s impacts to wildlife movement, would severely impact the effectiveness and functionality of the TMC. In order to achieve a no-net-loss of both acreage and function, and meet the “Net Benefit” determination that FHWA is seeking for the property, substantial preservation of off-site habitat is needed. Mitigating for habitat loss at a 1:1 ratio, coupled with the other mitigation strategies outlined such as crossings, may serve to offset habitat impacts for the original CAP mitigation, but will not offset the decrease in functionality for wildlife movement as a result of I-11. The functionality of wildlife movement through the Avra Valley cannot be achieved by mitigating for a set number of acres off-site. The location of the habitat preservation must be strategic, allowing for connectivity between the Tucson Mountains and the Roskrige and Silverbell Mountains to the west. This will require habitat preservation greater than a 1:1 ratio.

The Department looks forward to continuing collaboration with FHWA and ADOT on this important transportation project. If you have any questions or wish to further discuss our comments and concerns, please contact Cheri Boucher at cboucher@azgfd.gov or 623-236-7615.

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7	Section 4(f) – OWJ Coordination	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach is no longer being pursued. See GlobalTopic_1.
8	Section 4(f) – Mitigation for TMC	FHWA revised the Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach is no longer being pursued. The Preliminary Section 4(f) Evaluation provides information about potential types of mitigation that could be considered. During Tier 2, ADOT will coordinate with the OWJ over each property that is protected by Section 4(f) regarding potential effects of the alternatives under study, and to identify specific and appropriate minimization and mitigation measures. See GlobalTopic_1.

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Sincerely,



Jim deVos
Assistant Director, Wildlife Management Division

cc: Jay Van Echo, ADOT Project Manager
Aryan Lirange, FHWA
Rebecca Yedlin, FHWA
Laynee Jones, AECOM
Clifton Meek, US EPA
Thomas Bommarito, BOR
Robert Lehman, USFWS

AGFD # M19-04093042

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Page Specific Comments on the I-11 DEIS Tier I

9 **Table 3.2-1 through Table 3.2-3, Pages 3.2-2 through 3.2-18:**
 All new road construction will result in habitat loss and increase fragmentation. Although fragmentation impacts will be greatest in LIBs, all roads result in fragmentation.

- Habitat loss and fragmentation impacts from all new road construction should be identified, analyzed, and mitigated.

10 **Section 3.4.4.2, Lines 26 through 32, and Section 3.4.4.3, Lines 7 through 14:**

- Add final sentence to this paragraph that states “Although the BLM’s Extensive Recreation Management Area within the Sonoran Desert National Monument may not be directly impacted by this alternative, the presence of the interstate would eliminate certain activities along the northern boundary, such as recreational shooting.”

11 **Section 3.4.4.2, Lines 37 through 39, and Section 3.4.4.3, Lines 20 through 23:**

- Add the following at the end of the final sentence “... , and this alternative would affect hunting and recreation shooting within the western portion of the VRMA”.

12 **Section 3.4.6, Page 3.4-12, Lines 18-30:**
 The inclusion of items that would be analyzed in the future Tier 2 analysis is helpful, as it lets the reader know that these items have been considered, but not addressed in detail due to NEPA tiering. Measures that inform roadway siting and design typically include a suite of studies to gather empirical data about resources in order to develop preliminary siting and design recommendations. In order to address impacts to recreation resources, studies (at least two years) should be conducted to identify recreation use within and adjacent to the chosen corridor. This should include: the identification of different types of recreation uses in an area, the amount of recreation use an area receives, seasonal fluctuations, access points, and contributions to the local economy. The Department recommends the following analyses prior to, and during, the Tier 2 analysis:

13 *Pre-Design and Pre-Tier 2 NEPA*
Compilation/examination of existing recreation data:

- Understanding what data already exists in an area is crucial to avoiding and minimizing impacts to recreation in the most efficient and cost-effective way possible. Existing data that documents recreation use or its impact on the economy should be compiled from sources including, but not limited to: online wildlife watching resources such as eBird and iNaturalist; hunting tags and licenses and Sportsman’s Value Mapping Surveys; satellite Outdoor Recreation accounts developed by the Bureau of Economic Analysis; recreation permits (OHV, etc.) for ASLD state trust lands; federal, state, and local recreation planning documents; anecdotal or quantitative data kept by local businesses, tourism boards, and chambers of commerce; and any other data sources relevant to recreation in a given area.

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9	3.2 Key Environmental Impacts	The information requested is discussed in detail in the Draft and Final Tier 1 EIS Section 3.14. Draft Tier 1 EIS Section 3.2 tables are not included in the Final Tier 1 EIS. No change made.
10	Recreation	See GlobalTopic_3.
11	Recreation	See GlobalTopic_3.
12	Recreation	Identification and quantification of specific activities on recreation lands will be part of Tier 2 analysis. Facilities and their use will be inventoried, and the project design can be modified to avoid, minimize, or mitigate impacts. Future recreation analyses will be coordinated with appropriate agencies to determine inventory methodology during Tier 2.
13	Recreation Economics	See response to AGFD Comment 12.

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13

Conduct surveys to gather recreation data:

- Surveys of various recreation user groups should be conducted to identify types of recreation each area receives, and quantify the number, frequency, and seasonality of users for each recreation type, specific resources the recreation user is pursuing (i.e. dove hunting, viewing wintering raptors, using OHV trails, etc.), and how the users are contributing to the local economies. Surveys can be conducted online, in-person, by telephone, email, U.S. Postal Service, or any other medium designed to reach recreationists.

The development of preliminary siting and design recommendations for recreation resources should include:

- Geospatial analysis of recreation user data and associated economic spending.
- Identification of recreation resource or user “hotspots” to be avoided during siting.
- Recommendations to accommodate user access, including limiting interstate interchanges if necessary.
- Identification of roadway design features that minimize pollutants, noise, visual obstructions/deterrents, and other detractors that would impact nearby recreation lands.
- Identification of habitat modifications necessary to enhance remaining recreation lands, such as the construction of wildlife waters where access to current water sources are no longer accessible, creation or enhancement of wetland or riparian habitats to offset nearby impacts to similar habitat, etc.

Design/Tier 2 NEPA, Construction, and Post-Construction

- Measures to maintain and/or enhance recreation should reflect the recommendations developed during the pre-NEPA studies described above. Extensive coordination should occur between relevant agencies, landowners, recreation user groups, local municipalities, and other stakeholders to ensure the development and implementation of these measures adequately address the site-specific and broader recreation concerns along the corridor.

14

Table 3.4-5, Page 3.4-15 through 3.4-16:

The inclusion of Indirect and Cumulative Impacts into the table is helpful, as it allows the reader to assess the broader range of impacts. However, the bulleted determinations are unsubstantiated because there is no Cumulative Effects or Indirect Effects analysis for Recreation.

- Please provide a Cumulative Effects and Indirect Effects analysis for Recreation. A narrative explaining how the bulleted determinations were made is necessary to substantiate the determinations. If necessary, this discussion could be located in Appendix E17, which currently provides no analysis.

15

Table 3.4-5, Page 3.4-15, Orange Alternative:

- Revise last sentence of bullet to read “However, these resources are already located adjacent to a transportation facility in the South and Central Sections; therefore, impacts

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14	Recreation/ICI	The methods used for evaluating indirect and cumulative effects are discussed in Final Tier 1 EIS Section 3.17. All discussion of indirect and cumulative impacts has been moved to Section 3.17 of the Final Tier 1 EIS.
15	Recreation	See GlobalTopic_1, GlobalTopic_2, and GlobalTopic_3.

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to these resources are expected to be minimal compared to those created by new facilities.

16 **Section 3.6.6, Page 3.6-19, Lines 26-38:**
 • All economic data related to outdoor and wildlife-related recreation (Section 3.4) that is gathered prior to, and during, the Tier 2 analysis should be included in this analysis. See AGFD's comments for Section 3.4.6 for a list of recommended studies and analyses needed to adequately address the impacts to the economic contributions from outdoor and wildlife-related recreation.

17 **Section 3.6.6, Page 3.6-19, Lines 34-36:**
 • Revise sentence to read "These new satellite accounts developed by the Bureau of Economic Analysis would facilitate the translation of data gathered through tracker surveys into impacts on outdoor recreation and the overall regional economy, allowing for a true quantitative analysis of the economic impacts to outdoor and wildlife-related recreation."

18 **Table 3.8-4, Page 3.8-11:**
 This table is potentially misleading, as it shows the predicted 2040 noise levels, without discussing the expected increase in noise level; a slight increase in noise along an existing roadway is a less significant change than a sharp increase in noise due to a new facility.
 • An asterisk should be added to indicate existing facilities on Table 3.8-4, as well as a new column (or an entirely new table) showing the current ambient noise readings for the same locations, with a final column showing the expected increase in noise for each location.

19 **Section 3.14.1.1 page 3.14.1 Wilderness Act:**
 • Revise to include the three Congressional acts that designated wilderness in Arizona: Wilderness Designations 1976 (Saguaro NPS Wilderness), Arizona Wilderness Act of 1984, and Arizona Desert Wilderness Act of 1990.

20 **Section 3.14.1.2 page 3.14.2 State Laws and Regulations:**
 • Add Arizona Revised Statutes Title 17 provides Arizona Game and Fish Commission and Department authorities to manage wildlife in Arizona.

21 **Section 3.14.4.1, Page 3.14-32:**
 • Table 3.14-7 should be situated before the Species of Economic and Recreation Importance discussion.

22 **Section 3.14.4.2 and elsewhere as needed:**
 • Please do a global correction on the spelling of Yuma Ridgway's Rail. There is no (e) in Ridgway. https://www.fws.gov/southwest/es/arizona/Yuma_Rail.htm

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16	Economic – Outdoor Recreation	See response to AGFD Comment 12.
17	Economic – Outdoor Recreation	See GlobalTopic_3.
18	Noise	This table was included for planning purposes only to show what the potential noise level would be at the edges of the corridors at the major parks and recreation areas. During Tier 2 studies, exterior areas of frequent human use will be identified and analyzed in more detail. No change made.
19	Biological – Regulatory Setting	The requested Congressional acts related to Wilderness were added to Final Tier 1 EIS Appendix E14.
20	Biological – Regulatory Setting	The requested Arizona Revised Statutes were added to Appendix E14 of the Final Tier 1 EIS.
21	Biological	See GlobalTopic_3.
22	Biological – Editorial (spelling of Yuma Ridgway Rail)	The correct spelling of Yuma Ridgway's rail was carried throughout the Final Tier 1 EIS.

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- 23** Section 3.14.4.2, Page 3.14-33, Line 33:
 • Add a comma after Yuma Ridgway’s Rail.
- 24** Section 3.14.4.3, Page 3.14-40, Lines 20 through 21:
 • Revise to read “...5,000 hectare threshold under which a habitat block is no longer considered functional to meet all of the habitat needs for many wildlife species.”
- 25** Table 3.14-10, Page 3.14-51, Wildlife Connectivity, Orange Alternative:
 • Revise 4th bullet to read “...therefore, the least potential negative impacts to wildlife connectivity.”
 • Add 5th bullet: “The Orange Alternative provides the most opportunity to improve existing wildlife connectivity issues along existing infrastructure.”
- 26** Table 3.14-10, Pages 3.14-51 through 3.14-53, Indirect Effects and Cumulative Effects:
 • Add a bullet under the Green and Purple alternatives that states “Substantial habitat loss is expected to occur along the corridor due to increased residential and industrial development.”
 • Add a bullet under the Orange alternative that states “Least likely for habitat loss to occur along the corridor due to increased residential and industrial development.”
- 27** Section 3.14.5, Pages 3.14-54 through 3.14-58:
 ADOT has committed to address impacts to wildlife connectivity through the funding of pre-Tier 2 studies. These measures should include, but are not limited to, the following:
Pre-Design and Pre-Tier 2 NEPA
 Roadway siting and design typically includes empirical data about wildlife populations and their movement patterns on the landscape, and develop preliminary siting and design recommendations. Studies (at least two years) to gather this should include:
- 28** Compilation/examination of existing movement and mortality data:
 • Understanding what data already exists in an area is crucial to mitigating in the most efficient and cost-effective way possible; existing data should be compiled to identify data gaps and deficiencies, so that efforts can focus on closing those data gaps.
- 29** Compilation/examination of existing conservation and wildlife linkage plans:
 • Understanding local conservation and land use plans to conserve wildlife linkages and/or open space in the future is crucial to developing mitigation that aligns with future land use and transportation decisions and plans. Conservation and open space plans may not reflect or accommodate current natural movement patterns by wildlife, but reflect decisions and commitments for long-range development. Wildlife movement and mortality studies used to inform roadway siting and design should systematically include these areas as part of the study design to ensure adequate mitigation is developed for these areas, as well as other high priority movement areas.

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23	Biological – Editorial	See Response to AGFD Comment 22.
24	Biological – habitat block	The requested change was made in Appendix E14 of the Final Tier 1 EIS.
25	Biological – Wildlife connectivity	See GlobalTopic_3.
26	Biological/ICI	Final Tier 1 EIS Section 3.17 includes additional statements about potential indirect habitat loss due to project-induced growth.
27	Biological – Mitigation (wildlife studies/surveys)	We appreciate the extensive material provided by AGFD regarding pre-Tier 2 process wildlife studies and mitigation strategies. This letter will be maintained in the Administrative Record by ADOT for future reference. ADOT will coordinate with AGFD and other stakeholders to determine wildlife connectivity data needs and study design. ADOT will then fund and facilitate implementation of identified studies prior to the initiation of the Tier 2 process, due to the timeline required (likely 2 to 4 years) to collect and analyze sufficient data before draft design plans begin to limit the mitigations possible. ADOT and the stakeholders will identify the crossing structures, design features, and supporting mitigation or conservation necessary to facilitate the movement of wildlife through the roadway barrier and will incorporate the solutions into subsequent I-11 projects. No change made.
28	Biological – Mitigation (wildlife studies/surveys)	See response to AGFD Comment 27. No change made.
29	Biological – Mitigation (wildlife studies/surveys)	See response to AGFD Comment 27. No change made.

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Surveys for focal species, including, but not limited to:

- GPS telemetry studies of collared focal species are recommended for pre and post-construction to track wildlife movement. GPS studies should be designed to collect data on both local daily movements and movements between populations; this will require different study designs. The Department recommends select mammal and reptile species from the list of focal species, such as bighorn sheep, mountain lion, mule deer, kit fox, and desert tortoise.
- Camera traps - Cameras should be placed at major washes, canal crossings, and other likely movement areas within and adjacent to the Tier 1 EIS's preferred 2000-foot corridor to document wildlife movement patterns. Cameras may also be placed at random to verify assumptions about likely movement areas. ADOT should coordinate with the Department and other stakeholders to identify the appropriate number and locations of cameras to be deployed.
- Tracking surveys - In areas where cameras cannot be placed, tracking studies can supplement wildlife movement data to identify and further understand the movement patterns and distribution of a broader suite of common species moving through an area.
- Small mammal surveys - General surveys using standard trapping techniques (e.g. Sherman and Tomahawk traps) for small and medium-sized mammals should be conducted within the corridor to capture the baseline conditions prior to development; this data could be used for comparative analysis between prioritized mitigation areas in addition to targeted focal species movement data.
- Herpetological surveys - General surveys using standard trapping techniques (e.g. box funnel traps) or visual encounter surveys for herpetofauna should be conducted within the corridor to capture the baseline conditions prior to development; this data could be used for comparative analysis between prioritized mitigation areas in addition to targeted focal species movement data.
- Visual surveys - Visual surveys can be used systematically as a broader landscape measure of diversity and wildlife distribution patterns, and may be important for comparative analysis between prioritized mitigation areas in addition to targeted focal species movement data.

30

Wildlife mortality (i.e. roadkill) surveys

- Where new alignments encompass existing roadway, and for alignments that will expand existing roadway rather than create entirely new structures, baseline studies for wildlife-vehicle mortality should be conducted. Roadkill data should be collected for no less than 2 years prior to the design of roadway improvement in order to inform the design. In addition, roadkill surveys should be conducted both at dusk and dawn to avoid any scavenging that may bias the results, and within any vegetated road medians and road edges. ADOT should coordinate with the Department to develop a statistically sound, repeatable study. Not only will the study provide critical data for roadway design, but it will be compared to post-construction results to measure success criteria and inform adaptive management.

31

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30	Biological – Mitigation (wildlife studies/surveys)	See response to AGFD Comment 27. No change made.
31	Biological – Mitigation (wildlife studies/surveys)	See response to AGFD Comment 27. No change made.

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The development of preliminary siting and design recommendations should include:

- Geospatial analysis of wildlife movement study data; as well as the influence of traffic patterns or other existing barriers.
- Identification of focal species’ movement areas for proposed new road locations and/or hotspot crossing locations across existing roadways proposed for expansion.
- Recommendations for design parameters that accommodate focal species at crossing/movement locations and associated roadway facilities. These recommendations will likely include, but are not limited to, the following:
 - Designated wildlife crossing structures (large culverts, overpasses, underpasses, etc.) for new and expanded roadway facilities. These should be placed every 1 to 2 miles at minimum, as topography and hydrology allow with consideration for environmental factors (movement pathways, water/forage resources) that increase the likelihood of wildlife utilization. Rip-rap should be avoided where possible; if scour protection is necessary, alternatives to rip-rap should be considered.
 - Other culverts and drainage infrastructure should be networked together with wildlife funnel fencing and designed to facilitate crossings of smaller species.
 - Funnel fencing (i.e. exclusion fencing) that will direct wildlife toward crossings and culverts and inhibit movement across the roadway.
 - Reptile exclusion fencing should also be included where necessary, in order to reduce impacts to special status species such as Sonoran desert tortoise. Reptile exclusion fencing should be co-located with ROW fencing and funnel fencing associated with culverts, pipes and reptile/amphibian upland crossing structures.
 - Culverts should be tied into funnel-fencing and have natural substrate to accommodate movement for smaller wildlife. Rip-rap should be avoided where possible; if scour protection is necessary, alternatives to rip-rap should be considered.
 - Roadway and other lighting in the vicinity of crossings and movement corridors should be limited. Both terrestrial and avian species can react negatively to artificial night lighting; night lighting could inhibit use of the crossings by wildlife.
 - Habitat restoration on either side of crossing structures that is designed to encourage wildlife use of the crossing structures, using appropriate vegetative cover/structure, water catchments, topography, and substrate. Habitat restoration should also take place on any overpasses designed for wildlife movement. Further, when irreplaceable wildlife habitat (e.g. rock outcrops) is impacted during construction of I-11, the parent material should be used to create new wildlife habitat within the movement corridors/mitigation areas.
 - Crossing solutions should be co-located with wildlife linkages to complement other existing or planned solutions for nearby barriers, in such a way that roadway designs do not negate other mitigations or the overall linkage functionality between core habitat blocks. This will require coordination with the Department, as well as local conservation and land use planning.
 - When designing roadways that may be expanded in the future, use designs that can be easily upgraded as opposed to reconstructed.

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32	Biological – Mitigation (wildlife studies/surveys)	See response to AGFD Comment 27. No change made.
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- Mitigate loss of water sources; if roadway construction eliminates or fragments access to a local natural or constructed water source (ephemeral or permanent) along the project alignment, replacement with an in-kind at the nearest alternate location.
- Land adjacent to wildlife crossings and within designated corridors should be conserved in perpetuity to maintain long-term integrity of the crossings.
- Identification of adaptive management actions, and the success standards and thresholds that would trigger adaptive management actions.

Design, Construction, and Post-Construction

Measures to maintain and/or enhance permeability typically include: targeted roadway siting and design that incorporates wildlife movement structures and appropriate fencing, and maintenance and monitoring of crossing structures and associated fencing.

Interagency coordination to design and construct targeted roadway mitigations that incorporate wildlife movement structures and appropriate fencing should include:

- Interagency planning between roadway engineers, Department road ecology experts (biologists), and other stakeholders as necessary, to incorporate wildlife crossing design recommendations into the engineering specifications - A comprehensive network of crossing structures including overpasses, underpasses, culverts, cameras, funnel fencing, jump-outs, and other components should be incorporated at the earliest design stages.
- Interagency plans for post-construction maintenance and monitoring responsibilities for crossing structures and associated facilities with clearly outlined objectives.
- Interagency construction coordination to facilitate engineer/biologist solutions and expertise to resolve design issues, adjustments, and clarifications while constructing crossing structures as needed.

34

Maintenance and monitoring of crossing structures and associated fencing should include:

- Crossing structures, fencing, and other roadway facilities should be maintained in good condition by ADOT or responsible municipality. This should include regular monitoring of facilities to identify maintenance needs.
- At least four years of post-construction monitoring of wildlife movement and crossing structure use, to evaluate effectiveness and inform adaptive management and additional design responses, including:
 - Surveys for focal species, including, but not limited to:
 - Monitoring of cameras that are installed in crossing structures.
 - Continued GPS telemetry studies of wildlife species collared during pre-construction surveys. New collars may need to be deployed, depending on the animal species and battery life of the original collars.
 - In areas where cameras have not been placed, tracking studies can supplement the wildlife movement data to identify species that are moving through the area.

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33	Biological – Mitigation (design)	See response to AGFD Comment 27. No change made.
34	Biological – Mitigation (post-construction)	See response to AGFD Comment 27. No change made.

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- Small mammal surveys - General surveys using standard trapping techniques (e.g. Sherman and Tomahawk traps) for small and medium-sized mammals should be conducted within the corridor to capture the baseline conditions prior to design.
- Herpetological surveys - General surveys using standard trapping techniques (e.g. box funnel traps) or visual encounter surveys for herpetofauna should be conducted within the corridor to capture the baseline conditions prior to design.
- Wildlife mortality (i.e. roadkill) surveys - post-construction roadkill surveys should be conducted using the same locations and survey protocol as pre-construction roadkill surveys, in order to provide a true before-after comparison. Additionally, roadkill surveys should be conducted on completely new roadway, where no surveys could have been conducted pre-construction. Post-construction roadkill data should be examined to determine if there are certain “hot spots” that require adaptive management.
- Implementation of adaptive management actions if specified thresholds are reached during post-construction monitoring - If roadkill or other post-construction wildlife movement data are showing roadkill “hot spots”, or wildlife crossings are showing a lack of use, the facilities should be examined to identify the problem and, if feasible, modifications or adjustments should be made to resolve the issue. Further monitoring to determine effectiveness of adaptive management should also be conducted.

Maintaining and/or Improving Permeability of Nearby Existing Barriers and Reasonably Foreseeable Future Barriers and/or Community Development Plans

- During implementation of all of the mitigation measures above, nearby barriers must be considered and included in design and implementation plans. It is also critical that planned future barriers are considered to ensure retrofits are minimized.

35

Section 3.15.5, Page 3.15-2, Lines 31-32:

- Revise to read “These situations would require detours which could make getting to the businesses, or outdoor recreation areas, more difficult.”

36

Table 3.17-3, Page 3.17-32 through 3.17-46:

The summary of the Indirect and Cumulative Impacts is helpful but there is no analysis of Cumulative Effects or Indirect Effects for most of the resources within this Tier 1 EIS. The bulleted determinations are unsubstantiated.

- Please provide a Cumulative Effects and Indirect Effects analysis for the various resources. While a quantitative analysis may not be feasible at the Tier 1 stage, a qualitative narrative explaining how the bulleted determinations were made is necessary to substantiate the determinations. If necessary, this discussion could be located in the various appendices, which currently provide no analysis.

37

Table 4-1, Page 4-17, TMC:

- Revise Classification to read “Wildlife ~~Travel~~ Movement Corridor.”

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35	Temporary Construction	See GlobalTopic_3.
36	ICI	Indirect and cumulative impacts are discussed for all resources in Section 3.17 of both the Draft Tier 1 EIS and Final Tier 1 EIS. The methods used for evaluating indirect and cumulative effects are also described in Draft Tier 1 EIS Section 3.17. No change made.
37	Section 4(f) Editorial	Wildlife Movement Corridor terminology was globally applied in Final Tier 1 EIS Chapter 4.

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37	<ul style="list-style-type: none"> Revise Features/Attributes to read "...by providing for wildlife travel <u>movement</u> on public lands and across..."
38	<p>Table 4-1, Page 4-25: The Classifications for the Department's Wildlife Areas are inconsistent.</p> <ul style="list-style-type: none"> Property #95, Arlington Wildlife Area - Revise Classification to read "State Wildlife Area, wildlife refuge." Property #96, Powers Butte Wildlife Area - Revise Classification to read "State Wildlife Area, wildlife refuge." Property #98, Robbins Butte Wildlife Area - Revise Classification to read "State Wildlife Area, wildlife refuge."
39	<p>Table 4-4, Page 4-44, TMC:</p> <ul style="list-style-type: none"> Include the acreage and percent use of the alternative that is colocated with the CAP. Define the footnote to the end of the table that is indicated on this row; currently, there is no footnote associated with the superscript (1).
40	<p>Table 4-5, Page 4-60, Last 3 Rows:</p> <ul style="list-style-type: none"> In order to clearly understand the full scope of impacts to the Section 4(f) properties that will have Use or Potential Use, please include data from Table 4-4 showing the acreage and percent use of each of the properties. Given that there are a maximum of eight Use or Potential Use properties in each Alternative, this data could be added to the end of Table 4-5 or a new Table could be created for this Use summary.
41	<p>Section 4.4.3.3: Page 4-81, Lines 9-13, states that FHWA and ADOT are coordinating with BOR to develop a conceptual I-11 ROW design to minimize impacts to wildlife movement across the Tucson Mitigation Corridor (TMC), a Section 4(f) property; the mitigation concepts are described on Pages 4-81 through 4-84. The text further states that this coordination was critical to "resolving concerns" regarding the use of TMC for a freeway. The reader is left with the impression that BOR and FHWA agree, and that FHWA is prepared to make a preliminary net benefit determination in the final Tier 1 ROD. The Department believes that BOR has not submitted a written concurrence with this programmatic approach. The text as written is pre-decisional.</p> <ul style="list-style-type: none"> Consult with the Department, as an Official with Jurisdiction over the Tucson Mountain WA, in a decision involving a programmatic Net Benefit agreement for TMC. If either BOR or the Department does not concur with a net benefit finding, FHWA is to conduct an individual project Section 4(f) evaluation of TMC.
42	<p>Section 4.4.4.3: As seen on Table 4-4, forty-two acres of the PLO 1015 lands owned by USFWS and managed by the Department are within the 2,000-foot corridor of FHWA's Recommended Alternative <i>Option N</i>. FHWA has determined that it can avoid the direct use of the PLO 1015 lands by locating a 400-foot-wide linear freeway ROW between the parcels. As a result, FHWA concludes on page</p>

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38	Section 4(f) – Wildlife Areas	This change was carried forward where appropriate into the Final Tier 1 EIS. Arlington, Powers Butte, and Robbins Butte Wildlife Areas are classified in the Final Tier 1 EIS as "wildlife refuges" for the purpose of the Final Preliminary Section 4(f) Evaluation. AGFD's title of "State Wildlife Area" was also added to each property.
39	Section 4(f) – Wildlife Areas	The Final Tier 1 EIS includes a revised Table 4-4. The table was revised to include the acreage and percent within the 2,000-foot-wide corridor.
40	Section 4(f) – Tucson Mountain Wildlife Area OWJ	<p>The referenced table in the Draft Tier 1 EIS (Table 4-4) presents acres of properties within each 2,000-foot-wide corridor for the purpose of grouping the potential property impacts into categories for assessment (e.g., crosses corridor, partly in corridor, or all in corridor). Categorization was used in Tier 1 to assess the potential for each property to be avoided through accommodation, corridor shift, or grade-separation. Comparisons between the Build Corridor Alternatives in Table 4-5 using acreages occurring within the 2,000-foot-wide corridors would misrepresent the potential for property impacts because (1) the preliminary Section 4(f) Evaluation demonstrates that some of the properties could be avoided and (2) for properties that potentially cannot be avoided, Tier 2 Project-level analysis will be required to determine actual acreages of impact from specific alignment alternatives. This is because a specific alignment alternative may have a footprint width of approximately 400 feet, or ¼ of the 2,000-foot-wide Build Corridor width. For these reasons, FHWA and ADOT did not add the requested acreages to the table.</p> <p>Comparison of alternative alignment impact acreages in Tier 2 will be important to decision-making and will be reported in the Section 4(f) Evaluation at that time.</p> <p>Table 4-5 was updated to reflect the revised Preliminary Individual Section 4(f) evaluation for the Final Tier 1 EIS; the programmatic net benefit approach is no longer being pursued.</p>
41	Section 4(f)	<p>See response to AGFD Comment 6.</p> <p>See GlobalTopic_1.</p>
42	Section 4(f) – PLO Lands Constructive Use	<p>After review of public and agency comments and new information including the potential loss of irrigation runoff important to maintain critical habitat for the Yuma Ridgway's rail, FHWA and ADOT revised the Recommended Alternative in this area. The Preferred Alternative in the Final Tier 1 EIS includes Options M, Q2, and Q3. The Preferred Alternative is partially co-located with SR 85, eliminating the need for new crossings of the Gila and Hassayampa Rivers, and minimizing impacts to PLO 1015 lands.</p> <p>During Tier 2, further coordination with officials with jurisdiction, such as AGFD, would be required to assess the potential for project impacts, compare alternatives, identify specific mitigation measures to address impacts, and make final determinations of use, including potential for constructive use.</p>

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4-61 that the I-11 freeway will make “no use” of the PLO 1015 lands. FHWA also assessed whether the I-11 freeway on either side of the PLO 1015 lands amounted to “constructive use” of the PLO 1015 lands pursuant to 23 CFR 774.15(d).

In its December 20, 2018 *White Paper* (Appendix F), FHWA asserts that the noise, vibration, and light impacts of the I-11 freeway would not substantially interfere with the ability of the PLO 1015 lands to provide small game hunting shooting opportunities or reduce game bird habitat. FHWA also determined that ecological intrusion impacts from I-11 would not reduce the value of wildlife habitat.

DOT Regulation 23 CFR 774.15 provides that a constructive use occurs if the proximity of the proposed project results in a restriction of access which substantially diminishes its utility. The Ninth Circuit has held that a “use” under Section 4(f) occurs whenever the proposed project has significant air, water, noise, land, accessibility, aesthetic, or other environmental impacts on or around the site. *Adler v. Lewis*, 675 F.2d 1085 (9th Cir. 1982). “Use” under Section 4(f) is to be “construed broadly”. *Id.* at 1092.

As FHWA’s *White Paper* acknowledges, the primary purpose of the PLO 1015 lands are open space, wildlife habitat, and outdoor-related recreation. A freeway between these two PLO 1015 parcels will greatly restrict their use by hunters. It is a crime to knowingly discharge a firearm across or into a road. A.R.S. §17-301(B). It is unlikely that a hunter will want to assume the risk of shooting at small game in the vicinity of a freeway. As a result, the use of these PLO properties for hunting with firearms will be effectively precluded.

DOT Regulation 23 CFR 774.15 also states that a constructive use occurs if the ecological intrusion of a project substantially diminishes the value of the wildlife habitat and waterfowl refuge adjacent to the project or substantially reduces the wildlife use of the refuge. The Department does not concur with FHWA’s conclusion that the noise, light, and vibration effects of I-11 will not reduce game bird habitat. Waterfowl and game birds will avoid the freeway. Unless I-11 is elevated at this location, riparian habitat (when the Gila River flows) will be lost to waterfowl. FHWA concedes the freeway will cause some wildlife to “move away”. I-11 creates a barrier to wildlife movement across and through the floodplain. FHWA states that connectivity between the 1015 parcels “would be provided by wildlife crossing opportunities” under the freeway but no specifics or commitments are offered.

- Determine that Recommended *Option N* makes constructive use of the PLO 1015 properties, thus qualifying them as Section 4(f) Properties entitled to protection. Coordinate with the USFWS for a programmatic or individual Section 4(f) evaluation in the event FHWA selects *Options R* and *N* as its Preferred Alternative in the Final I-11 EIS.

These PLO 1015 properties are located in the Gila River floodplain. As noted below, EO 11988 and *Department of Transportation Order 5650.2 (1979)* require that a preferred alternative involving a significant encroachment into a floodplain shall not be approved unless FHWA makes a written finding incorporated into a final EIS, that the proposed encroachment is the only

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42 practical alternative, why other alternatives were not practicable, and a statement that the action conforms to state or local floodplain protection standards. This finding must be in the Final Tier 1 EIS.

Table 6-2, Pages 6-14 through 6-16:

- 43
- Revise title to read “Additional Areas of Analysis - Potential for Change in Impact Analysis from Corridor Shifts”
 - Please add headers to the columns to clarify which column represents each additional area of analysis.

Section 6.2.2, Page 6-7, Lines 9-11:

44 The Department disagrees with the statement that the Draft Tier 1 EIS “identifies effective mitigation strategies to avoid, minimize, and mitigate” the environmental impacts of the Recommended Option D, Sahuarita to Marana. Other than the specific mitigations identified for the Tucson Mitigation Corridor (TMC), no mitigation is described for the loss of wildlife linkages for the length of Corridor Option D. Table 3.14-12 merely states that for impacted Coyote-Ironwood-Tucson Linkage, FHWA will “avoid or minimize impacts to linkages” and coordinate with agencies to “implement modifications” to enhance wildlife movement.

- A more specific commitment to preserve essential wildlife linkages must be made in the form of a *Programmatic Mitigation Plan* for inclusion in this Tier 1 ROD.

Section 6.2.3:

45 For the Recommended *Option F*, Marana to Casa Grande, FHWA recommends a new freeway corridor through undeveloped and agricultural lands west of I-10, with a new crossing over the Santa Cruz River. *Option F* basically parallels the existing I-10. FHWA prefers to construct a new freeway instead of co-locating I-11 with the existing I-10 (*Option G*), although the I-10 freeway has sufficient capacity to expand to accommodate I-11 traffic. The EIS states that I-10 “frequently experiences crashes and other incidents that delay travel”, and that “building redundancy” into a transportation network is desirable for several reasons. *Option F* also “extends through areas that are vacant or agricultural today” but provides access to planned growth areas around Marana and Eloy. The text further notes that *Option F* “extends through sensitive environmental resources”, such as the Santa Cruz River’s floodplains and riparian habitat. Impacts to these resources “would be minimized and mitigated through Tier 2 design considerations, such as conveyance structures for floodwaters, wildlife connectivity, and habitat impacts.”

While NEPA does not require FHWA to select the alternative with the fewest environmental impacts, the discussion of alternatives should reflect a *reasoned* choice among the alternatives, in accordance with *Alaska Wilderness Recreation v. Morrison*, 67 F. 3d 723,729 (9th Cir. 1995). Two parallel freeways separated by only 5-10 miles will result in major habitat fragmentation.

No specific mitigation commitments appear in Chapters 3 or 6 for *Option F*. The summary of Key Environmental Effects in Table 3.2-2 says that *Option F* creates a new barrier to wildlife connectivity through the Ironwood-Picacho Wildlife Linkage. The Table states “Mitigation

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43	Recommended Alternative (General NEPA)	See GlobalTopic_3.
44	Biological – Programmatic Mitigation Plan	See GlobalTopic_1.
45	Recommended Alternative – General NEPA (Option F and Santa Cruz River)	See GlobalTopic_6.

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45 strategies would be applied” for riparian habitats and wildlife linkages along the Santa Cruz River. These “strategies” are not described.

46 A mitigation plan satisfies NEPA only if it is reasonably thorough to ensure the environmental consequences have been fairly evaluated. Cursory descriptions of mitigation measures are inadequate. *Okanogan Highlands Alliance v. Williams*, 236 F. 3d 468 (9th Cir. 2000). The EIS and the Record of Decision should also indicate the likelihood that such measures will be adopted by ADOT in any Tier 2 EIS. CEQA, 1502.16(h), 1505.2.

- The text requires a more robust evaluation of the environmental trade-offs involved in constructing a new freeway through open undeveloped lands, including growth-inducing indirect impacts and cumulative impacts, as compared to co-locating I-11 with the existing I-10 at this location. Describe the mitigation strategies in greater detail.

47 **Section 6.2.3:**
 The DEIS at Page 6-9 states that impacts to resources caused by a new *Option F* freeway “would be minimized and mitigated through Tier 2 design considerations, such as conveyance structures for floodwaters, wildlife connectivity, and habitat impacts”. The bolded text at Page 6-10 states that *Option F* “commits to mitigation measures to minimize the impacts of the new alignment on floodplains”. The “Specific Mitigation Strategies” for *Option F* in Table 3.14-12 merely states: “Avoid or minimize impacts to the Santa Cruz River along Option F.” This cursory description of “mitigation” is ambiguous and inadequate under NEPA.

- Describe the mitigation commitments in greater detail. The described mitigation does not represent a commitment unless it is included in the Final Tier 1 EIS and ROD.

48 **Section 6.2.4:**
 FHWA identifies as its Recommended Alternative a new freeway from Casa Grande to Buckeye using *Options I2, L, N and R*. These options are recommended over the alternative Orange *Options K, H, Q1 and Q2*, which would have co-located I-11 along the existing I-8 and Highway 85. The text states this Recommended Alternative directly connects western Pinal and Maricopa Counties, reducing travel time between Nogales and Wickenburg. This Recommended Alternative will fragment wildlife habitat within the Gila Bend-Sierra Estrella Linkage.

On Page 6-11, the text states that ADOT will fund and facilitate wildlife connectivity studies to identify effective mitigation strategies during Tier 2 studies. “If a Build Corridor Alternative is selected, these mitigation strategies will be included in the ROD for the Tier 1 EIS”. It is not clear what “mitigation strategies” for *Options I2, L, N and R* are to be identified in the Tier 1 ROD.

- Describe these mitigation strategies in a *Programmatic Mitigation Plan* for incorporation in the Final Tier 1 EIS and ROD.

49 **Section 6.2.4:**
 The recommended *Option N* requires a new crossing of the Gila River, with impacts to “sensitive riparian and wildlife resources” and proposed critical habitat for the western yellow-billed cuckoo. Option N also involves potential impacts to wetlands along Waterman and Lum Washes.

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46	General NEPA – Tier 1 v Tier 2	Project-specific mitigation strategies beyond those listed in the Final Tier 1 EIS will be developed during the Tier 2 process when a specific roadway section has been identified and funded to move forward. A comprehensive Programmatic Mitigation Plan will not be completed as part of the Tier 1 EIS process. See GlobalTopic_6 and GlobalTopic_8.
47	Recommended Alt – Option F and Santa Cruz mitigation	See response to AGFD Comment 46.
48	Biological – Wildlife Connectivity and Programmatic Mitigation Plan	Section 3.14.5 of the Final Tier 1 EIS lists general mitigation strategies applicable to all corridor options and includes strategies to address wildlife connectivity. These mitigation strategies are applicable to Options I2, L, and M of the Preferred Alternative. Tier 1 mitigation strategies in the Final Tier 1 EIS will be included in the Tier 1 Record of Decision and represent commitments that will be implemented for Tier 2 studies. A comprehensive Programmatic Mitigation Plan will not be completed as part of the Tier 1 EIS process.
49	Biological – Gila River Crossing	See GlobalTopic_2.

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49 App. E13 at E13-35. The bolded text at Page 6-11 states that this Recommended Alternative includes mitigation strategies developed to address the impacts of a new Gila River crossing. The Specific Mitigation Strategies for Option N include pre-construction surveys for the cuckoo, Southwestern willow flycatcher, and Yuma Ridgway rail; “minimize the footprint of the bridge” crossing the Gila River; “avoid or minimize impacts to this major riparian corridor.”

Table 3.13-3 states that it “may be difficult to avoid impacts” at new river crossings. These impacts include stormwater runoff, automotive-based nonpoint source contamination, and trash, potentially degrading water quality and aquatic habitat.

50 Under NEPA, these vague mitigation concepts are insufficient. Nothing in these descriptions assure the reader that they will be effective in mitigating impacts to the Gila River’s riparian ecosystem. While NEPA authorizes “tiering” of EISs, that does not mean that all reasonably detailed discussion of mitigations can be delayed to Tier 2.

- Describe these mitigation strategies for the Gila River in a *Programmatic Mitigation Plan* for inclusion in the Final Tier 1 EIS.

Sections 6.2.2 through 6.2.4:

Executive Order 11990 (42 Fed. R. 26961), implemented in *Department of Transportation Order 5660.1A*, was issued to minimize the loss or degradation of wetlands associated with federal infrastructure projects. FHWA must first make a finding that “no practicable alternative” to new highway construction exists; and (2) include “all practicable measures to minimize harm to wetlands which may result from such use” 23 CFR § 777.3. This regulation “sets forth a more exacting standard” than NEPA alone. *City of Carmel v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1167 (1997); *National Wildlife Federation v. Adams*, 629 F.2d 587, 591 (1980).

51 FHWA recommends *Option N*, involving a new crossing of the Gila River, over *Option Q2*, which utilizes the existing Highway 85 Gila River crossing. The text in Ch. 6, Section 6.2.4 does not describe why *Option N* is preferable over *Option Q2*. Page 2-23 states that the Highway 85 Option Q2 segment is already planned for conversion to a fully access-controlled freeway and can accommodate I-11 traffic. In the event FWHA chooses the new *Option N* crossing over the Gila River, the “no practical alternative” finding and the minimization and mitigation measures must be made in this Tier 1 EIS, not deferred to a Tier 2 analysis. Without this analysis, there is not an “informed comparison” of Build Corridor Options.

- In the event *Option N* is the Preferred Option, conduct the necessary hydrological and biological studies analyzing the impact of a new *Option N* freeway crossing over the Gila River, as compared to the impacts if the existing Highway 85 Gila River crossing were used for the I-11 Corridor. Document the findings and decision in an “Only Practical Alternative” memorandum for the I-11 Final EIS and ROD. These measures must be in the form of commitments incorporated into the Final Tier 1 EIS and ROD.

52 FHWA must also conduct the necessary analyses for effective mitigation strategies in consultation with USFWS and the Department. The use of waters or channels of a body of water for federal construction projects must be in accordance with plans approved jointly by the

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50	Biological – Programmatic Mitigation Plan	See response to AGFD Comment 48 and GlobalTopic_2.
51	Biological – Gila River Crossing	See GlobalTopic_2.
52	Biological - Mitigation	During Tier 2, if there are impacts to a waterbody under jurisdiction of USACE, ADOT will obtain a Clean Water Act Section 404 permit as required. If a Section 404 permit is required, ADOT will comply with the Fish and Wildlife Coordination Act (FWCA), including coordination with USFWS and AGFD. FWCA compliance does not require plans be approved jointly by USFWS and AGFD. No change made.

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52	USFWS and the Arizona Game and Fish Department, as the state agency exercising jurisdiction over the State's wildlife resources. Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661-667c.
53	EO 11990 applies to Recommended <i>Option F</i> , a new corridor segment that parallels, and then crosses the Santa Cruz River near Marana. Figure 3.13-4 shows the existence of emergent and shrub wetlands where <i>Option F</i> crosses the river. FHWA must also make a "no practical alternative" finding in the event that <i>Option F</i> is the Preferred Alternative to <i>Option G</i> , which co-locates I-11 with the existing I-10. <ul style="list-style-type: none"> In the event <i>Option F</i> is the Preferred Option, conduct the necessary hydrological and biological studies analyzing the impact of a new <i>Option F</i> freeway crossing the Santa Cruz River, as compared to the impacts were I-11 co-located with I-10. Document any determination that no practical alternative exists in a "River Only Practical Alternative" memorandum for the I-10 Final Tier 1 EIS and ROD.
54	EO 11990 also applies to Recommended <i>Option R</i> , a new corridor segment that creates a new crossing over the Hassayampa River near Buckeye, with potential impacts to riverine wetlands, as shown in App. E13 at E13-35. FHWA recommends this segment over <i>Option Q3</i> , which co-locates along the existing I-10 at its Hassayampa River crossing. FHWA must make a "no practical alternative" finding in the event that <i>Option R</i> is the Preferred Alternative to <i>Option Q3</i> . <ul style="list-style-type: none"> In the event <i>Option R</i> is the Preferred Option, conduct the necessary hydrological and biological studies analyzing the impact of a new <i>Option R</i> freeway crossing the Hassayampa River, as compared to the impacts were I-11 co-located with I-10 at this location. Document the findings and decision in a "River Only Practical Alternative" memorandum for the I-11 Final Tier 1 EIS and ROD. <p>Sections 6.2.2 through 6.2.4: Executive Order 11988 (42 Fed. R. 26951) requires every federal agency to determine whether an action will occur in a floodplain, consider alternatives to avoid adverse effects, and proceed only if it finds that the "only practical alternative" requires siting in a floodplain, in accordance with <i>City of Carmel v. United States Department of Transportation</i>, 123 F.3d 1142, 1166 (9th Cir. 1997).</p>
55	The mandate of EO 11988 is described in <i>Department of Transportation Order 5650.2</i> (1979). DOT 5650.2 states that it is DOT's policy to avoid highway encroachments into floodplains. The DOT Order at Section 9 requires that a preferred alternative involving a significant encroachment into a floodplain <u>shall not be approved</u> unless the responsible official makes a finding in writing, incorporated into a final EIS, that the proposed encroachment is the only practical alternative, together with a description why the proposed action must be located in a floodplain, why other alternatives were not practicable, and a statement that the action conforms to state or local floodplain protection standards.
	New-Build Recommended Alternatives <i>Option N</i> (located within the Gila River floodplain and crosses the river); <i>Option R</i> (crosses the Hassayampa River); <i>Option F</i> (crosses Santa Cruz River); <i>Option D</i> (parallels Santa Cruz River) all create new crossings over mapped floodplains.

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53	Water Resources – Wetlands	See response to AGFD Comment 46. FHWA and ADOT will continue to coordinate with USACE regarding impacts to Waters of the US and wetlands.
54	Water Resources – Wetlands	See GlobalTopic_2.
55	Water Resources – Floodplains	Section 13.3.2 of the Final Tier 1 EIS lists EO 11988 and DOT Order 5250.2 as regulations pertaining to activities that may impact water resources. Avoidance and minimization will be studied further in Tier 2 studies. Floodplain impacts were considered in the decision-making process to identify the Preferred Alternative. Final Tier 1 EIS Section 3.13.3 includes mitigation measures committing ADOT to avoiding and minimizing impacts to waters of the US to the maximum extent practicable, and Final Tier 1 EIS Section 3.13.6 details continuing coordination with USACE and local floodplain administrators that will occur during Tier 2 studies. See GlobalTopic_1, GlobalTopic_2, and GlobalTopic_6.

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56 As seen in Tables E13-15 (Page E13-34) and E13-16 (Page E13-36), their impacts to these river floodplains are rated “high.” FHWA has not conducted this mandatory analysis for Recommended *Options R, N, F* or *D*. These analyses must be conducted in this Tier 1 EIS.

- In the event FHWA selects *Option N, Option R, Option F* or *D* as its Preferred Alternative(s), prepare a “Floodplain Only Practicable Alternative Finding” for each Preferred Corridor Option segment for the Tier 1 Final EIS and ROD.

Sections 6.2.2 through 6.2.4:

57 Chapter 6, Recommended Alternative, analyzes each Alternative in terms of how each best meets the I-11 Purpose and Need. The text on Page 6-7 assures the reader that environmental impacts of the Recommended Alternative - nearly 280 miles of all new-build freeways - can be mitigated with “effective mitigation strategies to avoid, minimize and mitigate” these impacts. General Mitigation Strategies Applicable to All Corridor Options are set forth in Table 3.14-11. Specific Mitigation Strategies for Each Corridor Option is set forth in Table 3.14-12.

- The Final Tier 1 EIS and ROD must indicate the likelihood that FHWA and ADOT will commit to these mitigation strategies by adopting them by reference in the Tier 1 FEIS and ROD.

Section 6.4:

58 The lack of a summary of Recommended Alternative impacts to resources requires the reader to go back through Chapter 3 and cross reference the resource impacts associated with each Segment chosen for the Recommended Alternative. The lack of summary requires extra effort for the reader to thoroughly understand and analyze the impacts.

- Insert a table similar to Tables 3.2-1 through 3.2-3 that summarizes the effects for the Recommended Alternative, and include the acres of upland and riparian habitat within in each Segment.

Appendix E14, Table E14-10:

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- Add Globe Chamomile (*Oncosiphon piluliferum*) to the list of non-native plant species found in the study area. This species has only recently been recognized as a prolific weed in the Phoenix Metropolitan area and elsewhere in Arizona.

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56	Water Resources	See response to AGFD Comment 55.
57	General NEPA (mitigation)	ROD is a legally binding document and all mitigation contained within shall be implemented by ADOT in Tier 2.
58	General NEPA – Summary of Environmental Impacts	Final Tier 1 EIS Chapter 6 includes a summary table of the Recommended and Preferred Alternatives.
59	Biological – Invasive Species	The suggested text was added to the Final Tier 1 EIS Appendix E14.