

**APPENDIX D**  
**PHOTOS OF CURRENT CONDITIONS**  
**Ironwood Forest National Monument**  
**Travel Management Plan**

Issues and concerns related to the current condition of the Monument roads and primitive roads are illustrated by the photographs in this Appendix. Current conditions are affecting the usability of the designated access roads and primitive roads, and present safety concerns for road users. Poor road conditions are also leading to damage of Monument objects from spreading vehicle use impacts.



Figure D.1. Sasco Road River Crossing.

Proposed Monument Access Route connecting the IFNM to Interstate 8 at the Redrock Exit. Sasco Road partly uses the historic railroad grade to the Silverbell Mine. The remaining railroad grade separated from the road is planned in the IFNM RMP for a future trail connection to residential and other development in the Red Rock area. The low water crossings at the Santa Cruz River and Los Robles Wash become inundated and impassable by typical vehicles. Under proposed implementation strategy crossing and other road improvements will be pursued under the FLAP program with Pinal County.



Figure D.2. Avra Valley Road across Monument private land inholding.

Primary purpose is haul road for trucks going to and out of the mine. Heaviest traffic, ADT is over 100 vehicles. The San Juan Bautista De Anza National Historic Trail Auto Route follows Silverbell Road and Avra Valley Road near the Monument.



Figure D.3. Deeply entrenched road.

Agua Blanca Road, down cut by erosion over decades to approximately 4 to 5 ft below the prevailing elevation of adjacent ground, forming a deep canal. The roadway canal collects surface runoff and diverts it from natural drainage ways, concentrating the flow and continuing the erosion process that lowers the road grade and the gradient of adjacent drainages. The lowering of the gradient of side drainages is causing deep, steep sided gullies and stripping of topsoil from sheet erosion.

Cross drainages are undercut, and the road canal fills and ponds after storms, causing deposition of loose sand which makes passage difficult or treacherous and temporary loss of service.



Figure D.4. Gully erosion along road cut bank.

Gully erosion is found along deeply trenched road sections (Agua Blanca Road) in highly erodible creosote flat soils; note topsoil erosion at the head of the gully. Ongoing erosion process strips the topsoil of adjacent land.

The proposed road maintenance will raise the road grade and keep the existing trenched section as a low basin to drain to. The basin will continue to pond and infiltrate runoff, support denser vegetation due to the concentrated moisture. The migrating gully erosion will be stabilized as part of road construction.



Figure D.5. Blocked and undercut drainage outlet.

Natural drainage crossing outlets are blocked in many places along roads. Sediment material displaced along the roads blocks outlets, along with obstructions by vegetation growth and debris, create ponding on the roadways before runoff spills out into natural drainage outlet.

Under the proposed road maintenance project, the road will be raised, the sand trap will be allowed to function as a wet area, and the road will be moved out of the green strip along the basin.



Figure D.6. Manville Road, unpaved section approach to Monument entrance.

This section of Manville Road west of Axtell is unpaved (view west toward Monument boundary at the entryway), and aggregate surfacing will be pursued to reduce fugitive dust in the residential area along the road. Manville Road provides access to Agua Blanca Road.



Figure D.7. Manville Monument Portal site.

The existing open, cleared flat area near the Agua Blanca Rd entrance (entryway in background) is proposed for a portal site and staging area. The site will be designed to provide a portal parking and staging area for public use, and to serve as the staging area for road maintenance equipment and materials. Site work will address drainage, fugitive dust and muddy soil conditions, and restoration of native vegetation cover.



Figure D.8. Common road maintenance practices.

Road maintenance using motor graders or dozers over time down cuts the road grade, collecting surface runoff and creating flat bottom ditches with banks on both sides. This intercepts drainages and sheet runoff, disrupting natural drainage patterns and creating drainage and erosion problems. In places, the invert elevation of natural drainage crossing outlets is above road grade.

Road maintenance projects will be designed to restore or preserve natural drainage patterns by rolling the vertical alignment/grade, blocking the roadway with water bars, and directing drainage to runoff ditches or natural drainage outlets.



Figure D.9. Damaged fence from eroding access road.

Down cutting along fences from grubbing fence lines and road, maintenance has caused entrenchment along fences, undercutting fence posts and causing failure or collapse of the fence.

Proposed drainage improvements will restore intercepted runoff onto natural drainage channels or spread onto the adjacent flat soils to stabilize down cutting process, and worsening of erosion and related damage.



Figure D.10. Down cut roadway leading to travel way braiding.

Erosion makes road impassable on flat soils, causing road users to seek passage on higher ground, widening the impacts of a route in flat soil types, particularly in open areas with sparse, scattered vegetation cover.

Proposed maintenance will grade the roadway on higher ground using part of the existing road for balanced cut and fill, and low water crossings by rolling the grade's vertical alignment.



Figure D.11. Transmission lines in existing Right-of-Way service road.

Existing gate on Tohono O’odam Nation/IFNM boundary along the existing electric transmission lines across the Monument west of the Sawtooth Mountains prone to damage from errant vehicles, including traffic related to border zone smuggling activity. The fence is in poor condition and in need of replacement.

A proposed cattle guard will replace the wire gate to alleviate problems from the gate being left open or destroyed and livestock management. The IFNM will work with the Tohono O’odam Nation and grazing permittees on a fence maintenance and replacement project for the entire Monument boundary with the Tohono O’odam Nation.



Figure D.12. Administrative vehicle access route along rangeland fence.

This type of access route receives very low volume and infrequent use for inspection, maintenance or repair. At these use levels the route and its use has little impact on soils, and natural drainage patterns, and vegetation is present in the roadway in many cases. This type of route can attract increased traffic and related impacts.

This type of access route may not have been identified on the physical access route inventory, unless it was receiving vehicle traffic at the time the Monument was established in 2000. Multiple purposes will generally be blocked and signed to prevent attracting increasing traffic, and consequent impact on soils, drainage and other Monument resources along the route. Most fence lines require infrequent access for inspection, maintenance or repair. Such access will be accommodated.



Figure D.13. Existing fence line access route erosion.

Erosion by surface runoff collected and concentrated by the route has formed a ditch that strips topsoil and causes traffic to use adjacent ground, widening the impacts of the access routes and potentially causing damage to Monument objects (hidden cultural resource values, vegetation, soil), and disrupting natural drainage patterns. Ditch formation is common on routes aligned across the prevailing contours on bajada and mountain slopes.

Ditch formation will be stabilized by redirecting runoff to natural drainages, and treatments at head cut and rill eroding fronts. Existing ditches will be blocked with water bars, particularly at undershot natural drainage crossing outlets. Conditions predisposing routes to ditch erosion will be prevented by rolling the vertical alignment of the route's to prevent a continuous grade line for extended distances, depending on the soil type and grade.

## GROUP SITES:



Figure D.14. Silverbell Group Site.

Existing group site along Silverbell Road north of Ragged Top. Rock bordered parking areas and driveway were installed into prevent sprawling vehicle use. This area has capacity for approximately 10 vehicles, with overflow parking along Silverbell Road. The site is used for educational programs, organized group activities, camping and picnicking.

Under the proposed plan future expansion of the site to the west will be considered to increase capacity to two groups at one time (approx. 20 vehicles at one time) capacity. The site would be maintained to semi primitive standards, with no facility development other than parking, driveways, signing, and fire rings. Temporary sanitation facilities will be required for organized group use.

Waterman restoration site, gravel-parking area used for restoration activities, interpretive programs and picnicking. The paved road provides access to the rock quarry on private land adjacent to the Monument, and the Titan Missile Silo site, planned interpretation purposes following relinquishment of the withdrawal by the USAF.



Figure D.15. Proposed Silverbell Group Site expansion area, view west.

Existing boulders define the western parking and driveway perimeter of the group site.

Under the proposed implementation plan, construction of a new driveway will be considered from the existing driveway to a second ingress/egress point approximately 800 feet west along Silverbell Road.



Figure D.16. Avra Hill restoration site.

Existing disturbed area created by intensive recreational use and intensive target shooting activity since the Monument was established along Avra Valley Road.

Highly disturbed sites will be cleaned up and treatments will be applied to restore the sites to natural conditions as much as possible. Impacts to be addressed in restoration efforts include: blocking access by vehicles to preventing further impacts, soil compaction, vegetation cover, invasive plants, and visual contrast.



Figure D.17. Typical restoration treatment.

Disturbed area heavily disturbed by intensive vehicle use and recreation activity after restoration treatments, and signing to prevent continued traffic. Treatments applied here included clean-up of trash and debris, removal of hot fire remains, trimming of cacti cuttings and standing dead wood, persistent woody ground litter, raking ruts to disguise the area and prevent attracting additional use. Work usually done using hand crews and hand tools.

Restored areas will be monitored for compliance with temporary use/occupancy restrictions, and success in restoring normal soil function including vegetation cover.