

**Initial Study and
Proposed Mitigated Negative Declaration
for
Buena Vista Water Storage District, Palms Groundwater Banking Project**

Lead Agency: Buena Vista Water Storage District

**For additional information
regarding this document contact:**

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Section A. Environmental Checklist

1. Project title:

Buena Vista Water Storage District, Palms Groundwater Banking Project

2. Lead Agency/Project Sponsor:

Buena Vista Water Storage District
525 North Main Street
P.O. Box 756
Buttonwillow, CA 93206

3. Contact person and phone number:

Maurice Etchechury 661-324-1101

4. Project location:

The project area is located within the Buena Vista Water Storage District (BVWSD), 16 miles west of Bakersfield and bordered by State Highway 46 to the north, 7th Standard Road to the south, and the California Aqueduct to the west (Figure 1).

5. General plan designation:

NA

6. Zoning:

Exclusive Agriculture (A)

7. Description of project: (Describe the whole action involved, including but not limited to, later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

The Palms Groundwater Banking Project (Palms Project) is located 16 miles west of Bakersfield within the Buttonwillow Service Area of the BVWSD. The Palms Project is a groundwater replenishment and water banking project that will cover approximately 1,100 acres and will include features needed to apply surface water for groundwater recharge as well as facilities needed for recovery and treatment of stored groundwater (Figure 2). The Palms Project construction would include activities consistent with digging, trenching, and excavation of soil to create the water holding facilities and to install the new pipeline and wells for later recovery.

The Palms will enable the District to better sustain groundwater levels and improve groundwater quality, two objectives of California’s Groundwater Sustainability Management Act. High quality water recharged by the Project will flow to aquifers that are sources for domestic and

municipal wells providing water to residents of Taft and to the disadvantaged community (DAC) of Buttonwillow, and to replenish groundwater under the Tule Elk Reserve.

Lands to be used by the Project have an established history of irrigated crop production. Retiring these lands from irrigated agriculture will enable water to be delivered to the area based on availability of water for recharge rather than in response to the pattern of crop demand. Therefore, the timing of the deliveries will differ in a way that results in important benefits to the Buttonwillow Sub-basin. Additionally, the surface water that would have been attributed to the project area will now be allocated to the balance of the District, providing all landowners an additional supply of surface water.

The District anticipates that removing irrigated land from production and converting this land to recharge facilities will reduce irrigation demand by approximately 3,300 acre-feet per year. While cessation of irrigation deliveries will eliminate deep percolation of irrigation water, the intentional recharge of high quality water will more than compensate for the reduction in deep percolation and will greatly reduce the potential of leaching of nitrates, salts and other contaminants.

Earthwork would include construction of low berms with material for these berms being generated on-site by removal of surface soil that overlies shallow, highly permeable river-borne sand deposits. Recharge would be encouraged by retaining water in the canals and natural channels which run through the Palms Project area. Construction of recovery facilities would include installation of wells, pumps, pipelines and treatment facilities (if required) needed for recovery of stored groundwater for use locally and for conveyance to banking associates.

Construction activity for recharge facilities would be completed within six months, while construction of recovery facilities would occur based on the rate of recovery and level of treatment needed to meet local needs and to fulfill banking agreements

8.Surrounding land uses and setting:

The BVWSD lies in the trough of California's southern San Joaquin Valley, approximately 16 miles west of the City of Bakersfield. Aside from the small unincorporated town of Buttonwillow, there are no other population centers within the BVWSD. The BVWSD's Service Area comprises approximately 50,000 acres within the lower Kern River watershed, and can be divided into two distinct areas: the Buttonwillow Service Area and the Maples Service Area. The Buttonwillow Service Area comprises approximately 45,000 acres situated northwesterly of the Buena Vista Lake Bed. The Maples Service Area of BVWSD comprises approximately 5,000 acres situated easterly of the Buena Vista Lake Bed. The Henry Miller Water District (HMWD) is a part of BVWSD; however, HMWD is not a part of BVWSD's Service Area and possesses its own water contracts with the Kern County Water Agency.

9.Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

- California Water Resources Control Board Construction Activities Storm Water General Permit
- Central Valley Flood Protection Board Encroachment Permit
- San Joaquin Valley Air Pollution Control Board Dust Control Plan and Indirect Source Review
- Kern County Grading Permit
- California Department of Transportation Encroachment Permit
- Kern County Roads Department Encroachment Permit

Figure 1: Project Location

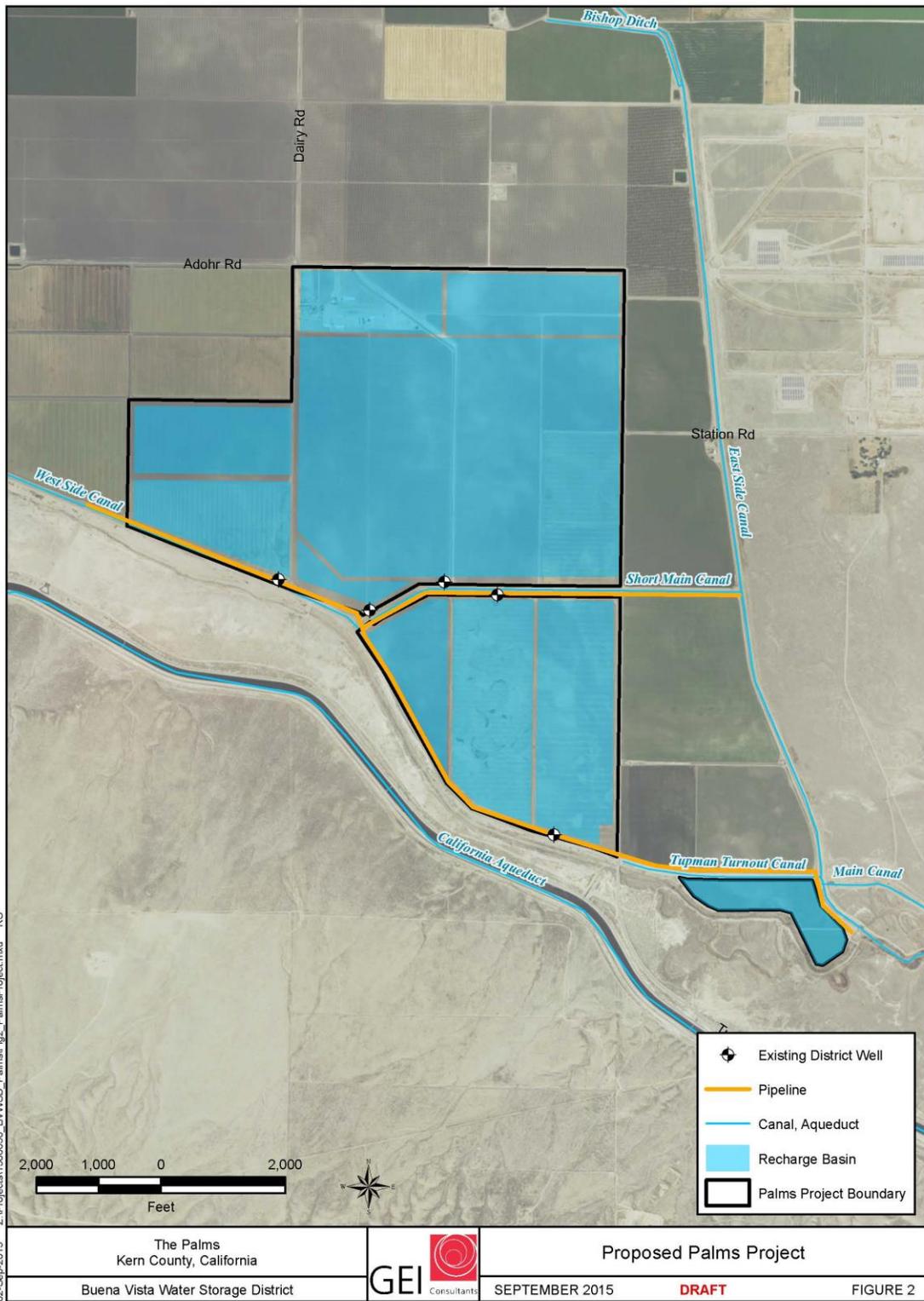


Figure 2: Proposed Palms Groundwater Banking Project

Section B. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ **Replace this page** _____ Date _____

Signature _____ Date _____

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(a-d) The project area is flat, comprising dirt roads, open water canals, and various agricultural crops. There are no significant view-sheds or scenic vistas (Figure 3). The proposed action would result in earthen canal facilities that hold water, much like the surrounding land use, buried pipes for conveying recovered water, and new well structures in an area that already contains wells. There would be little change to the existing view. The proposed project would not create any new sources of light.

The construction activities would last approximately 6 to 9 months and only occur during daylight hours. During construction, there would be a small number of construction vehicles at the site; however, this would not be substantially different than agricultural equipment normally used. Construction and operation of the proposed project would not appear different than current operations at the BVWSD. Therefore there would be no change to visual resources from the proposed project and thus no impact to aesthetics, buildings, or surroundings.

Figure 3: Typical View Shed in the Project Area

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES – Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>(a-e) The project is located in an agricultural area that is almost entirely in active production (with the exception of roads and canals, related conveyance facilities and lands designated for conservation uses). The project would increase water supplies by reducing water lost through the leaking canals and improve production by lowering the ground water (cumulative impact). Six miles of lateral canals within the project area will be reclaimed for agricultural use as portions will be decommissioned and buried. This may increase over time as the capabilities of the pipeline are fully integrated into district operations. The project is expected to increase water supply and have a beneficial effect to agricultural production and therefore, no impact to agriculture and forest resources.</i>				
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
quantitative thresholds for ozone precursors)?				
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(a-e) The Project is located within the southern San Joaquin air-shed. This portion of the air-shed is in non-compliance for federal and state air quality standards for ozone and Particulate Matter 10 and 2.5 (San Joaquin Valley Air Pollution Control District [SJVAPCD]) 2014. The Project would involve seven construction vehicles during the 6 to 9 month project implementation phase for the delivery of materials and equipment, and excavation of soil to bury the new pipe. Equipment and vehicles used would be subject to state mobile source emissions controls. The SJVAPCD has established guidance for assessing air quality impacts for small projects. Using project size and type based on the Small Project Analysis Level, the BVWSD's NAP would not exceed the established threshold of 1,673 vehicle trips a day for Commercial projects (SJVAPCD 2012). See Section E for Mitigation Measures.

The primary concern for the proposed project is Particulate Matter 10 emissions from ground disturbance. The construction of the project would be subject to standard SJVAPCD permitting requirements for dust control. An approved Dust Control Plan is required if the project involves disturbing more than 5 acres of earth or 2400 cubic yards for any 3 construction days.. The BVWSD would contact the SJVAPCD to determine if an Indirect Source Review – Air Impact Assessment (ISR) is required for construction vehicle emissions. An ISR determination letter and/or mitigation plan would be submitted with the project's Dust Control Plan for construction. With the employment of Dust Control Plan, the proposed project is not expected to contribute substantially to existing levels of Particulate Matter 10 or conflict with the SJVAPCD's air quality plan. There are no sensitive receptors in the area as it is remote and with very few residents. Due to the mobile nature of the pipeline construction, any emission issues would last only a few days at each site.

The operation phase of the project would rely on gravity flow and electric pumps to move the water to the places of use. Since the proposed project would not have a significant increase in electrical demand than the existing operations, the project would have no adverse impacts to air quality during the operations phase.

IV. BIOLOGICAL RESOURCES – Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>(a-f) See Section E for Mitigation Measures.</i>				
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>(a-d)</i> <i>The complete cultural resources report is found in Section D.</i>				
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><i>(a-e) The proposed project does not lie within the Alquist-Priolo Earthquake Fault Zone nor is it in a liquefaction or landslide zone (California Department of Conservation 2014). The lack of topography in the project area precludes landslides. Potential damage from seismic activity due to rupture or settlement would be considered adverse since the pipeline is carrying water for agricultural purposes however, the conversion of open canals to buried pipelines as described under the proposed project, would not create any additional potential for adverse impacts from seismic activity.</i></p> <p><i>With the implementation of the Dust Control Plan (see Section III), loss of topsoil would be minimized during construction. Operation of the proposed project would not substantially increase topsoil loss or create a potential for soil erosion as the area is in constant agricultural production and topographically flat. Therefore, implementation of the proposed project would not have adverse effects to geology and soils.</i></p>				
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS (GHG) EMISSIONS – Would the project:				
a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(a-b) The Environmental Protection Agency's (EPA) mandatory reporting threshold for large sources of GHGs is 25,000 metric tons of CO2 emitted annually (EPA 2015). This threshold is approximately the amount of CO2 generated by 4,400 passenger vehicles per year. Comparatively, emissions from seven construction vehicles during project implementation would be considerably lower. Because these activities would be similar to existing conditions, for both construction and operation, and will be far below the threshold level of emissions, the project GHG emissions would not represent a substantial change and would not conflict with the Kern county's GHG emissions reduction program.

VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(a-h) The project is located in an agricultural area, containing no communities of any size. The proposed project is located away from population centers, involves no hazardous materials and would rely on electric power

rather than liquid fuels. The pipeline would carry water and thus would pose no hazard in the event of failure. Fires are unlikely within the project area as it contains agricultural crops, a low fuel source for fire. The proposed project would not affect emergency response plans as facilities would not interfere with traffic routes or response vehicle transport. There would not be an increase in hazards or materials from implementing the proposed project.

IX. HYDROLOGY AND WATER QUALITY – Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(a-j)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>(a-c) The proposed project is located in an area zoned for agriculture and will serve existing farmland. The project is located outside of existing communities and is consistent with existing zoning. There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans or other approved local, regional, or state habitat conservation plans covering the proposed project site. There would not be a conflict with conservation plans or land use plans as zoning would not change in the project area.</i>				
XI. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>(a-b) The proposed project is not located in or near an area of mineral resources.</i>				
XII. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>(a-f) The project is located in an agricultural land use area with no known sensitive receptors. There would be no changes to existing operation and no change in existing noise levels. Construction would occur during the day, and is located in a remote area, without a population center or many residences. Since the project is not located near any sensitive receptors, construction noise will not have a significant impact.</i>				
XIII. POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>(a-b) The proposed project is located in an agricultural area and away from population centers. The project will result in no new housing. In addition, the project will result in no new long-term employment. The construction phases will be less than 1 year and the operations will require no additional employees to operate. The expected increase in water due to the reduction of inefficiencies in water delivery would be sold to Kern County agricultural users and would not be allocated for urban growth. There would be no impact to population and housing.</i>				
XIV. PUBLIC SERVICES –				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>(a) The proposed project is located in an undeveloped area. The characteristics of the facilities pose no increase in fire risk. In addition, the construction phase will be relatively short with no construction activities occurring at night. The operation phase will require no additional employees to maintain and operate. Therefore the project will demand no additional public services.</i>				
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION –				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>(a-b) No recreational facilities exist in the project area. The proposed project will not increase the population nor otherwise affect local recreational facilities.</i>				
XVI. TRANSPORTATION / TRAFFIC – Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(a-f) The proposed project occurs in a rural area with lightly travelled roads. The project will result in no additional employees or transit routes. Construction traffic will utilize existing public roads to deliver equipment, supplies, and workers to the construction sites. Since the pipeline construction will move along a linear corridor; no one place will experience a change in traffic for any extended period of time. Construction of the project will employ only a few individuals at a time. The pipeline project consists of buried facilities and would not increase hazards during operation. Therefore, changes in transportation reliability or access would not be significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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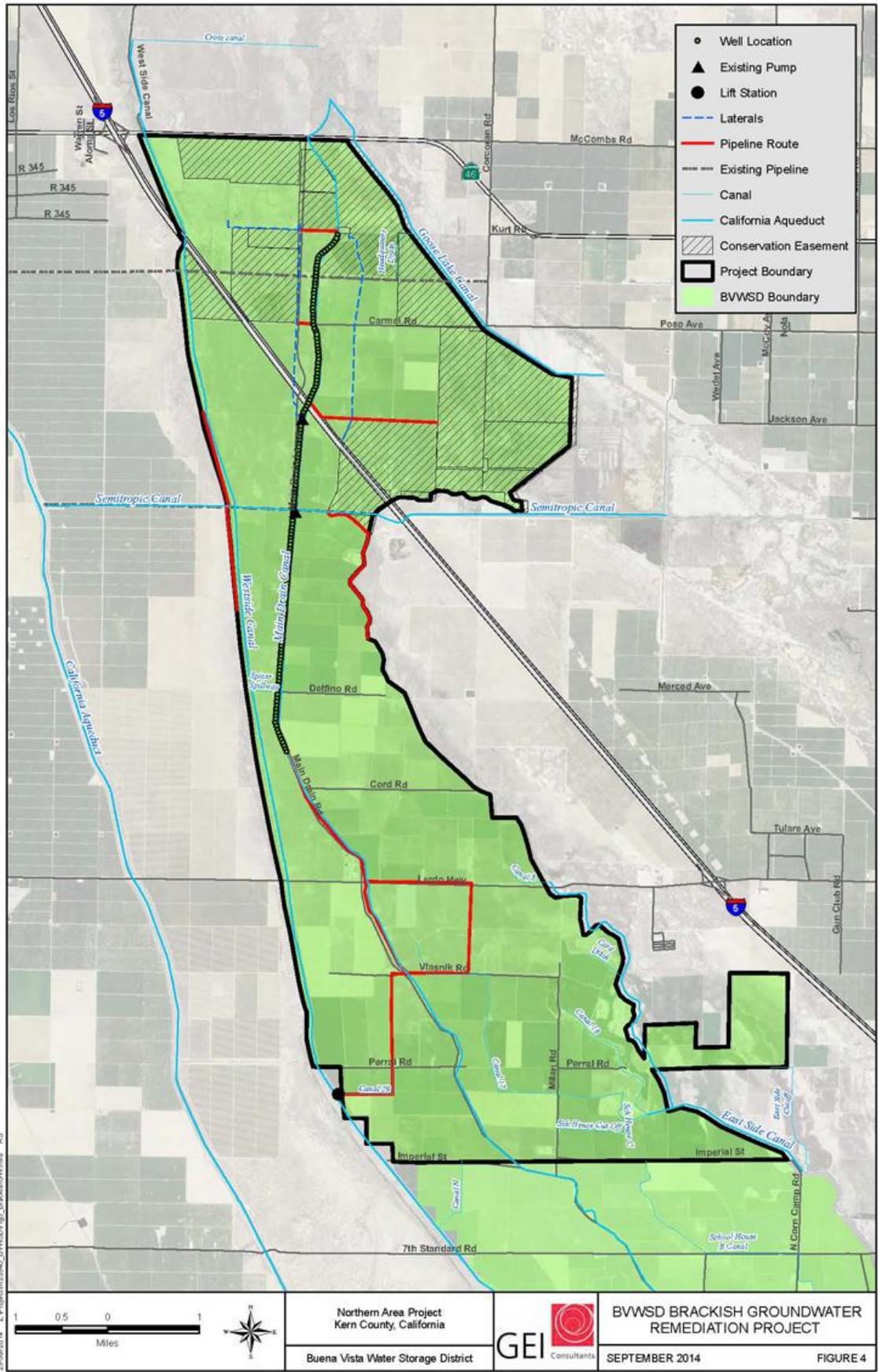
XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(a-g) No wastewater treatment facilities occur in the project area. Storm water and agricultural runoff currently collects within certain existing ditches and canals. These accumulations are covered by the Water Quality Management Plan – August 2012 Main Drain (Canal) approved by the State Water Resources Control Board. The proposed project will result in no new wastewater facilities or wastewater flow. Minimal waste will be generated during construction and no increase in waste production will occur during the operation of the project. Canals are primarily comprised of dirt and construction would not create a substantial amount of waste material. The project will be designed to capture and reuse storm water that collects within project facilities. The project will conserve existing water supplies and make them more readily available to existing water users. Therefore, the proposed project will not place constraints on the local utilities and services that would create adverse impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE –				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(a-c)				
.				

Impact	Change from baseline		Percent change		Level of significance
	With Project	Cumulative with Project	With Project	Cumulative with Project	
Decline groundwater level in perched aquifer (in comparison to baseline).	0 Feet	1.4 Feet	0	6%	No impact, decline in groundwater levels in cumulative scenario is considered beneficial.
Decline in groundwater level in main aquifer (in comparison to baseline).	2.3 Feet	3.6 Feet	0.6%	<1%	Less than significant.
Decline in subsurface outflow from perched aquifer to Tulare Lake groundwater basin.	0 AFY	0.6 AFY	0%	6%	Less than significant. Total was supply in Tulare Lake groundwater subbasin is 12,100,000 AF
Decline in subsurface outflow from perched aquifer to northeast.	0	0.6 AFY	0%	10%	Less than significant. Land overlain by farmland, so decline in water level is beneficial to agricultural production.
Subsurface outflow from perched aquifer to main Kern County groundwater basin and SWSD.	0 AFY	0.2 AFY	0% of outflow to from perched aquifer, but a tiny fraction of total recharge.	5% of outflow from perched aquifer, but a tiny fraction of total recharge.	Less than significant. Total recharge in SWSD ranges from 146,000 to 338,000 AFY.
Decline in subsurface outflow from main aquifer to main Kern County groundwater basin and SWSD.	20 AFY	34 AFY	<1%	1%	Less than significant.
Increase in TDS in perched aquifer (compared to baseline).	1,745 mg/L	700 mg/L	192%	133%	Potentially significant.
Increase in TDS in main aquifer	170 mg/L	155 mg/L	4%	4%	Potentially significant. Change in TDS is small, but long term



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Figure 4: BWSD Brackish Ground Water Remediation Project

Section C. References

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Section D. Technical Memos and Reports

Cultural Resources

Biological Resources

Groundwater Resources

Section E. Mitigation Measures

In order to reduce potential impacts to a less than significant level, the following mitigation measures will be implemented:

Air Quality

AQ-1: The BVWSD will develop a Dust Control Plan as prescribed and approved by the San Joaquin Valley Air Pollution Control Board to minimize and control fugitive dust during construction.

Biological

BIO 1 - An Environmental Awareness Program will be presented to all personnel working in the field on the proposed project site. The program will consist of a brief presentation in which biologists knowledgeable of endangered species biology and legislative protection explain endangered species concerns. The program will include a discussion of special status plants and sensitive wildlife species. Species biology, habitat needs, status under the Endangered Species Act, and measures being incorporated for the protection of these species and their habitats will also be discussed.

BIO 2 - As close to the beginning of project activities as possible, but not more than 14 days prior, a qualified biologist will conduct a final pre-construction biological survey of the proposed project site and buffer areas to verify that no special status species have become established in the project site or buffer areas.

BIO 3 – Project site boundaries will be clearly delineated by stakes and/or flagging. Project activities are restricted to the project site to minimize inadvertent degradation or loss of adjacent lands during project construction.

BIO 4 - All small mammal burrows that may serve as potential refugia for special status species will be avoided by all project activities.

BIO 5 - Off-road traffic outside of designated project site will be prohibited.

BIO 6 - Project-related traffic will observe a 10 mph speed limit in the project site except on county roads and state and federal highways to avoid impacts to special status and common wildlife species.

BIO 7 - When possible project activities will be scheduled to avoid evening hours to minimize potential impacts to special status wildlife species that are active in the nighttime.

BIO 8 - Hazardous materials, fuels, lubricants, and solvents that spill accidentally during

project-related activities will be cleaned up and removed from the project as soon as possible according to applicable federal, state and local regulations.

BIO 9 - All excavated steep-walled holes or trenches in excess of three (3) feet in depth will be provided with one or more escape ramps constructed of earth fill to prevent entrapment of endangered species or other animals. Ramps will be located at no greater than 1,000-foot intervals (for pipelines etc.) and at not less than 45-degree angles. Trenches will be inspected for entrapped wildlife each morning prior to onset of project activities and immediately prior to the end of each working day. Before such holes or trenches are filled they will be inspected thoroughly for entrapped animals. Any animals discovered will be allowed to escape voluntarily without harassment before project activities related to the trench resume, or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded.

BIO 10 - All pipes, culverts, or similar structures stored at the proposed project site overnight having a diameter of four inches or greater will be inspected thoroughly for wildlife species before being buried, capped, or otherwise used or moved in any way. Pipes laid in trenches overnight will be capped. If during project implementation a wildlife species is discovered inside a pipe, that section of pipe will not be moved or, if necessary, moved only once to remove it from the path of project activity, until the wildlife species has escaped.

BIO 11 - All food-related trash items such as wrappers, cans, bottles or food scraps generated during project activities will be disposed of only in closed containers and regularly removed from the proposed project site. Food items may attract wildlife species onto the proposed project site, consequently exposing such animals to increased risk of injury or mortality. No deliberate feeding of wildlife will be allowed.

BIO 12 - To prevent harassment or mortality of wildlife species via predation, or destruction of their dens or nests, no domestic pets will be permitted on the project site.

BIO 13 - The following measures (a-g) will be implemented by BVWSD to ensure protection and avoid take of blunt-nosed leopard lizards during periods that are optimal for blunt-nosed leopard lizard activity (mid-April through mid-October):

- a. A final clearance survey will be conducted to ensure that no blunt-nosed leopard lizards are present and no burrows have become established in the project site and a 50-foot avoidance buffer.
- b. If suitable burrows that may serve as potential refugia for blunt-nosed leopard lizard cannot be avoided within the project site and a minimum 50-foot avoidance buffer cannot be maintained, then additional surveys to detect the species will be completed in accordance with CDFW's Approved Survey Methodology For The Blunt-Nosed Leopard Lizard (CDFG 2004).
- c. If no individual blunt-nosed leopard lizards are observed and no burrows are identified within the project site and a 50-foot avoidance buffer during the final clearance survey, then project activities may proceed.

- d. When possible, conduct project activities when lizards are inactive (generally when temperatures are below 77° F and/or above 95° F).
- e. All vehicle operators will check under vehicles and equipment prior to operation, or if left idle.
- f. If a blunt-nosed leopard lizard is observed during project pre-construction or clearance surveys, the USFWS and CDFW will be notified for further guidance.
- g. Measures to protect blunt-nosed leopard lizards during their active season may be discontinued upon determination by the biological monitor that temperature patterns at the project site no longer support blunt-nosed leopard lizard activity for the season, or once pipeline installation complete.

BIO 14 - The following measures (a-b) will be implemented by BVWSD to ensure protection and no take of blunt-nosed leopard lizards during periods of inactivity for the species (late October through early spring):

- a. If the project is conducted during the blunt-nosed leopard lizard inactive period (late October through early spring) and no burrows are identified within the boundaries of or within 50 feet of the project site during pre-construction surveys, then construction activities may proceed.
- b. If suitable burrows that may serve as potential refugia for blunt-nosed leopard lizard cannot be avoided within the project site and a minimum 50-foot avoidance buffer cannot be maintained, then additional surveys to detect the species will be completed in accordance with the CDFW Approved Survey Methodology For The Blunt-Nosed Leopard Lizard (CDFG 2004).

BIO 15 - If San Joaquin kit foxes become established within the proposed project site prior to project implementation, BVWSD will implement the following measures (measures 15-20) contained in the USFWS's Standardized Recommendations For Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011):

- a. For kit fox dens within 200 feet of proposed construction area(s), protective exclusion zones will be established prior to construction by a qualified biologist. Exclusion zones will be roughly circular with a radius of the following distances measured outward from the entrance:

Potential den	50 feet
Atypical den	50 feet
Known den	100 feet
Natal/pupping den (occupied and unoccupied)	UWFWS must be contacted

- b. Exclusion zones will be fenced to protect the den in such a manner that kit fox's

access to the den is not restricted. Acceptable fencing includes untreated wood particle-board, silt fencing, or orange construction fencing, as long as it has opening for kit fox ingress/egress and keeps humans and equipment out.

- c. Exclusion zone barriers will be maintained until all construction related or operational disturbances have been terminated. At that time all fencing will be removed to avoid attracting subsequent attention to the dens.
- d. For potential and/or atypical dens, placement of 4 to 5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.
- e. Project activities are not allowed with exclusion zones.

BIO 16 - If a natal/pupping den is discovered within the project site or within 200 feet of the project boundaries, the USFWS will be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the pre-construction biological surveys reveal an active natal pupping den or new information, BVWSD should contact the USFWS immediately to obtain the necessary take authorization/permit.

BIO 17 - Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the USFWS. Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed:

- a. Known dens occurring within the footprint of the project must be monitored for three (3) consecutive days with tracking medium or an infra-red camera beam to determine the current use. If no kit fox activity is observed during this period, the den(s) should be destroyed immediately to preclude subsequent use.
- b. If kit fox activity is observed at the den(s) during this period, the dens) should be monitored for at least five (5) consecutive nights from the time of the observation to allow any resident animal to move to another den during its normal activity. Only when the den(s) are determined unoccupied may the den(s) be excavated.
- c. Destruction of the den(s) should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den(s) should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter to use the den(s) during the construction period. If at any point during excavation, a kit fox is discovered inside the den(s), the excavation activity will cease immediately and monitoring the den as described above should resume. Destruction of the den(s) may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den(s).

BIO 18 - Potential dens occurring within the footprint of the project or within 50 feet must be monitored for three (3) consecutive days with tracking medium or an infra-red camera beam to determine the current use. If no kit fox activity is observed during this period, the den(s) should

be destroyed immediately to preclude subsequent use.

BIO 19 - If any kit fox den is considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then all construction activities will cease and the USFWS will be notified immediately.

BIO 20 - If ground disturbing activities occur during the breeding season of migratory avian or raptor species (February through mid-September), surveys for active nests will be conducted by a qualified biologist no more than 10 days prior to start of activities. Pre-construction nesting surveys will be conducted for nesting migratory avian and raptor species in the project site and buffer areas. Pre-construction biological surveys will occur prior to the proposed project implementation, and during the appropriate survey periods for nesting activities for individual avian species. Surveys will follow required CDFW and USFWS protocols, where applicable. A qualified biologist will survey suitable habitat for the presence of these species. If a migratory avian or raptor species is observed and suspected to be nesting, a buffer area will be established to avoid impacts to the active nest site. Identified nests should be continuously surveyed for the first 24 hours prior to any construction-related activities to establish a behavioral baseline. If no nesting avian species are found, project activities may proceed and no further mitigation measures will be required. If active nesting sites are found, the following exclusion buffers will be established, and no project activities will occur within these buffer zones until young birds have fledged and are no longer reliant upon the nest and parental care for survival:

- Minimum no disturbance of 250 feet around active nest of non-listed bird species and 250-foot no disturbance buffer around migratory birds;
- Minimum no disturbance of 500 feet around active nest of non-listed raptor species;
- and 0.5-mile no disturbance buffer from listed species and fully protected species until breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival;
- Once work commences, all nests should be continuously monitored to detect any behavioral changes as a result of project activities. If behavioral changes are observed, the work causing that change should cease and the appropriate regulatory agencies (i.e., CDFW, USFWS, etc.) will be consulted for additional avoidance and minimization measures; and
- A variance from these no disturbance buffers may be implemented when there is compelling biological or ecological reason to do so, such as when the project area would be concealed from a nest site by topography. Any variance from these buffers is advised to be supported by a qualified wildlife biologist and is recommended that CDFW and USFWS be notified in advance of implementation of a no disturbance buffer variance.

BIO 21 - The following measures included in the CDFW's Staff Report on Burrowing Owl

Mitigation (CDFG 2012) will be implemented by BVWSD for the proposed project:

- a. If pre-construction biological surveys determine that burrowing owls are present in the project site and buffer areas, a burrowing owl mitigation plan will be prepared by a qualified biologist describing recommended site specific shelter-in-place measures, worker training, and/or other measures to ensure that project construction does not result in adverse impacts to the burrowing owls.
- b. Occupied burrows will not be disturbed during the burrowing owl nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFW verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.
- c. Burrowing owls present in the project site or within 500 feet (as identified during pre-construction biological surveys) will be moved away from the disturbance area using passive relocation techniques. Prior to commencement of relocation, a management plan will be prepared and approved by CDFW. Relocation will be completed between September 1 and January 31 (outside of breeding season). A minimum of one or more weeks is required to relocate the owls and allow them to acclimate to alternate burrows. Passive relocation techniques will follow the CDFG Staff Report on Burrowing Owl Mitigation Guidelines (2012) and include the following measures:
 - i. Install one-way doors in burrow entrances. Leave doors in place for 48 hours to ensure owls have left the burrow.
 - ii. Allow one or more weeks for owls to acclimate to off-site burrows. Daily monitoring will be required for the passive relocation period.
 - iii. Once owls have relocated off-site, collapse existing burrows to prevent reoccupation. Prior to burrow excavation, flexible plastic pipe will be inserted into the tunnels to allow escape of any remaining owls during excavation. Excavation will be conducted by hand whenever possible.
 - iv. Destruction of burrows will occur only pursuant to a management plan approved by CDFW.
 - v. As an alternative (if approved by CDFW), all occupied burrows identified off-site within 500 feet of construction activities outside of nesting season (September through January) and during nesting season (February 1 through August 31) could be buffered by hay bales, fencing (e.g. sheltering in place) or as directed by a qualified biologist and the CDFW.

BIO 22 - In order to avoid or reduce potential impacts to the special status plant species, the

BVWSD will implement the following avoidance and minimization measures:

- a. If any special status plant species are identified during pre-construction surveys adjacent to the proposed disturbance zone, a qualified biologist retained by BVWSD will clearly delineate the location of the plant population. If the plant population(s) is directly adjacent to the proposed disturbance zone, BVWSD will install protective fencing between the disturbance zone and the plant population to ensure that special status plants are avoided or adequately protected.
- b. Avoid travel and impact to sensitive habitats near the project site.

Groundwater

GW -1: construct a new set of nested or clustered monitoring wells, with screens placed opposite the perched, shallow and deep aquifers to confirm the changes in water quality and water levels these different aquifers.

GW -2: If monitoring of the main aquifer (as described in Mitigation Measure GW-1) detects that the water level is declining to a degree that potential impacts to water users may occur, then water conserved by construction of the Northern Area Project will be used to periodically provide additional groundwater recharge to the main aquifer. This recharge will be conducted where the A-clay is not present, as necessary to compensate for the loss of groundwater recharge from the perched aquifer. (Note: this impact is not anticipated based on the analysis in this report, but this mitigation measure is incorporated to address an unexpected outcome.)

GW-3: The Brackish Groundwater Remediation Project (BGRP) will be implemented to lower water levels in the perched aquifer and control salinity in both the perched and main aquifer.

The BGRP is designed to remediate brackish groundwater within the BSA by recovering groundwater from two aquifer zones. In the northern Buttonwillow Service Area, the BGRP consists of construction and operating strategically-located shallow and medium depth brackish groundwater recovery wells and collection and conveyance pipelines. The project will pump low quality water from the aquifer and blend it with higher quality water delivered to the project area through the Northern Area Pipeline, making this water available for agricultural uses. The BGRP will lower and control the salinity in the perched aquifer and the main aquifer.

Section F. List of Preparers

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Robert Booher, R.E.A. – Robert A. Booher and Associates. Biological Assessment.

Richard Shatz, C.E.G 1514, C.HG 84 – Principal Hydrogeologist. GEI Consultants, Inc. –
Groundwater Resources Report

David Fairman – Staff Geologist. GEI Consultants, Inc. – Groundwater Resources Report

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