

Floodplain Statement of Findings for the Installation of a Water Treatment Unit at the Shiprock, New Mexico, Disposal Site

Agency: U.S. Department of Energy Office of Legacy Management

Action: Floodplain Statement of Findings

Description of the Proposed Actions: The U.S. Department of Energy Office of Legacy Management is proposing to install a new water treatment unit (WTU) to replace the function of the existing evaporation pond. The package WTU would be housed in conex-type units within an approximately 24 × 60-foot footprint placed on a flat gravel pad adjacent to the disposal cell.

The WTU may contain a discharge pipeline that would be constructed on the floodplain of the San Juan River (Figure 1) for the discharge of treated water into the river. Water discharged from the WTU could be directed to any of the following:

1. The San Juan River via a new underground or aboveground water pipeline and outfall This would impact up to 1600 linear feet of ground surface on the floodplain with an 8-foot-wide area of disturbance for the pipeline installation, temporary access routes, and an outfall structure.
2. The outfall drainage channel diversion that leads to the floodplain via Bob Lee Wash or directly to Bob Lee Wash. The outfall diversion is above the floodplain, and the floodplain itself would not be altered by this option except to receive additional water.
3. The ground surface in the floodplain and allowed to infiltrate. Discharge locations for this option could include the wetland at the mouth of Bob Lee Wash or other areas on the floodplain. This option would impact approximately 1200 linear feet of ground surface on the floodplain with an 8-foot-wide area of disturbance for the pipeline installation, temporary access routes, and an outfall structure but would not otherwise alter the floodplain except to receive additional water.
4. A newly constructed underground infiltration system and allowed to infiltrate. This option would disturb approximately 1 acre of ground surface in addition to the disturbance caused by running the underground pipeline.

If the above options were implemented together, a maximum of 1.6 acres of ground surface could be disturbed.

Location Within a Floodplain Explanation: Construction on the floodplain is required to access a suitable discharge location for the WTU effluent. There are no feasible alternative discharge locations that would avoid action within the floodplain.

Alternatives: The alternative considered for floodplain impacts was the continued operation and maintenance of the evaporation pond for the treatment of contaminated groundwater. This would not entail construction in the floodplain. However, installing a WTU is a better option because:

1. The continued operation and maintenance of the evaporation pond would require replacement of the pond liner, which would be a recurring event as the pond liner reaches the end of its life expectancy.
2. The new WTU would provide equivalent, if not superior, treatment of the contaminated groundwater.

3. The new WTU would allow for more water to be kept in the hydrological system, reducing water waste in an arid environment.
4. The evaporation pond is not visually appealing to nearby residents.

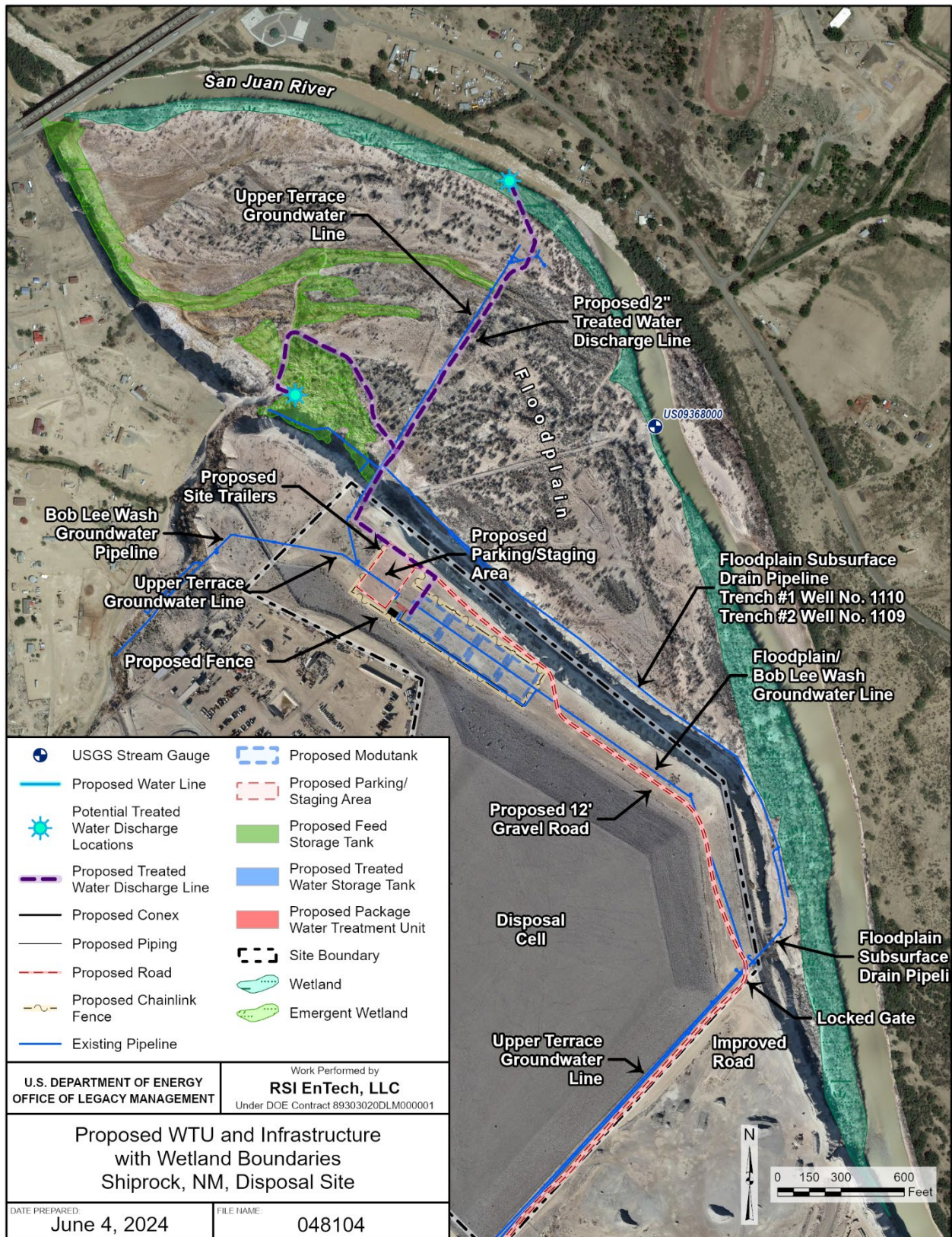
Floodplain Protection Standards: No long-term changes to the floodplain's capacity or function would result from the proposed action because the floodplain would be restored to preexisting topography and vegetation would be reestablished.

Direct, short-term, negative effects include surface soil and vegetation disturbance in construction areas. These effects would be mitigated by the following:

1. Designing the project to avoid and minimize adverse effects, both temporary and permanent, to wetland areas on the floodplain to the maximum extent possible.
2. Minimizing areas of exposed earthwork and vegetation removal by implementing stormwater runoff control measures and by scheduling activities before or after periods of high runoff.
3. Equipment working in wetland areas would be placed on mats or would utilize other measures to minimize soil and vegetation disturbance including performing work in the smallest footprint possible, performing the work only while floodplain soil is dry, and limiting site traffic to previously disturbed areas whenever possible.
4. Ensuring that any incidental fills in wetland areas are temporary and removed entirely and that the affected areas will be returned to preconstruction elevations. Areas with disturbed vegetation will be reseeded with an approved weed-free seed mixture and monitored for revegetation success.
5. Avoiding work in a floodplain when the soil is too wet to adequately support equipment.
6. Scheduling activities to avoid impacts to nesting migratory birds, Navajo Nation-listed species, and other sensitive species. Ecological surveys would be performed as needed if scheduled work is likely to occur in potential habitat areas during sensitive times (e.g., nesting season).
7. Avoiding storage of hazardous materials, chemicals, fuels, and oils within the floodplain.
8. Refueling equipment at least 100 feet from any drainage, including dry arroyos.

Any work occurring in or near wetlands would be authorized by the U.S. Army Corps of Engineers and Navajo Nation Environmental Protection Agency before the start of work. The proposed action would comply with all Clean Water Act Section 404 and Section 401 requirements (Title 33 *United States Code* Section 1251 et seq. [33 USC 1251 et seq.]). No net loss of wetlands or wetland function would result from the proposed action. Wetland quality would not be impacted, and the survival of the impacted wetlands would not be imperiled.

Soils would be disturbed, and vegetation would be removed from a small portion of the floodplain over the short term, but effects would be mitigated to the extent possible. Disturbed areas would be backfilled and stabilized when construction is complete. Previously vegetated areas would be reseeded with a Navajo Nation-approved seed mixture and monitored for revegetation success. The proposed action, with implementation of project mitigation measures, conforms to applicable floodplain protection standards.



Abbreviation: USGS = U.S. Geological Survey

Figure 1. Proposed Conceptual Layout of the Package WTU and Associated Infrastructure