




U.S. Department of the Interior  
Washington DC

**Record of Decision**

**Pojoaque Basin Regional Water System  
Final Environmental Impact Statement**

Approval:

  
Timothy R. Petty  
Assistant Secretary for Water and Science

9/11/19  
Date

# **RECORD OF DECISION**

## **Summary of Action**

The Secretary of the Interior (Secretary), acting through the Bureau of Reclamation's Upper Colorado Region (Reclamation), was authorized by the Aamodt Litigation Settlement Act (Settlement Act; Title VI of the Claims Resolution Act of 2010; Public Law 111-291, Title VI; 124 Stat. 3065) to plan, design, and construct the Pojoaque Basin Regional Water System. The Settlement Act authorizes any treatment, transmission, storage, and distribution facilities and wellfields for Santa Fe County's distribution system and all Pueblo water facilities that are necessary to distribute up to 4,000 acre-feet of water annually to customers in the Pojoaque Basin or as otherwise authorized by the Settlement Act (Settlement Act, Section 611(a)(2)(B) and 612(c)(2)). The proposed system includes water-diversion facilities from the Rio Grande and water treatment facilities on the Pueblo de San Ildefonso.

Reclamation prepared an environmental impact statement (EIS) to assess the environmental effects associated with the regional water system and connected actions. This was done in cooperation with the Bureau of Indian Affairs (BIA); the Indian Health Service; the U.S. Army Corps of Engineers (USACE); the U.S. Fish and Wildlife Service (Service); the Pueblo of Nambé; the Pueblo of Pojoaque; the Pueblo de San Ildefonso; the Pueblo of Tesuque; the New Mexico Department of Transportation; Santa Fe County; and the City of Santa Fe.

The EIS completes the requirements for environmental compliance in the Settlement Act, Section 616, and the National Environmental Policy Act (NEPA), and the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations (CFR), Parts 1500–1508), the U.S. Department of the Interior's NEPA Regulations (43 CFR, Part 46), and other relevant federal and state laws and regulations.

## **Purpose and Need**

The purpose of the proposed federal action is to reliably provide a firm, safe supply of treated drinking water for distribution in the Pojoaque Basin, in compliance with the Settlement Act. The need for action is to reduce reliance on groundwater in the Pojoaque Basin and to allow the Settlement Pueblos to receive a portion of the water provided under the Settlement Act.

The proposed federal action also will enable the Settlement Pueblos to use funding made available in the Settlement Act for certain water-related infrastructure improvements, if requested. This funding can be requested before the regional water system is substantially complete. If approved by the Secretary of the Interior (Settlement Act, Section 615(d)), funds can be used for any water-related improvements that will prove to be more cost effective when implemented in conjunction with the regional water system construction.

## **Alternatives Considered**

The Final EIS analyzes the potential environmental impacts of 5 alternatives for the regional water system: no action (Alternative A) and 4 action alternatives (Alternatives B, C, D, and E). Each of the action alternatives addresses 6 components or project elements:

- Firm, reliable water supply
- Primary source water collection
- Water treatment
- Short-term storage tanks
- Water transmission and distribution system, including pipelines, pumping plants, forebay tanks, and other associated facilities
- Electrical power service

### **Alternative A (No Action Alternative)**

The No Action Alternative is the “no build” alternative. Under this alternative, the regional water system would not be constructed and a firm, reliable water supply would not be provided to residents of the Pojoaque Basin. Use of domestic wells would continue to reduce groundwater and surface water supplies in the Pojoaque Basin. The Pueblos would continue to rely on their existing separate water systems, rather than integrating their systems into one regional system with the County.

### **Alternative B (HKM Implementable Alternative)**

Alternative B incorporates the regional water system facilities and components described in the 2008 Engineering Report prepared by HKM Engineering, Inc., as updated through surveys and public input. The HKM Engineering Report served as the preliminary regional water system concept for the Settlement Act. Under this alternative, the regional water system would consist of these components:

- A firm, reliable water supply would be provided by diverting surface flows from the Rio Grande, supplemented by operational planning and scheduling of San Juan-Chama Project water supplies, as well as one of the following three backup aquifer storage and recovery water supply options:
  - Aquifer storage and recovery, involving three deep injection and recovery wells for injecting raw or treated surface water into an aquifer and recovering it for use in the regional water system
  - Aquifer storage and recovery, involving three shallow injection and recovery wells for injecting raw or treated surface water into an aquifer and recovering it for use in the regional water system
  - Aquifer storage and recovery, involving three shallow passive infiltration reaches and recovery wells for infiltrating raw surface water into an aquifer and recovering it for use in the regional water system

- A side-channel surface diversion structure and pumping plant with a sediment removal and return system on the east bank of the Rio Grande on Pueblo de San Ildefonso lands, just north of the Otowi Bridge
- A water treatment plant and pumping plant on the Pueblo de San Ildefonso on the south side of State Highway 502, approximately 0.75 miles east of the Otowi Bridge
- Eleven new short-term storage tanks, in addition to 13 existing storage tanks
- A water transmission and distribution system including approximately 194 miles of pipelines, 7 pumping plants, and pressure-reducing and flow-control valves
- Approximately 15 miles of new electrical distribution lines

### **Alternative C (the Reclamation Feasibility Report)**

Under this alternative, the regional water system would consist of these components:

- A firm, reliable water supply would be provided by collecting flows from the hyporheic zone<sup>1</sup> of the Rio Grande, supplemented by operational planning and scheduling of San Juan-Chama Project water supplies
- A parallel river interceptor drain in the alluvium, below the water table in the bosque (wooded riparian area) on the east side of the Rio Grande north of the Otowi Bridge
- A water treatment plant on the eastern portion of the Pueblo de San Ildefonso, on the east side of County Road 101D near the El Rancho power substation
- Eleven new short-term storage tanks, in addition to 13 existing storage tanks
- A water transmission and distribution system, including approximately 189 miles of pipelines, 1 surge tank, 6 pumping plants, and pressure-reducing and flow-control valves
- Approximately 7 miles of new electrical distribution lines, supplemented by distributed solar generation

### **Alternative D**

Under this alternative, the regional water system would consist of these components:

- A firm, reliable water supply would be provided by collecting flows from the hyporheic zone of the Rio Grande, supplemented by operational planning and scheduling of San Juan-Chama Project water supplies
- An infiltration gallery (an estimated 180 horizontal drains to collect groundwater) on the east bank of the Rio Grande
- A water treatment plant on the eastern portion of the Pueblo de San Ildefonso, on the east side of County Road 101D, near the El Rancho power substation

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<sup>1</sup> A below-ground area beneath and alongside a river or streambed that is water saturated and supports invertebrate fauna.

- Sixteen new short-term storage tanks in addition to 13 existing tanks
- A water transmission and distribution system, including approximately 187 miles of pipelines, 1 surge tank, 6 pumping plants, and pressure-reducing and flow-control valves
- Approximately 7 miles of new electrical distribution lines, with facilities capable of being supplemented by distributed solar generation

### **Alternative E (Preferred Alternative and Selected Alternative)**

The selected alternative is Alternative E, identified in the Final EIS as the preferred alternative. The selected alternative consists of these components:

- A firm, reliable water supply would be provided by collecting flows from the hyporheic zone of the Rio Grande, supplemented by operational planning and scheduling of San Juan-Chama Project water supplies
- Existing wells could be used in the future for emergencies lasting longer than 2 days that cannot be supplied by short-term storage tanks
- Four horizontal radial well collectors on the east bank of the Rio Grande, on the Pueblo de San Ildefonso, north of the Otowi Bridge
- A water treatment plant on the west side of County Road 101D, north of State Highway 502
- Seven new short-term storage tanks, in addition to 15 existing storage tanks
- A water transmission and distribution system, including approximately 151 miles of pipelines, 1 surge tank, 6 pumping plants, and pressure-reducing and flow-control valves
- Approximately 7 miles of new overhead and buried electrical distribution lines, with facilities capable of being supplemented by distributed solar generation

### **Environmentally Preferable Alternative**

The No Action Alternative would result in fewer environmental impacts than the action alternatives; however, taking no action would not meet the purpose and need for action. The No Action Alternative would not provide a reliable, firm, safe supply of treated drinking water for distribution in the Pojoaque Basin, it would not reduce reliance on groundwater in the Pojoaque Basin, and it would not allow the Settlement Pueblos to receive a portion of the water provided under the Settlement Act.

Of the action alternatives, Alternative E is the environmentally preferable alternative. This alternative would disturb the fewest acres for project facilities; consequently, it would have the least effect on resources analyzed in the Final EIS.

During the comment period on the Draft EIS, the primary concern noted by the public was visual impacts of the aboveground facilities visible from The Santa Fe Opera. Alternative E was revised in the Final EIS to remove a water storage tank visible from The Santa Fe Opera and to avoid visual impacts as much as possible.

## Decision and Rationale for the Decision

The Secretary's decision is to implement Alternative E, as summarized above and described in the Final EIS, contingent on funding availability. The Secretary's decision is based on how this alternative helps offset the effects of groundwater pumping and in consideration of how the components of this alternative avoid or minimize potential environmental impacts, while providing a reliable, firm, and safe supply of treated drinking water for distribution in the Pojoaque Basin in compliance with the Settlement Act. All practicable measures to minimize harm have been incorporated into the selected alternative. Should there be environmental effects due to changes or modifications to Alternative E that were not considered in the Final EIS, Interior will ensure that appropriate consultation and compliance is completed.

The decision to implement Alternative E is in keeping with the Department of the Interior's recognition that negotiating and implementing Indian water settlements is preferable over litigation because they provide more certainty to water users and may help reduce prolonged conflicts over water rights. Selecting and implementing Alternative E helps end the litigation over Pojoaque Basin water rights begun in 1966 (*New Mexico v. Aamodt et al.*, No. 66-cv-6639 D.N.M.) and helps meet the needs of Pueblo and non-Pueblo residents in the basin.

The Secretary is deciding to implement the preferred alternatives for the Pueblo de San Ildefonso's Rio Pojoaque Irrigation Improvement Project (Alternative RP-C), and the Pueblo of Tesuque's Rio Tesuque Channel Modification Project (Alternative RT-D), as analyzed in the EIS.

The decisions made here are based on the Final EIS filed with the U.S. Environmental Protection Agency as 20180004 and the Notice of Availability published by the U.S. Environmental Protection Agency on January 19, 2018. A Notice of Availability was also published in the *Federal Register* on January 12, 2018.

## Environmental Issues and Impacts

To scope the issues and alternatives analyzed in the EIS, public open houses on the regional water system were conducted in New Mexico from February 2012 through August 2013. Key issues of public concern identified during the public scoping process are listed below, along with findings of the Final EIS impact analysis for the selected alternative (Alternative E). The Draft EIS was published in January 2017, and 4 public meetings were held. Most comments and concerns were about the proposed water tank location on the former Tesuque Flea Market property, adjacent to The Santa Fe Opera. This tank was removed from the selected alternative, partly in response to these concerns.

### Surface Water and Groundwater

Indicators<sup>2</sup> were changes in flows in the Rio Grande downstream of the Otowi Bridge gage and changes in groundwater elevations. Implementing Alternative E will, over time, reduce

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<sup>2</sup> An indicator is a means of describing or quantifying environmental effects to a resource or one of its important components.

groundwater pumping in the Pojoaque Basin and beneficially increase base flows in surface waters. Flows in the Rio Grande below the Otowi Bridge will not be measurably affected on an average annual basis.

### **Water Quality**

Indicators were contaminant levels in drinking water and conditions of Clean Water Act Sections 401, 402, and 404 permits. Implementing Alternative E will supply safe drinking water to the users and will alleviate potential health and safety issues associated with individual water systems. Water quality is expected to improve under the selected alternative. However, water quality impacts may occur in a reach near and just below the collection point. There is the potential for legacy contamination and forest/range fires to influence runoff and sediment transport, which affect water quality.

### **Air Quality**

Indicators were emissions of particulate matter (PM<sub>10</sub><sup>3</sup> and PM<sub>2.5</sub><sup>4</sup>) from ground disturbance and fuel use. During construction, short-term degradation of air quality will occur due to generation of fugitive dust from surface-disturbing activities. Vehicles, heavy trucks and construction equipment powered by gasoline and diesel engines will generate carbon monoxide, nitrogen oxides, sulfur dioxide, and volatile organic compounds. These emissions will be temporary, short-term and limited to the immediate area around the construction site. Air pollutants and greenhouse gas emissions associated with operating the regional water system facilities will be less than emissions from construction; however, they will occur over the lifetime of the regional water system.

### **Wetlands and Floodplains**

Indicators were disturbance of jurisdictional wetlands and construction in or changes to floodplains. Alternative E has been designed to avoid most wetlands by boring under arroyos and rerouting pipelines and facilities; however, approximately 1.26 acres (or approximately 57 cottonwood trees) may be disturbed. In addition, 0.98 acres (approximately 44 additional cottonwoods) may be affected by drawdown. Some constructed facilities could be placed within the 100-year floodplain; for example, the caissons associated with the horizontal radial well collectors could have limited impacts on the 100-year floodplain.

### **Vegetation and Wildlife**

Indicators were the acres of aquatic or riparian vegetation communities that could be disturbed and the resulting effects on wildlife. About 14 acres of aquatic habitat will be temporarily affected by construction of Alternative E, but less than 1 acre of aquatic habitat will be permanently lost. Construction of Alternative E will create short-term disturbances of about 700 acres of terrestrial habitat in communities associated with special status plant species, but only 4

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<sup>3</sup> Particulate matter with an aerodynamic diameter of 10 microns or less.

<sup>4</sup> Particulate matter with an aerodynamic diameter of 2.5 microns or less.

acres of grasslands and 13 acres of piñon-juniper vegetation will be permanently damaged or lost.

### **Federally Listed Threatened and Endangered Species**

Indicators were adverse effects to listed species or designated critical habitat. In compliance with the Endangered Species Act, Reclamation prepared a biological assessment and consulted with the Service on effects of Alternative E plus connected actions. The Service concurred with the finding that the regional water system and connected actions “may affect, [but are] not likely to adversely affect” the southwestern willow flycatcher and there would be “no effect” on the western distinct population of yellow-billed cuckoo, Mexican spotted owl, New Mexico jumping mouse, and Rio Grande silvery minnow.

### **Cultural Resources**

Indicators were changes in access to Indian sacred sites and the number of historic properties adversely affected. Alternative E will adversely impact one or more historic properties. A Programmatic Agreement that identifies ways to avoid, minimize, or mitigate adverse effects has been signed by the Pueblos, State and Tribal Historic Preservation Officers, the Advisory Council on Historic Preservation, and Reclamation. Reclamation will continue to consult with the Pueblos to ensure there are no effects to Indian sacred sites.

### **Indian Trust Assets**

Indicators were adverse impacts to Indian trust assets. Throughout the EIS process, the BIA and Settlement Pueblos were consulted regarding impacts to trust lands and water rights. The Settlement Pueblos and the United States are satisfied with the proposed use of these resources for the regional water system.

### **Land Use**

Indicators were acres or miles of rights-of-way (ROW) needed for implementation where ownership or uses would be permanently changed. All real property needed to construct and operate the regional water system will be acquired by Reclamation, the BIA, or Santa Fe County consistent with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and applicable state law and requirements. Reclamation, the BIA, and Santa Fe County will provide relocation assistance to any displaced residents and businesses, as needed.

Construction will result in short-term, temporary conflicts with existing land uses, but Alternative E requires the fewest acres or miles of ROW of the action alternatives. However, the Bishop’s Lodge RKM pumping plant and storage tank will be within approximately 250 feet of residences. Emplacing and operating the pumping plants and tanks and managing the supporting property will result in short- and long-term vehicular traffic. This could conflict with future residential and, to a lesser extent, commercial and public uses in the vicinity.



## **Socioeconomic Resources**

Indicators were the costs to individual regional water system users or changes in property values. Costs for connecting to the water system and paying Santa Fe County rates may increase, decrease, or stay the same for residents. Costs for Settlement Pueblo residents will depend on how much of the costs for connections will be passed along to the residents.

Changes to property values and related property taxes from connecting to the regional water system remain unclear, but there will be temporary and permanent easements required on private lands for constructing and operating the regional water system. Property owners will be compensated for any impacts to property values, in accordance with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 or related state laws and requirements. Reimbursement will be based on appraisal and fair market value estimates.

## **Visual Resources**

Indicators were contrasts between current and future features of the landscape from key observation points. The landscape will be changed in the short-term by construction activities and ground disturbance. In the long-term, the aboveground regional water system facilities will introduce human-made features that contrast with the form, line, color, and texture of the landscape.

## **Comments Received on the Final EIS**

Two comment letters were received on the Final EIS. The Santa Fe Opera submitted a letter expressing thanks for the removal of the proposed Flea Market storage tank from Alternative E. The U.S. Environmental Protection Agency, Region 6, submitted a letter stating that the Final EIS addressed the agency's comments on the Draft EIS by including additional information and analysis.

## **Implementing the Decision and Environmental Commitments**

The Secretary's decision is to implement Alternative E, as summarized above and described in the Final EIS, contingent on funding availability. The authorized ceiling is insufficient to pay the entire estimated cost of the selected alternative. Considering this funding shortfall, the Secretary has initiated negotiations with the parties to the Cost-Sharing and System Integration Agreement, as required by Section 611(g) of the Settlement Act, to seek an agreement regarding non-Federal contributions to ensure that the Regional Water System can be completed as required by Section 623(e).

Implementation of construction of the project will be completed in phases, contingent upon appropriations and non-Federal contributions, as mandated in the Settlement Act, Section 617. Construction of the project using this approach will provide the flexibility to modify the design over time, while complying with Section 611(b) of the Settlement Act, which requires a final project design for the regional water system to be completed within 90 days of signing this Record of Decision.

The Secretary also directs BIA, in consultation with the Settlement Pueblos, to issue right-of-way (ROW) easements and permits on Tribal lands for the construction, operation, and maintenance of the regional water system and connected actions. According to the Settlement Act (Section 611(c)(1)) and Cost Sharing and System Integration Agreement (Section 2.3), Pueblos will grant easements and ROWs as necessary for the construction of the regional water system at no cost. This includes the Rio Pojoaque irrigation improvement project and the Rio Tesuque channel modification project.

Further, as provided for in the Settlement Act, Section 615(d)(7)(A)(ii), the Secretary approves the use of funds by the Pueblo de San Ildefonso to implement the preferred alternative (Alternative RP-C) for the Rio Pojoaque Irrigation Improvement Project, and by the Pueblo of Tesuque to implement the preferred alternative (Alternative RT-D) for the Rio Tesuque Channel Modification Project.

The following is a summary of mitigation measures and monitoring commitments for the Pojoaque Basin regional water system and connected actions as described in the Final EIS. The mitigation measures and commitments are listed by environmental topic in the Final EIS.

**Surface Water and Groundwater.** The Regional Water Authority will manage its water rights portfolio commensurate with applicable permits and hence will ensure no impacts on the Rio Grande Compact (flows below Otowi gage). Pipelines will be buried to prevent potential exposure and be encased in controlled low-strength material where necessary. No other surface water mitigation measures are required to implement Alternative E.

**Water Quality.** Reclamation, the BIA, and Santa Fe County will ensure that construction and operation of the regional water system complies with the Clean Water Act and the Safe Drinking Water Act. During construction, Reclamation will ensure that its contractors design and implement a storm water pollution prevention plan (SWPPP) with best management practices to avoid or minimize impacts to water quality. During installation of pipeline crossings in arroyos, mitigation measures will be implemented to decrease long-term arroyo erosion. Project construction contractors will be required to implement measures to reduce the potential for inadvertent releases of drilling fluid.

**Geology and Soils.** Construction disturbance will be limited to the smallest and narrowest possible footprint and construction contractors will be required to implement best management practices to avoid or minimize environmental impacts to soils. Permanent facilities will be sited on stable soils and proper construction techniques will be implemented on expansive clays or other less stable or corrosive substrates. Where feasible, disturbed ground will be reclaimed or returned to pre-disturbance conditions, including revegetating, stabilizing exposed soils, and contouring the land to minimize potential short- and long-term erosion.

**Air Quality and Traffic.** Reclamation will ensure that its contractors implement standard construction and dust abatement best management practices to minimize air quality impacts from construction. The selected construction contractors will be required to submit a construction emissions mitigation plan to Reclamation, who will submit the plan to Santa Fe County and the Settlement Pueblos for concurrence. The plan will include fugitive dust source controls, mobile and stationary source controls, and administrative controls. Contractors will also be required to

develop and implement a construction traffic and parking management plan to maintain traffic flow, minimize vehicle trips, and ensure the safety of the public and project-related personnel.

**Vegetation and Wildlife, Including Aquatic Resources.** A revegetation program will be implemented to avoid and/or replace cottonwood trees, riparian plants, and other native vegetation removed by construction, as necessary. Best management practices will be implemented to reduce the spread of noxious weeds, such as reseeding disturbed areas with an appropriate native seed mix as soon as possible after construction, monitoring disturbed sites to help establish desirable species, and washing equipment before it is brought onsite, mapping or flagging special status plant species for protection, and minimizing impacts on riparian vegetation to the extent practicable. Reclamation and its contractors will design and implement a monitoring plan to avoid affecting nesting birds. Reclamation will coordinate with the Service to determine whether preconstruction nest surveys are required before construction and if a take permit is required in compliance with the Migratory Bird Treaty Act. Work areas will be restricted to the smallest and narrowest possible footprint, with 100-foot buffers of no construction around any active nest sites. During construction, fish salvage and silt fencing will be implemented as needed by Reclamation biologists or contractors. In-water work will be conducted during periods of no or low flow to minimize impacts to fish and other aquatic resources.

**Wetlands, Floodplains.** All work areas will be restricted to the smallest and narrowest possible footprint in wetlands and floodplains. Reclamation will continue to consult with the USACE to avoid or mitigate impacts to jurisdictional wetlands. Reclamation will continue to work with the USACE on Section 404/401 permitting and compliance. Impacts of construction in floodplains will be mitigated through scheduling construction during low-flow periods, when the historical chance of floods is reduced.

**Federally Listed Threatened and Endangered Species.** Reclamation, in consultation with the Service, will survey for the presence of southwestern willow flycatchers within the project area and minimize impacts to riparian vegetation used by these birds and other migratory birds. Mitigation will also include limiting work areas around willow flycatcher habitat to the smallest and narrowest footprint, with a 100-foot no-construction buffer around any active nests, replacing cottonwood trees and other native vegetation, and following best management practices to reduce the spread of noxious weeds.

**Cultural Resources.** Reclamation will complete the process of compliance with the National Historic Preservation Act of 1966 and 36 CFR, Part 800 by seeking agreement on ways to avoid, reduce, minimize, or mitigate the adverse effects of the undertaking on historic properties in a way that the consulting parties agree best serves the public and tribal interests.

**Indian Trust Assets.** No mitigation or compensation is required to implement the selected alternative.

**Land Use and Access.** Should persons or households be displaced because of implementing the selected alternative, Reclamation and the BIA will provide temporary relocation compensation if needed, in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. Reclamation will acquire and pay market value for easements across private

property where needed to construct Pueblo water facilities. Where additional land interests must be obtained to provide water to county customers, Santa Fe County is expected to acquire the necessary interests in land for construction, operations, and maintenance.

**Visual Resources.** The visual landscape would be adversely affected by the presence of aboveground regional water system features. Reclamation avoided the most significant visual effect identified during the public comment period—the proposed placement of a water storage tank in the view-shed of The Santa Fe Opera. This tank was removed from Alternative E in the Final EIS. Additional siting decisions will be made to try to avoid visual impacts. Visual impacts caused by construction will be mitigated by surface restoration, including revegetation.

**Noise.** The noise from construction will be reduced by requiring use of mufflers and maintenance of equipment; however, sensitive noise receptors such as households will be adversely affected by construction noise.

**Solid and Hazardous Materials.** The greatest concern is the storage of sodium hypochlorite next to short-term storage tanks and at the water treatment plant. Reclamation will ensure that its contractors comply with the requirements of the Emergency Planning and Community Right to Know Act for this regulated substance. Prior to acquisition of commercial or industrial real estate, Reclamation or the BIA will ensure that all appropriate inquiries are conducted. Impacts on the health and safety of construction workers and the public at construction sites from the risks associated with fuel and chemical spills or hazardous materials used during construction will be avoided or minimized by implementing regulatory requirements and best management practices.

No other mitigation or monitoring measures have been identified.