

CHAPTER 1 FINAL RECOMMENDED MITIGATION

Chapter 1 presents SEA's final recommended mitigation. Based on the information available, consultations with appropriate agencies, and SEA's environmental analysis, these mitigation measures address the expected environmental impacts of the construction and operation of the Proposed Action.

SEA recommends to the Board that it impose all of the recommended mitigation measures set forth in Chapter 1 of this Post EA if the Board decides to grant final approval for this project.

1.1 SEA'S RECOMMENDED MITIGATION

SEA reviewed all information available to date and completed its independent analysis of the construction and operation of the proposed rail line, including all the comments and mitigation requested by various Federal, state, and local agencies, as well as other concerned parties. SEA recommends that if the Board approves the Proposed Action, such approval be subject to the 40 mitigation measures presented below.

SEA's analysis identified no adverse impacts for the following environmental topic areas:

- Community and Socio-Economics
- Environmental Justice
- Utilities/Public Services
- Visual/Aesthetics
- Noise/Vibration
- Section 4(f) and Section 6(f) Resources

1.1 SEA'S RECOMMENDED MITIGATION MEASURES

Transportation/Traffic Safety

1. In order to minimize delays of vehicular traffic during construction of the road crossings, AZER shall schedule the work so that construction of the roadway approaches would be completed before construction work within the roadway occurs. AZER shall also ensure that any necessary lane closures correspond with minimum off-peak traffic volumes to reduce any delays due to construction activities.
2. AZER shall consult with appropriate Federal, state, and local transportation agencies to determine the final design and other details of the grade-crossing and associated warning devices on U.S. Highway 70 and Airport Road. Specifically,
 - Construction in the U.S. Highway 70 right-of-way may require an encroachment permit from the Arizona Department of Transportation (ADOT).
 - Construction of at-grade road crossings are subject to the review and approval of the Arizona Corporation Commission.

- At-grade crossing warning devices and queuing distances shall meet the design and operational specifications of ADOT.
3. AZER shall consider school bus schedules in planning and executing the necessary road work.
 4. AZER shall make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by the proposed construction within the right-of-way.
 5. AZER shall raise the elevation of the proposed at-grade rail crossing over U.S. Highway 70 to be consistent with the elevation of the adjacent bridge over the San Simon River to ensure that visibility will not be a concern for drivers on the roadway.
 6. AZER shall install an advanced visual warning (remote flashing signals) on U.S. Highway 70 on the downslope moving away from the bridge east of the San Simon River.
 7. AZER shall ensure that all maintenance and inspections are in compliance with Federal Rail Administration standards. AZER shall also ensure that its contractor uses practices recommended by American Railway Engineering and Maintenance of Way Association for project-related construction.

Utilities

8. AZER shall consult with Graham County Electric Cooperative, Inc. (GCEC) prior to construction to determine whether any underground utilities might be crossed by the proposed rail line. If warranted, AZER shall then conduct an underground service alert (USA) for the length of the proposed rail alignment prior to the start of construction. If the USA reveals that underground utilities might be crossed by the proposed rail line, AZER shall coordinate with GCEC to ensure that such conveyances are protected in place.

Land Use/Agricultural Resources

9. AZER shall work with farmers and other property owners to remedy actual damage to property caused by project-related construction.
10. AZER shall negotiate with affected property owners to minimize severance impacts, including severance impacts to drainage ditches.
11. AZER shall ensure all construction debris is removed and disposed of in a proper and legal manner consistent with all Federal, state and local disposal procedures.
12. AZER shall limit construction activities and vegetation clearing to the proposed right-of-way, to the extent possible.
13. Where construction of the rail line would cause unavoidable property severance or damage to structures or infrastructure, AZER shall negotiate with affected landowner(s) within the 500-foot corridor and shall use its best efforts to modify

the alignment, to the extent practicable, to minimize impacts to existing land uses, structures and infrastructure, consistent with the floodplain approval process and the Section 404 U.S. Army Corps of Engineers and Section 7 U.S. Fish and Wildlife Service regulatory permit processes.

Cultural and Paleontological Resources

14. AZER shall comply with the terms of the Memorandum of Agreement, developed pursuant to 36 CFR 800.6(c), which has been executed by all required parties and is included as Appendix G.
15. AZER shall comply with the recommendations of the Historic Properties Treatment Plan prepared for the project pursuant to 36 CFR 800.11.

Hydrology and Water Quality

Applicable Requirements of Other Agencies

16. AZER shall obtain all Federal permits, including the Clean Water Act Section 404 permit required by the U.S. Army Corps of Engineers for project-related encroachment of jurisdictional waters of the United States prior to the initiation of any project-related construction. As part of the 404 permit, AZER shall also obtain an individual, state-issued Clean Water Act Section 401 certification for the part of the project consisting of the crossing of the Gila River.
17. Prior to project construction, AZER shall obtain an Arizona Pollutant Discharge Elimination System permit from the Arizona Department of Environmental Quality. A requirement for this permit is the preparation of a stormwater pollution prevention plan (SWPPP), which includes best management practices to reduce soil erosion and minimize potential release of pollutants into waters of the United States.
18. Prior to project construction, AZER shall obtain a floodplain development permit from Graham County, Arizona.

Construction Practices and Activities

19. AZER shall utilize the following best management practices during construction of the rail line:
 - Implement practices in accordance with the recommendations in the USFWS Biological Opinion (see recommended mitigation #37) and the AZPDES permit (see recommended mitigation #17) to reduce erosion and sedimentation that could occur as a result of construction;
 - Minimize disturbance to the greatest extent possible around water resources;
 - Reseed areas as soon as practicable to prevent erosion;
 - Use native species where practicable for revegetation;
 - Develop a spill prevention plan prior to construction, including measures to be taken should a spill occur;

- Maintain construction and maintenance vehicles to ensure good working order;
 - Conduct daily inspections of all equipment for any fuel, lube oil, hydraulic, or Freon/antifreeze leaks;
 - Utilize practices to prevent/minimize disturbance to bottom sediments during the proposed Gila River crossing.
20. As part of the construction process, AZER shall repair eroded areas on the downstream side of the track bed in order to minimize the entrance of sedimentation into waterways.
21. AZER shall develop and construct crossings of waterways and drainages as follows:
- Bridges supported on conventional spread footings shall be used where the rail line alignment crosses the Montezuma Canal, Union Canal south of the Gila River, and an unnamed aqueduct north of the Gila River.
 - The bridge over the Gila River shall be supported on deep foundations due to potential scour erosion from the river. Deep foundations could include piles or cast-in-place drilled shafts. The depths of the foundations would be established based upon bridge loading, scour predictions, and other factors. As it is anticipated that scour erosion could extend to significant depths, AZER shall consult with an expert in scour effects in designing the plans for this crossing.
 - Concrete box culverts shall be used for drainage crossings other than the Gila River and irrigation canals.
22. AZER shall ensure that erosion control measures for culvert crossings shall remain in place until the construction process is completed and the immediate area has been stabilized with a non-erosive cover.
23. For wells located within the proposed right-of-way but outside the grading limits, AZER shall cap or otherwise close the wells in accordance with state regulations.

Maintenance and Operations

24. AZER shall develop a bridge maintenance plan in compliance with Federal Railroad Administrations regulations.
25. AZER shall require that appropriate vegetation control measures are followed and that herbicides applied during right-of-way vegetation control procedures are approved by the U.S. Environmental Protection Agency for such purposes.
26. AZER shall ensure that the company conducting vegetation control is appropriately licensed.
27. AZER shall require that herbicide spraying not be undertaken on days with high winds and that on marginally windy days, an additive may be used to minimize any potential unwanted overspray.

28. AZER's plans for maintaining drainage structures associated with the rail line shall provide for regular maintenance (i.e. removal of debris, rock, sediment) of ditches and at river crossings.

Geology and Soils

29. AZER shall vegetate/reclaim disturbed areas as soon as practicable after project-related construction ends along a particular stretch of rail line. The goal of the reclamation shall be the permanent (re)establishment of native ground cover on disturbed areas.
30. AZER shall conduct a preconstruction survey of the area to identify areas that have a history of landslides. Project plans shall be revised to incorporate features in appropriate locations to reduce the potential for landslides to impede operations at various points of the rail line.
31. AZER shall ensure that for the duration of trenching activities, all excavations are safely sloped and/or include an adequately constructed and braced shoring system, in compliance with Occupational Safety and Health Administration (OSHA) regulations for employees working in an excavation that may expose employees to the danger of moving ground. If material is stored or equipment is operated near an excavation, stronger shoring shall be used to resist the extra pressure due to superimposed loads.
32. Prior to construction, AZER shall consult with utility companies in the project area to determine the location of any surface or subsurface utilities existing in the project area. AZER shall then document (with photographs, video, official documentation, etc.) the pre-construction condition of all such utilities that may be impacted by construction of the proposed rail line.

Hazardous Materials

33. Prior to initiating any project-related construction activities, AZER shall develop a spill prevention plan for hazardous materials for the construction and operation of the rail line. At a minimum, the spill prevention plan shall address the following:
 - Definition of what constitutes a reportable spill;
 - Requirements and procedures for reporting spills to appropriate government agencies;
 - Methods for containing, recovering, and cleaning up spilled material;
 - Equipment available to respond to spills and location of such equipment;
 - Training of personnel and training records;
 - List of government agencies and AZER personnel to be contacted in the event of a spill.

34. AZER shall ensure that operational period safety measures shall include those set forth in current Hazardous Materials Regulations applicable to the safe and secure rail transportation of hazardous materials. AZER shall manage hazardous materials in accordance with handling instructions included in applicable Material Safety Data Sheets.
35. In the event that construction activities encroach upon abandoned fire/trash pits, abandoned septic tanks, abandoned wells, and areas where spent ammunition from the firing range is found at or near the top of the ground surface, AZER shall provide appropriate corrective action. Corrective actions for these matters shall include abandoning wells in accordance with Arizona Department of Water Resources guidance, removal and landfilling of trash from trash pits (and backfilling as appropriate), and abandoning septic systems in accordance with County or other applicable regulations.

Air Quality

36. AZER shall implement standard construction mitigation measures (best management practices) to reduce fugitive dust emissions during construction. These mitigation strategies include watering all active construction areas (including unpaved access roads and parking and storage areas) at least twice daily; covering all trucks hauling soil, sand, and other loose materials; and applying soil binders on unpaved roads and employee/equipment parking areas.

Biological Resources

37. AZER shall comply with all measures required by the U.S. Fish and Wildlife Service during the Section 7 consultation process of the Endangered Species Act, including all measures within the Final FWS Biological Opinion (Appendix C of this Post EA).
38. AZER shall coordinate with the U.S. Army Corps of Engineers regarding possible Section 404 of the Clean Water Act permitting requirements.
39. In order to mitigate impacts to designated critical habitat, AZER shall ensure equipment staging and storage areas are situated outside of the river bed. Additionally, all construction equipment shall be removed from the river channel prior to onset of storm events.
40. AZER shall notify the Arizona Department of Agriculture 20 to 60 days prior to plant destruction to allow for the opportunity to salvage native vegetation. The Arizona Native Plant Law prevents the sale and transport of native vegetation without first obtaining a permit from Arizona Department of Agriculture. Those salvaging the plants shall obtain the necessary salvage permit.