

## FINDING OF NO SIGNIFICANT IMPACT (FONSI)

### LONE PINE CANAL SALINITY CONTROL PROJECT 2010, MONTEZUMA VALLEY IRRIGATION DISTRICT, MONTEZUMA COUNTY, COLORADO

In accordance with the National Environmental Policy Act of 1969, as amended, and based on the following, the Bureau of Reclamation (Reclamation) has determined that the approval of a grant to the Montezuma Valley Irrigation Company (MVIC) for the construction of salinity control features at the Lone Pine Canal Lateral that meet the “salinity control requirements” of the Colorado River Basin Salinity Control Program (CRBSCP) would not result in a significant impact on the human environment.

**Background--** The project is located in southwestern Colorado in Montezuma County near the City of Cortez. The Lone Pine Canal, a 17.4-mile long canal, which is owned and operated by MVIC. It is fed from the Dolores River through the McPhee Reservoir, approximately 15 miles north of Cortez. It provides water to approximately 17,017 acres of land in the Dove Creek area, the central Montezuma Valley, and the Towaoc area on the Ute Mountain Ute Indian Reservation.

The proposed project begins at an existing 30-inch concrete pipe (locally known as Bauer Drop) west of County Road 20 and extends to the end of the existing Lone Pine Canal, just north of County Road L and west of County Road 23 (EA Figure 1.1: Project Vicinity Map). The proposed project is approximately 31,155 ft in length.

MVIC began seeking basin wide salinity funding for the Lone Pine Canal improvements in late 2004 from Reclamation and submitted an “on farm/ off farm” application in 2008 (Reclamation Funding Opportunity Announcement (FOA) 08-SF-40-2742). The application included installation of on-farm sprinkler irrigation systems to assist in reducing deep percolation salt contributions to the Colorado River. At that time the application was not funded by the Bureau of Reclamation.

In May 2009, MVIC again applied for basin wide salinity funds through Reclamation as a part of the American Recovery and Reinvestment Act (ARRA) program for improvements to the Lone Pine Canal. This funding application was initially approved by Reclamation in June 2009 and formally approved for funding in August 2009.

**Purpose and Need—** The purpose of the proposed action is to implement the standards set forth in Reclamation’s Colorado River Basin Salinity Control Program by reducing the salinity contribution from the Lone Pine Canal to the Colorado River Basin. The proposed action is needed to control seepage from the Lone Pine Canal that dissolves salts in the soils and eventually carries 953 tons of salt annually to the Colorado River

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Basin. Furthermore, the proposed improvements need to be cost effective, durable, and minimize yearly operating and maintenance costs.

**Scoping/Public Involvement**—MVIC representatives have met with all of the property owners along the length of the Lone Pine Canal project limits. The most recent meetings with property owners took place in July 2009. These private sessions were held to discuss the proposed project, address any questions the property owners might have regarding the proposed project and to identify any potential issues for property owners along the canal. Input from those discussions was utilized as part of the preliminary engineering phase to help establish the Action Alternative. MVIC also sent letters on the proposed project to each property owner.

The Final Environmental Assessment and this document if approved will be posted on Reclamation's website and availability of the document will be advertised in the Cortez Journal and the Durango Herald Newspaper. Copies of the document will also be made available at the Western Colorado Area Office in Durango and the MVIC Office in Cortez.

**No Action Alternative**— Under the No Action Alternative, Reclamation would not authorize the piping of the Lone Pine Canal in the Dolores Project, and general operating and maintenance activities will continue. If the project is not constructed seepage from canal would continue. The seepage leads to the dissolving of salts in the soils, which ultimately leads to an increase in salinity of the Colorado River Basin. Approximately 953 tons of salt from the seepage would continue to reach the Colorado River Basin every year (Appendix A, Salinity Report). The inefficiency of the existing canal system also results in a far greater than necessary water application for agricultural use, due to high amounts of water seeping from the canal. Agricultural productivity in the area may be restricted by the limited water supply available in the future.

**Alternatives Considered, but Eliminated from Detailed Analysis**—Preliminary engineering evaluated 4 alternatives and three were eliminated and removed from consideration for not meeting the purpose and need. They are briefly discussed below:

**Option 1 Clay Earth Lining:** The Clay Earth Lining Option would consist of re-grading the existing canal, excavation, and placement and compaction of an earthen lining material, that primarily consisting of soils with heavy clay content. The clay lining is typically 2'-3' thick and covered with a protective layer of aggregate or other armoring cover. Maintenance on clay lined facilities (i.e. canal cleaning) can be significant due to potential damage to the liner from excavation equipment. Clay liners are also susceptible to damage from burrowing rodents and other wildlife in the area which minimize the life expectancy of the liner as a viable salt reduction alternative. Clay earth lining has short life expectancy and lower seepage reduction effectiveness than other alternatives. This option did not fully meet the need of the project and was eliminated from further analysis.

**Option 2 Concrete Lining:** Concrete Lining Option would consist of re-grading the existing canal, and the placement of concrete. Based on a 10-year canal lining

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demonstration completed by Reclamation in November 2002, concrete lining is projected to have a 40-60 year effective life expectancy. Reclamation's study calculated the estimated seepage reduction effectiveness for concrete lined canals to be 70%. Concrete lined canals are labor intensive requiring significant excavation to reform canal banks to meet appropriate side slopes and gradients. This option fails to fully meet the need of the project because it would only provide a 70% seepage reduction rate. Furthermore, the high cost of constructing the concrete liner makes this option cost-prohibitive.

**Option 3 Exposed Geomembrane Liner:** The exposed geomembrane liner option would consist of re-grading the existing canal, excavation of anchor trenches along the length of the canal and the placement of a 45 mil EPDM liner that is resistant to degradation from UV light. The measured seepage effectiveness for an exposed geomembrane liner is approximately 90%. The liner itself can be installed by hand and has the lowest initial cost of the identified alternatives. However, liners of this nature are highly susceptible to damage from livestock and wildlife that can easily puncture the liner when accessing the canal. Because of poor durability, the project life of the geomembrane liner is roughly 15 years. This option was eliminated from further evaluation because the short project life of the geomembrane liner significantly reduces the potential to provide long term salinity removal to meet the project's purpose and need.

**Preferred Alternative (Option 4) / Proposed Action—** After preliminary engineering, one action alternative was deemed to fully meet the project's purpose and need. This alternative is described below.

Under the Preferred Alternative, Reclamation would fund the replacement of the earthen sections of the Lone Pine Canal located immediately downstream of the Bauer Drop with a concrete pipe. This action would reduce the amount of salt reaching the Colorado River Basin by a total of 953 tons annually. Piping the canal would also reduce the amount of debris that enters the open channel canal, thereby reducing the intensity and frequency of ongoing system maintenance. It would also provide a pressurized irrigation pipe, which would be used by adjacent farms for more efficient on-farm irrigation.

In 1994, a portion of the Lone Pine Canal, downstream of the Bauer Drop, was lined with a clay liner as part of Reclamation's Dolores Project. This section has subsequently deteriorated and water seeps through the now porous liner. The remaining canal sections are an unlined earthen canal. Under the Preferred Action, 31,155 ft of the canal downstream of the Bauer Drop would be piped. These improvements include replacing approximately 4,043 linear ft of an existing "low head" concrete pipe, which currently comprises the Bauer Drop.

The Preferred Alternative also includes replacing approximately 1,600 linear ft of the existing Alkali Siphon pipeline. Alkali Siphon, a reinforced fiberglass siphon pipe, failed in July 2009 requiring emergency repairs by MVIC during peak irrigation times. The new Alkali Siphon pipe would be larger in diameter than the existing pipe and rated to meet high static pressures anticipated at the bottom of the Alkali Drainage.

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Under the Preferred Alternative, the northern beach of the Narraguinnep Reservoir would be used as the location for the mitigation required through the Habitat Replacement Plan (HRP). Under the HRP, approximately 7.94 acres of the reservoir's existing northern beach would be excavated, graded and converted to wetland habitat. This area will be impacted in the short term as the existing upland vegetation is converted to wetland habitat. Once established, the new wetland habitat is intended to provide long term positive impacts for a wide variety of species including migratory birds. No gain or loss of the storage capacity of Narraguinnep Reservoir will result from this action alternative as per state regulations. For further details about the HRP see Appendix B, Habitat Replacement Plan.

**Summary of Findings for Analysis of Alternatives**—Reclamation conducted analysis on a wide range of environmental criteria for the No Action and the Preferred Alternatives.

The No Action Alternative does not meet the purpose and need as described above.

Under the Preferred Alternative, Reclamation will approve the funding of the salinity control project for the Lone Pine Canal which involves placement of 31,155 ft of new pipeline within 11,404 feet of existing easement and within 14,108 ft of new easement. In terms of environmental consequences associated with implementing the preferred alternative, no significant adverse effects are anticipated.

Wetlands and Riparian Resources—Approximately, 1.3 acres of wetlands would be permanent impacted within the Project Area. This impacted and lost wetlands habitat will be replaced at a ratio of 2 to 1. The Habitat Replacement Plan (HRP) details the process. No Nationwide Wetlands Permit is required as part of the project due to an irrigation exemption (RGL No. 07-02 Exemption for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches under Section 404 of the Clean Water Act).

In addition to wetland areas, riparian habitat would also be impacted by the Preferred Alternative and will be replaced under the HRP. The piping will result in a total loss of ditch-induced riparian habitat (discussed in Appendix E, HRP). Overall the HRP will replace 7.94 acres of wetland and riparian habitat.

To minimize impact to native riparian vegetation, previously disturbed areas would be used during construction, where possible. Best Management Practices (BMP) would be followed to reduce construction impacts. Construction materials and equipment would be washed to remove dirt and weed seeds and reduce the possibility of infestation. After any surface disturbance, proper rehabilitation procedures would be followed to prevent the infestation of invasive riparian species.

Upland Vegetation Resources--Much of the area disturbed by construction activities will be in upland and agricultural areas that are already altered from their natural states.

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Construction would occur outside the growing season, between October and May, and would occur within a 100-foot wide construction easement. Upland areas would experience short term vegetation losses. Long-term, only a relatively small/*de minimis* amount of acres of native habitat would be permanently lost. Upland vegetation communities would likely be reestablished. However areas that are disturbed may be more vulnerable to non-native species and noxious weed infestation. Agricultural areas would be re-seeded with a seed mix indicative of agricultural cover as per landowner specifications.

BMPs would be followed to reduce impacts, including placing staging areas and material sources outside of sensitive areas. Construction materials and equipment would be washed to remove dirt and weed seeds, and reduce the possibility of infestation. After any surface disturbance, proper rehabilitation procedures would be followed to prevent the infestation of invasive species.

Fish and Wildlife Resources— This action result only in minor impacts to all wildlife species present in the Project Area. There would be some upland habitat (approximately 70 acres) temporarily disturbed, but similar habitat is available in surrounding areas. The area will be recontoured, replanted, and reseeded. BMPs would be followed to minimize impacts. Seed mixtures would include desirable native and agricultural species. All construction activities would occur within the 100-foot wide right of way. It is expected that wildlife would find alternative areas for forage and cover during three to six months of construction,

Impacts to small mammals, especially burrowing animals, could include direct mortality and displacement during construction activities. Most small mammal species would likely experience reduced populations in direct proportion to the amount of disturbed habitat. These species and habitats are relatively common in the area, so the loss would be minor. Impacts to big game would include short term disturbance and displacement during the construction period. It is anticipated, due to the minor amount of habitat disturbance, that minor to no impact to wintering big game populations would occur. Impacts to raptors and other avian species would include minor short term disturbance and displacement, with no long term impacts.

Those species, including avian and amphibian species, which are dependent on wetland and riparian habitats would experience a long term loss of habitat (greater than five years). The total habitat value that would be lost long term would be replaced through the HRP. Under the HRP, wildlife habitat lost due to the Preferred Alternative would be replaced at 1 to 1 ratio, except where indicated for federally listed species in which case habitat would be replaced at 2 to 1 ratio (Appendix E, HRP). Additionally, the Preferred Alternative would result in a decrease in the salinity loading of the Colorado River Basin which would increase water quality and potentially benefit fish within the Colorado River System.

Federally Listed Species-- There have been no documented occurrences of any federally threatened, endangered or candidate species within the Project Area. The biological

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survey indicated that the Project Area contains land which may serve as habitat for the southwestern willow flycatcher and is within the Upper Colorado Recovery Unit (USFWS 2002). While no nests or individuals were observed during site surveys, the area contains two dense riparian habitats that may provide nesting areas for the flycatcher. Pre-construction surveys must be performed for any construction activity occurring during the breeding season between May and August 15. Under the HRP, potential southwestern willow flycatcher habitat will be replaced at a 2 to 1 ratio.

Cultural Resources— The Preferred Alternative will directly impact site 5MT5181.3 which is the Lone Pine Lateral. Since avoidance of the resource is not feasible, and will result in an Adverse Effect to the resource. To mitigate the Adverse Effect, the site will be documented cartographically using GPS and GIS and a set of archival quality photographs of representative sections of the ditch will be taken. These photographs must meet the Colorado Office of Archaeology and Historic Preservation Level II documentation standards. A comprehensive research document will also be developed for the site (Appendix F, Cultural Memorandum of Agreement--MOA).

Water Quality— The Preferred Alternative would reduce seepage from the Lone Pine Canal. By eliminating this seepage, approximately 953 tons of salt would be prevented from reaching the Colorado River Basin annually. This would result in minor long term reduced salinity in the Colorado River Basin, which would improve the long term water quality. Any “saved water” from the improvements could not be used to irrigate new lands which would increase salt loading.

Indian Trust Asset--Reclamation believes that implementation of the Preferred Alternative will not have the potential to adversely affect Indian Trust Assets (ITA). No ITA have been identified. The Ute Mountain Ute Tribe, the closest recognized Indian Tribe has been consulted as part of this project analysis and concurs with this finding.

Environmental Justice—The Project Area lies on privately owned land in Montezuma County, Colorado. The Preferred Alternative would not involve relocations, health hazards, property takings, the creation of hazardous waste, or economic impacts to any population; and will not have no adverse effects that would disproportionately affect minority and low-income populations..

**Environmental Commitments**—The Preferred Alternative was selected, in part, because it minimizes potential impacts to resources. It would comply with all federal, state, and local laws, ordinances, regulations, and standards for construction and operations (BMPs).The following environmental commitments would be implemented by MVIC as an integral part of the Preferred Alternative for the Lone Pine Salinity Control Project.

**1. Standard Reclamation Management Practices** – Standard Reclamation construction management practices would be applied during construction activities to minimize environmental effects and would be implemented by construction personnel or included in contract specifications.

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**2. Construction Activities Confined to the Surveyed Corridor** – All construction activities would be confined to the one hundred foot wide right of way and within defined staging areas. All properties have been surveyed for cultural and biological resources.

**3. Disturbed Areas** – During construction topsoil would be saved and then redistributed after completion of construction activities. Disturbed areas would be recontoured and reseeded to as near their pre-project condition as practicable. Seeding and planting would occur at appropriate times and composition of seed mixes would be coordinated with a wildlife habitat specialist and property owners.

**4. Air Quality** – MVIC would implement measures to control fugitive dust during construction activities. The contractor would comply with all Colorado State air quality regulations.

**5. Water Resources and Water Quality** – MVIC follow Reclamation standards and utilize BMPs to prevent suspended sediment loading and to provide sediment control structures. If required, the contractor would obtain a State Stream Alteration Permit from the Department of Natural Resources.

**6. Vegetation Resources** – MVIC would limit ground disturbance to the smallest feasible areas and that they implement BMPs to reduce disturbance to the vegetation resources in the Project Area. A. HRP would be developed prior to groundbreaking

**7. Fish and Wildlife Resources** – MVIC would ensure that construction activities are confined to the smallest feasible area to limit disturbance to wildlife within the Project Area. The HRP covering replacement for wildlife value foregone would be finalized and approved by Reclamation following coordination with the USFWS and Colorado Division of Wildlife Resources and would be developed prior to groundbreaking; it would be implemented by MVIC within one year of the completion of construction activities; and it would evaluate success within three years following construction.

**8. Special Status Species**

Southwestern willow flycatcher--Reclamation would implement conservation measures to address potential impacts to the southwestern willow flycatcher. Reclamation would ensure that no construction occurs during the southwestern willow flycatchers breeding season (May 1 through August 15). If construction activities must occur during this timeframe preconstruction surveys would be performed following USFWS protocol to determine the presence/absence of the bird. Reclamation would coordinate the results of these surveys with USFWS to determine any additional mitigation measures. The HRP would address replacement for lost southwestern willow flycatcher habitat (2 to 1 ratio).

Red-tail hawk--All construction activities should be performed between August 16 and March 15 to avoid disruptions to the red-tailed hawk breeding season (March 16 - July 1) and the southwestern willow flycatcher breeding season (May –August 15).

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Migratory Birds – Preconstruction nesting surveys are required for all de-vegetation construction activities occurring between April 1 and August 15.

Bald and Golden Eagles—A 0.25 mile avoidance buffer zone requirement exists for roosting and nesting eagles.

**9. Cultural Resources** – Prior to construction, a MOA between Reclamation and the Colorado Office of Archaeology and Historic Preservation for Adverse Effect to Site 5MT5181.3 will be approved and implemented. To mitigate the Adverse Effect, the site will be documented cartographically using GPS and GIS and a set of archival quality photographs of representative sections of the ditch must be taken. These photographs must meet the Colorado Office of Archaeology and Historic Preservation Level II documentation standards. A comprehensive research document will be developed for the site. Additionally construction activities will be monitored to ensure that other sites are avoided by this action.

**10. Soil Sedimentation and Erosion** – MVIC would require that construction procedures include measures contained in Reclamation’s erosion control guidelines and BMPs to control soil erosion.

**11. Public Health, Safety, Access and Transportation** – MVIC would ensure that all required state, county, and local permits would be acquired prior to construction activities along County Roads 20, 21, 22, M, N, and P.

**12. Hazardous Materials** – MVIC would require that during construction the use, storage, and disposal of hazardous waste materials and wastes on-site will be managed in accordance with federal, state, and local standards.

**CONCLUSIONS:**

The No Action Alternative will not meet the purpose and need of the proposed action.

Based on the review and analysis of environmental impacts, Reclamation concludes that granting funding for the construction of salinity control features at the Lone Pine Canal by the MVIC as described within the Preferred Alternative will not have significant impact on the quality of the human environment or the natural resources in the project area.

This Finding of No Significant Impact has, therefore, been prepared and is submitted to document environmental review and evaluation of the proposed action in compliance with the National Environmental Policy Act of 1969, as amended.

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