Draft
Volume 1

NORTH SAN PABLO BAY RESTORATION AND REUSE PROJECT (NORTH BAY WATER RECYCLING PROGRAM)

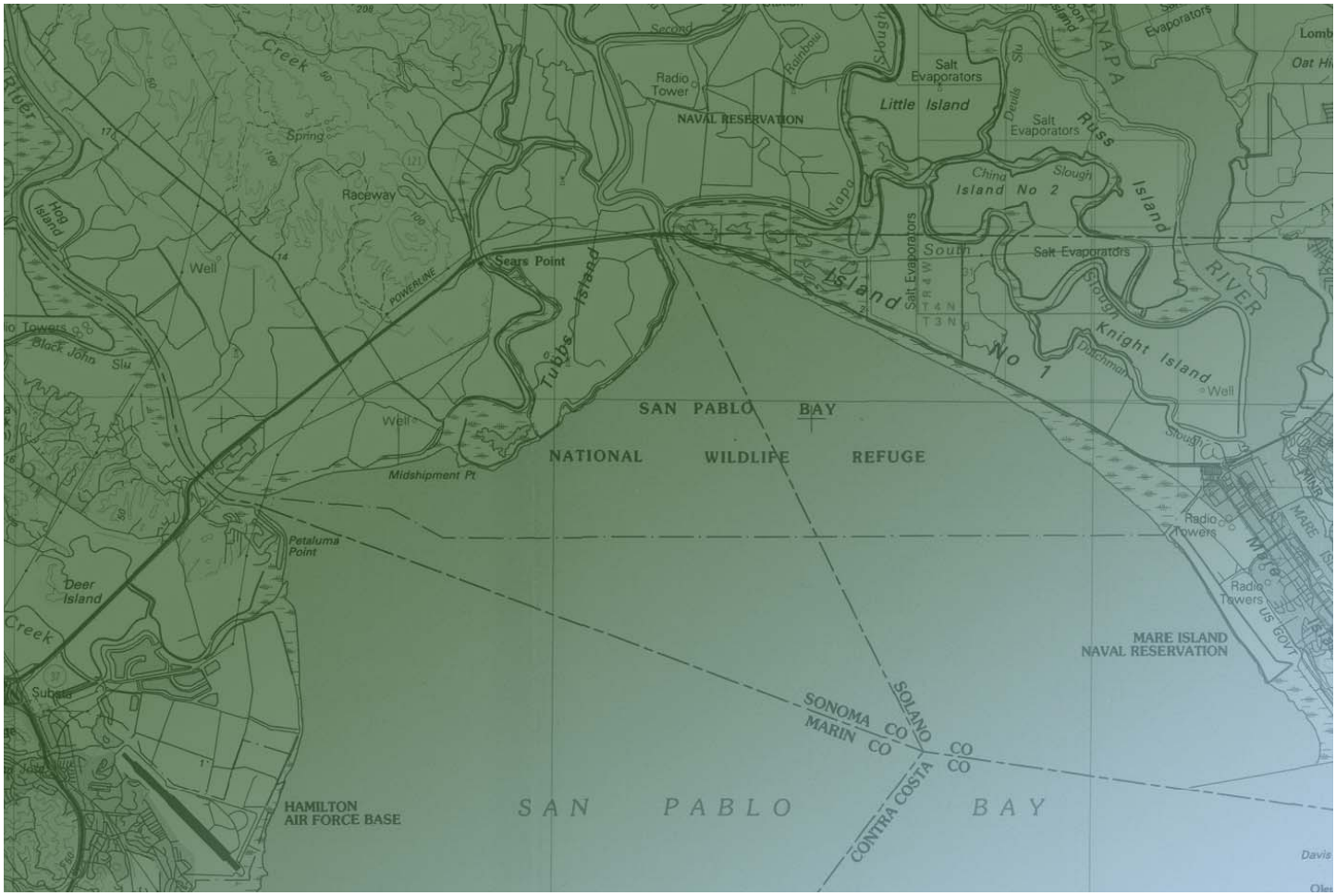
Environmental Impact Report/ Environmental Impact Statement

SCH# 2008072096

Prepared for:
Bureau of Reclamation

North Bay Water Reuse Authority

May 2009



Member Agencies

Contributing Agencies

North Bay Water Reuse Authority

Las Gallinas Valley Sanitary District | Novato Sanitary District | Sonoma County Water Agency | Napa Sanitation District | Sonoma Valley County Sanitation District

Notice of Availability

North Bay Water Recycling Program
(also known as the North San Pablo Restoration and Reuse Project)

The North Bay Water Reuse Authority (NBWRA) has prepared a joint Draft Environmental Impact Report/ Impact Statement (EIR/EIS) pursuant to the California Environmental Quality Act (CEQA) and the National Environment Policy Act (NEPA) to assess potential environmental effects of their proposed North Bay Water Recycling Program or NBWRP (also known as North San Pablo Restoration and Reuse Project). As contract administrator for the NBWRA, the Sonoma County Water Agency (SCWA) will act as Lead Agency under CEQA and the Department of Interior, Bureau of Reclamation will be the federal Lead Agency under NEPA. The 45-day review period begins on **May 5, 2009** and extends to **June 26, 2009**. Written comments on the Draft EIR/EIS may be submitted to:

Sonoma County Water Agency
Attn: Marc Bautista, Senior Environmental Specialist
PO Box 11628
Santa Rosa, CA 95406-1628

You may also submit your comments electronically at the following website: **www.nbwra.org**

The Project: NBWRP is proposed to promote the expanded beneficial use of recycled water in the North Bay region to:

- Offset urban and agricultural demands on potable supplies;
- Enhance local and regional ecosystems;
- Improve local and regional water supply reliability;
- Maintain and protect public health and safety;
- Promote sustainable practices;
- Give top priority to local needs for recycled water; and
- Implement recycled water facilities in an economically viable manner.

The Draft EIR/EIS will consider three alternatives as well as the No Action Alternative. The alternatives represent a range of recycled water reuse and regional facility integration, and include: **Alternative 1, Basic System**, which includes use of recycled water near each of the individual wastewater treatment plants (WWTP); **Alternative 2, Partially Connected System**, which adds pipelines, pump stations and storage to partially connect the existing

WWTPs; and **Alternative 3, Fully Connected System**, which provides a fully integrated and regional recycled water distribution system connecting all four Member Agency WWTPs. Under each alternative treatment and storage capacity would be constructed at existing WWTPs and distribution facilities (pump stations and pipelines) would be constructed within or along public roadways within Marin, Sonoma, and Napa Counties.

Environmental Analysis: Analysis of environmental impacts associated with the NBWRP identified potentially significant impacts, primarily temporary impacts resulting from construction activities, in the following areas: aesthetics; air quality; biological resources; cultural resources; geology, soils, seismicity, and mineral resources; hazards and hazardous materials; hydrology and water quality; land use and planning; recreational and agricultural resources; noise; public services; transportation and traffic; and utilities and service systems. Growth inducement potential, secondary effects of growth and cumulative impacts are also addressed in the Draft EIR. For environmental impacts determined to be significant or potentially significant, mitigation measures have been identified to reduce those impacts. Per CEQA Section 15087(c)(6), the Draft EIR/EIS identifies sites with documented use, storage, or release of hazardous materials or petroleum products under Section 65962.5 of the California Government Code found within 660 feet of the Phase 1 project components.

Document Availability: The Draft EIR/EIS is available for public review at the following locations during normal business hours:

Las Gallinas Valley Sanitary District 300 Smith Ranch Road San Rafael, CA 94903	Novato Sanitary District 500 Davidson Street Novato, California 94945	Napa Sanitation District 935 Hartle Court Napa, CA 94559
Sonoma County Water Agency 404 Aviation Boulevard Santa Rosa, CA 95403	Sonoma Valley Regional Library 755 West Napa St Sonoma, CA 95476	Napa City-County Library 580 Coombs Street Napa, CA 94559
Sonoma County Central Library 211 E Street Santa Rosa, CA 95404	Marin County- Novato Branch Library 1720 Novato Blvd Novato, CA 94947	Marin County- Central Branch Library 3501 Civic Center Drive #427 San Rafael, CA 94903

Persons interested in reviewing documents referenced in the EIR or receiving copies of the Draft EIR/EIS with a fee or are invited to contact: **Marc Bautista, Sonoma County Water Agency, 707-547-1923**.

Public Hearings: Public hearings on the NBWRP will be held on:

June 9, 2009 6:00 p.m. – 7:30 p.m. Margaret Todd Senior Center 1560 Hill Road, Novato	June 10, 2009 2:30 p.m. – 4:00 p.m. Sonoma Community Center 276 East Napa Street, Sonoma	June 11, 2009 6:00 p.m. – 7:30 p.m. Napa Elks Lodge 2840 Soscol Avenue, Napa

Deadline: Comments on the Draft EIR/EIS must be received by the end of the 45-day public review period, which is **June 26, 2009** at 5:00 p.m. Submit comments in writing to: **Marc Bautista, Sonoma County Water Agency, P.O. Box 11628, Santa Rosa, CA 95406-1628**.

DRAFT ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL IMPACT STATEMENT for the North Bay Water Recycling Program

This Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) has been prepared by the North Bay Water Reuse Authority's Member Agencies and the Bureau of Reclamation in accordance with the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) for the North San Pablo Bay Restoration and Reuse Project or the North Bay Water Recycling Program (NBWRP). Napa County and North Marin Water District are additional agencies supporting the NBWRA through contribution of funds and staff time.

NBWRA is exploring "the feasibility of coordinating interagency efforts to expand the beneficial use of recycled water in the North Bay Region thereby promoting the conservation of limited surface water and groundwater resources." This Draft EIR/EIS describes and evaluates the potential environmental, social and economic effects of the North Bay Water Recycling Program (or North San Pablo Bay Restoration and Reuse Project). The NBWRP would provide increased recycled water supply to urban, agricultural and environmental uses in the North San Pablo Bay region.

The Draft EIR/EIS considers three action alternatives and the No Project and No Action Alternatives. Each of the action alternatives are intended to meet the purpose, objectives, and need identified by the NBWRA.

- **No Action Alternative,** provides a "future without the project" scenario as a NEPA baseline to compare the impacts of the proposed Action Alternatives.
- **Alternative 1, Basic System**, which includes use of recycled water near each of the individual wastewater treatment plants (WWTPs);
- **Alternative 2, Partially Connected System**, which adds pipelines, pump stations and storage to partially connect the existing WWTPs; and
- **Alternative 3, Fully Connected System**, which provides a fully integrated and regional recycled water distribution system connecting all four Member Agency WWTPs.

This Draft EIR/EIS analyzes the direct, indirect, and cumulative environmental effects of the project on the following resources: hydrology and drainage, water quality, terrestrial and aquatic resources, earth resources, biological resources, land use, agriculture, transportation and circulation, air quality, noise, utilities and public service systems, hazardous materials and public health, visual/aesthetic resources, recreation, cultural and paleontological resources, socioeconomic effects, environmental justice, Indian Trust Assets, growth-inducing effects, and climate change.

Please submit any comments before **5 p.m.** on **June 25, 2009** to ***Marc Bautista, Sonoma County Water Agency***, P.O. Box 11628, Santa Rosa, CA 95406-1628, Phone: (707) 547-1998, Email: marc.bautista@scwa.ca.gov or ***David White, Bureau of Reclamation***, Mid-Pacific Region, 2800 Cottage Way, MP-730, Room W-2830, Sacramento, CA 95825-1898, Phone: (916) 978-5074, Email: dtwhite@mp.usbr.gov.

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Member Agencies

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ESA

NORTH SAN PABLO BAY RESTORATION AND REUSE PROJECT

Environmental Impact Report / Environmental Impact Statement

Page

Volume 1

Page

Volume 1 (continued)

Volume 2 (*bound separately*)

Page

Appendices

List of Charts

Page

List of Charts (continued)

List of Figures

Page

List of Figures (continued)

Page

List of Tables

Page

List of Tables (continued)

Page

List of Tables (continued)

Page

List of Tables (continued)

Page

List of Tables (continued)

ACRONYMS, ABBREVIATIONS AND GLOSSARY

Acronyms and Abbreviations

ABAG	Association of Bay Area Governments
ADFW	average dry weather flow
ADI	Area of Direct Impact
af	acre-feet
AFY	acre-feet per year
afa	acre-feet per annum
amsl	above mean sea level
APE	Areas of Potential Effect
ASA	Area of Sensitivity Assessment
ASCE	American Society of Civil Engineers
ASR	Aquifer Storage and Recovery
ASTs	aboveground storage tanks
Authority	North Bay Water Reuse Authority
BA	Biological Assessment
BAAQMD	San Francisco Bay Area Air Quality Management District
BCDC	Bay Conservation and Development Commission
BEA	Bureau of Economic Analysis
BEPA	Bald Eagle Protection Act
bgs	below ground surface
BMOs	Basin Management Objectives
BMPs	Best Management Practices
BOD	biochemical oxygen demand
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CA FID	Facility Inventory Database
Cal EPA	California Environmental Protection Agency

CalARP	California Accidental Release Prevention Program
CalTrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CDMG	California Division of Mines and Geology
CEQ	Council of Environmental Quality
CEQA	California Environmental Quality Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	Methane
CHMIRS	California Hazardous Material Incident Report System
CHP	California Highway Patrol
CHSC	California Health and Safety Code
CIP	Capital Improvements Program
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	CO_2 equivalent
CRLF	California red-legged frog
CSC	California Species of Special Concern
CTS	California tiger salamander
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CUWCC	California Urban Water Conservation Council

CWA	Clean Water Act
cy	cubic yards
dB	decibel
dBA	A-weighted decibels
DEIR	Draft Environmental Impact Report
DGESL	Department of Geosciences Environmental Studies Laboratory
DOT	Department of Transportation
DSOD	Division of Safety of Dams
DTSC	California Department of Toxic Substances Control
DWR	Department of Water Resources
EDD	Economic Development Department
EDR	Environmental Data Resources
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMI	Emissions Inventory Data
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Environmental Science Associates
ESU	Evolutionary Significant Unit
FCWCD	Flood Control and Water Conservation District
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FIGR	Federation of Indians of Graton Rancheria
FINDS	Facility Index System
FMMP	Farmland Mapping and Monitoring Program
FMP	Fisheries Management Plan
FPPA	Farmland Protection Policy Act
FPP	Farmland Protection Program
FRHZ	Fault Rupture Hazard Zone
ft	feet
FTA	Federal Transit Administration
FUDS	Formerly Used Defense Sites
g	gravity

GHG	Green House Gases
GULP	Groundwater Under Local Protection
H:V	horizontal-to-vertical
hp	horsepower
HWCL	Hazardous Waste Control Law
Hz	hertz
I & I	Infiltration and Inflow
IBC	International Building Code
ICBO	International Conference of Building Officials
ICC	International Code Council
IPS	Influent pump station
IRWMP	Integrated Regional Water Management Plan
kwH	kilowatt hours
km	kilometers
kV	kilovolt
L_{dn}	day-night average noise level
L_{eq}	energy-equivalent noise level
L_{max}	maximum noise level
LESA	Land Evaluation and Site Assessment
lf	linear feet
LGVSD	Las Gallinas Valley Sanitary District
LOS	Level of Service
LUST	Leaking Underground Storage Tank
M	Richter magnitude
M&I	municipal and industrial
MBTA	Migratory Bird Treaty Act
MCFC&WCD	Marin County Flood Control & Water Conservation District
mg	milligrams
MG	million-gallon
mg/L	milligrams per liter
mgd	million gallons per day
MMI	Modified Mercalli Intensity
MMWD	Marin Municipal Water District
MST	Milliken-Sarco-Tulucay
MOU	Memorandum of Understanding

MP	milepost
mph	miles per hour
MPN	Most Probable Number
MRZ	Mineral Resources Zone
msl	mean sea level
MTC	Metropolitan Transportation Commission
µS/cm	microsiemens per centimeter
Mw	Moment magnitude
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NBA	North Bay Aqueduct
Napa SD	Napa Sanitation District
NBBR	Nesting Breeding Birds and Raptors
NBWA	North Bay Watershed Association
NBWRA	North Bay Water Reuse Authority
NBWRP	North Bay Water Recycling Program
NCTPA	Napa County Transportation Authority
NEPA	National Environmental Protection Act
NMWD	North Marin Water District
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NO_x	Nitrogen oxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
Novato SD	Novato Sanitary District
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NPPA	Native Plant Protection Act
NRCS	National Resource Conservation Service
NSCARP	North Sonoma County Agricultural Reuse Project
NUSD	Novato Unified School District
NVUSD	Napa Valley Unified School District

NWIC	Northwest Information of the California Historical Resources Information System
NWPRA	Northwestern Pacific Railroad Authority
O_3	Ozone
O & M	Operations and Maintenance
OES	California Office of Emergency Services
OHW	Ordinary high water
OPR	Office of Planning and Research
PBO	Programmatic Biological Opinion
PG&E	Pacific Gas & Electric Company
PGA	Peak ground acceleration
PM 10	Particulate matter $\leq$ 10 microns
PM 2.5	Particulate matter $\leq$ 2.5 microns
PM	Particulate matter
POD	Pelagic Organism Decline
PPCP	Pharmaceutical and Personal Care Products
ppm	parts per million
PPV	peak particle velocity
PVP	Potter Valley Project
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
RH Plan	Regional Haze Plan
ROG	Reactive organic gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCTA	Sonoma County Transportation Authority
SCWA	Sonoma County Water District
SD	Sanitation District
SDC	Seismic Design Category
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SLIC	Spills, Leaks, Investigation, and Cleanup
SMARA	Surface Mining and Reclamation Act
SMART	Sonoma-Marin Area Rapid Transit
SMMP	Stream Management Master Plan

SO_2	Sulfur Dioxide
SOI	Sphere of Influence
SR-37	State Highway 37
SSC	Species of Special Concern
SSCRCD	Southern Sonoma County Resource Conservation District
SVCSD	Sonoma Valley County Sanitation District
SVFRA	Sonoma Valley Fire and Rescue Authority
SVWRP	Sonoma Valley Recycled Water Project
SVUSD	Sonoma Valley Unified School District
SWEEPS	Statewide Environmental Evaluation and Planning System
SWF/LF	Solid Waste Facilities/Landfill Sites
SWMP	Stormwater Management Plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
SWRCY	Recycling Facilities in California Database
T&E	Threatened and Endangered
TAC	toxic air contaminants
TDS	total dissolved solids
TMDL	Total Maximum Daily Load
UC	University of California
UBC	Uniform Building Code
UGB	Urban Growth Boundary
USACOE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank system
USTs	underground storage tanks
UV	ultraviolet light
VOMWD	Valley of the Moon Water District
WDS	Waste Discharge System
WMI	Waste Management Incorporated
WMUDS/SWAT	Waste Management Unit Database System

WQCP	Water Quality Control Plans
WRAP	Western Regional Air Partnership
WRP	Water Reclamation Plant
WSPP	Water Supply Planning Program
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Glossary of Terms

100-year flood	The flood having a one percent chance of being equaled or exceeded in magnitude in any given year. Contrary to popular belief, it is not a flood occurring once every 100 years.
acre-foot (AF)	The volume of water that would cover 1 acre to a depth of 1 foot. Equal to 1,233.5 cubic meters (43,560 cubic feet).
active fault	Defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 10,000 years).
anadromous fish	Fish that spend a part of their lifecycle in the sea and return to freshwater streams to spawn.
beneficial uses	Those uses of water as defined in the State of California Water Code (Chapter 10, Part 2, Division 2), including but not limited to, agricultural, domestic, municipal, industrial, power generation, fish and wildlife, recreation, and mining.
bentonite	A clay mineral used in drilling operations; mixed with water to form a gel that lubricates the drill bit, helps keep the walls of a borehole intact, and helps bring drill cuttings to the surface.
Biological Opinion	Document issued under the authority of the Federal Endangered Species Act stating the findings of the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service as to whether a federal action is likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction of adverse modification of critical habitat.
California Environmental Quality Act (CEQA)	Act requiring California public agency decision-makers to document and consider the environmental impacts of their actions. Also requires an agency to identify ways to avoid or reduce environmental damage and to implement those measures where feasible. Provides means to encourage public participation in the decision-making process.
channel	Natural or artificial watercourse, with a defined bed and banks to confine and conduct continuously or periodically flowing water.

CNEL	Community Noise Equivalent Level adds a 5-dBA "penalty" for the evening between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between 10:00 p.m. and 7:00 a.m. See also "decibel (dB)", below.
cooperating agency	Any federal agency other than the lead agency that has jurisdiction by law or special expertise with respect to the environmental impacts expected to result from a proposed project.
criteria air pollutants	Pollutants that are the primary focus of regulatory agencies as indicators of ambient air quality, which include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM), and lead. These are the most prevalent air pollutants known to be harmful to human health, and extensive documentation on health-effects criteria is available for them.
critical habitat	An area designated as critical habitat listed in 50 CFR Parts 17 or 226 (50 CFR Section 402.02); specific geographic areas, whether occupied by special-status species or not, that are determined to be essential for the conservation and management of the special-status species, and that have been formally described in the Federal Register.
cultural resource	An aspect of a cultural system that is valued by or significantly representative of a culture or that contains significant information about a culture. Properties such as landscapes or districts, sites, buildings, structures, objects, or cultural practices that are usually more than 50 years old and possess architectural, historic, scientific, or other technical value.
cumulative impact	For NEPA purposes, defined in Council of Environmental Quality (CEQ) regulations as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions. Under CEQA, defined as the change in the environment that results from the incremental impact of the project when added to other, closely related past, present, and reasonably foreseeable probable future projects.
decibel (dB)	A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals. An A-weighted dB (dBA) is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. A measurement that includes the low frequency component is denoted by dBL.
desalination	A process whereby the salt concentration of sea water or brackish water is reduced, generally through an advanced form of water treatment.
dewater	To remove water.

DNL	The 24-hour day and night A-weighted noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.
endangered species	Any species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that is in serious danger of becoming extinct throughout all or a significant portion of its range. Official federal designations of endangered species are made by the USFWS or NMFS and published in the Federal Register. Species are listed under the California Endangered Species Act by the California Department of Fish and Game.
Endangered Species Act (ESA)	The federal or state acts administered by the USFWS/NMFS and California Department of Fish and Game, respectively, to list and protect animal and plant species that are listed as threatened or endangered, are formally recognized candidates for listing, or are declining to a point where they may be listed.
Environmental Impact Report (EIR)	A detailed statement (i.e., report) prepared under the California Environmental Quality Act by a state or local agency describing and analyzing the significant environmental effects of a project and discussing ways to mitigate or avoid the effects.
Environmental Impact Statement (EIS)	An environmental impact document required of federal agencies under the National Environmental Policy Act for major projects or legislative proposals significantly affecting the environment. Describes the positive and negative effects of the proposed action, lists alternative actions, and documents the information required to evaluate the environmental impacts of a proposed action.
environmental justice	Defined by the U.S. Environmental Protection Agency (EPA) Office of Environmental Justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Fair treatment means "no group of people, including racial, ethnic, or socioeconomic group shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."
erosion	The gradual wearing away of land by water, wind, and general weather conditions; the diminishing of property by the elements. With regard to levees specifically: loss of levee material as a result of the effects of channel flows, tidal action, boat wakes, and wind-generated waves.
expansive soils	Soils that shrink and swell as a result of moisture changes.

fault	A planar rock fracture which shows evidence of relative movement. Large faults within the Earth's curst are the result of differential or shear motion.
fault rupture	Displacement at the earth's surface resulting from fault movement associated with an earthquake.
federal P&Gs	Principles and Guidelines for federal water studies, published as "Federal Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies" by the U.S. Water Resources Council, 1983.
floodplain	Any land area susceptible to inundation by floodwaters from any source.
flow	The volume of water passing a given point per unit of time.
groundwater	Any water naturally stored underground in aquifers, or that flows though and saturates soil and rock, supplying springs and wells.
habitat	The specific area or environment in which a particular type of animal or plant lives.
HAZNET	A California Department of Toxic Substances Control database that records annual hazardous waste shipments, as required by RCRA. All businesses that use and dispose of hazardous materials are entered into the database.
HIST UST	Contains a list of registered historical USTs
Important Farmland	Farmland categories mapped by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are often described together under the term "Important Farmland."
infiltration	Process by which water on the ground surface enters into, or percolates through the soil
L50	The noise level that is equaled or exceeded 50 percent of the specified time period. The L50 represents the median sound level.
L90	The noise level that is equaled or exceeded 90 percent of the specified time period. The L90 is sometimes used to represent the background sound level.
Leq	The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The Leq is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
levee	An embankment raised to restrict a river to a defined channel.
liquefaction	The process in which soil loses cohesion when subject to seismic activity (i.e., shaking).

Lmax	The instantaneous maximum noise level for a specified period of time.
Microconstituents	Microconstituents is a term currently used to describe a variety of natural and manmade substances, including pharmaceuticals, household cleaning products, personal care products, plastics, packaging, and other products of a developed society.
modeling	Computer simulations of natural and man-made water systems used to provide a forecast of outcomes for a variety of parameters, such as water quality, flow rates, and reservoir levels, under an assumed set of conditions.
National Environmental Policy Act (NEPA)	Act that directs federal agencies to prepare an environmental impact statement for all major federal actions that may have a significant effect on the environment. States that it is the goal of the federal government to use all practicable means, consistent with other considerations of national policy, to protect and enhance the quality of the environment. Requires all federal agencies to consider the environmental impacts of their proposed actions during the planning and decision-making processes.
non-attainment	The Clean Air act (1990) defines this as a locality where are pollution levels persistently exceed national ambient air quality standards, or the contributes to ambient air quality in a nearby area that fails to meet standards.
Notice of Availability (NOA)	The notice issued by a local, state, or federal agency to publicly announce that a draft environmental impact report or environmental impact statement is available for review, pursuant to the California Environmental Quality Act and the National Environmental Policy Act, respectively.
Notice of Intent (NOI)	The notice issued by a federal agency to publicly announce its intention to prepare an environmental impact statement, pursuant to the National Environmental Policy Act.
Notice of Preparation (NOP)	The notice issued by a state or local agency to publicly announce its intention to prepare an environmental impact report, pursuant to the California Environmental Quality Act.
Proposed Project/ Proposed Action	North Bay Water Recycling Program or North San Pablo Bay Restoration and Reuse Project
Record of Decision (ROD)	Concise, public, legal document that identifies and officially discloses the federal lead agency's decision following the completion of an environmental impact statement.
recycled water	Wastewater that becomes suitable for a specific beneficial use as a result of treatment.
reservoir	An artificially impounded body of water.
responsible agency	As per the CEQA Guidelines, a public agency other than the lead agency that has discretionary approval over a project.

riparian area	The land adjacent to a natural watercourse such as a river or stream. Riparian areas support vegetation that provides important wildlife habitat, as well as important fish habitat when sufficient to overhang the bank or fall into the water.
salinity	The amount of dissolved salts in a given volume of water.
seawater intrusion	The intrusion and mixing of saline or brackish water into a body of freshwater (in this case, into the Delta).
sedimentation	The phenomenon of sediment or other fine particulates entering a water body, or being disturbed from the bottom of a water body such that they move downstream and settle on the substrate in other aquatic areas.
seiche	A wave on the surface of a lake or landlocked bay caused by atmospheric or seismic disturbances.
seismicity	The frequency, intensity, and distribution of earthquake activity in a given area.
siltation	Sediment influx either from erosion or sediment carried into a water body by inflowing rivers and tributaries.
special-status species	Federal and state classifications for plant and animal species that are listed as threatened or endangered, are formally recognized candidates for listing, or are declining to a point where they may be listed.
stage	Water surface elevation; the elevation above mean sea level (msl) datum (typically measured in feet msl).
stormwater	Untreated surface runoff into a body of water during periods of precipitation.
Stormwater Pollution Prevention Plan (SWPPP)	Required to be developed and implemented when an entity is obtaining a General Permit under the National Pollutant Discharge Elimination System (NPDES). The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges, and (2) to describe and ensure the implementation of best management practices to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges.
subsidence	A decrease in ground surface elevation in the Delta, which results primarily from peat soil being converted into gas.
take	Defined in the Federal Endangered Species Act as "…harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" on special-status species covered under the Act.
terrestrial species	Types of species of animals and plants that live on or grow from the land.

threatened species	Legal status afforded to plant or animals species that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range, as determined by the U.S. Fish and Wildlife Service or NMFS for federal species and by the California Department of Fish and Game for state species.
tidal flow	Water movements caused by tidal forces (i.e. gravitational); used to describe the movement of water in Delta channels caused by tidal level variations propagating from San Francisco Bay.
total organic carbon (TOC)	A measure of organic matter content in water, which plays a significant role in aquatic ecosystems and has direct implications to drinking water treatment, including the potential for formation of disinfection byproducts.
turbidity	A measure of the cloudiness of water caused by the presence of suspended matter. Turbidity in natural waters may be composed of organic and/or inorganic constituents, and has direct implications to drinking water treatment.
viewshed	An area of land, water, and other environmental elements that is visible from a fixed vantage point. Viewshed is typically evaluated both from a roadway and conversely of a roadway as viewed from the adjacent area.
waters of the U.S.	As defined in the Clean Water Act Section 404, waters of the U.S. applies only to surface waters, rivers, lakes, estuaries, coastal waters, and wetlands. Not all surface waters are legally waters of the U.S. Generally, those waters include interstate waters and tributaries, intrastate waters and tributaries used in interstate and/or foreign commerce, territorial seas at the cyclical high-tide mark, and wetlands adjacent to the above.
watershed	A region or area that ultimately drains to a particular watercourse or body of water.
wetland	A zone that is periodically or continuously submerged or has high soil moisture, has aquatic and/or riparian vegetation components, and is maintained by water supplies significantly in excess of those otherwise available through local precipitation.
Williamson Act	The California Land Conservation Act of 1965, commonly known as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use for 10 years. In return, landowners receive property tax assessments that are based on farming and open space uses as opposed to full market value.

EXECUTIVE SUMMARY

ES.1 Introduction

The North Bay Water Reuse Authority's (NBWRA) Member Agencies and the U.S. Department of Interior, Bureau of Reclamation (Reclamation) have prepared this Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) for the North San Pablo Bay Restoration and Reuse Project. The North San Pablo Bay Restoration and Reuse Project has been developed in conformance with the requirements of the Reclamation's Public Law 102-575, Title XVI, including preparation of a Feasibility Study, and passage of Senate Bill 1475. For the purposes of this EIR/EIS, this project or action will be referred to as the **North Bay Water Recycling Program (NBWRP**).

This EIR/EIS has been developed to provide the public and responsible and trustee agencies reviewing the NBWRP an analysis of the potential effects, both beneficial and adverse, on the local and regional environment associated with construction and operation of the NBWRP. The basic purpose of the NBWRP is to provide recycled water for agricultural, urban, and environmental uses and to promote the expanded beneficial use of recycled water in the North Bay region. Implementation of NBWRP would include upgrades of treatment processes and construction of pipelines, pump stations, and storage to distribute recycled water for use in compliance with Article 4 in Title 22 of the California Code of Regulations, which sets water quality standards and treatment reliability criteria for recycled water.

This EIR/EIS considers a No Project, No Action and three Action Alternatives. The Action Alternatives consist of treatment, transmission, and storage facilities necessary to meet a range of recycled water demand scenarios within the NBWRA service area through 2020. Each Action Alternative considers varying levels of recycled water use, and corresponding levels of regional facility integration. The Alternatives considered are as follows:

- **No Project Alternative,** assumes that the proposed project is not implemented, and reviews two scenarios: 1) consideration of existing conditions without the project, a "no build scenario"; and 2) consideration of "reasonably foreseeable" future conditions without the project. This second scenario is identical to the No Action Alternative, identified below.
- **No Action Alternative,** provides a "future without the project" scenario as a baseline to compare the impacts of the proposed Action Alternatives.
- **Alternative 1, Basic System**, includes use of recycled water near each of the individual wastewater treatment plants (WWTP);

- **Alternative 2, Partially Connected System**, adds additional pipelines, pump stations and storage to partially connect the existing WWTPs; and
- **Alternative 3, Fully Connected System**, provides a fully integrated recycled water distribution system connecting all four Member Agency WWTPs.

The Member Agencies have collectively prioritized the projects within their individual service areas to establish an Implementation Plan identifying the order in which projects would be constructed. Phase 1 of the Implementation Plan includes projects that are defined to a level of detail that allows for project-level environmental review. The Phase 1 Implementation Plan represents the set of projects, common to all of the NBWRP alternatives, and would likely be the first phase implemented under any alternative.

ES.1.1 Purpose and Need of the Proposed Action

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. The Bureau of Reclamation's water reclamation and reuse program is authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992 (Title XVI of Public Law 102-575). Also known as Title XVI, the act directs the Secretary of the Interior to undertake a program to investigate and identify opportunities for water reclamation and reuse of municipal, industrial, domestic and agricultural wastewater, and naturally impaired ground and surface waters, and for design and construction of demonstration and permanent facilities to reclaim and reuse wastewater.

The NBWRA is a cooperative program in the San Pablo Bay region that supports sustainability and environmental enhancement by expanding the use of recycled water. The purpose of the NBWRP is to provide recycled water for agricultural, urban, and environmental uses thereby reducing reliance on local and imported surface and groundwater and reducing the amount of treated effluent releases to San Pablo Bay.

ES.1.2 Project Objectives

In addition to the purpose and need for the proposed Federal Action, the following project objectives have been developed by the NBWRA for the NBWRP. The project is proposed to promote the expanded beneficial use of recycled water in the North Bay region to achieve the following objectives:

- Offset urban and agricultural demands on potable water supplies;
- Enhance local and regional ecosystems;
- Improve local and regional water supply reliability;
- Maintain and protect public health and safety;
- Promote sustainable practices;
- Give top priority to local needs for recycled water, and;

- Implement recycled water facilities in an economically viable manner.

All of the Member Agencies already have existing recycled water programs. The NBWRA anticipates that provision of recycled water from the Proposed Action will be made available for use to new and existing water customers on reasonable terms and conditions. As appropriate, fee structures for recycled water have been or will be developed by Member Agencies within the context of each agency's rules, regulations and financial planning.

ES.1.3 Proposed Federal Action

As implementation of the Project would likely require external funding assistance, the investigation and development of the Project is being carried out in conformance with the requirements of the U.S. Department of the Interior's Bureau of Reclamation Public Law 102-575, Title XVI, which provides a mechanism for Federal participation and cost-sharing in approved water reuse projects. The proposed Federal Action is the provision of federal funds by the Bureau of Reclamation under the Title XVI Program to NBWRA Member and Cooperating Agencies for the implementation of water recycling projects examined in this EIR/EIS. The Bureau of Reclamation is the NEPA Lead Agency for this proposed action.

Reclamation intends to use this EIR/EIS to consider provision of federal funding under Title XVI for implementation of NBWRP. As lead Federal agency, Reclamation would use this EIR/EIS to support a Record of Decision, which would document Reclamation's decision to choose one of the alternatives including the proposed action and no action.

The NBWRA Member Agencies and cooperating agencies may use this EIR/EIS to approve the NBWRP, or components of the NBWRP, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts. SCWA will act as CEQA Lead Agency. Individual NBWRA Member Agencies and cooperating agencies are Responsible Agencies as provided for under CEQA §15096 and may use this EIR/EIS for the approving the proposed components (i.e., Phase 1) in their respective service areas.

ES.2 Project Background

Five participating agencies organized themselves under a Memorandum of Understanding (MOU) in August 2005 as the NBWRA. Additional agencies supporting the NBWRA through contribution of funds and staff time include North Marin Water District (NMWD) and Napa County. The following Member Agencies form the NBWRA and would participate in the implementation of NBWRP:

- **LGVSD** – LGVSD provides wastewater treatment and disposal service to approximately 30,000 people within the area of Marinwood, Lucas Valley, Terra Linda, Santa Venetia, Los Ranchitos, and Smith Ranch Road (LGVSD, 2005).

- **Novato SD**– Novato SD provides wastewater treatment and disposal services to approximately 60,000 residents within the city of Novato, an area of 28 square miles, and surrounding areas (Novato SD, 2006).

- **SVCSD** – The SVCSD WWTP began operations in 1954 and provides service to about 34,000 people in the city of Sonoma, within a 7-square-mile area (SVCSD, 2006).

- **Napa SD** – The Napa SD's Soscol Water Recycling Facility (SCRF) treats wastewater from the city of Napa and surrounding unincorporated communities, an area of about 23 square miles, and serves a population of approximately 80,000 (Napa SD, 2007).

- **SCWA** – SCWA, which began the Title XVI process for investigating a recycled water distribution system under a Cooperative Agreement with the Bureau of Reclamation, is a drinking water provider to over 600,000 residents and continues to be an actively participating partner.

ES.2.1 Supporting Agencies

- **NMWD –** NMWD has partnered with Novato SD to implement recycled water projects in their collective service areas, including a 0.5 million gallons per day-tertiary treatment facility located at the Novato SD reclamation facility. NMWD is contributing funds and staff time to NBWRA.

- **Napa County –** Napa County is cooperating with Napa SD in the development of recycled water options for the Milliken-Sarco-Tulucay (MST) Creeks areas, and is contributing funds and staff time to NBWRA.

ES.2.2 Feasibility Study Preparation

The NBWRA members undertook cooperative planning efforts over a 5-year period, including 19 bi-monthly technical workshops as well as monthly institutional workshops with extensive outreach to potential NBWRP stakeholders to define shared objectives and develop feasible alternatives toward definition of region-wide water reclamation and reuse project that would enable them to meet those objectives. Under the MOU, Camp Dresser McKee, Inc. (CDM) prepared a Phase 1 Engineering Feasibility Report (2005) and a Phase 2 Engineering Feasibility Study Report (2006) in coordination with NBWRA. The Phase 3 Engineering and Economic/Financial Analysis Report (or Phase 3 Report) completed in June 2008 updated the Phase 2 Feasibility Report to be consistent with project planning conducted by the individual Member Agencies, included an economic and financial analysis, and discussed potential environmental effects.

ES.2.3 Water Supply Setting and Future Conditions

The action area encompasses approximately 318 square miles of land within Marin, Sonoma, and Napa Counties. This region extends roughly 10 to 15 miles inland of the tidal San Pablo Bay, with a total population of over 270,000 in the major urban centers of San Rafael, Novato, Sonoma, and Napa. The region supports agriculture, including some of the premier wine-grape growing land in North America, as well as light industry, commercial and institutional uses, parklands, and residential areas.

Local and regional planning projections indicate that approximately 10 to -12 percent of growth would occur in most of the existing urban centers in the action area by the year 2020 (as compared to 2005 populations). Existing policies in principal cities will tend to favor concentrated rather than dispersed growth.

Agricultural land use is expected to remain relatively constant over a 20-year planning period. The local governing policies in the Marin, Sonoma, and Napa Counties in the action area protect agricultural lands. Given the high value of wine-grape culture, it is unlikely that there would be much change in the 75 percent of agricultural acreage committed to vineyards.

Total urban water use – including both residential and non-residential uses – in the project area is projected to increase from the 2005 level of 63,700 acre-feet per year (AFY) to about 72,800 AFY in 2020. Total water use for irrigation of agricultural lands is estimated at approximately 23,300 AFY at present. The sources that serve these water demands include surface water supplies (both within and outside of the action area), groundwater, and recycled water. SCWA supplies much of the Sonoma and Marin County area with ***surface water*** conveyed from the Russian River and its tributaries in central Sonoma County, adjacent to the project area watershed. SCWA's reliable supplies to customers in the action area consist of 87,970 AF of water during a dry year.

Groundwater serves agricultural users (and some residential users) as a primary source of supply, particularly in the MST area of Napa County. Groundwater also serves as a secondary source of supply for some urban users as well, including the City of Sonoma, Valley of the Moon Water District, and SCWA contractors. Although the total quantity of groundwater in the action area is unknown, groundwater pumping has been measured. The vast increase (i.e., 80 percent) in pumping of groundwater in the past 30 years to support agricultural irrigation has resulted locally in groundwater outflow exceeding inflow, some impacts on groundwater quality, and a lowering of groundwater levels in some parts of the action area that are dependent on groundwater supplies.

Existing treatment and distribution infrastructure in the action area currently allows for about 7,300 AFY of ***recycled water*** for irrigation and wetlands restoration purposes, which could increase to 11,250 AFY by 2020.

The average year and wet season conditions appear to yield sufficient surface water and groundwater to meet total annual demand in the action area. However, the seasonal availability of some water sources (against the strong seasonality of agricultural demand), the potential for overdraft of groundwater with impacts on quality and quantity, and the growth pressures on the area's urban centers suggest a need for an effective, coordinated, and regional approach to the increased use of recycled water.

ES.3 Description of Project Alternatives

ES.3.1 Project Location

The action area, illustrated in **Figure ES-1**, extends approximately 10 to 15 miles inland from the San Pablo Bay within Marin, Sonoma, and Napa Counties. The action area extends as far south as Point San Pedro in Marin County, and as far north as Milliken Canyon located 28 miles to the northeast in eastern Napa County, and encompasses about 318 square miles of land. Urban centers in the action area are San Rafael (county seat) and Novato in Marin County, Sonoma in Sonoma County, and Napa (county seat) in Napa County.

In order to form candidate recycled water projects, land use information and Member Agency recycled water planning documents were reviewed. Water and wastewater agencies in the action area have developed several existing recycled water projects and identified recycled water projects for future implementation. Additional potential recycled water project areas were identified by grouping land uses either in major agricultural or landscaping areas or in areas between existing and proposed projects. These potential recycled water use areas are summarized in **Table ES-1** and are described below.

TABLE ES-1
RECYCLED WATER SERVICE AREAS

LGVSD
• Peacock Gap Golf Course
Novato SD
• North Marin Water District Urban Reuse Project
• Sears Point
SVCSD
• Sonoma Valley Recycled Water Project
• Napa Salt Marsh Restoration
• Southern Sonoma Valley
• Central Sonoma Valley
Napa SD
• Milliken-Sarco-Tulocay Creeks Area
• Carneros East

ES.3.2 Overview of Alternatives

This EIR/EIS considers a No Project Alternative, No Action Alternative, and three Action Alternatives. The Action Alternatives consist of treatment, transmission, and storage facilities necessary to meet a range of recycled water demand scenarios within the NBWRA service area through 2020. Each Action Alternative considers varying levels of recycled water use, and

SOURCE: CDM, 2008

NBWRA North Bay Water Recycling Program 206088.01

Figure ES-1
Action Area

corresponding levels of regional facility integration. **Table ES-2** summarizes the key distinctions among the action alternatives. The project alternatives could be constructed and in operation by 2020 if required approvals, authorizations, appropriations, and permits are obtained.

TABLE ES-2
ALTERNATIVES SUMMARY –
RECYCLED WATER SUPPLY, DEMAND, AND RESULTING DISCHARGE (AFY)

Alternatives	WWTP Service Area	WWTP Inflow (2020)	Existing Recycled Water Demand	New Recycled Water Demand (Beneficial Reuse)	Total Recycled Water Demand	Discharge to San Pablo Bay*
Alternative 1: Basic System	LGVSD and Novato WWTPs	12,347	1,172	744	1,916	8,643
	SVCSD and Napa WWTPs	15,308	3,772	5,911	9,683	5,043
	Total	**27,655**	**4,944**	**6,655**	**11,599**	**13,686**
Alternative 2; Partially Connected System	LGVSD and Novato WWTPs	12,347	1,172	2,477	3,619	8,032
	SVCSD and Napa WWTPs	15,308	3,772	8,802	12,574	2,657
	Total	**27,655**	**4,944**	**11,279**	**16,193**	**10,689**
Alternative 3: Fully Connected System	LGVSD, Novato, SVCSD, and Napa WWTPs	27,655	4,944	12,761	17,705	9,543
Total		**27,655**	**4,944**	**12,761**	**17,705**	**9,543**

* The number does not equal supply and demand due to evaporative and other losses (e.g. spreading).

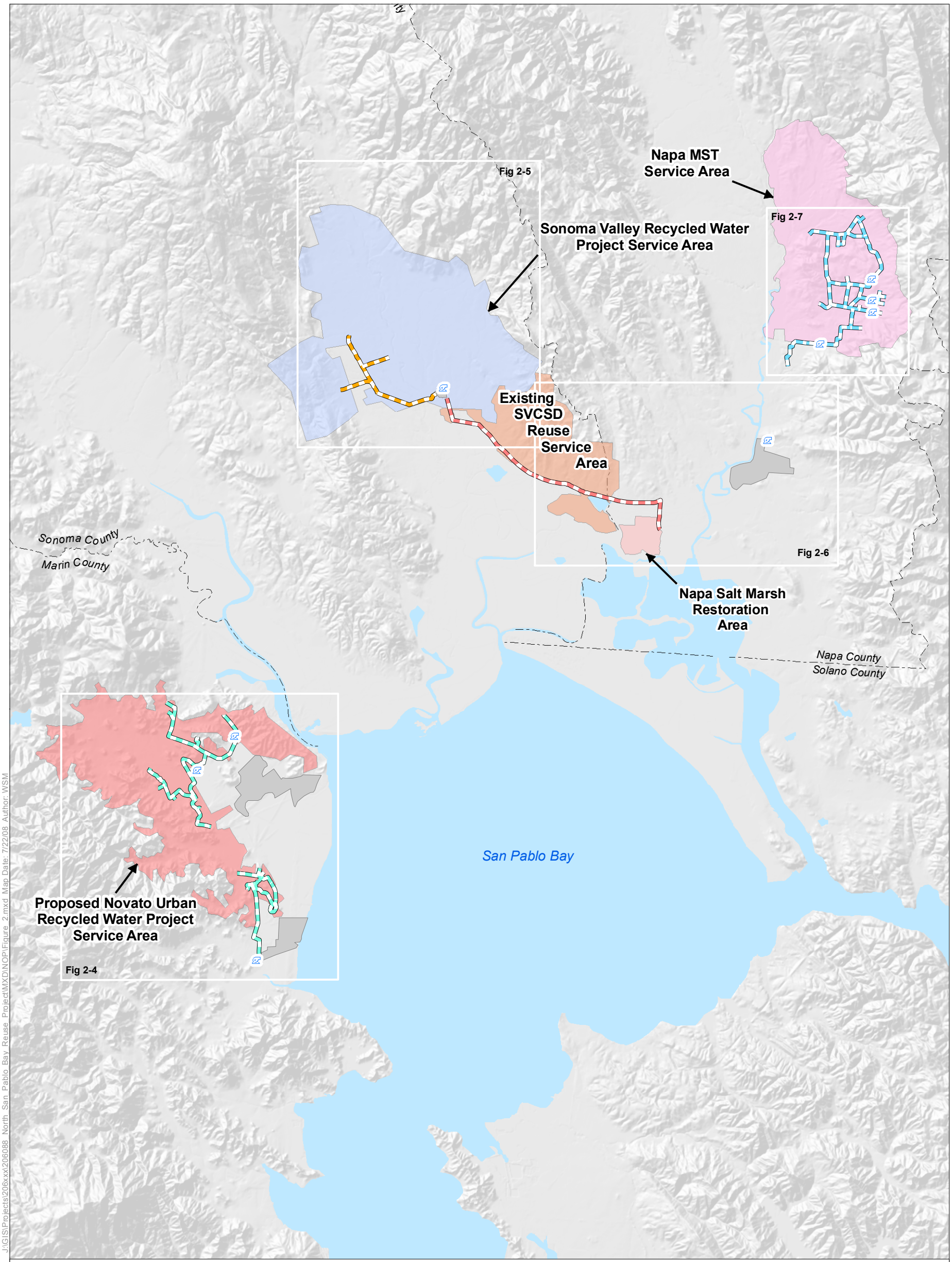
SOURCES: CDM, 2009; ESA, 2009.

The Member Agencies have collectively prioritized the projects within their individual service areas to establish an Implementation Plan identifying the order in which projects would be constructed. Phase 1 of the Implementation Plan includes projects that are defined to a level of detail that allows for project-level environmental review. These projects are collectively referred to as Phase 1 Projects. The Phase 1 Projects are common to Alternatives 1, 2, and 3. This EIR/EIS may be relied upon by individual member agencies for approval of these individual Phase 1 Projects (see **Figure ES-2**). The Member Agencies would implement the Phase 1 projects described below.

Phase 1 Implementation Plan

Las Gallinas Valley Sanitary District/North Marin Water District

LGVSD would provide recycled water service to the Novato South area. This system would not be connected to the remainder of the NMWD recycled water system.



SOURCE: CDM, 2008; ESRI, 2006; and ESA, 2008

Note: Existing Water Distribution Facilities Not Shown

NBWRA North Bay Water Recycling Program. 206088.01

Figure ES-2

Phase 1 Implementation Plan

Service Areas and Facilities

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Novato South Service Area – Hamilton Field

Service to the Hamilton Field area would be established through implementation of a of 0.7 million gallons per day (mgd) tertiary treatment upgrade at the existing LGVSD WWTP, construction of a new booster pump station onsite, and construction by NMWD of a pipeline distribution system from LGVSD north to serve the Hamilton Field area. NMWD would construct a pipeline from the LGVSD WWTP to the Hamilton Field area along three route options:

- **Option A:** This option would consist of approximately 2.75 miles of pipeline that would originate at the Recycled Water Treatment Facility at LGVSD WWTP, extend west adjacent to the WWTP ponds and northwest through grazing land.
- **Option B:** This option would consist of approximately 2.1 miles of pipeline that would originate at LGVSD WWTP, extend west adjacent to the WWTP ponds and north along agricultural access roads through grazing land.
- **Option C:** This option would consist of approximately 2.15 miles of pipeline that would extend north from LGVSD WWTP through grazing land. The alignment would turn west along St. Vincent's Drive then north, adjacent to the Northwest Pacific Railroad (NWPRR) right-of-way.

Novato Sanitary District/ North Marin Water District

Novato North Service Area

Novato SD and NMWD would implement service in the Novato North Service Area by incrementally expanding tertiary capacity at the existing Novato Recycled Water Treatment Facility from 0.5 mgd to 1.2 mgd. The recycled water pipeline would be routed from Atherton Avenue to Olive Avenue under Highway 101, and north on Redwood Boulevard to San Marin Drive. A separate pipeline would be routed on H Lane to serve the Valley Memorial Park Cemetery. A booster pump would be installed at Atherton Avenue and the distribution system would be connected to the existing 0.5-MG Plum Street Tank, which would be rehabilitated to provide recycled water storage.

Novato Central Service Area

Novato SD and NMWD would implement service in the Novato Central Service Area through construction of a recycled water distribution system from the Novato SD WWTP south to Rowland Boulevard and the Vintage Oaks shopping center, and across Highway 101 to serve urban users west of Highway 101. The treatment facilities at the Recycled Water Treatment Facility would be decommissioned and relocated to the Novato SD WWTP. From the WWTP, an 18-inch pipeline would be installed along Novato SD's existing easement, with a jack and bore crossing of US 101 from Rowland Boulevard to Redwood Boulevard. An 18-inch recycled trunk line would then extend north through Novato to deliver recycled water to Novato High School and other irrigated playing fields, with a 10-inch line extending south along Redwood Boulevard.

A new pipeline would connect the WWTP with the North Service Area pipeline in Olive Drive via Lea Drive or McClelland Drive. This would allow continuation of recycled water service to the Stone Tree Golf Course and the other customers in the North Service Area during the course of the relocation of the recycled water facility to the WWTP. This intertie would also incorporate the Plum Street Tank into the distribution system serving both the Novato North and Central Service Areas (Nute Engineering, 2006).

SVCSD

Sonoma Valley Recycled Water Project (SVRWP)

The Phase 1 Implementation Plan includes specific elements of the SVRWP, including construction of 5.2 miles of pipeline, additional storage at the SVCSD WWTP and construction of additional pumping capacity for distribution. The Phase 1 Implementation Plan includes SVRWP Alignment 1A, which would consist of approximately 5.2 miles of pipeline in western Sonoma Valley. The main pipeline would originate from the SVCSD WWTP, extend southwest and then northwest through a vineyard to Arnold Drive. The pipeline would continue north along Arnold Drive to Orange Avenue, and extend north on Orange Avenue to Elm Avenue. The pipeline would then continue east on Elm Avenue, cross a field to Arnold Drive, extend north on Arnold Drive, and end just north of Leveroni Road. Secondary pipelines or segments would extend from the main pipeline on the following roadways: Highway 116, Watmaugh Road, and Leveroni Road.

SVCSD Napa Salt Pond Pipeline

Under Phase 1 of the NBWRP, SVCSD would construct a pipeline to provide recycled water to Pond 7 and 7A for habitat enhancement. Proposed facilities in the Napa Salt Marsh area include construction of a new pipeline from the existing SVCSD WWTP to the existing SVCSD storage reservoirs located near the intersection of the Northwestern Pacific Railroad Authority (NWPRA) and Ramal Road. SCWA has identified three potential route options, which are described below.

- **Option A:** This option consists of installation of approximately 4.0 miles of 24-inch pipeline that would be installed from the reservoirs to Pond 7 and 7A. Approximately 1.0 mile of pipeline would extend from the reservoirs along the south side of NWPRA railroad tracks to Skaggs Island Road, at which point the pipeline would cross to the south side of the railroad tracks and continue east along the south side of the railroad tracks for approximately 0.4 miles. At this point, the pipeline would cross to the north side of the railroad tracks and continue east along the north side of the railroad for approximately 0.9 miles, then cross to the south side of the railroad tracks. The pipeline would extend 1.7 miles until it reaches the access road for Ponds 7 and 7A, which includes pipeline installation south along the access road for approximately 4,200 feet, terminating at the mixing chamber. This option is consistent with the pipeline route reviewed in the Napa River Salt Marsh Restoration Project EIR/EIS (JSA, 2004).

- **Option B:** This option consists of installation of 4.5 miles of a 24-inch pipeline from the reservoirs to the salt ponds. Approximately 0.25 miles of pipeline would be installed north along an access road to Ramal Road. The alignment would then extend 1.75 miles east along Ramal Road. At this point, the pipeline would transverse east along an agricultural access road for approximately 1.25 miles until it reaches Buchli Station Road. The pipeline

would then run south on Buchli Station Road for approximately 1.25 miles, until it reaches the Huichica Creek entrance of the Napa-Sonoma Marshes Wildlife Area (NSMWA) and the access road for Ponds 7 and 7A.

- **Option C:** This option would consist of 4.7 miles, and would follow the above Option B route for approximately 3.0 miles (from the reservoir, east along the access road to Ramal Road, and along Ramal Road). However, the pipeline would then extend south approximately 0.3 miles to access an existing reservoir. At this point it would transverse 0.4 miles east to Buchli Station Road (Figure 2-6). The pipeline would run south on Buchli Station Road for approximately 1.0 mile, until it reaches the Huichica Creek entrance of the Napa-Sonoma Marshes Wildlife Area (NSMWA) and the access road for Ponds 7 and 7A.

Napa SD

The Phase 1 project in the Napa SD service area would provide a recycled water distribution system to address groundwater overdraft in the Miliken-Sarco-Tulucay (MST) area of Napa County.

MST Area Project

The MST Area Project would consist of 17.5 miles of new pipeline, four booster pump stations along the pipeline routes, and a new booster pump at the WWTP. The new pipeline would be installed from the end of the Streblow Drive pipeline through the Napa State Hospital grounds and north to the MST area. A looped system using existing roadways would be constructed, with one segment extending west along First Avenue and the second segment extending east along Third Avenue; both segments would then merge along Hagen Road north of the Napa Valley Country Club. Four booster pump stations would be installed to maintain pressure throughout the distribution system, and an additional pump would be installed at the WWTP. Pump stations would be located on Imola, Wild Horse Valley Road, East 3rd Avenue, and 3rd Avenue. Potential recycled water users include the Napa State Hospital, the Napa Valley Country Club, and agricultural and residential parcels along the proposed pipeline route.

Under the MST Local Project (Options 1 and 2), a more direct pipeline system extending north from Imola Avenue along 4th Avenue, Coombsville Road, 2nd Avenue and terminating at the Napa Valley Country Club would be implemented.

Table ES-3 identifies projects that would be implemented as Phase 1 Projects under any of the Action Alternatives considered.

Alternative 1: Basic System

Alternative 1 – Basic System would expand recycled water programs currently in operation within each of the Member Agency service areas. It puts greatest emphasis on the service of local demands by the individual WWTPs. Alternative 1 would provide 6,655 AFY of new recycled water for irrigation use and 5,825 AFY for habitat restoration, and would include installation of 83 miles of new pipeline, construction of facilities onsite at the existing WWTPs to provide an additional 7.8 mgd of tertiary treatment capacity, and development of approximately 1,020 acre-feet of new storage, primarily at existing or planned storage ponds at the WWTPs.

TABLE ES-3
IMPLEMENTATION PLAN – PHASE 1

		New Pipeline (miles)	New Demand (AFY)	Capacity Increase (mgd)	New Pumps (HP)	New Storage (AF)
LGVSD	Peacock Gap	--	--	--	--	--
	NMWD URWP (South)	5.9	204	0.7	72	(3)
	Sears Point	--	--	--	--	--
Novato SD	NMWD URWP (North/Central)	9.8	542	1.2	259	(3)
	Sears Point	--	--	--	--	--
SVCSD	Southern Sonoma Valley	--	--	--	--	--
	Central Sonoma Valley	--	--	--	--	--
	Sonoma Valley (1A)[1]	5.2	874	0	662	65
	Napa Salt Marsh	7.9	(2)	0	0	0
Napa SD	Carneros East	--	--	--	--	--
	MST Area	17.5	2,137	4.5	880	0
	Napa (local)	--	--	--	--	--
	Napa Salt Marsh	--	--	--	--	--
Total		**46.3**	**3,757**	**6.4**	**1,873**	**65**

1 Sonoma Valley (1A) is a pipeline alignment originally analyzed as a part of the Sonoma Valley Recycled Water Project EIR and proposed under Phase 1 for the NBWRP. The alignment is described on page 2-18 of this document.
2 Additional 3,460 AFY release of recycled water to Napa Salt Ponds 7 and 7A, depending upon year type. Because this is a beneficial use that is not related to recycled water supply, this number is tracked separately in each of the alternatives.
3 Existing 0.5 mg reservoir would be rehabilitated to provide recycled water system storage.

SOURCE: CDM, 2009, Napa SD, 2009.

Alternative 2: Partially Connected System

Alternative 2 – Partially Connected System involves development of a subregional recycled water system, taking advantage of increased storage capacity and additional pipelines under Alternative 1 to distribute recycled water more extensively throughout the project area. Alternative 2 would provide 11,250 acre feet of new recycled water for irrigation uses and potentially 2,933 AFY for habitat restoration, and would include: installation of 140 miles of new pipelines, construction of facilities onsite at the existing WWTPs to provide an additional 15.9 mgd of tertiary treatment capacity, and development of approximately 2,220 acre-feet of storage, primarily at existing or planned storage ponds at the WWTPs.

Alternative 3: Fully Connected System

Alternative 3 – Fully Connected System creates a regional system that connects all four WWTPs in the project area. This alternative maximizes water reuse by allowing recycled water from any WWTP to be delivered to any area that needs recycled water. Since the majority of the demand for recycled water lies in the area near Sonoma and Napa, the regional interconnection achieved

under Alternative 3 would allow the other WWTPs to help satisfy the demand in this area. Alternative 3 would provide 12,761 acre feet of new recycled water for irrigation use and 3,085 AFY for habitat restoration, and would include: installation of 153 miles of new pipelines, construction of facilities onsite at the existing WWTPs to provide an additional 20.8 mgd of tertiary treatment capacity, and development of approximately 2,220 acre-feet of storage, primarily at existing or planned storage ponds at the WWTPs.

No Project Alternative

No project elements would be implemented under this alternative. For a discussion of the No Project under future conditions, see No Action Alternative below.

No Action Alternative

The "No Action Alternative" assumes that there would be no joint project among the member agencies. It represents the "current status" in which additional wastewater treatment capacity and water recycling occurs strictly from the implementation of local plans for expansion, and the potential need to develop additional potable water supplies continues to be a regional challenge. In general, each Member Agency would continue to implement individual recycling projects, subject to the availability of funding and completion of the CEQA process. The No Action Alternative would likely result in a smaller increment of water recycling projects within the region. Specific projects that would have the greatest potential to be implemented under the No Action Alternative are below:

- **LGVSD.** LGVSD would prioritize expenditures on projects that meet its NPDES permit requirements. For the purpose of this EIR/EIS, it is assumed that this strategy would result in no additional recycled water projects being implemented in the LGVSD service area.

- **Novato SD.** Novato SD and NMWD would pursue implementation of recycled water distribution facilities solely within the Novato North Service Area. This includes 4.4 miles of pipeline, a 0.5 mgd upgrade at the Recycled Water Treatment Facility, and one pump station at the intersection of Atherton and Olive.

- **SVCSD. Sonoma Valley Recycled Water Project – Alignment 1A:** This would include construction of approximately 5.2 miles of pipeline in the Sonoma Valley, with completion of a pump station at the SVCSD WWTP.

- **SVCSD. Napa Salt Pond Pipeline:** This would include construction of approximately 4.0 miles of pipeline from the SVCSD WWTP to the SVCSD storage ponds located near the intersection of Northwestern Pacific Railroad and Ramal Road. From the ponds an additional 4.5 miles of new pipeline would be constructed to convey water to the salt pond mixing chamber. The pipeline and the pump station were discussed and analyzed under the Napa River Salt Marsh Restoration Project EIR/EIS (JSA, 2004) under the Water Delivery Project Component (Sonoma Pipeline) (see **Figure 2-6**). Potential route options would extend east along Ramal Road and south along Duhlig Road toward the ponds.

- **Napa SD.** Napa SD would prioritize expenditures on projects that meet its NPDES permit requirements. For the purpose of this EIR/EIS, it is assumed that this strategy would result in no additional recycled water projects being implemented in the Napa SD service area.

Table ES-4 summarizes the components proposed under the action alternatives.

TABLE ES-4
SUMMARY OF PROJECT COMPONENTS UNDER THE ACTION ALTERNATIVES

Project Components	No Action Alternative	Basic System	Partially Connected System	Fully Connected System
Pipeline (in miles)				
LGVSD	0.0	5.88	17.94	17.94
Novato SD	4.4	12.44	35.90	47.00
SVCSD	13.1	33.72	42.00	44.20
Napa SD	0.0	31.14	44.08	44.08
Total Pipeline	**17.5**	**83.00**	**140.00**	**153.00**
Pump Station (in horsepower)				
LGVSD	0	71	91	203
Novato SD	250	258	586	965
SVCSD	662	1,109	1,819	2,693
Napa SD	0	720	958	958
Total Pump Stations	**912**	**2,158**	**3,454**	**4,819**
Storage Capacity				
LGVSD	0.0	0.0	0.0	0
Novato SD	0.0	0.0	0	0
SVCSD	65.0	1,020	2,220	2,220
Napa SD	0.0	0.0		
Total New Storage[(1)]	**65.0**	**1,020**	**2,220**	**2,220**
Tertiary Treatment Capacity Increase (million gallons per day)				
LGVSD	0.0	0.7	1.2	1.2
Novato SD	0.5	1.2	5.1	10.0
SVCSD	0.0	0.0	0.0	0.0
Napa SD	0.0	5.9	9.6	9.6
Total Tertiary Treatment Capacity Increase	**0.5**	**7.8**	**15.9**	**20.8**
Potable Offset (acre-feet per year)				
LGVSD	0	202	409	409
Novato SD	193	542	2,038	3,701
SVCSD	874	2,719	4,381	4,230
Napa SD	0	3,192	4,221	4,421
Total Potable Offset	**1,067**	**6,655**	**11,250**	**12,761**

1 This total only represents new storage. The Proposed Action will rely on existing storage and retrofit existing facilities to accommodate storage needs. Please refer to Chapter 2, Project Description for a break down of new versus existing storage by alternative.

NOTE: The No Project Alternative would be equivalent to existing conditions and no project elements would be implemented, therefore not included in the table.

SOURCE: CDM, 2009.

ES.4 Summary of Potential Environmental Impacts and Mitigation Measures

The impacts are analyzed for construction and operation of the NBRWP for the individual Member Agencies in compliance with both CEQA and NEPA. Phase 1 impacts are discussed at project level and impacts from the Action Alternatives are discussed at program level.

While the project alternatives are designed to provide recycled water to offset potable water supplies and achieve the project objectives discussed above, these alternatives also would result in some short-term and long-term impacts to the environment. **Table ES-6**, included at the end of this section, summarizes the environmental impacts associated with each of the project alternatives. For impacts determined to be significant, mitigation measures are presented and the impact significance after mitigation is shown. The environmental impacts associated with the project alternatives can be generally categorized as follows: project construction; project operation; climate change; and growth-inducement.

ES.4.1 Construction

Most environmental impacts identified for the project alternatives would be associated with project construction; these impacts would occur as individual projects are implemented by Member Agencies, and would cease once project construction is completed. Construction impacts include effects associated with transport of construction materials and equipment and carrying out construction activities such as excavation, grading, foundation development, paving, and building of structures. Construction activities generate impacts such as noise, dust, impacts to sensitive species or wetland habitats, temporary effects on agricultural activities, construction traffic and access disruption, increased erosion, or increased potential for spill of hazardous materials used in construction (such as fuel, or paint) and related water quality issues. In some cases, construction effects were found to be less than significant and in other cases they were determined to be significant. In all cases, feasible mitigation measures have been identified to reduce construction impacts to less than significant levels. There would be no significant and unavoidable construction impacts.

ES.4.2 Project Operations

Project operational effects relate primarily to the distribution and use of recycled water. These impacts are generally less than significant, or mitigable to a less than significant level, and include: exposure of facilities to geologic hazards; reduction of the amount of treated effluent discharged to tributaries of North San Pablo Bay; increased impervious surface areas; exposure of facilities to 100-year flood events; beneficial effects to groundwater, water supply, and habitat enhancement; conversion of farmland to non-agricultural uses; potential impacts to groundwater quality; increased use of electricity to pump recycled water to end users; increased greenhouse gas emissions; localized noise increases; localized use of treatment chemicals; beneficial potable water offset; alteration of designated scenic vistas or views; disproportionate effects to minority communities; and cumulative effects. All of these potential impacts were reduced to a less than significant level of incorporation of the mitigation measures identified in Table ES-6.

ES.4.3 Climate Change

This Draft EIR/EIS examines the potential for the project alternatives to increase greenhouse gas emissions, which in turn would contribute to global climate change effects. As a global concern, increases in greenhouse gases contribute to cumulative impacts, rather than constituting a direct impact associated with a single project. This Draft EIR/EIS also reviews sea level rise and the potential for increased flooding caused by climate change to assess how the project might affect or be affected by these environmental changes.

Project construction and operation would result in increased greenhouse gas emissions. Construction emissions would be short-term. Greenhouse gas emissions associated with project operation would result primarily from recycled water distribution. The project alternatives would not conflict with any measures adopted by the state or other agencies to implement the California Global Warming Solutions Act of 2006 (AB 32), the state law that requires the Air Resources Board to design and implement measures to reduce greenhouse gas emissions to 1990 levels by 2020.

With respect to the potential effects of climate change, the project increases the flexibility of local and regional water supply systems to adapt to changes in water supply availability. As described in Chapter 1, Introduction, the NBWRA Member Agencies have initiated programs to promote sustainability and implement energy efficiency and water conservation programs including local recycled water projects as means of adaptive strategies to the effects of climate change. As part of the proposed project, the NBWRA would expand the recycled water use in the North San Pablo Bay region. As discussed in Section 3.11, Public Services and Utilities, the proposed project would treat and reuse the wastewater that is otherwise discharged to the San Pablo Bay. The project would therefore offset the potable water supply, making an equivalent amount of potable water available for other uses. Given the increased variability in the precipitation and thus, the water supplies, the proposed project would have a beneficial effect on the water supplies in the region. The proposed project would provide several opportunities for management flexibility and implementation of adaptive management strategies to improve water supply reliability.

ES.4.4 Growth-Inducement

None of the project alternatives would be directly growth inducing. However, the provision of recycled water, like potable water supplies, would assist in meeting the water supply needs identified for buildout of approved General Plans within the region. As such, provision of recycled water supply would have the potential to contribute to secondary effects associated with development under the approved General Plans. The potential environmental effects of this future planned growth have been evaluated and fully disclosed previously in the CEQA environmental documents prepared the General Plans for Sonoma County, Marin County, and Napa County. Both the General Plans and the water supply planning documents for these areas include policies encouraging the use of recycled water.

ES.4.5 Significant and Unavoidable Impacts

There are no significant and unavoidable impacts identified for the NBWRP, with the exception o of the NBWRP's contribution to potential secondary effects of growth associated with development under the approved General Plans with the region.

ES.5 Issues of Known of Controversy and Issues to be Resolved

ES.5.1 Issues of Known Controversy

Based on public and agency comments received throughout the project planning process, Reclamation and NBWRA have identified the following areas of controversy related to the proposed NBWRP. **Appendix 1**, Scoping Report, summarizes all of the issues raised by agencies and the public during the public scoping process in July 2008 through August 2008. Areas of potential public controversy include: the proposed end uses of recycled water, beneficial offset; integration of conservation measures; regional distribution of recycled water; cost and benefit; water quality; effects on agricultural uses; and growth inducement.

ES.5.2 Issues to be Resolved

Reclamation and NBWRA will need to identify a preferred alternative. The decision will be based on project benefits, potential environmental effects, and numerous factors including the type of financing available, permitting requirements, and implementation schedule. Other issues to be resolved include:

- Project design and operations will also be refined by Member Agencies through the environmental permitting process, in particular compliance with the federal and state Endangered Species Acts, which will also affect the overall project benefits. The selection of an alternative also determines the level and type of environmental impacts, as described in this Draft EIR/EIS.

- Regardless of which alternative is selected for implementation, detailed design of project features and planning of construction will need to be coordinated with mitigation requirements so that sensitive resources in the project areas are avoided where practicable. The methods for achieving required mitigation would be determined during detailed project design through consultation and coordination with the permitting agencies.

- Completion and conclusions of the Federal Feasibility Report, described below in Section ES.7, including related engineering design, economic (costs and benefits), and financial analyses as a basis for determining the type and extent of federal interest in project implementation.

- Completion and conclusions of public review of this Draft EIR/EIS and the subsequent Final EIR/EIS as a basis for determining mitigation commitments, the Environmentally Superior Alternative per CEQA.

ES.6 Relationship to Environmental Protection Statutes, Plans, and Other Requirements

This Draft EIR/EIS has been prepared in consideration of NEPA, CEQA, and other pertinent federal, state, and local environmental regulations. NEPA requires that environmental consequences of a Proposed Action and project alternatives be considered before the decision making for implementation of a federal project. CEQA requires that environmental consequences of a Proposed Project and project alternatives be considered before approval, financing, or participation by the lead agency pursuant to CEQA. Chapter 7 of this Draft EIR/EIS presents the applicable environmental laws, regulations, and alternative plans being considered and the intended uses and users of the document. This Draft EIR/EIS is not a decision document and is not serving as public notice for any permit actions.

Table ES-5 summarizes the status of consultation for the requirements that must be met by Reclamation and NBWRA before the NBWRP can be implemented.

ES.7 Public Involvement and Next Steps

In accordance with 40 CFR 1508.22, a Notice of Intent (NOI) was published in the Federal Register by Reclamation on July 28, 2008. In accordance with Sections 15063 and 15082 of *CEQA Guidelines*, the NBWRA circulated a Notice of Preparation (NOP) to local, state, and federal agencies, and to other interested parties on July 25, 2008. During the 30-day public review period, NBWRA held three local public scoping meetings on August 4, 5, and 6 of 2008 at the locations identified below.

August 4, 2008	August 5, 2008	August 6, 2008
6:30 p.m. – 7:30 p.m.	6:30 p.m. – 7:30 p.m.	6:30 p.m. – 7:30 p.m.
Napa Elks Lodge	Margaret Todd Senior Center	Sonoma Community Center
2804 Soscol Avenue, Napa	1560 Hill Road, Novato	276 East Napa Street, Sonoma

Public notices were placed in local newspapers informing the general public of the availability of the NOP and NOI and the time and place of scheduled scoping meetings. The purpose of the scoping meetings were to present the Proposed Action to the public through use of display maps, route alignments and handouts describing project components and potential environmental impacts. Attendees were provided an opportunity to voice comments or concerns regarding potential effects of the Proposed Action.

Additional scoping meetings with individual stakeholders were held on August 6th, 2008 with the Russian River and Eel River Interest Groups, and on July 27th, 2008 with California Department of Parks and Recreation (staff meeting).

In accordance with CEQA and NEPA review requirements, this Draft EIR/EIS will be circulated for public and agency review and comment for a 45-day period following the date when the U.S. Environmental Protection Agency publishes the Notice of Availability of Weekly Receipt of Environmental Impact Statements in the Federal Register, and the filing of the Notice of

TABLE ES-5
SUMMARY OF ENVIRONMENTAL COMPLIANCE FOR THE PROPOSED PROJECT

Requirements	Status of Compliance/Expected Completion
National Environmental Policy Act	Ongoing until this EIR/EIS Record of Decision is published
California Environmental Quality Act	Ongoing until this EIR/EIS document is certified and mitigation met
Federal Endangered Species Act and California Endangered Species Act	Ongoing until project Biological Opinion issued (see Section 3.5, Biological Resources)
Magnuson-Stevens Fishery Conservation and Management Act	Ongoing until project Biological Opinion or ASIP issued (see Section, 3.5 Biological Resources)
Clean Water Act Section 401	Member Agencies will apply for Water Quality Certification after EIR/EIS is approved and project design underway (see Sections 3.5, Biological Resources, and Section 3.4, Water Quality)
Clean Water Act Section 404	Member Agencies will apply for Wetland Permit after the EIR/EIS is approved and project design underway (see Section 3.5, Biological Resources)
Clean Air Act	In compliance. Conformity analysis is not required. (see Section 3.8, Air Quality)
National Historic Preservation Act and Native American Consultation	Ongoing. Once Section 106 review process is completed, the project will proceed in accordance with conditions stipulated in the agreement with the State Historic Preservation Officer and appropriate agencies (see Section 3.12, Cultural Resources)
Executive Order 11988 - Floodplain Management	Ongoing. The project complies by using this EIR/EIS to identify and assess project effects (see Section 3.2, Surface Hydrology)
Executive Order 11990 - Protection of Wetlands	Member Agencies will apply for Wetland Permit after the EIR/EIS is approved and project design underway (see Section 3.5, Biological Resources)
Executive Order 12898 - Environmental Justice	In compliance based on EIR/EIS Section 3.16, Environmental Justice.
Migratory Bird Treaty Act	Member Agencies will comply with provisions of the Migratory Bird Treaty Act (see Section 3.5, Biological Resources)
California Fish and Game Code (Section 1600 Lake or Streambed Alteration Agreement Program)	Ongoing. The project complies with Section 1600 by using this EIR/EIS to identify and address expected project effects (Section 3.5, Biological Resources)
Caltrans Encroachment Permit	Member Agencies will apply for a Caltrans Encroachment Permit to construct within Caltrans right-of-way prior to construction (see Section 3.7, Transportation and Circulation)
Disabilities Regulations - Americans with Disabilities Act, Rehabilitation Act, and Architectural Barriers Act	Project adheres to the construction guidelines of the Uniform Federal Accessibility Standards and complies with regulations proposed for incorporation into the Americans With Disabilities Act Accessibility Guidelines as a part of design for individual facilities.
Farmland Protection Policy Act	Ongoing. (see Section 3.6, Land Use and Agricultural Resources)
Section 10 of the Rivers and Harbors Act of 1899	Ongoing. This regulation is addressed in coordination with other wetlands regulations (see Clean Water Act, Section 404, above)
NPDES Construction Stormwater Permit	Member Agencies will comply by preparing and using a Storm Water Pollution Prevention Plan at the time of construction (see Section 3.2, Surface Hydrology)
General Order for Dewatering and Other Low Threat Discharge to Surface Waters	Member Agencies will comply by preparing and using a permit at the time of construction (see Section 3.2, Surface Hydrology)

Completion with the California State Clearinghouse. Three public hearings have been scheduled in Novato, Sonoma, and Napa to receive public input on the Draft EIR/EIS. These hearings will be held during the public review and comment period so that any comments received at the hearings can be addressed in the Final EIR/EIS. In addition, written comments from the public, reviewing agencies, and stakeholders will be accepted during the public comment period.

A Final EIR/EIS that will include responses to all comments will be prepared and circulated in accordance with NEPA and CEQA requirements. The Final EIR/EIS will be circulated for 30 days prior to taking action on the project and issuance of a Record of Decision (ROD).

NBWRA Decision Making Process

The NBWRA Member Agencies and cooperating agencies may use this EIR/EIS to approve the NBWRP, or components of the NBWRP, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts. SCWA will act as CEQA Lead Agency. Individual NBWRA Member Agencies and cooperating agencies are Responsible Agencies as provided for under CEQA §15096 and may use this EIR/EIS for the approving the proposed components (i.e., Phase 1) in their respective service areas.

Federal Decision Making Process

Reclamation intends to use this EIR/EIS to consider provision of federal funding under Title XVI for implementation of NBWRP. As lead Federal agency, Reclamation would use this EIR/EIS to support a Record of Decision, which would document Reclamation's decision to choose one of the alternatives including the proposed action and no action.

Integral to the federal decision process are other legally required processes and information, such as biological opinions from the Federal Endangered Species Act consultation process and permits required by federal, state and local laws. The federal decision process also includes consideration of input from other federal, state, and local agencies, concerned stakeholders, tribes, and the general public.

The final federal decision is documented in a ROD. The ROD will address the decision and the alternatives considered; the alternative(s) considered to be environmentally preferable; the factors that were considered; whether or not all practicable means to avoid or minimize environmental harm for the alternative selected have been adopted, and if not, why; any monitoring and enforcement program established to ensure identified mitigation measures are accomplished; and any significant comments received on the Final EIR/EIS.

Reclamation. Reclamation is the lead Federal agency, as delegated by the Secretary of the Interior, and therefore is responsible for the preparation and processing of the Federal Feasibility Report and EIS. For efficiency, the EIS has been combined with an EIR, prepared by NBWRA for compliance with the CEQA.

While the NEPA compliance process is a subset of the federal feasibility study process, there are important distinctions to make. The purpose of the NEPA process is to analyze and disclose the impacts of a range of alternatives, and to provide an opportunity for public review and comment prior to the final federal decision. The purpose of a Federal Feasibility Report is to address engineering, economic, environmental and financial aspects of alternatives, determine the potential benefits and costs, and determine if there is a federal interest in the implementation of a project.

Upon completion of the Final Federal Feasibility Report and the Final EIR/EIS, Reclamation's Mid-Pacific Regional Director will make a recommendation that will be submitted to the Commissioner of Reclamation for consideration. Then, the Commissioner will concur or modify the recommendation and forward the Final Federal Feasibility Report, Final EIR/EIS, and Draft ROD to the Secretary of the Interior.

Secretary of the Interior. The Secretary will review the Federal Feasibility Report and sign the ROD if he concurs with the recommendation and then send the Final Federal Feasibility Report, Final EIR/EIS, and signed ROD to Office of Management and Budget (OMB) for review.

OMB. In accordance with Executive Order 12322, OMB will review the Federal Feasibility Report for consistency with the policy and programs of the President, the federal P&Gs, and other applicable laws, regulations and requirements relevant to the federal planning process.

Congress. Congress will review the information provided by the Secretary and OMB, and then decide whether to authorize the recommended project. Congress is responsible for authorizing projects for construction and providing appropriations to construct projects.

Other Uses and Users of the EIR/EIS

The NBWRA Member Agencies and cooperating agencies may use this EIR/EIS to approve the NBWRP, or components of the NBWRP, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts. As the CEQA Lead Agency, SCWA's Board of Directors will consider certification of the EIR/EIS as complete under CEQA (*CEQA* Guidelines §15090). Once the EIR/EIS has been certified as complete, the Board, or NBWRA Member Agencies, as Responsible Agencies, will consider the certified EIR/EIS (15096(a)). Any project approvals (see **Table 1-1**; also see Section 1.6.6 below) would require the Board or NBWRA Member Agencies to make written findings with respect to each significant environmental effect relevant to their aspect of the project identified in the EIR/EIS in accordance with Section 15091 of *CEQA Guidelines*.

The analyses contained within this EIR/EIS would be used to support the acquisition of the following regulatory permits or approvals if needed:

- Clean Water Act Section 404– Individual Permit (USACE);
- Endangered Species Act – Section 7 Consultation (USFWS);

- 1603 Streambed Alteration Agreement – (California Department of Fish and Game);
- Section 401 Water Quality Certification (San Francisco Bay Regional Water Quality Control Board);
- Roadway Encroachment Permit (California Department of Transportation);
- Roadway Encroachment Permits as applicable (Counties of Marin, Sonoma, and Napa, Cities of San Rafael, Novato, Sonoma, and Napa).

The majority of the proposed activities would lie within public rights-of-way. Acquisition of right-of-ways and temporary construction easements may be necessary for construction of some of the proposed facilities. Temporary construction easements would also be required for contractor staging areas and equipment and materials storage.

References – Executive Summary

Camp, Dresser & McKee, Inc. (CDM), Updated Data on Wastewater Discharge, Recycled Water Use, and Power Use, 2009.

TABLE ES-6
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.1: Geology and Soils							
3.1.1: Seismicity. In the event of a major earthquake in the Bay Area Region, the proposed facilities could be subject to fault rupture, severe ground shaking, liquefaction, or earthquake induced landslides capable of causing injury, structural damage, pipeline rupture and service interruption.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.1.1:** The Member Agencies will implement the following measures: • All proposed improvements will be designed and constructed in accordance with current geotechnical industry standard criteria, including the California Building Code (CBC) and American Waterworks Association (AWWA) criteria. • The project construction materials and backfill materials will be designed according to a geotechnical investigation by a California-licensed geotechnical engineer or engineering geologist to address landslide, subsidence, liquefaction, and expansive soils and seismic hazards such as ground shaking and liquefaction. • Implementation of industry standard geotechnical measures such as replacing excavated soils with engineered fill materials are effective means to overcome the potential for subsidence. If excavated soils are to be reused for backfill, they would still be appropriately compacted to mitigate the potential for subsidence or settlement and evaluated for expansion and amended, if necessary, to reduce the potential for expansion in accordance with accepted geotechnical practices. • Proposed facilities will be designed to include flexible connections, where deemed necessary, along with backfill requirements that minimize the potential for significant damage. All other associated improvements will employ standard design and construction using the most recent geotechnical practices and California Building Code (CBC) seismic criteria, which would provide conservative design criteria.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.1.2: Erosion. Project construction activities could result in short-term erosion and loss of topsoils.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.1.2:** The Member Agencies will implement the following measures: • Consistent with SWPPP requirements, the construction contractor shall be required to implement BMPs for erosion control onsite. The use of construction BMPs will minimize the potential for erosion and loss of topsoil, and shall include, without limitation, the following: - Avoid scheduling construction activities during a rain event, but be prepared for sudden changes in conditions;	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.1: Geology and Soils (cont.)							
3.1.2 (cont.)	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	- Construct berms, silt fences, straw bales, fiber rolls, and/or sand bags around stockpiled soils; - Cover stockpiled soils during a rain event and monitor perimeter barriers, repair as necessary; - Stabilize entrances to work area to prevent tracking of dirt or mud onto roadways; and - Implement dust control practices as appropriate on all stockpiled material.	
	Fully Connected	LSM	LSM	LSM	LSM		
3.1.3: Unstable Soils. Project improvements could be located on a geologic unit or soil that is unstable that could potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse causing damage to structures and service disruptions.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.1.1**	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.1.4: Expansive Soils. Project improvements could be located on expansive soils that over time could cause damage to foundations and pipelines resulting in service disruptions.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.1.1**	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.2: Surface Hydrology							
3.2.1: Changes in drainage patterns. Project construction could modify existing drainage patterns.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.2.1:** The Member Agencies would implement the following measure during pipeline installation at stream crossings: • Schedule construction so as to avoid storm events to the extent feasible; • Use trenchless techniques such as jack and bore tunneling to avoid direct impacts to the streams; • Employ short-term drainage diversion and control measures such as sandbags, dikes, pumps, or other means; and • Following construction, restore the construction area to pre-existing conditions • Implement **Mitigation Measure 3.5.1** (see Section 3.5).	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.2.2: Flooding and Effects to Surface Waters. The proposed action could expose public or structures to the risk of flooding due to placement of facilities within the 100-year flood plain. The proposed action would also change the amount of discharge to local surface waters.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LSM	NI		
	Phase 1	LTS	LTS	LTS	NI		
	Basic	LTS	LTS	LTS	NI		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.2.3: Increased storm runoff. New impervious surfaces for NBWRP would result in an increase in storm runoff.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.2.3:** The Member Agencies will implement the following measures: • Comply with the local storm drainage requirements; • Incorporate site design features to control any site runoff onsite; and • Install storm runoff, collection, and treatment system, as applicable, to control the runoff flow offsite.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.2: Surface Hydrology (cont.)							
3.2.4: Flooding - Sea level rise. Sea-level rise could affect operation of project facilities.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.2.4:** Design of proposed facilities shall consider sea level rise potential, and shall include appropriate measures in facility siting and design to address potential impacts related to sea level rise, similar to those applied to facility installation within 100-year flood plains. Design measures may include, but are not limited to: facility siting, access placement, access vault extension above projected water elevation, water tight vaults, and site protection.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	NI		
	Phase 1	LSM	LSM	LSM	LTS		
	Basic	LSM	LSM	LSM	LTS		
	Partially Connected	LSM	LSM	LSM	LTS		
	Fully Connected	LSM	LSM	LSM	LTS		
Section 3.3: Groundwater Resources							
3.3.1: Long-term groundwater levels. NBWRP would provide an alternative irrigation supply to existing groundwater pumping; offset of groundwater pumping could maintain or raise groundwater levels in portions of the project area.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Beneficial
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	B	NI		
	Phase 1	B	NI	B	B		
	Basic	NI	NI	B	B		
	Partially Connected	NI	B	B	B		
	Fully Connected	NI	B	B	B		
3.3.2: Hydrostatic Pressure. Proposed facilities may be affected by shallow groundwater levels and natural groundwater fluctuations.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.3.1:** The Member Agencies will implement the following measures: • All proposed improvements will be designed and constructed in accordance with current geotechnical industry standard criteria. • Implement industry standard geotechnical measures to address high groundwater conditions as appropriate to reduce the potential for impacts related to groundwater fluctuation, in accordance with accepted geotechnical practices. Possible design features include drainage blankets, perimeter pumps to temporarily decrease hydrostatic pressure, perimeter drainage trenches, and specific groundwater monitoring scenarios.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		

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[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.3: Groundwater Resources							
3.3.3: High Groundwater Conditions. NBWRP could result in localized increases in groundwater levels over the long term that could effect structures or contribute to flooding.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	LTS	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.3.4: Groundwater Quality. The use and storage of recycled water could affect groundwater quality for potable and agricultural uses.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.3.5: Groundwater recharge. Impervious surfaces constructed under NBWRP could affect groundwater recharge in the project area.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	NI	NI		
	Phase 1	NI	LTS	NI	LTS		
	Basic	NI	LTS	NI	LTS		
	Partially Connected	NI	LTS	LTS	LTS		
	Fully Connected	NI	LTS	LTS	LTS		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

<table>
<tr><th>Environmental Impact</th><th>Impacts by Alternative and Member Agency[a]</th><th>Mitigation Measure[b]</th><th>Significance After Mitigation</th></tr>
<tr><td colspan="4">Section 3.4: Water Quality</td></tr>
<tr><td>3.4.1: Short Term Construction-Related Effects. Disturbance of soils during construction of new project-related infrastructure could generate short term erosion-related water quality impacts. Construction activities could result in the accidental release of fuels or hazardous materials. Project construction activities could require dewatering that could result in the discharge of turbid waters into the local storm drain systems or nearby creeks.</td><td>
<table>
<tr><th>Alternative</th><th>LGVSD/ NMWD</th><th>Novato SD/NMWD</th><th>SVCSD</th><th>Napa SD/ Napa County</th></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Basic</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Partially Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Fully Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
</table>
</td><td>Mitigation Measure 3.4.1a: NPDES Construction Activity Stormwater Permit. Member Agencies or their contractor shall comply with the provisions of the NPDES Construction Activity Stormwater permit, including preparation of Notice of Intent to comply with the provisions of this General Permit and preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will identify implementation measures necessary to mitigate potential water quality degradation as a result of construction-related runoff. These measures will include BMPs and other standard pollution prevention actions, such as erosion and sediment control measures, proper control of non-stormwater discharges, and hazardous spill prevention and response. The SWPPP will also include requirements for BMP inspections, monitoring, and maintenance.

The following items are examples of BMPs that would be implemented during construction to avoid causing water quality degradation:

• Erosion control BMPs, such as use of mulches or hydroseeding to prevent detachment of soil, following guidance presented in the California BMP Handbooks – Construction (CASQA 2003). A detailed site map will be included in the SWPPP outlining specific areas where soil disturbance may occur, and drainage patterns associated with excavation and grading activities. In addition, the SWPPP will provide plans and details for the BMPs to be implemented prior, during, and after construction to prevent erosion of exposed soils and to treat sediments before they are transported offsite.
• Sediment control BMPs such as silt fencing or detention basins that trap soil particles.
• Construction staging areas designed so that stormwater runoff during construction will be collected and treated in a detention basin or other appropriate structure.
• Management of hazardous materials and wastes to prevent spills.
• Groundwater treatment BMPs such that localized trench dewatering does not impact surface water quality.
• Vehicle and equipment fueling BMPs such that these activities occur only in designated staging areas with appropriate spill controls.
• Maintenance checks of equipment and vehicles to prevent spills or leaks of liquids of any kind.</td><td>Less than Significant</td></tr>
</table>

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.4: Water Quality (cont.)							
3.4.2: Incidental Runoff. Project operation would increase the use of recycled water for irrigation within the action area, with the potential to impact surface water quality.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No additional mitigation measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.4.3: Public Health. The proposed project would increase the use of recycled water on lands within the action area, with the potential to affect public health.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.4.4: Agricultural Uses. The proposed action would offset the use of potable water supplies for agricultural irrigation. Recycled water quality could have the potential to affect crop production.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.4: Water Quality (cont.)							
3.4.5: Secondary Effects to Groundwater Quality. Irrigation with recycled water could contribute to loading of specific constituents to groundwater.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.4.6: Surface Water Storage. The proposed project would include storage of recycled water at existing WWTP facilities, as well as at individual user properties. Storage of recycled water quality would have the potential to affect localized surface water quality or groundwater quality.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.4.6a:** Under the Master Recycling Permit for each Member Agency and Cooperating Agency, user agreements shall include provisions for compliance with Title 22 and the State Draft Recycled Water Policy regarding storage and use of recycled water onsite at individual properties. **Mitigation Measure 3.4.6b:** Prior to storage of recycled water in any "on-stream" storage facility that directly receives and releases stream flow, each Member Agency or Cooperating Agency shall enter into discussions with RWQCB regarding operational requirements to ensure operation of proposed facilities in compliance with Title 22 and the State Recycled Water Policy. It is anticipated that specific operational standards, such as pumping on-stream ponds dry prior to the onset of winter rains or other measures, would be required in order to ensure storage in compliance with Title 22.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LSM		
	Basic	LTS	LTS	LTS	LSM		
	Partially Connected	LTS	LTS	LTS	LSM		
	Fully Connected	LTS	LTS	LTS	LSM		
3.4.7: Pipeline Rupture. Pipeline ruptures could generate accidental releases of recycled water.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.4: Water Quality (cont.)							
3.4.8: Reduced Discharge to Surface Water. The proposed project would result in reduced discharge from the WWTPs.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Beneficial Impact
	No Project	NI	NI	NI	NI		
	No Action	NI	BI	BI	NI		
	Phase 1	BI	BI	BI	BI		
	Basic	BI	BI	BI	BI		
	Partially Connected	BI	BI	BI	BI		
	Fully Connected	BI	BI	BI	BI		
3.4.9: Reuse for Habitat Restoration. Disinfected tertiary-treated wastewater from the SVCSD WWTP would be delivered to the Napa Salt Marsh ponds as a dilution source for bittern ponds, thereby improving water quality.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.4. 9a:** SVCSD and Napa SD (as appropriate) shall implement the following measures: • Prepare a Management Plan required by the San Francisco Bay RWQCB to obtain a discharge prohibition. The management plan will comply with the RWQCB Resolution 94-086. The management plan will include the following features for Ponds 7 and 7A: a) Facility Plan, includes project purpose and objectives, site selection factors, site sampling and analyses, planning and design elements. b) Operations and Maintenance plan, includes vegetation planning and harvesting, channel and bank maintenance, pump and gate maintenance, vector controls, and contingency/emergency plans. c) Monitoring Program, includes monitoring of pollutants, habitat diversity, wildlife use, and vector populations.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	Ni	LSM	NI		
	Phase 1	NI	NI	LSM	NI		
	Basic	NI	NI	LSM	LSM		
	Partially Connected	NI	NI	LSM	LSM		
	Fully Connected	NI	NI	LSM	LSM		
Section 3.5: Biological Resources							
3.5.1: Impacts on Wetlands, Streams and Riparian Habitats. Construction of the Proposed Project could result in impacts to jurisdictional wetlands and other waters of the United States, as well as impacts to riparian habitat.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.5.1:** Implement the following measures to avoid, minimize and compensate for impacts to jurisdictional wetlands and other waters of the U.S. and impacts to riparian habitat. Construction activities resulting in the introduction of fill or other disturbance to jurisdictional wetlands and other waters of the U.S. will require permit approval from the U.S. Army Corps of Engineers and water quality certification from the Regional Water Quality Control Board, pursuant to	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	LSM		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]	Mitigation Measure[b]	Significance After Mitigation
Section 3.5: Biological Resources (cont.)			
3.5.1 (cont.)	See table below	Section 401 of the Clean Water Act. The Proposed Project will most likely be authorized under Nationwide Permit #12 (Utility Lines) pursuant to Section 404 of the Clean Water Act. The CDFG has jurisdiction in the project area over riparian habitat, including stream bed and banks, pursuant to Sections 1600-1616 of the Fish and Game Code. Pipeline construction resulting in alteration to channel bed or banks, extending to the outer dripline of trees forming the riparian corridor, is subject to CDFG jurisdiction. The project proponent will be required to obtain a Streambed Alteration Agreement (SAA) from the CDFG. Terms of these permits and SAA will likely include, but will not necessarily be limited to, the mitigation measures listed below. 1) Specific locations of pipeline segments, storage reservoirs, and pump stations shall be configured, wherever feasible, to avoid and minimize direct and indirect impacts to wetlands and stream drainage channels. Consideration taken in finalizing configuration placement shall include: • Reducing number and area of stream channel and wetland crossings where feasible. Crossings shall be oriented as close to perpendicular (90 degree angle) to the drainage or wetland as feasible. • Placement of project components as distant as feasible from channels and wetlands. • For pipeline construction activities in the vicinity of wetland and stream drainage areas, the construction work area boundaries shall have a minimum 20-foot setback from jurisdictional features[1]. Pipeline construction activities in proximity to jurisdictional features include: 1) entrance and exit pits for directional drilling and bore and jack operations; and 2) portions of pipeline segments listed as "parallel" to wetland/water features. 2) Sites identified as potential staging areas will be examined by a qualified biologist prior to construction. If potentially jurisdictional features are found that could be impacted by staging activities, the site will not be used.	

Alternative	LGVSD/ NMWD	Novato SD/NMWD	SVCSD	Napa SD/ Napa County
Partially Connected	LSM	LSM	LSM	LSM
Fully Connected	LSM	LSM	LSM	LSM

[1] Setbacks of channels with associated riparian vegetation will be from the outer dripline edge of the riparian corridor canopies and/or the upper bank edge, or per City or County code, whichever is greater.

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]	Mitigation Measure[b]	Significance After Mitigation
Section 3.5: Biological Resources (cont.)			
3.5.1 (cont.)		3) Construction methods for channel crossing shall be designed to avoid and minimize direct and indirect impacts to channels to the greatest extent feasible. Use of trenchless methods including suspension of pipeline from existing bridges, directional drilling, and bore and jack tunneling will be used when feasible. Trenchless methods are required for all perennial drainage crossings (i.e., Sonoma Creek). Construction occurring in the vicinity of riparian areas shall be delimited with a minimum 20-foot setback to avoid intrusion of construction activities into sensitive habitat. The following additional measures shall apply to channel crossings in which the trenching construction method is used: • Limiting of construction activities in drainage channel crossings to low-flow periods: approximately April 15 to October 15. • At in-road drainage crossings where drainages pass beneath the road in existing culverts, and where there is sufficient cover between the culvert and road surface, the new pipeline will be installed above the existing culvert without removing or disturbing it. If the pipeline must be installed below the existing culvert, then the culvert will be cut and temporarily removed to allow pipeline installation. • At off-road drainage crossings, the construction corridor width will be minimized to the greatest extent feasible at the crossing and at least 20 additional feet to either side of the drainage at the crossing. • If disturbance of the existing culvert is required, sediment curtains upstream and downstream of the construction zone shall be placed to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone. 4) Implement BMPs required in **Mitigation Measure 3.4.1** to reduce risk of sediment transport into all construction areas in proximity of drainages. 5) For channels or wetlands for which soil removal is necessary (off-road crossings or wetlands to be trenched or otherwise directly disturbed), the top layer of the drainage or wetland bottom shall be stockpiled and preserved during construction. After the pipeline has been installed, the stockpiled material shall be placed back into the drainage or wetland feature to return the beds to approximately their original composition.	

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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<tr><td colspan="4">Section 3.5: Biological Resources (cont.)</td></tr>
<tr><td>3.5.1 (cont.)</td><td></td><td>6) To offset temporary and permanent impacts to wetlands and other waters of the U.S., and impacts to riparian habitat, compensatory mitigation will be provided as required by regulatory permits and SAAs.</td><td></td></tr>
<tr><td>3.5.2: Construction Impacts on Special-status Fish and California Freshwater Shrimp. Construction of Proposed Project facilities could affect special-status invertebrate or fish species including central California coast steelhead, Chinook salmon, California freshwater shrimp, Pacific lamprey, and Sacramento splittail, or designated critical habitat for steelhead.</td><td>
<table>
<tr><th>Alternative</th><th>LGVSD/ NMWD</th><th>Novato SD/NMWD</th><th>SVCSD</th><th>Napa SD/ Napa County</th></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Basic</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Partially Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Fully Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
</table>
</td><td>Mitigation Measure 3.5.2: Specific measures shall be implemented to protect aquatic habitats potentially inhabited by special-status fish and California freshwater shrimp.

Sensitive fisheries and other aquatic resources shall be protected by minimizing in-stream and near-stream habitat impacts during project design, informally consulting with resource agencies (NMFS, USFWS, CDFG, and USACOE), and implementing protective measures. For Sonoma Creek, Petaluma River, Napa River, and other perennial drainages, special-status fish are presumed present. California freshwater shrimp are presumed present in Sonoma Creek. Because of the sensitivity of seasonal and ephemeral drainages, the following measures will be required to avoid and minimize impacts to aquatic habitat:

• Project designs shall be reconfigured, whenever feasible, to avoid direct impacts to sensitive wetland areas and minimize disturbances to wetland and riparian corridors. Ground disturbance and construction footprints in these areas shall be minimized to the greatest degree feasible.

• If trenching or directional boring stream crossing methods are used, the construction schedule of such activities shall be implemented according to conditions of the SAAs.

• In-stream construction shall be avoided at all locations that are known, or presumed, to support threatened or endangered species, if at the time of construction such locations contain flowing or standing water.

• In the event that equipment shall operate in any watercourse with flowing or standing water, the project proponent will ensure that they have the appropriate permit authorizations.

• Prior to construction, a qualified biologist shall install fencing to establish a minimum 20-foot setback from sensitive habitat.

• For work sites located adjacent to sensitive aquatic sites, a biological resource education program shall be provided by a qualified biologist, as per conditions of the SAAs.</td><td>Less than Significant</td></tr>
</table>

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.5: Biological Resources (cont.)							
3.5.3: Long term impacts on Special-status Fish. Operation of the proposed project has the potential to affect special-status fish species due to reduced discharges from the WWTPs.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.5.4: Impacts on Special-status Invertebrates. Construction of Proposed Project facilities could impact special-status invertebrates including Myrtle's silverspot butterfly, Opler's longhorn moth, Monarch butterfly wintering sites, Ricksecker's water scavenger beetle and California brackishwater snail.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.5.3** would reduce potential impacts on special-status invertebrates to a less-than-significant level. Implementation of **Mitigation Measure 3.5.5** for the protection of California red-legged frogs and **Mitigation 3.5.1** for protection and restoration of wetlands would protect special-status invertebrates that could potentially be impacted by the project. No specific mitigation is required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	NI	LSM	LSM	LSM		
	Basic	NI	LSM	LSM	LSM		
	Partially Connected	NI	LSM	LSM	LSM		
	Fully Connected	NI	LSM	LSM	LSM		
3.5.5: Impacts on Western Pond Turtle. Construction of the proposed project has the potential to impact western pond turtles in upland and aquatic habitat.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.5.5:** Implement protection measures to avoid and minimize impacts to western pond turtles. • When working within 200 feet of stream crossings, all construction personnel shall receive awareness training relating to the protection of western pond turtles, in accordance with the SAAs. Also, to minimize the likelihood of encountering turtles in upland areas near stream crossings, construction footprints shall be minimized to the greatest extent feasible. Based on reconnaissance-level surveys, if staging and construction activities occur principally within or immediately adjacent to project alignment roads the project will be outside of principal pond turtle habitat.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

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ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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<tr><td colspan="4">Section 3.5: Biological Resources (cont.)</td></tr>
<tr><td>3.5.5 (cont.)</td><td></td><td>• Within 48 hours prior to the start of construction activities, a qualified biologist shall perform pond turtle surveys within suitable habitat within projected work areas. If a pond turtle nest is located within a work area, a biologist with the appropriate permits may move the eggs to a suitable facility for incubation, and release hatchlings into the creek system in late fall.

The measures proposed for protection of aquatic species and red-legged frogs (Mitigation Measure 3.5.2 and Mitigation Measure 3.5.6) will additionally protect western pond turtles during construction.</td><td></td></tr>
<tr><td>3.5.6: Impacts on California Red-legged Frog. Construction of the Proposed Project has the potential to affect California red-legged frogs, if present.</td><td>
<table>
<tr><th>Alternative</th><th>LGVSD/ NMWD</th><th>Novato SD/NMWD</th><th>SVCSD</th><th>Napa SD/ Napa County</th></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>NI</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>NI</td><td>NI</td><td>LSM</td><td>NI</td></tr>
<tr><td>Basic</td><td>NI</td><td>NI</td><td>LSM</td><td>NI</td></tr>
<tr><td>Partially Connected</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
<tr><td>Fully Connected</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
</table>
</td><td>Mitigation Measure 3.5.6: Protection measures to avoid and minimize impacts on California red-legged frogs.

1) The implementation of measures identified for the protection of special-status fish and California freshwater shrimp would also protect California red-legged frogs within aquatic habitat. All protection measures identified in Mitigation Measure 3.5.2 shall be applied to the protection of red-legged frogs at sites that provide potential aquatic habitat for this species. These include informal USFWS consultation, avoiding aquatic habitat, establishing a suitable buffer from the aquatic habitat (e.g., 50 feet), and implementing a worker education program.

2) All work activities within or adjacent to aquatic habitat that is potentially occupied by red-legged frogs will be completed between May 1 and November 1.

3) A qualified biological resource monitor will conduct a training session for construction personnel working in upland habitat near potentially occupied drainages, as per conditions of the SAAs.

4) All trash that could attract predators will be regularly contained and removed from the work site.

In the event trenchless methods cannot be employed, the project proponent would obtain appropriate permit authorizations and implement construction methods per applicable Streambed Alteration Agreements.</td><td>Less than Significant</td></tr>
</table>

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.5: Biological Resources (cont.)							
3.5.7: Impacts on Threatened and Endangered Marsh Birds. Construction of the proposed project has the potential to affect western snowy plover, California black rail and California clapper rail and their habitat in and near the project alignments.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.5.7:** Impacts to Threatened and Endangered Marsh Birds. To minimize the likelihood of project effects on threatened and endangered marsh birds, the following mitigation measures will be implemented: • Protocol-level surveys will be conducted in locations with suitable habitat to determine species presence or absence. • Agency consultation will be initiated. • Construction activities will occur during the non-breeding season, September 15 through January 31. The combined breeding season for all three species extends from February 1 through September 14. • Construction personnel will receive environmental awareness training specific to the identification of clapper rails, black rails, western snowy plover and their habitat. • Any clapper rail and western snowy plover activity will be immediately reported to the USFWS; black rail activity will be reported to the CDFG. • Construction activities will be constrained to the smallest area possible to minimize marsh disturbance.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	LSM	NI		
	Phase 1	NI	LSM	LSM	NI		
	Basic	NI	LSM	LSM	NI		
	Partially Connected	LSM	LSM	LSM	NI		
	Fully Connected	LSM	LSM	LSM	NI		
3.5.8: Impacts on Burrowing Owl. Construction of the proposed project could result in direct and indirect impacts to burrowing owls, if present in portions of the project alignment.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.5.8:** The following measures to avoid, minimize, or mitigate impacts on burrowing owls would be incorporated into the project. • In areas identified to provide potential burrowing owl habitat, preconstruction surveys for burrowing owls would be conducted by a qualified biologist 14-30 days prior to the start of construction. Surveys would cover grassland areas within 500-foot buffer and check for adult and juvenile burrowing owls and their habitat. • Construction exclusion areas would be established around the occupied burrows in which no disturbance would be allowed to occur. During the non-breeding season (September 1 through January 31), the exclusion zone would extend 160 feet around occupied burrows. During the breeding season (February 1 through August 31), exclusion areas would extend 250 feet around occupied burrows. Passive relocation of owls is not proposed. • A qualified biologist (the on-site monitor or otherwise) will monitor owl activity on the site to ensure the species is not adversely affected by the project.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	LTS	NI		
	Phase 1	LTS	NI	LTS	NI		
	Basic	LTS	LSM	LTS	LTS		
	Partially Connected	LTS	LSM	LSM	LTS		
	Fully Connected	LTS	LSM	LSM	LTS		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

<table>
<tr><th>Environmental Impact</th><th>Impacts by Alternative and Member Agency[a]</th><th>Mitigation Measure[b]</th><th>Significance After Mitigation</th></tr>
<tr><td colspan="4">Section 3.5: Biological Resources (cont.)</td></tr>
<tr><td>3.5.9: Impacts on Nesting Birds. Construction of the proposed project has the potential to affect nesting birds including Swainson's hawk, willow flycatcher, sharp-shinned hawk, Cooper's hawk, tri-colored blackbird, Bell's sage sparrow, golden eagle, northern harrier, California yellow-warbler, white-tailed kite, California horned lark, salt marsh common yellowthroat, loggerhead shrike, San Pablo song sparrow, California thrasher, rookeries, and additional bird species protected by California Fish and Game Code Section 3503 and the federal Migratory Bird Treaty Act (16 USC, Sec. 703, Supp. I, 1989).</td><td>
<table>
<tr><th>Alternative</th><th>LGVSD/ NMWD</th><th>Novato SD/NMWD</th><th>SVCSD</th><th>Napa SD/ Napa County</th></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Basic</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Partially Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Fully Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
</table>
</td><td>Mitigation Measure 3.5.9: The appropriate Member Agency shall implement the following protection elements to avoid disturbing common and special-status nesting birds:
• Whenever feasible, vegetation shall be removed during the non-breeding season (generally defined as September 1 to January 31).
• For ground disturbing activities occurring during the breeding season (generally defined as February 1 to August 31), a qualified wildlife biologist will conduct preconstruction surveys of all potential nesting habitat for birds within 500 feet of earthmoving activities.
• If active bird nests are found during preconstruction surveys, a 500-foot no-disturbance buffer will be created around active raptor nests during the breeding season or until it is determined that all young have fledged. A 250-foot buffer zone will be created around the nests of other special-status birds. These buffer zones are consistent with CDFG avoidance guidelines; however, they may be modified in coordination with CDFG based on existing conditions at work locations.
• If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees and shrubs that have been determined to be unoccupied by special-status birds or that are located at least 500 feet from active nests may be removed.</td><td>Less than Significant</td></tr>
<tr><td>3.5.10: Impacts on Salt Marsh Harvest Mouse and Suisun Ornate Shrew. Construction of the proposed project has the potential to affect salt marsh harvest mouse and suisun ornate shrew and their habitat in and near the project alignments.</td><td>
<table>
<tr><th>Alternative</th><th>LGVSD/ NMWD</th><th>Novato SD/NMWD</th><th>SVCSD</th><th>Napa SD/ Napa County</th></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>NI</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>NI</td><td>NI</td><td>LSM</td><td>NI</td></tr>
<tr><td>Basic</td><td>NI</td><td>NI</td><td>LSM</td><td>NI</td></tr>
<tr><td>Partially Connected</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
<tr><td>Fully Connected</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
</table>
</td><td>Mitigation Measure 3.5.10: The appropriate Member Agency shall implement protection measures to avoid and minimize impacts on salt marsh mammals during construction.
Where avoidance of sensitive habitat is not feasible (e.g., by bridging or bore and jack), consultation with CDFG and/or USFWS would be initiated. If species are present or presumed to be present after informal consultation with USFWS and/or CDFG, then a formal consultation and Biological Assessment in support of a Biological Opinion would be required. Such a consultation would proceed as part of the Corps 404 permitting program.
To avoid potential impacts on salt marsh harvest mouse and Suisun ornate shrew, a qualified biologist shall conduct specific preconstruction surveys prior to project initiation, following USFWS survey guidelines. The project proponent shall install exclusionary fences to prevent species movement</td><td>Less than Significant</td></tr>
</table>

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.5: Biological Resources (cont.)							
3.5.10 (cont.)						into the project area, and a biologist with the appropriate permits to relocate these species shall live-trap mice and shrews within the enclosure and move these animals outside the fence. The biological monitor shall inspect these fences to ensure their integrity, and shall conduct an education workshop for contractors employees outlining species' biology, legislative protection, and construction restrictions to reduce potential impacts.	
3.5.11: Impacts on Special-Status Bats. Construction of the proposed project has the potential to affect roosting or breeding special-status bats in and near the project alignments.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.5.11:** The appropriate Member Agency shall implement protection measures to avoid and minimize impacts on special-status bats in and near project facilities during construction. Concurrent with breeding bird surveys (**Mitigation Measure 3.5.8**), a qualified biologist will conduct preconstruction surveys for special-status bats at each bridge crossing location and in rural (i.e., non-road) areas where any large trees (e.g., > 24 inch diameter at breast height) will be removed. If an active roost is observed, a suitably-sized buffer (e.g., 100 to 150 feet) will be placed around the roost if it appears that trenching or other project activities may cause abandonment. Demolition activities must cease until juvenile bats are self-sufficient and will not be directly or indirectly impacted by activities.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	LSM	NI		
	Phase 1	LTS	NI	LSM	NI		
	Basic	LTS	NI	LSM	NI		
	Partially Connected	LTS	NI	LSM	NI		
	Fully Connected	LTS	NI	LSM	NI		
3.5.12: Impacts on American Badger. Construction of the proposed project has the potential to affect American badger and its habitat in and near the project alignments.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.5.12:** would be implemented prior to ground-clearing activities to reduce potential impacts on badgers to a less-than-significant level. **Mitigation Measure 3.5.12:** Avoid and minimize impacts on badgers through preconstruction surveys prior to ground clearing and grading in annual grasslands habitat or areas that are known or suspected to support badger. • Within 30-days prior to ground-clearing, a qualified biologist shall survey areas that provide potential badger habitat that occur within 100-feet of project activities. If no evidence of badgers presence is detected, no further mitigation is required. If active badger dens are identified within the project area, badgers will be passively relocated. If identified, vacated dens shall be temporarily covered using plywood sheets or similar materials to prevent badgers from returning to the project area during construction.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	LSM	NI		
	Phase 1	NI	NI	LSM	NI		
	Basic	NI	LTS	LSM	LTS		
	Partially Connected	NI	LTS	LSM	LSM		
	Fully Connected	NI	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

<table>
<tr><th>Environmental Impact</th><th>Impacts by Alternative and Member Agency[a]</th><th>Mitigation Measure[b]</th><th>Significance After Mitigation</th></tr>
<tr><td colspan="4">Section 3.5: Biological Resources (cont.)</td></tr>
<tr><td>3.5.13: Impacts on Rare Plants. Project construction could result in impacts to listed and other special-status plants.</td><td>
<table>
<tr><th>Alternative</th><th>LGVSD/ NMWD</th><th>Novato SD/NMWD</th><th>SVCSD</th><th>Napa SD/ Napa County</th></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>NI</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LTS</td><td>LSM</td><td>LSM</td><td>LTS</td></tr>
<tr><td>Basic</td><td>LTS</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Partially Connected</td><td>LTS</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Fully Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
</table>
</td><td>Mitigation Measure for Impact 3.5.13. Impacts on Rare Plants. Before the initiation of any vegetation removal or ground-disturbing activities in areas that provide suitable habitat for special-status plants, the following measures shall be implemented:
• A qualified botanist will conduct appropriately-timed surveys for special-status plant species, including those identified in Table 3.5.1, in all suitable habitat that would be potentially disturbed by the project.
• Surveys shall be conducted following CDFG- or other approved protocol.
• If no special-status plants are found during focused surveys, the botanist shall document the findings in a letter to the appropriate agencies and no further mitigation will be required.
If special-status plants are found during focused surveys, the following measures shall be implemented:
• Information regarding the special-status plant population shall be reported to the CNDDB.
• If the populations can be avoided during project implementation, they shall be clearly marked in the field by a qualified botanist and avoided during construction activities. Before ground clearing or ground disturbance, all on-site construction personnel shall be instructed as to the species' presence and the importance of avoiding impacts to this species and its habitat.
• If special-status plant populations cannot be avoided, consultations with CDFG and/or USFWS would be required. A plan to compensate for the loss of special-status plant species could be required, detailing appropriate replacement ratios, methods for implementation, success criteria, monitoring and reporting protocols, and contingency measures that would be implemented if the initial mitigation fails; the plan would be developed in consultation with the appropriate agencies prior to the start of local construction activities.
• If mitigation is required, the project proponent shall maintain and monitor the mitigation area for 5 years following the completion of construction and restoration activities. Monitoring reports shall be submitted to the resource agencies at the completion of restoration and for 5 years following restoration implementation. Monitoring reports shall include photo-documentation, planting specifications, a site layout map, descriptions of materials used, and justification for any deviations from the mitigation plan.</td><td>Less than Significant</td></tr>
</table>

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[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.5: Biological Resources (cont.)							
3.5.14: Impacts on Heritage and Other Significant Trees. The proposed project could affect heritage and other significant tress.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.5.14:** The following measures will be implemented to avoid or reduce impacts to heritage or other significant trees: • Prior to the commencement of construction activities, trees necessary to remove or at risk of being damaged will be identified. • A certified arborist will inventory these trees, with the results of the inventory providing species, size (diameter at breast height, or *dbh*), and number of protected trees. Also, in consultation with the appropriate County, the arborist will determine if any are heritage or landmark trees. • If any protected trees are identified that will be potentially removed or damaged by construction of the proposed project, design changes will be implemented where feasible to avoid the impact. • Any protected trees that are removed will be replaced per applicable City and County tree protection ordinances. Foliage protectors (cages and tree shelters) will be installed to protect the planted trees from wildlife browse. The planted trees will be monitored as required by the ordinance, or regularly during a minimum two-year establishment period and maintenance during the plant establishment period will include irrigation. After the establishment period, the native tree plantings are typically capable of survival and growth without supplemental irrigation.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
Section 3.6 Land Use and Agricultural Resources							
3.6.1: Physically Divide a Community. NBWRP would not physically divide an existing community.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	No Impact
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	NI	NI	NI	NI		
	Basic	NI	NI	NI	NI		
	Partially Connected	NI	NI	NI	NI		
	Fully Connected	NI	NI	NI	NI		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.6 Land Use and Agricultural Resources (cont.)							
3.6.2: Conflict with Existing Plans. NBWRP would not conflict with applicable land use plans adopted for the purpose of avoiding or mitigating a significant environmental effect.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.6.3: Impact to Farmland. Construction activities associated with the project could temporarily affect the agricultural use of important farmland.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Measure 3.6.1:** To support the continued productive use of Important Farmlands in the project area, the NBWRA shall ensure that the following measures are taken, during construction of the project: • Replace soils over pipelines in a manner that will minimize any negative impacts on crop productivity. The surface and subsurface soil layers will be stockpiled separately and returned to their appropriate locations in the soil profile. • To avoid over-compaction of the top layers of soil, monitor pre-construction soil densities and return the surface soil (approximately the top 3 feet) to within 5 percent of original density. • Where necessary, the top soil layers will be ripped to achieve the appropriate soil density. Ripping may also be used in areas where vehicle and equipment traffic have compacted the top soil layers, such as the construction staging areas. • The NBWRA will avoid working or traveling on wet soil to minimize compaction and loss of soil structure. Before construction begins, geotechnical testing will be done to determine the moisture content limit above which work should not occur. Where working or driving on wet soil cannot be avoided, roadways will be capped with spoils that will be removed at the end of construction and/or ripped and amended with organic material as needed.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.6 Land Use and Agricultural Resources (cont.)							
3.6.3 (cont.)						• The NBWRA will remove all construction-related debris from the soil surface. This will prevent rock, gravel, and construction debris from interfering with agricultural activities. • Perform soil density monitoring during backfill and ripping to minimize excessive compaction and minimize effects on future agricultural land use. • Remove topsoil before excavating in fields. Return it to top of fields to avoid detrimental inversion of soil profiles. • Control compaction to minimize changes to lateral groundwater flow which could affect both irrigation and internal drainage.	
3.6.4: Conversion of Farmland. The project would permanently convert Important Farmland to nonagricultural use.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	Implementation **Mitigation Measure 3.6.1** would avoid permanent impacts to Important Farmland.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
Section 3.7 Transportation and Traffic							
3.7.1: Temporary Congestion and Delays. Project construction activities could adversely affect traffic and transportation conditions in the project area. Significant, Unavoidable and Short-term.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.7.1a:** The appropriate Member Agency for each project component shall obtain and comply with local road encroachment permits for roads that are affected by construction activities. The *Work Area Protection and Traffic Control Manual* includes requirements to ensure safe maintenance of traffic flow through or around the construction work zone, and safe access of police, fire, and other rescue vehicles (CJUTCC, 1996). In addition, the Traffic Management Plan (subject to local jurisdiction review and approval) required by **Mitigation Measure 3.7.1b**, below, would direct how traffic flow is safely maintained during project construction. **Mitigation Measure 3.7.1b:** The construction	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.7 Transportation and Traffic (cont.)							
3.7.1 (cont.)	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	contractor for each project component shall prepare and implement a Traffic Control/Traffic Management Plan subject to approval by the appropriate local jurisdiction prior to construction. The plan shall: • Identify hours of construction (between 8:00 AM and 7:00 PM; no construction shall be permitted between 10:00 PM and 7:00 AM); • Identify hours for deliveries (Monday – Friday, 9:00 AM to 3:30 PM, or other hours if approved by the appropriate local jurisdiction); • Include a discussion of haul routes, limits on the length of open trench, work area delineation, traffic control and flagging; • Identify all access and parking restriction, pavement markings and signage requirements (e.g., speed limit, temporary loading zones); • Layout a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints; • Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times; • Include a plan to coordinate all construction activities with the appropriate local school district at least two months in advance. The school district shall be notified of the timing, location, and duration of construction activities. Coordinate with the appropriate local school district to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods. The construction contractor for each project component shall be required to maintain vehicle, pedestrian, and school bus service during construction through	
	Fully Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

<table>
<tr><th>Environmental Impact</th><th colspan="5">Impacts by Alternative and Member Agency[a]</th><th>Mitigation Measure[b]</th><th>Significance After Mitigation</th></tr>
<tr><td colspan="8">Section 3.7 Transportation and Traffic (cont.)</td></tr>
<tr><td>3.7.1 (cont.)</td><td colspan="5"></td><td>inclusion of such provisions in the construction contract. The assignment of temporary crossing guards at designated intersections may be needed to enhance pedestrian safety during project construction;
• Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and
• Specify the street restoration requirements pursuant to agreements with the local jurisdictions.
Mitigation Measure 3.7.1c: The appropriate Member Agency for each project component shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) will be used to minimize impacts to traffic flow.
Mitigation Measure 3.7.1d: The appropriate Member Agency for each project component shall develop circulation and detour plans to minimize impact to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
Mitigation Measure 3.7.1e: The appropriate Member Agency for each project component shall encourage construction crews to park at staging areas to limit lane closures in the public right-of-way.
Mitigation Measure 3.7.1f: The appropriate Member Agency for each project component shall consult with the appropriate public transit service providers at least one month prior to construction to coordinate bus stop relocations (as necessary) and to reduce potential interruption of transit service.</td><td></td></tr>
<tr><td rowspan="5">3.7.2: Temporary Disruption to Access. Project construction activity would temporarily disrupt circulation patterns near sensitive land uses (schools, hospitals, fire stations, police stations, and other emergency providers).</td><td>Alternative</td><td>LGVSD/ NMWD</td><td>Novato SD/NMWD</td><td>SVCSD</td><td>Napa SD/ Napa County</td><td rowspan="5">Mitigation Measure 3.7.2a: Pipeline construction near schools shall occur when school is not in session (i.e., summer or holiday breaks). If this is not feasible, a minimum of two months prior to project construction, the appropriate Member Agency for each project component shall coordinate with the appropriate local school district to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods.</td><td rowspan="5">Less than Significant</td></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Basic</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
</table>

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[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.7 Transportation and Traffic (cont.)							
3.7.2 (cont.)	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.7.2b:** A minimum of two months prior to project construction, the appropriate Member Agency for each project component shall coordinate with the appropriate local school district to identify alternatives to their Safe Routes to School program, alternatives for the school busing routes and stop locations, and other circulation provisions, as part of the Traffic Control/Traffic Management Plan (see Mitigation Measure 3.7.1a). **Mitigation Measure 3.7.2c:** Implement Mitigation Measure 3.7.1b.	
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.7.3: Temporary Disruption to Access. Project construction activity would have temporary effects on alternative transportation or alternative transportation facilities.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.7.3:** Implement Mitigation Measure 3.7.1f.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.7.4: Temporary Displacement of Parking. Project construction activity would temporarily create parking demand for construction workers and construction vehicles, and displace parking spaces.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.7.4:** Implement Mitigation Measure 3.7.1e.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.7 Transportation and Traffic (cont.)							
3.7.5: Temporary Potential Traffic Hazards. Project construction activity would temporarily increase the potential for accidents on project roadways.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.7.5:** Implement Mitigation Measure 3.7.1b through 3.7.1f.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.7.6: Road Wear. Project construction activity would increase wear and tear on the designated haul routes used by construction vehicles to access the project work sites.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.7.6:** Roads damaged by construction shall be repaired to a structural condition equal to that which existed prior to construction activity as per conditions of the encroachment permit (see **Mitigation Measure 3.7.1a**).	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
Section 3.8 Air Quality							
3.8.1: Temporary Construction Emissions of Criteria Pollutants. Project construction activities could result in substantial short-term criteria pollutant emissions.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.8.1a: Construction Fugitive Dust Control Plan.** The appropriate Member Agency shall require its contractor(s) to implement a dust control plan that shall include the following dust control procedures during construction as required by the BAAQMD: • Water all active construction areas at least twice daily, taking into consideration temperature and wind conditions. • Cover all trucks hauling soil, sand, and other loose materials *or* require trucks to maintain at least two feet of freeboard.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LSM	LSM	LSM	LSM		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]	Mitigation Measure[b]	Significance After Mitigation
Section 3.8 Air Quality (cont.)			
3.8.1 (cont.)	**Alternative** / **LGVSD/ NMWD** / **Novato SD/NMWD** / **SVCSD** / **Napa SD/ Napa County** ***Fully Connected*** / LSM / LSM / LSM / LSM	• Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on unpaved access roads, parking areas and staging areas at construction sites. • Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. • Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more). • Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.) • Limit traffic speeds on unpaved roads to 15 mph. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways, consistent with **Mitigation Measure 3.1.2**, Erosion Control. • Replant vegetation in disturbed areas as quickly as possible. **Mitigation Measure 3.8.1b: Construction Exhaust Emissions Control Plan.** The appropriate Member Agency shall require its contractor(s) to implement an exhaust emissions control plan that shall include the following controls and practices: • On road vehicles with a gross vehicular weight rating of 10,000 pounds or greater shall not idle for longer than five minutes at any location as required by Section 2485 of Title 13, Division 3, Chapter 10, Article 1 of the California Code of Regulations. This restriction does not apply when vehicles remain motionless during traffic or when vehicles are queuing. • Off road equipment engines shall not idle for longer than five minutes per Section 2449(d)(3) of Title 13, Division 3, Chapter 9, Article 4.8 of the California Code of Regulations. All vehicle operators shall receive a written idling policy to inform them of idling restrictions. The policy shall list exceptions to this rule that include the following: idling when queuing; idling to verify that the vehicle is in safe operating condition; idling for	

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.8 Air Quality (cont.)							
3.8.1 (cont.)						testing, servicing, repairing or diagnostic purposes; idling necessary to accomplish work for which the vehicle was designed (such as operating a crane); idling required to bring the machine to operating temperature as specified by the manufacturer; and idling necessary to ensure safe operation of the vehicle. • Off road engines greater than 50 horsepower shall, at a minimum, meet Tier 2 emissions standards. When available, higher Tier engines shall be utilized.	
3.8.2: Long-term emissions of criteria pollutants. Project operations could result in criteria pollutant emissions from powering pumps and from maintenance/repair trips.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.8.3: Long term increase in toxic air contaminant (TAC) levels. Project operation could result in emissions of TACs that would have the potential to harm sensitive receptors located in the project vicinity.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.8 Air Quality (cont.)							
3.8.4: Long term Increase in GHG Emissions. Project construction and operation would increase GHG emissions potentially interfering with the State's GHG reduction goals.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Implement Mitigation Measure 3.8.1b:** Construction Exhaust Emissions Control Plan, discussed under Impact 3.8.1.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
Section 3.9 Noise							
3.9.1: Temporary construction noise. Construction activity would violate standards established in the local General Plans or noise ordinances, and/or would adversely affect nearby sensitive receptors.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.9.1:** The appropriate Member Agency shall develop and implement a Construction Noise Reduction Plan that requires, at a minimum, the following: • The contractor shall locate all stationary noise-generating equipment, including hammer bore and drill rigs, as far as possible from nearby noise-sensitive receptors. Stationary noise sources located within 500 feet of noise-sensitive receptors shall be equipped with noise reducing engine housings, and the line of sight between such sources and nearby sensitive receptors shall be blocked by portable acoustic barriers. • The contractor shall assure that construction equipment with internal combustion engines have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment shall be permitted to have an un-muffled exhaust. • All construction activities within unincorporated Sonoma County shall be limited to between the hours of 7 a.m. and 6 p.m. on weekdays and between 9 a.m. and 5 p.m. on Saturdays. • Residences and other sensitive receptors within 200 feet of a construction area shall be notified of the construction schedule in writing, at least two weeks prior to the commencement of construction activities. This notice shall indicate the allowable hours of construction activities as specified by the applicable local jurisdiction or as defined by this	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

<table>
<tr><th>Environmental Impact</th><th>Impacts by Alternative and Member Agency[a]</th><th>Mitigation Measure[b]</th><th>Significance After Mitigation</th></tr>
<tr><td colspan="4">Section 3.9 Noise (cont.)</td></tr>
<tr><td>3.9.1 (cont.)</td><td></td><td>mitigation measure. The construction contractor shall designate a noise disturbance coordinator who would be responsible for responding to complaints regarding construction noise. The coordinator shall determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact number for the noise disturbance coordinator shall be conspicuously placed on construction site fences and entrances and included in the construction schedule notification sent to nearby residences and sensitive receptors.</td><td></td></tr>
<tr><td>3.9.2: Temporary vibration impacts. Construction activities could expose sensitive receptors to excessive ground-borne vibration levels.</td><td>
<table>
<tr><th>Alternative</th><th>LGVSD/ NMWD</th><th>Novato SD/NMWD</th><th>SVCSD</th><th>Napa SD/ Napa County</th></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Basic</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Partially Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Fully Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
</table>
</td><td>Mitigation Measure 3.9.2: The appropriate Member Agency will implement the following measure:

The construction contractor shall use a trenchless technology (e.g., horizontal directional drill, lateral drilling, etc.) other than jack and bore when there are structures within 100 feet of the proposed activities. If the construction contractor provides the Member Agency with acceptable documentation indicating that alternative trenchless technology is not feasible for the crossing, the contractor shall develop and implement a Construction Vibration Mitigation Plan to minimize construction vibration damage using all reasonable and feasible means available, including siting the jack and bore as far a possible from all nearby structures. The plan shall provide a procedure for establishing thresholds and limiting vibration values for potentially affected structures based on an assessment of each structure's ability to withstand the loads and displacements due to construction vibrations. The plan should also include the development of a vibration monitoring plan to be implemented during construction of particular crossing.</td><td>Less than Significant</td></tr>
<tr><td>3.9.3: Permanent increases to ambient noise levels. Operational activities could permanently generate noise levels above existing ambient levels in the vicinity of sensitive receptor locations.</td><td>
<table>
<tr><th>Alternative</th><th>LGVSD/ NMWD</th><th>Novato SD/NMWD</th><th>SVCSD</th><th>Napa SD/ Napa County</th></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LTS</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Basic</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Partially Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Fully Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
</table>
</td><td>Mitigation Measure 3.9.3: The appropriate Member Agency shall implement the following measure:

• All new pump stations shall be located within enclosed structures with adequate setback and screening to achieve acceptable regulatory noise standards for industrial uses as well as to achieve acceptable levels at the property lines of nearby residences, as determine by the applicable local jurisdiction. Noise enclosures shall be designed to reduce equipment noise levels by at least 20 dBA.</td><td>Less than Significant</td></tr>
</table>

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.10 Hazards and Hazardous Materials							
3.10.1: Exposure to Hazardous Materials. Project construction could expose workers and the public to hazardous materials that could be present in the soil or shallow groundwater encountered during excavation.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.10.1a:** Project contract specifications shall require that, in the event that evidence of potential soil contamination such as soil discoloration, noxious odors, debris, or buried storage containers, is encountered during construction, the contractor will have a contingency plan for sampling and analysis of potentially hazardous substances, including use of a photoionization detector. The required handling, storage, and disposal methods shall depend on the types and concentrations of chemicals identified in the soil. Any site investigations or remediation shall comply with applicable laws and will coordinate with the appropriate regulatory agencies, **Mitigation Measure 3.10.1b:** If unknown USTs are discovered during construction, the UST, associated piping, and impacted soil shall be removed by a licensed and experienced UST removal contractor. The UST and contaminated soil shall be removed in compliance with applicable county and state requirements governing UST removal. **Mitigation Measure 3.10.1c:** Prepare a project-specific Health and Safety Plan that would apply to excavation activities. The plan shall establish policies and procedures to protect workers and the public from potential hazards posed by hazardous materials. The plan shall be prepared according to federal and California OSHA regulations and submitted to the appropriate agency with jurisdiction prior to beginning site activities. **Mitigation Measure 3.10.1d:** Project contract specifications shall include a Dust Abatement Program to minimize potential public health impacts associated with exposure to contaminants in soil dust.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.10.2: Release of Hazardous Materials During Construction. Project construction could increase the potential for accidental release of hazardous materials.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.10.2a:** Consistent with the SWPPP requirements, the construction contractor shall be required to implement BMPs for handling hazardous materials onsite. The use of construction BMPs will minimize any adverse effects on groundwater and soils, and will include, but not limited to, the following: • Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction; • Spill control and countermeasures, including employee spill prevention/response training;	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

<table>
<tr><th>Environmental Impact</th><th colspan="5">Impacts by Alternative and Member Agency[a]</th><th>Mitigation Measure[b]</th><th>Significance After Mitigation</th></tr>
<tr><td colspan="8">Section 3.10 Hazards and Hazardous Materials (cont.)</td></tr>
<tr><td>3.10.2 (cont.)</td><td colspan="5"></td><td>• Avoid overtopping construction equipment fuel gas tanks;
• During routine maintenance of construction equipment, properly contain and remove grease and oils; and
• Properly dispose of discarded containers of fuels and other chemicals.
Mitigation Measure 3.10.2b: The contractor shall follow the provisions of California Code of Regulations, Title 8, Sections 5163 through 5167 for General Industry Safety Orders to protect the project area from being contaminated by the accidental release of any hazardous materials and/or wastes. The local CUPA agency will be contacted for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling.
Mitigation Measure 3.10.2c: Oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with applicable regulatory requirements. All hazardous materials shall be transported handled, and disposed of in accordance with applicable regulatory requirements.
Mitigation Measure 3.10.2d: In the event of an accidental release of hazardous materials during construction, containment and clean up shall occur in accordance with applicable regulatory requirements.</td><td></td></tr>
<tr><td rowspan="7">3.10.3: Release of Hazardous Materials During Long-term Operation. Project operation could increase the potential for accidental release of hazardous materials.</td><td>Alternative</td><td>LGVSD/ NMWD</td><td>Novato SD/NMWD</td><td>SVCSD</td><td>Napa SD/ Napa County</td><td rowspan="7">No Mitigation Measures are required.</td><td rowspan="7">Less than Significant</td></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LTS</td><td>LTS</td><td>LTS</td><td>LTS</td></tr>
<tr><td>Basic</td><td>LTS</td><td>LTS</td><td>LTS</td><td>LTS</td></tr>
<tr><td>Partially Connected</td><td>LTS</td><td>LTS</td><td>LTS</td><td>LTS</td></tr>
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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.10 Hazards and Hazardous Materials (cont.)							
3.10.4: Wildland Fire Hazard. Construction activities in grassland areas could have the potential to expose people or equipment to risk of loss, injury, or death involving wildland fires.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.10.4a:** For applicable Member Agencies, in consultation with local fire agencies, a Fire Safety Plan will be developed for each of the service areas associated with the project. The Fire Safety Plan(s) will describe various potential scenarios and action plans in the event of a fire. **Mitigation Measure 3.10.4b:** For applicable Member Agencies, during project construction, all staging areas, welding areas, or areas slated for development using spark-producing equipment will be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. All vehicles and crews working at the project site(s) will have access to functional fire extinguishers at all times. In addition, construction crews will be required to have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	NI		
	Basic	LSM	LSM	LSM	NI		
	Partially Connected	LSM	LSM	LSM	NI		
	Fully Connected	LSM	LSM	LSM	NI		
Section 3.11 Public Services and Utilities							
3.11.1: Temporary effect on response times for emergency service providers. Project construction activities could temporarily affect response times for emergency service providers.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.11.1:** The Member Agencies will coordinate with local emergency service providers in its service area to inform them of the proposed construction activities and schedule, and provide temporary alternate access routes around construction areas as necessary.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.11.2: Short-term police and fire assistance. Project construction activities could require short-term police and fire protection services to assist in traffic management or in the event of an accident.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.11-2:** Public service providers shall provide, upon request, a copy of the Traffic Control Plan to the related police and fire agencies for their review prior to construction. The appropriate Member Agency shall provide 72-hour notice to the local service providers prior to construction of individual pipeline segments. Discussion on the Traffic Control Plan is provided in Section 3.7, Traffic and Circulation.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		

NOTES:

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[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.11 Public Services and Utilities (cont.)							
3.11.2 (cont.)	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.11.3: Temporary Accidental Disruption to Utility Services. Project construction could result in temporary planned or accidental disruption to utility services.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Measure 3.11.3:** The Member Agencies will identify utilities along the proposed pipeline routes and project sites prior to construction and implement the following measures: a. Utility excavation or encroachment permits shall be obtained as required from the appropriate agencies. These permits include measures to minimize utility disruption. The service provider and its contractors shall comply with permit conditions regarding utility disruption. b. Utility locations shall be verified through the use of the Underground Service Alert services and/or field survey (potholing). c. As necessary, detailed specifications shall be prepared as part of the design plans to include procedures for the excavation, support, and fill of areas around utility cables and pipes. All affected utility services shall be notified of construction plans and schedule. Arrangements shall be made with these entities regarding protection, relocation, or temporary disconnection of services. d. In areas where the pipeline would traverse parallel to underground utility lines within five feet, the project applicant shall employ special construction techniques, such as trench wall-support measures to guard against trench wall failure and possible resulting loss of structural support for the excavated areas. e. Residents and businesses in the project corridor shall be notified of any planned utility service disruption two to four days in advance, in conformance with county and state standards.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.11 Public Services and Utilities (cont.)							
3.11.4: Increase in Power Usage. NBWRP could increase power usage.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.11.5: Offset Potable Water Demand. Project operation could increase recycled water use in the project area and offset potable water supply, making it available for municipal uses.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	BI	BI	NI		
	Phase 1	BI	BI	BI	BI		
	Basic	BI	BI	BI	BI		
	Partially Connected	BI	BI	BI	BI		
	Fully Connected	BI	BI	BI	BI		
Section 3.12 Cultural Resources							
3.12.1: Impact to Cultural Resources/Archaeological Sites. Project construction could affect existing cultural resources or uncover unknown and/or buried archaeological materials in areas of high prehistoric archaeological sensitivity.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.12.1:** The appropriate Member Agency will incorporate the following measures: **Mitigation Measure 3.12.1a: Prepare a Cultural Resources Monitoring Plan.** Prior to authorization to proceed, or issuance of permits, the applicant shall prepare and submit a cultural resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within all areas delineated as sensitive for cultural resources. A qualified professional archaeologist (cultural resources monitor) that is approved by each sanitation district in consultation with all	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]	Mitigation Measure[b]	Significance After Mitigation
Section 3.12 Cultural Resources (cont.)			
3.12.1 (cont.)		affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues: • Training program for all construction and field workers involved in site disturbance; • Person(s) responsible for conducting monitoring activities, including Native American monitors; • How the monitoring shall be conducted and the required format and content of monitoring reports, including any necessary archaeological re-survey of the final pipeline alignment (including the need to conduct shovel-test units or auger samples to identify deposits in advance of construction), assessment, designation and mapping of the sensitive cultural resource areas on final project maps, assessment and survey of any previously unsurveyed areas; • Person(s) responsible for overseeing and directing the monitors; • Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; • Procedures and construction methods to avoid sensitive cultural resource areas (i.e. boring conduit underneath recorded or discovered cultural resource site); • Clear delineation and fencing of sensitive cultural resource areas requiring monitoring; • Physical monitoring boundaries (e.g., 200-foot radius of a known site); • Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation); • Methods to ensure security of cultural resources sites; • Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction.	

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]	Mitigation Measure[b]	Significance After Mitigation
Section 3.12 Cultural Resources (cont.)			
3.12.1 (cont.)		**Mitigation Measure 3.12.1b: Archaeological and Native American Monitoring.** If an intact archaeological deposit is encountered, all soil disturbing activities in the vicinity of the deposit shall cease until the deposit is evaluated. The appropriate Member Agency, as necessary, shall retain the services of a Native American monitor and a qualified archaeological consultant that has expertise in California prehistory to monitor ground-disturbing within areas designated as being sensitive for buried cultural resources. The archaeological monitor shall immediately notify the appropriate Member Agency of the encountered archaeological deposit. The monitors shall, after making a reasonable effort to assess the identity, integrity, and significance of the encountered archaeological deposit, present the findings of this assessment to NBWRA and the appropriate Member Agency. During the course of the monitoring, the archaeologist may adjust the frequency—from continuous to intermittent—of the monitoring based on the conditions and professional judgment regarding the potential to impact resources. If a Member Agency, in consultation with the monitors, determines that a significant archaeological resource is present within their jurisdiction and that the resource could be adversely affected by NBWRP, the Member Agency shall: • Re-design NBWRP to avoid any adverse effect on the significant archaeological resource; *or*, • Implement an archaeological data recovery program (ADRP) (unless the archaeologist determines that the archaeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible). If the circumstances warrant an archaeological data recovery program, an ADRP shall be conducted. The project archaeologist and NBWRA shall meet and consult to determine the scope of the ADRP. The archaeologist shall prepare a draft ADRP that shall be submitted to the appropriate Member Agency for review and approval. The ADRP shall identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ADRP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research	

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]	Mitigation Measure[b]	Significance After Mitigation
Section 3.12 Cultural Resources (cont.)			
3.12.1 (cont.)		questions. Data recovery, in general, shall be limited to the portions of the historic property that could be adversely affected by NBWRP. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practical. **Mitigation Measure 3.12.2: Cultural Resources Assessment for Staging Areas.** When locations for staging are defined the areas of potential effect should be subject to a cultural resources investigation that includes, at a minimum: • An updated records search at the Northwest Information Center; • An intensive survey of all areas within the lots; • A report disseminating the results of this research; and, • Recommendations for additional cultural resources work necessary to mitigate any adverse impacts to recorded and/or undiscovered cultural resources. **Mitigation Measure 3.12.3: Inadvertent Discoveries.** If discovery is made of items of historical or archaeological interest, the contractor shall immediately cease all work activities in the area (within approximately 100 feet) of discovery. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation the contractor shall immediately contact the NBWRA and appropriate Member Agency. The contractor shall not resume work until authorization is received from the appropriate Member Agency. • In the event of unanticipated discovery of archaeological indicators during construction, NBWRA shall retain the services of a qualified professional archaeologist to evaluate the significance of the items prior to resuming any activities that could impact the site.	

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

<table>
<tr><th>Environmental Impact</th><th colspan="5">Impacts by Alternative and Member Agency[a]</th><th>Mitigation Measure[b]</th><th>Significance After Mitigation</th></tr>
<tr><td colspan="8">Section 3.12 Cultural Resources (cont.)</td></tr>
<tr><td>3.12.1 (cont.)</td><td colspan="5"></td><td>• In either the case of an unanticipated archaeological discovery, if it is determined that the find is unique under NHPA and/or potentially eligible for listing in the National Register, and the site cannot be avoided, appropriate Member Agency shall provide a research design and excavation plan, prepared by an archaeologist, outlining recovery of the resource, analysis, and reporting of the find. The research design and excavation plan shall be submitted to NBWRA and appropriate Member Agency and approved by the appropriate Member Agency prior to construction being resumed.

Mitigation Measure 3.12.4: Project-level Cultural Resources Assessment: When project-level plans are completed for the Basic System; the Partially Connected System; and the Fully Connected System, NBWRA the appropriate Member Agency will conduct a cultural resources investigation for the APE that includes, at a minimum:
• An updated records search at the NWIC;
• An intensive cultural resources survey of the APE;
• A report disseminating the results of this research; and,
• Recommendations for additional cultural resources work necessary to mitigate any adverse impacts to recorded and/or undiscovered cultural resources.</td><td></td></tr>
<tr><td>3.12.2: Discovery of Human Remains. Project construction could result in damage to previously unidentified human remains.</td><td>Alternative</td><td>LGVSD/ NMWD</td><td>Novato SD/NMWD</td><td>SVCSD</td><td>Napa SD/ Napa County</td><td rowspan="6">Mitigation Measure 3.12.5: Discovery of Human Remains. If potential human remains are encountered, the appropriate Member Agency shall halt work in the vicinity of the find and contact the county coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner shall contact the NAHC. As provided in Public Resources Code Section 5097.98, the NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.</td><td rowspan="6">Less than Significant</td></tr>
<tr><td>No Project</td><td>NI</td><td>NI</td><td>NI</td><td>NI</td></tr>
<tr><td>No Action</td><td>NI</td><td>LSM</td><td>LSM</td><td>NI</td></tr>
<tr><td>Phase 1</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Basic</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
<tr><td>Partially Connected</td><td>LSM</td><td>LSM</td><td>LSM</td><td>LSM</td></tr>
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</table>

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.12 Cultural Resources (cont.)							
3.12.3: Impact to historic architectural resources. NBWRP has the potential to impact the setting of historic architectural resources.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	NI	NI	NI	NI		
	Basic	NI	NI	NI	NI		
	Partially Connected	NI	NI	NI	NI		
	Fully Connected	NI	NI	NI	NI		
3.12.4: Ground-borne vibration. Ground-borne vibration from construction activities could damage historic architectural resources.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	LSM	NI		
	Phase 1	NI	NI	LSM	NI		
	Basic	NI	NI	LSM	NI		
	Partially Connected	NI	NI	LSM	NI		
	Fully Connected	NI	NI	LSM	NI		
Section 3.13 Recreation							
3.13.1: Temporary disturbance. Project construction could result in short-term disturbance adjacent to recreational facilities.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.13.1a:** The appropriate Member Agency shall coordinate with the appropriate local and regional agencies to identify detour routes for the bikeways and trails during construction where feasible, as part of the Traffic Control/Traffic Management Plan (see **Measure 3.11.1a**). **Mitigation Measure 3.13.1b:** Implement Mitigation Measures 3.8-1a through 3.8.1b, Mitigation Measures 3.9.1 through 3.9-3. **Mitigation Measure 3.13.2:** Before beginning construction, the contractor will develop, in consultation with the appropriate representative(s) of the	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.13 Recreation							
3.13.1 (cont.)	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	affected park's managing agency, a plan indicating how public access to the park will be maintained during construction. If needed, flaggers will be stationed near the construction activity area to direct and assist members of the public around the activity areas while maintaining access to the parks.	
	Fully Connected	LSM	LSM	LSM	LSM		
Section 3.14 Aesthetics							
3.14.1: Temporary Impact to Scenic Vistas. NBWRP construction activities could temporarily affect scenic vistas or corridors in the NBWRP area.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.14.1a:** Following construction activities, disturbed areas shall be restored to baseline conditions, including repaving roadways, replanting trees, and/or reseeding with a native seed mix typical of the immediately surrounding area. **Mitigation Measure 3.14.1b:** Berms around constructed reservoirs shall be vegetated with native seed mixes to soften the visual effect of the reservoirs from adjacent roadways. **Mitigation Measure 3.14.1c:** Design elements shall be incorporated to enhance visual integration of the booster pump station and distribution pump station with their surroundings. Proposed facilities shall be painted low-glare earth-tone colors that blend with the surrounding terrain. Highly reflective building materials and/or finishes shall not be used in the designs for proposed facilities.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	LSM		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.14.2: Impact to views along scenic roadways. Implementation of NBWRP could affect views along eligible or designated Caltrans Scenic Highways, or locally-defined scenic routes.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.14.1a:** **Mitigation Measure 3.14.1b:**	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LSM	LSM	NI		
	Phase 1	NI	LSM	LSM	NI		
	Basic	NI	LSM	LSM	NI		
	Partially Connected	LTS	LSM	LSM	LTS		
	Fully Connected	LTS	LSM	LSM	LTS		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.14 Aesthetics							
3.14.3: Source of Light or Glare. NBWRP components could introduce new sources of light and glare on the project sites.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.14.3a:** The exterior lighting installed around the operational and capacity storage reservoirs, distribution pump station, storage tanks, and booster pump station shall be of a minimum standard required to ensure safe visibility. Lighting also shall be shielded and directed downward to minimize impacts of light and glare. **Measure 3.14.3b:** All exterior lighting is directed downward and oriented to insure that limited light source is directly visible from neighboring residential areas. If necessary, landscaping would be provided around proposed facilities. The vegetation would be selected, placed, and maintained to minimize off-site light and glare onto surrounding areas.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	LSM		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		
	Fully Connected	LSM	LSM	LSM	LSM		
3.14.4: Long-term impact to aesthetic character. Development of the proposed facilities, particularly pump stations and storage reservoirs, would permanently alter the aesthetic character of the project area.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 3.14.4a:** After construction of any facility that is above grade and visible to sensitive receptors, visual screening and vegetation measures will be implemented to reduce impacts to scenic views. Trees or other suitable vegetation along the fenceline of the facility should be incorporated to reduce the industrial appearance of the structures. Similarly, berms for new storage ponds or pond reconfiguration will be re-vegetated to reduce the barren appearance of the berms. **Mitigation Measure 3.14.4b:** Dark colored, non-reflective building materials should be used for project components that cause potentially significant impact from glare to visual resources.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	LTS	LTS	LSM		
	Phase 1	NI	LSM	LSM	LSM		
	Basic	NI	LSM	LSM	LSM		
	Partially Connected	NI	LSM	LSM	LSM		
	Fully Connected	LTS	LSM	LSM	LSM		
Section 3.15 Environmental Justice							
3.15.1: Project construction could result in air quality, noise, and/or other environmental impacts that could disproportionately affect nearby minority communities.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	No Impact
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	NI	NI	NI	NI		
	Basic	NI	NI	NI	NI		
	Partially Connected	NI	NI	NI	NI		
	Fully Connected	NI	NI	NI	NI		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.15 Environmental Justice (cont.)							
3.15.2: Project construction could result in environmental impacts that could disproportionately affect nearby low-income communities.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	No Impact
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	NI	NI	NI	NI		
	Basic	NI	NI	NI	NI		
	Partially Connected	NI	NI	NI	NI		
	Fully Connected	NI	NI	NI	NI		
3.15.3: Increased water and sewer fees. NBWRP would provide recycled water and could result in an increase water and sewer fees that would disproportionately affect minority and low-income populations.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	No Impact
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	NI	NI	NI	NI		
	Basic	NI	NI	NI	NI		
	Partially Connected	NI	NI	NI	NI		
	Fully Connected	NI	NI	NI	NI		
3.15.4: Impact on Farm Workers. NBWRP would provide recycled water and could disproportionately affect minority populations.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	No Impact
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	NI	NI	NI	NI		
	Basic	NI	NI	NI	NI		
	Partially Connected	NI	NI	NI	NI		
	Fully Connected	NI	NI	NI	NI		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.16 Socioeconomics							
3.16.1: Output in Regional Economy. Project construction and operation would increase jobs, wages and salaries, and output in the regional economy.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	LTS	LTS	LTS	LTS		
	No Action	BI	BI	BI	BI		
	Phase 1	BI	BI	BI	BI		
	Basic	BI	BI	BI	BI		
	Partially Connected	BI	BI	BI	BI		
	Fully Connected	LTS	LTS	LTS	LTS		
3.16.2: Effect on Agricultural Economy. Project implementation could affect the agricultural economy.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Beneficial
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	NI	NI	NI	BI		
	Basic	NI	NI	NI	BI		
	Partially Connected	NI	NI	NI	BI		
	Fully Connected	NI	NI	NI	BI		
3.16.3: Impact to Winery-related Industry. Recycled water deliveries to vineyards would support the winery-related tourism industry.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Beneficial
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	NI	NI	NI	BI		
	Basic	NI	NI	NI	BI		
	Partially Connected	NI	NI	NI	BI		
	Fully Connected	NI	NI	NI	BI		

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TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Section 3.16 Socioeconomics (cont.)							
3.16.4: Increase in water/sewer charges. Project implementation could increase municipal and industrial customer water or sewer charges.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
3.16.5: Impact on Recreational Spending. Recycled water deliveries to the Napa Salt Mash Restoration Area could increase recreational spending in the region.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Beneficial
	No Project	NI	NI	NI	NI		
	No Action	NI	NI	NI	NI		
	Phase 1	BI	BI	BI	BI		
	Basic	BI	BI	BI	BI		
	Partially Connected	BI	BI	BI	BI		
	Fully Connected	BI	BI	BI	BI		
Chapter 4 Cumulative Impacts							
4-1: Construction-related Cumulative Impacts. Concurrent construction of several projects within the Sonoma, Napa, and Marin County areas could result in cumulative short-term impacts associated with construction activities. If implemented at the same time as other construction projects, construction of facilities under all three of the alternatives could contribute to potential short-term cumulative effects associated	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 4.1:** Member Agencies shall coordinate construction activities along selected alignments to identify overlapping pipeline routes, project areas, and construction schedules. To the extent feasible, construction activities shall be coordinated to consolidate the occurrence of short-term construction-related impacts.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LSM	LSM	LSM	LSM		
	Phase 1	LSM	LSM	LSM	LSM		
	Basic	LSM	LSM	LSM	LSM		
	Partially Connected	LSM	LSM	LSM	LSM		

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Chapter 4 Cumulative Impacts (cont.)							
4-1 (cont.) with erosion, cultural resource disturbance, disturbance of adjacent land uses, traffic disruption, dust generation, construction noise, aesthetics, air quality, biological resources, hazardous materials, water quality, public services and utilities. However, construction-related impacts would not result in long term alteration of the environment, and could be mitigated to less than significant levels through the use of mitigation measures identified throughout Chapter 3.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**		
	Fully Connected	LSM	LSM	LSM	LSM		
4.2: Cumulative Long-term Impacts resulting from Seismic Events. Concurrent construction of NBWRP with other projects proposed in the Sonoma, Napa, and Marin County area and other water and wastewater infrastructure projects could result in cumulative long-term risk of upset impacts related to groundshaking and surface fault rupture during major earthquakes.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
4.3: Cumulative Long-term Impacts on Water Resources. Concurrent construction of NBWRP with other projects proposed in the Sonoma, Napa, and Marin County area and other water and wastewater infrastructure projects could result in cumulative long-term impacts to water resources, water quality, and flooding.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Chapter 4 Cumulative Impacts (cont.)							
4.4: Cumulative Long-term Impacts on Groundwater. Concurrent construction of NBWRP with other projects proposed in the Sonoma, Napa, and Marin County area and other water and wastewater infrastructure projects could result in cumulative long-term impacts to groundwater resources and groundwater quality.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
4.5: Cumulative Long-term Impacts on Biological Resources. Concurrent construction of NBWRP with other projects proposed in the Sonoma, Napa, and Marin County area, and other water and wastewater infrastructure projects, could result in cumulative long-term impacts to biological resources.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	Mitigation Measures in Section 3.5	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
4.6: Cumulative Long-term Impacts on Land Use. Concurrent construction of NBWRP with other projects proposed in the Sonoma, Napa, and Marin County area and other water and wastewater infrastructure projects could result in cumulative long-term impacts to land use and agricultural resources.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Chapter 4 Cumulative Impacts (cont.)							
4.7: Cumulative Impacts from Greenhouse Gas Emissions. Concurrent operation of NBWRP with other projects could result in a cumulatively considerable net increase in GHG emissions or criteria pollutants for which the region is in non-attainment under applicable standards.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
4.8: Cumulative Long-term Impacts on Cultural and Historic Resources. Concurrent operation of NBWRP with other projects proposed in the Sonoma, Napa, and Marin County area and other water and wastewater infrastructure projects could result in cumulative long-term impacts to cultural resources.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	No Mitigation Measures are required.	Less than Significant
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	LTS	LTS	LTS	LTS		
	Basic	LTS	LTS	LTS	LTS		
	Partially Connected	LTS	LTS	LTS	LTS		
	Fully Connected	LTS	LTS	LTS	LTS		
Chapter 5 Growth Inducement and Secondary Effects of Growth							
5.1: NBWRP would provide recycled water for urban, agricultural, and environmental uses, and as such, would contribute to the provision of adequate water supply to support a level of growth that is consistent with the amount planned and approved within the General Plans of Marin, Sonoma and Napa Counties. No appreciable growth in population or employment would occur	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**	**Mitigation Measure 5.1a:** In order to maintain consistency with the Napa County General Plan, Napa County and Napa SD will approve the MST Local Options 1 and/or 2. This will provide approximately 530 AFY of recycled water that would be available for the existing users in the MST area. Trunk facilities may be sized to accommodate service of up to 1,400 AFY of service to existing agricultural irrigators only. Any expansion of service beyond the 1,400 AFY or provision of service to new land uses would be subject to approval by the County Planning Department and the Napa County Board of Supervisors.	Implementation of Measure 5-1a would avoid the potential for direct impacts relating to growth inducement in the MST area. However,
	No Project	NI	NI	NI	NI		
	No Action	LTS	LTS	LTS	LTS		
	Phase 1	SU	SU	SU	SU		
	Basic	SU	SU	SU	SU		
	Partially Connected	SU	SU	SU	SU		

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

TABLE ES-6 (Continued)
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Impacts by Alternative and Member Agency[a]					Mitigation Measure[b]	Significance After Mitigation
Chapter 5 Growth Inducement and Secondary Effects of Growth (cont.)							
effects, which include effects that would be significant and unavoidable. However, development under the General Plans accommodated by the proposed project would result in secondary environmental effects, which include effects that would be significant and unavoidable.	**Alternative**	**LGVSD/ NMWD**	**Novato SD/NMWD**	**SVCSD**	**Napa SD/ Napa County**		provision of recycled water within each of the NBWRP services would contribute to secondary effects of growth associated with buildout under approved General Plans within each service area. Mitigation programs have been established for these impacts, however, some of these impacts may remain significant and unavoidable.
	Fully Connected	SU	SU	SU	SU		

NOTES:

[a] NI = no impact, LTS = less than significant, LSM = less than significant with mitigation, BI = beneficial
[b] Mitigation measure would apply to impacts identified as LSM.

CHAPTER 1
Introduction and Project Background

1.1 Purpose and Need for the Proposed Action

The U.S. Department of Interior, Bureau of Reclamation (Reclamation) and North Bay Water Reuse Authority's Member Agencies have prepared this Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) for the North San Pablo Bay Restoration and Reuse Project. The North San Pablo Bay Restoration and Reuse Project has been developed in conformance with the requirements of the Reclamation's Public Law 102-575, Title XVI, including preparation of a Feasibility Study, and passage of Senate Bill 1475. For the purposes of this EIR/EIS, this project or action will be referred to as the **North Bay Water Recycling Program (NBWRP)**. As noted in Reclamation's NEPA Handbook (Reclamation, 2000), this section has been prepared in accordance with Title 40 Code of Federal Regulations (CFR) Section 1508.9 to present why the proposed action is being considered.

This EIR/EIS has been developed to provide the public and responsible and trustee agencies reviewing the NBWRP an analysis of the potential effects, both beneficial and adverse, on the local and regional environment associated with construction and operation of the NBWRP. The basic purpose of the NBWRP is to provide recycled water for agricultural, urban, and environmental uses and to promote the expanded beneficial use of recycled water system in the North Bay region. Implementation of the NBWRP would include upgrades to treatment processes and construction of pipelines, pump station, and storage facilities to distribute recycled water for use in compliance with Article 4 in Title 22 of the California Code of Regulations, which sets water quality standards and treatment reliability criteria for recycled water.

The North Bay Water Reuse Authority (NBWRA), established under a Memorandum of Understanding (MOU) in August 2005, is comprised of four wastewater utilities and one water agency: Las Gallinas Valley Sanitary District (LGVSD), Novato Sanitary District (Novato SD), Sonoma Valley County Sanitation District (SVCSD), Napa Sanitation District (Napa SD), and Sonoma County Water Agency (SCWA). Additional agencies supporting the NBWRA through contribution of funds and staff time include North Marin Water District (NMWD) and Napa County.

Under the MOU, the NBWRA is exploring "the feasibility of coordinating interagency efforts to expand the beneficial use of recycled water in the North Bay Region thereby promoting the conservation of limited surface water and groundwater resources." The NBWRP would alter the disposition of recycled water in the North Bay Region by providing increased recycled water supply to urban, agricultural and environmental uses.

1.1.1 Project Area Needs

The action area is unique because of the mix of sensitive environmental, urban, and high-value agricultural areas. Each of these is affected by existing water management challenges and needs, and will be exposed to increasing problems in the future. The problems and needs can be summarized as follows:

- The vitally important estuarine ecosystem of the North San Pablo Bay Area, which includes endangered species and vital wetlands, has been under intense pressure. Although protective and restorative measures are in place, the habitat requires a reliable flow of clean water;
- The agricultural economy, which is dominated by high-value vineyard culture, requires a highly reliable water supply to maintain and to expand its crop base;
- Growing urbanization of the greater San Francisco Bay Area imposes increasing demand on water supply and requires highly reliable sources of water;
- Surface water supplies are already diverted by multiple users, have low flows in the summer (which coincides with the irrigation season), and can have low flows in dry years; and
- Groundwater supplies in some localities are heavily pumped for agricultural and municipal uses and in some localities have marginal quality. In general, groundwater pumping is exceeding natural replenishment.

1.1.2 Purpose of Proposed Action

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. The Bureau of Reclamation's water reclamation and reuse program is authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992 (Title XVI of Public Law 102-575). Also known as Title XVI, the act directs the Secretary of the Interior to undertake a program to investigate and identify opportunities for water reclamation and reuse of municipal, industrial, domestic and agricultural wastewater, and naturally impaired ground and surface waters, and for design and construction of demonstration and permanent facilities to reclaim and reuse wastewater.

The NBWRA is a cooperative program in the San Pablo Bay region that supports sustainability and environmental enhancement by expanding the use of recycled water. The purpose of the NBWRP is to provide recycled water for agricultural, urban, and environmental uses thereby reducing reliance on local and imported surface and groundwater and reducing the amount of treated effluent releases to San Pablo Bay.

1.2 Compliance with CEQA and NEPA

This document is a joint EIR/EIS and satisfies the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). CEQA documentation for some of the project components of the NBRWP has been completed, and this EIR/EIS

satisfies NEPA requirements for those projects (refer to Section 1.8 for the documentation prepared and incorporated by reference). The primary purpose of an EIR/EIS is to identify and publicly disclose environmental impacts that may result from implementation of a project and to identify feasible alternatives, mitigation measures, or revisions to the project that would reduce those impacts, to the degree feasible. While CEQA requires a determination of impact significance for each impact discussed in an EIR based on the significance criteria, NEPA does not require this for an EIS. Under NEPA preparation of an EIS is triggered if a federal action has the potential to "significantly affect the quality of the human environment," which is based on the context and intensity for each potential impact. The significance thresholds used in this EIS/EIR also encompass the factors taken into account under NEPA to evaluate the context and the intensity of the effects of an action.

This EIR/EIS would be used by local, state, and federal agencies to identify, evaluate, and disclose significant environmental impacts of the proposed action and alternatives, as well as provide potential mitigation measures for impacts.

1.2.1 NEPA Lead Agency

As implementation of the NBWRP would likely require external funding assistance, the investigation and development of this program is being carried out in conformance with the requirements of the U.S. Department of the Interior's Bureau of Reclamation Public Law 102-575, Title XVI, which provides a mechanism for federal participation and cost-sharing in water reuse projects. There is the potential that Congress would authorize and appropriate partial funding for the design and construction of the program under PL102-575, Title XVI. Based on this authorization and appropriation, Reclamation could provide up to 25 percent of project construction cost to a maximum federal cost share contribution of $100 million.

In order for the NBWRA to secure implementation funding, HR[1] 236 was introduced in January of 2007 and S[2] 1472 was introduced in May of 2007; these bills authorized Reclamation's participation in constructing the NBWRP under Title XVI. Both of these bills were combined in the Omnibus Public Lands Act of 2009, S 22. S22 did not pass the Senate, and was reintroduced as HR 146, which passed the Senate in January 2009, passed the House in February 2009, and was signed into law by the President as public law 111-11 section 9110 on March 30, 2009.

The provision of federal funding for implementation of the NBWRP to meet regional recycled water needs is a Federal Action. To support the Federal Action, this EIR/EIS has been prepared in compliance with NEPA and the Council on Environmental Quality (CEQ)'s NEPA implementing regulations (Title 40, Code of Federal Regulations [CFR], Section 1500 et seq.). The EIR/EIS has also been prepared consistent with Reclamation's NEPA Handbook (Public Review Draft, 2000). Because of the complex nature of the NBWRP, Reclamation has determined that preparation of an EIS is the most appropriate form of NEPA compliance. Reclamation intends to use this EIR/EIS to consider provision of federal funding under Title XVI for implementation of the

1 House of Representatives
2 Senate Bill

NBWRP. As lead Federal agency, Reclamation would use this EIR/EIS to support a Record of Decision, which would document Reclamation's decision to choose one of the alternatives including the proposed action and no action. Other federal agencies, such as the U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS) may rely on the EIS to satisfy NEPA for their individual approvals of project components.

1.2.2 CEQA Lead Agency

This Draft EIR/EIS has been prepared in compliance with CEQA of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the State *CEQA Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3.

This document has been prepared as a project-level and program-level EIR/EIS, as provided for by *CEQA Guidelines* §15161 and 15168, respectively. The proposed facilities that are evaluated at the program level will require additional environmental documentation once site-specific project designs are determined. A Program EIR/EIS may be prepared on a series of actions "that can be characterized as one large project and are related either:

1. Geographically;

2. As a logical part in the chain of contemplated actions;

3. In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or;

4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways." (*CEQA Guidelines* §15168)"

SCWA is the Lead Agency under CEQA. Each of the NBWRA Member Agencies and Cooperating Agencies are Responsible Agencies under CEQA, and would rely on this EIR/EIS for project approvals within their service areas.

1.3 Alternatives Under Consideration

NEPA and the CEQ's NEPA implementing regulations (40 CFR, Section 1500 et seq.) require federal agencies, when proposing to carry out, approve, or fund a project, to evaluate the environmental effects of the action, including feasible alternatives and mitigation measures to minimize adverse effects.

Pursuant to Section 15126(d) of the CEQA Guidelines, an EIR/EIS must describe and evaluate a reasonable range of alternatives that would feasibly attain most of the basic project objectives, and would avoid or substantially lessen any of the significant impacts of the project as proposed. The *CEQA Guidelines* state that the range of alternatives required to be evaluated in an EIR/EIS is governed by the "rule of reason": the EIR needs to describe and evaluate only those alternatives necessary to permit a reasoned choice and to foster informed decision-making and public participation.

Three alternatives are analyzed in this EIR/EIS at a project or program level of detail and compared against the "No Project Alternative" and the "No Action Alternative". Each of the action alternatives (discussed below) are intended to meet the purpose, objectives, and need identified by the NBWRA.

- **No Project Alternative,** assumes that the proposed project is not implemented, and reviews two scenarios: 1) consideration of existing conditions without the project, a "no build scenario"; and 2) consideration of "reasonably foreseeable" future conditions without the project. This second scenario is identical to the No Action Alternative, identified below.

- **No Action Alternative,** provides a "future without the project" scenario as a NEPA baseline to compare the impacts of the proposed Action Alternatives.

- **Alternative 1, Basic System**, which includes use of recycled water near each of the individual wastewater treatment plants (WWTPs);

- **Alternative 2, Partially Connected System**, which adds pipelines, pump stations and storage to partially connect the existing WWTPs; and

- **Alternative 3, Fully Connected System**, which provides a fully integrated and regional recycled water distribution system connecting all four Member Agency WWTPs.

1.4 Intended Use of the EIR/EIS

Reclamation intends to use this EIR/EIS to consider provision of federal funding under Title XVI for implementation of the NBWRP. As lead Federal agency, Reclamation would use this EIR/EIS to support a Record of Decision, which would document Reclamation's decision to choose one of the alternatives, including the proposed action and no action.

The NBWRA Member Agencies and cooperating agencies may use this EIR/EIS to approve the NBWRP, or components of the NBWRP, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts. As the CEQA Lead Agency, SCWA's Board of Directors will consider certification of the EIR/EIS as complete under CEQA (*CEQA* Guidelines §15090). Once the EIR/EIS has been certified as complete, the Board, or NBWRA Member Agencies, as Responsible Agencies, will consider the certified EIR/EIS (15096(a)). Any project approvals (see **Table 1-1**; also see Section 1.6.6 below) would require the Board or NBWRA Member Agencies to make written findings with respect to each significant environmental effect relevant to their aspect of the project identified in the EIR/EIS in accordance with Section 15091 of *CEQA Guidelines*.

The analyses contained within this EIR/EIS would be used to support the acquisition of the following regulatory permits or approvals if needed:

- Clean Water Act Section 404– Individual or Nationwide Permits (USACE);

- Endangered Species Act – Section 7 Consultation (USFWS);

TABLE 1-1
PROPOSED COMPONENTS ANTICIPATED FOR PROJECT APPROVALS

		New Pipeline (miles)	New Demand (AFY)	Capacity Increase (mgd)	New Pumps (HP)	New Storage (AF)
LGVSD	Peacock Gap	--	--	--	--	--
	NMWD URWP (South)	5.9	204	0.7	72	(3)
	Sears Point	--	--	--	--	--
Novato SD	NMWD URWP (North/Central)	9.8	542	1.2	259	(3)
	Sears Point	--	--	--	--	--
SVCSD	Southern Sonoma Valley	--	--	--	--	--
	Central Sonoma Valley	--	--	--	--	--
	Sonoma Valley (1A)[1]	5.2	874	0	662	65
	Napa Salt Marsh	7.9	(2)	0	0	0
Napa SD	Carneros East	--	--	--	--	--
	MST Area	17.5	2,137	4.5	880	0
	Napa (local)	--	--	--	--	--
	Napa Salt Marsh	--	--	--	--	--
Total		**46.3**	**3,757**	**6.4**	**1,873**	**65**

1 Sonoma Valley (1A) is a pipeline alignment originally analyzed as a part of the Sonoma Valley Recycled Water Project EIR and proposed under Phase 1 for the NBWRP. The alignment is described on page 2-18 of this document.
2 Additional 3,460 AFY release of recycled water to Napa Salt Ponds 7 and 7A, depending upon year type. Because this is a beneficial use that is not related to recycled water supply, this number is tracked separately in each of the alternatives.
3 Existing 0.5-MG reservoir would be rehabilitated to provide recycled water system storage.

SOURCE: CDM, 2009, Napa SD, 2009.

- 1600 Streambed Alteration Agreement – (California Department of Fish and Game);
- Section 401 Water Quality Certification (San Francisco Bay Regional Water Quality Control Board);
- Roadway Encroachment Permit (California Department of Transportation);
- Roadway Encroachment Permits as applicable (Counties of Marin, Sonoma, and Napa, Cities of San Rafael, Novato, Sonoma, and Napa).

The majority of the proposed activities would lie within public rights-of-way. Acquisition of right-of-ways and temporary construction easements may be necessary for construction of some of the proposed facilities. Temporary construction easements would also be required for contractor staging areas and equipment and materials storage.

1.5 Organization of the Draft EIR/EIS

This Draft EIR/EIS has been organized into the following chapters:

ES. Executive Summary. This chapter summarizes the contents of the Draft EIR/EIS.

1. Introduction and Project Background. This chapter discusses the CEQA/NEPA process, the purpose of the EIR/EIS, and background information for the NBWRP.

2. **Project Description.** This chapter provides an overview of the NBWRP, describes the need for and objectives of the NBWRP, and provides detail on the characteristics of the NBWRP.

3. **Affected Environment, Environmental Consequences, and Mitigation Measures.** This chapter describes the environmental setting and identifies potential environmental impacts resulting from the Proposed Action. Measures to mitigate the impacts of the Proposed Action are presented for each resource area.

4. **Cumulative Impacts.** This chapter describes the potential impacts of the Proposed Action when considered together with other related projects in the action area.

5. **Growth Inducement and Secondary Effects of Growth.** This chapter describes the potential for the Proposed Action to induce growth and discusses any indirect impacts.

6. **Alternatives Analysis.** This chapter presents an overview of the alternatives development process and describes the alternatives to the Proposed Action that were considered.

7. **Climate Change.** This chapter presents a discussion of climate change and its potential consequences and how it would affect or be affected by the proposed project.

8. **Consultation Section.** This chapter summarizes public and agency involvement activities which satisfy CEQA and NEPA requirements for public scoping and agency consultation and coordination.

9. **Irreversible Commitment of Resources.** This chapter contains a discussion of the irreversible and irretrievable commitments of resources which may occur should the project be implemented.

10. **Relationship of Uses and Productivity.** This chapter describes how the Proposed Action would affect the short-term use and the long-term productivity of the environment.

11. **Mitigation Monitoring and Reporting Program.** This chapter identifies the significant and potentially significant impacts of the Proposed Action, recommended measures adopted by NBWRA to reduce these impacts to a less-than-significant level, and reporting tasks for implementation of measures.

12. **Report Preparers.** This chapter identifies authors and consultants involved in preparing this Draft EIR/EIS, including persons and organizations consulted.

1.6 CEQA/NEPA Process and Review

1.6.1 Notice of Intent

In accordance with 40 CFR 1508.22, a Notice of Intent (NOI) was published in the Federal Register by Reclamation on July 28, 2008. During the 30-day public review period, NBWRA held three local scoping meetings, which are described in Section 1.6.3 below. No written comments were received by Reclamation during the NOI public review period, which closed on August 28, 2008.

1.6.2 Notice of Preparation

In accordance with Sections 15082 of *CEQA Guidelines*, the NBWRA circulated a Notice of Preparation (NOP; State Clearinghouse #2008072096) to local, state, and federal agencies, and to other interested parties on July 25, 2008. The NOP was mailed to the State Clearinghouse and was available online on the NBWRA website. The NOP was directly mailed to 63 parties, and a postcard notification of the NOP's availability was sent to 580 parties. The NOP was circulated for a 30-day public review period, which ended on August 25, 2008.

1.6.3 Public Scoping

NBWRA held three public scoping meetings on August 4, 5, and 6 of 2008 at the locations identified below.

August 4, 2008	August 5, 2008	August 6, 2008
6:30 p.m. – 7:30 p.m.	6:30 p.m. – 7:30 p.m.	6:30 p.m. – 7:30 p.m.
Napa Elks Lodge	Margaret Todd Senior Center	Sonoma Community Center
2804 Soscol Avenue, Napa	1560 Hill Road, Novato	276 East Napa Street, Sonoma

Public notices were placed in local newspapers informing the general public of the availability of the NOP and NOI and the time and place of scheduled scoping meetings. The purpose of the scoping meetings were to present the Proposed Action to the public through use of display maps, route alignments and handouts describing project components and potential environmental impacts. Attendees were provided an opportunity to voice comments or concerns regarding potential effects of the Proposed Action.

Additional scoping meetings with individual stakeholders were held on August 6th, 2008 with the Russian River and Eel River Interest Groups, and on July 27th, 2008 with California Department of Parks and Recreation (staff meeting).

Written comments received during the Scoping Meeting and circulation of the NOP and NOI are included in **Appendix 1**. Written comments were received from state agencies, including California Department of Fish and Game (CDFG), California Department of Parks and Recreation, California Department of Transportation, California Native American Heritage Commission, State Water Resources Control Board (SWRCB); public organizations, including Groundwater Under Local Protection (GULP), Friends of the Eel River, Marin Audubon Society, Salmon Protection and Watershed Network, Sonoma County Water Coalition; and members of the public. The comments included questions regarding potential effects on surface and groundwater quality, biological resources, cultural resources, recreational resources, and traffic.

1.6.4 Draft EIR/EIS

This document constitutes the Draft EIR/EIS. The report contains a description of the NBWRP (or proposed action), description of the environmental setting, identification of impacts, and mitigation measures for impacts found to be significant, as well as an analysis of alternatives. The impacts are categorized as follows:

1. Significant and unavoidable;
2. Potentially significant, but can be mitigated to a less-than-significant level;
3. Less than significant (mitigation is not required under CEQA, but may be recommended);
4. No impact; or
5. Beneficial.

NEPA requires that the impacts of each alternative be quantified and analyzed separately, with the analysis of the no action alternative presented first, followed by the alternatives. This impact analysis should include at least the following items:

- The direct effects and their significance;
- The indirect effects and their significance;
- Quantification of the impact (when possible);
- Mitigation for the impact; and
- The resultant net, or residual, impact.

The impact analysis should focus on potentially significant effects and should not include discussion of impacts that are minor and short term. Effects include those involving ecological (natural resources, and the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health resources, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if the federal lead agency believes that the effect will be beneficial.

CEQA requires that a lead agency shall neither approve nor carry out a project as proposed unless the significant environmental effects have been reduced to an acceptable level, where possible (*CEQA Guidelines* §15091 and §15092). An acceptable level is defined as eliminating, avoiding, or substantially lessening the significant effects. If such a reduction is not possible, a lead agency must adopt mitigation findings for potentially significant impacts that can be reduced to a less than significant level. For those impacts that remain significant and unavoidable, a lead agency must adopt findings regarding alternatives and a Statement of Overriding Considerations. As defined in *CEQA Guidelines* §15093, a Statement of Overriding Considerations balances the benefits of a project against its unavoidable environmental consequences.

1.6.5 Public Review

This document is being circulated to local, state and federal agencies, and to interested organizations and individuals who may wish to review and comment on the Draft EIR/EIS. Publication of this Draft EIR/EIS marks the beginning of a 45-day public review period, during which written comments may be directed to the address below. During the 45-day review period, the NBWRA will hold public meetings on the Draft EIR/EIS.

Sonoma County Water Agency
Attn: Marc Bautista
Environmental Specialist
P.O. Box 11628
Santa Rosa, CA 95406-1628

1.6.6 Final EIR/EIS

Written and oral comments received in response to the Draft EIR/EIS will be addressed in a Response to Comments document which, together with the Draft EIR/EIS, will constitute the Final EIR/EIS. Reclamation will then consider provision of federal funding under Title XVI for implementation of the NBWRP and use the document to support a Record of Decision to document Reclamation's decision on the project. As the CEQA Lead Agency, SCWA's Board of Directors will consider certification of the EIR/EIS as complete under CEQA (*CEQA* Guidelines §15090). Once the EIR/EIS has been certified as complete, the Board, or NBWRA Member Agencies, as Responsible Agencies, will consider the certified EIR/EIS (15096(a)). Any project approvals would require the Board or NBWRA Member Agencies to make written findings with respect to each significant environmental effect relevant to their aspect of the project identified in the EIR/EIS in accordance with Section 15091 of *CEQA Guidelines*.

1.6.7 Mitigation and Monitoring and Reporting Program

In January 1989, California enacted AB[3] 3180 (Cortese Bill), which requires lead agencies to "adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment" (CEQA §21081.6, *CEQA Guidelines* §15097). The specific "reporting or monitoring" program required by AB 3180 is not required by *CEQA Guidelines* to be included in the EIR/EIS. However, a Mitigation Monitoring and Reporting Program (MMRP) will be included with the EIR/EIS for public review.

1.6.8 Responsible and Trustee Agencies

Other potential responsible and trustee agencies beyond the NBWRA Member Agencies and cooperating agencies with authority over the Proposed Action include, but are not limited to, the following: USACE, USFWS, National Oceanic and Atmospheric Administration (NOAA) Fisheries, CDFG, SWRCB, San Francisco Bay Regional Water Quality Control Board (RWQCB), State Lands Commission, California State Office of Historic Preservation, California Department of Health Services, Bay Area Air Quality Management District, and Sonoma County Public Works.

1.7 Project Background

As discussed above, NBWRA was established under a Memorandum of Understanding (MOU) in August 2005 and is comprised of four wastewater utilities discussed below with SCWA acting as the CEQA Lead Agency and Reclamation acting as the NEPA Lead Agency. Additional agencies supporting the NBWRA through contribution of funds and staff time include NMWD and Napa County.

[3] Assembly Bill

1.7.1 MOU Signatory Agencies

The following Member Agencies form the NBWRA and would participate in the implementation of the NBWRP:

- **LGVSD** – LGVSD provides wastewater treatment and disposal service to approximately 30,000 people within the area of Marinwood, Lucas Valley, Terra Linda, Santa Venetia, Los Ranchitos, and Smith Ranch Road (LGVSD, 2005).

- **Novato SD** – Novato SD provides wastewater treatment and disposal services to approximately 60,000 residents within the city of Novato, an area of 28 square miles, and surrounding areas (Novato SD, 2006).

- **SVCSD** – The SVCSD WWTP began operations in 1954 and provides service to about 34,000 people in the city of Sonoma, within a 7-square-mile area (SVCSD, 2006).

- **Napa SD** – The Napa SD's Soscol Water Recycling Facility (SCRF) treats wastewater from the city of Napa and surrounding unincorporated communities, an area of about 23 square miles, and serves a population of approximately 80,000 (Napa SD, 2007).

- **SCWA** – SCWA, which began the Title XVI process for investigating a recycled water distribution system under a Cooperative Agreement with the Bureau of Reclamation, is a drinking water provider to over 600,000 residents and continues to be an actively participating partner.

1.7.2 Supporting Agencies

- **NMWD –** NMWD has partnered with Novato SD to implement recycled water projects in their collective service areas, including a 0.5 million gallons per day-tertiary treatment facility located at the Novato SD reclamation facility. NMWD is contributing funds and staff time to NBWRA.

- **Napa County –** Napa County is cooperating with Napa SD in the development of recycled water options for the Milliken-Sarco-Tulucay (MST) Creeks areas, and is contributing funds and staff time to NBWRA.

1.7.3 Feasibility Study Preparation

The NBWRA members undertook cooperative planning efforts over a 5-year period, including 19 bi-monthly technical workshops as well as monthly institutional workshops with extensive outreach to potential NBWRP stakeholders to define shared objectives and develop feasible alternatives toward definition of region-wide water reclamation and reuse project that would enable them to meet those objectives. Under the MOU, Camp Dresser McKee, Inc. (CDM) prepared a Phase 1 Engineering Feasibility Report (2005), a Phase 2 Engineering Feasibility Study Report (2006), and a Phase 3 Engineering and Economic/Financial Analysis Report (2008) in coordination with NBWRA. The Phase 1 Engineering Foundation Report, completed in March 2005, represented the submittal of preliminary information on demands in the action area, possible project configuration, and preliminary cost estimates. This initial report analyzed 15 alternatives.

The Phase 2 Feasibility Report, completed in June 2006, presented an engineering evaluation of a regional approach to recycled water use in the North San Pablo Bay area of California. The report described the action area, the key water management problems and needs within the action area, identified water reuse opportunities, and developed and analyzed alternatives that could address the identified water management needs, and presented an overview of associated legal and institutional requirements.

The Phase 3 Engineering and Economic/Financial Analysis Report (or Phase 3 Report) completed in June 2008 updated the Phase 2 Feasibility Report to be consistent with project planning conducted by the individual Member Agencies, included an economic and financial analysis, and discussed potential environmental effects. The Phase 3 Report provided the engineering and economic studies to guide the NBWRA and Reclamation's selection of a recommended Action Alternative for funding and implementation, and generated the four alternatives under consideration, as discussed in Section 1.3.

1.7.4 Water Supply Setting and Future Conditions

The action area encompasses approximately 318 square miles of land within Marin, Sonoma, and Napa Counties. This region extends roughly 10 to 15 miles inland of the tidal San Pablo Bay, with a total population of over 270,000 in the major urban centers of San Rafael, Novato, Sonoma, and Napa. The region supports agriculture, including some of the premier wine-grape growing land in North America, as well as light industry, commercial and institutional uses, parklands, and residential areas.

The waterways of this region – the Napa River, Sonoma Creek, Novato Creek, and Petaluma River, as well as smaller streams, some of which support only seasonal flows – are tributary to the San Pablo Bay estuary. Although threatened until recently by development, the remaining tidal wetlands of the San Pablo Bay estuary serve in a vital ecological role as nurseries for fisheries and wintering areas for migratory waterbirds.

Local and regional planning projections indicate that approximately 10 to 12 percent of growth would occur in most of the existing urban centers in the action area by the year 2020 (as compared to 2005 populations). Existing policies in principal cities will tend to favor concentrated rather than dispersed growth.

Agricultural land use is expected to remain relatively constant over a 20-year planning period. The local governing policies in the Marin, Sonoma, and Napa Counties in the action area protect agricultural lands. Given the high value of wine-grape culture, it is unlikely that there would be much change in the 75 percent of agricultural acreage committed to vineyards.

Total urban water use – including both residential and non-residential uses – in the action area is projected to increase from the 2005 level of 63,700 acre-feet per year (AFY) to about 72,800 AFY in 2020. Total water use for irrigation of agricultural lands is estimated at approximately 23,300 AFY at present. The sources that serve these water demands include surface water supplies (both within and outside of the action area), groundwater, and recycled water. SCWA supplies

much of the Sonoma and Marin County area with ***surface water*** conveyed from the Russian River and its tributaries in central Sonoma County, adjacent to the project area watershed. SCWA's reliable supplies to customers in the action area consist of 87,970 AF of water during a dry year.

Groundwater serves agricultural users (and some residential users) as a primary source of supply, particularly in the MST area of Napa County. Groundwater also serves as a secondary source of supply for some urban users as well, including the City of Sonoma, Valley of the Moon Water District, and SCWA contractors. Although the total quantity of groundwater in the action area is unknown, groundwater pumping has been measured. The vast increase (i.e., 80 percent) in pumping of groundwater in the past 30 years to support agricultural irrigation has resulted locally in groundwater outflow exceeding inflow, some impacts on groundwater quality, and a lowering of groundwater levels in some parts of the action area that are dependent on groundwater supplies.

Existing treatment and distribution infrastructure in the action area currently allows for about 7,300 AFY of ***recycled water*** for irrigation and wetlands restoration purposes, which could increase to 11,250 AFY by 2020.

At first glance, average year and wet season conditions appear to yield sufficient surface water and groundwater to meet total annual demand in the action area. However, the seasonal availability of some water sources (against the strong seasonality of agricultural demand), the potential for overdraft of groundwater with impacts on quality and quantity, and the growth pressures on the area's urban centers suggest a need for an effective, coordinated, and regional approach to the increased use of recycled water.

1.7.5 Recycled Water Availability

The WWTPs in the action area deliver recycled water during the dry season, when the RWQCB imposes restrictions on discharge of secondary effluent to waterways. SVCSD and Napa SD have the most extensive infrastructure in place for conveyance, storage, and distribution of recycled water to local users. Novato SD and LGVSD are currently producing secondary treated wastewater for discharge All of the WWTPs, except LGVSD, currently have the capability to produce disinfected tertiary recycled water conforming to Title 22 requirements for unrestricted use. The Member Agencies have proposed projects that are in various stages of planning and implementation to increase treatment capacity or plan to increase the local use of recycled water, if funding is available. **Table 1-2** summarizes WWTP discharge and beneficial reuse in 2020 assuming implementation of those individual local projects.

As shown in Table 1-2, the potential for use of recycled water in the action area is not limited by demand but rather by the limited capacity for tertiary treatment and by the lack of regional conveyance and storage networks that would deliver disinfected tertiary treated recycled water where and as needed. Acting individually and locally, the NBWRA Member Agencies have limited ability to maximize their potential for water reclamation and reuse. Adopting a regional outlook and plan would provide an opportunity to expand the potential for beneficial water reuse.

TABLE 1-2
POTENTIAL YEAR 2020 WWTP DISCHARGE AND BENEFICIAL REUSE VOLUMES IN ACTION AREA

Wastewater Treatment Plant	Flow (AFY)	Beneficial Reuse (AFY)
LGVSD	3,670	1,104
Novato SD	8,677	812
SVCSD	5,508	3,893
Napa SD	9,800	5,590
TOTAL	**27,655**	**11,599**

SOURCE: CDM, 2009

1.7.6 Environmental Benefits of Water Recycling

In 2001, the U.S. Environmental Protection Agency (USEPA) Water Division, Region IX issued EPA document number 909-F-98-001, which examined water recycling and reuse in an educational context. The document defined water recycling, described some examples of existing recycled water projects, discussed how recycled water affects the public, and identified three major environmental benefits associated with water recycling (discussed below).

The USEPA defines water recycling as reusing treated wastewater for beneficial purposes such as agricultural and landscape irrigation, industrial processing, toilet flushing, and groundwater recharge. The USEPA recognizes “water recycling”, “water reclamation”, and “water reuse” as synonymous terms. A common source of recycled water is water that is reclaimed from municipal wastewater. The USEPA identifies water recycling as a sustainable approach to water supply problems because, with adequate treatment, it does not compromise human health, it can be cost-effective in the long-term, and provides environmental benefits that support aquatic and terrestrial ecosystems.

According to the USEPA, recycled water can safely satisfy most water demands when it is treated to tertiary or advanced treatment levels. Where there is a likelihood of human exposure to the water, advanced treatment is required. There are two treatment levels in the water recycling process: secondary treatment and tertiary or advanced treatment. Secondary treatment consists of biochemical oxidation and disinfection following primary treatment. Water that undergoes secondary treatment is typically suitable for golf course irrigation, surface irrigation of orchards, nonfood crop irrigation, wetlands, wildlife habitat, stream augmentation, and industrial cooling processes. Tertiary treatment involves the use of physical, chemical or biological means to improve secondary effluent quality and may include chemical coagulation, filtration, membrane treatment and higher level disinfection. Wastewater that is treated to a tertiary level is suitable for landscape irrigation, toilet flushing, and food crop irrigation. Tertiary-treated water can also be used for indirect potable reuse to recharge potable groundwater aquifers or augment surface water reservoirs.

Due to the many opportunities for water reuse, the USEPA encourages the development of recycled water systems. The USEPA defines three major benefits of water recycling.

1. **Water recycling can decrease diversion of freshwater from sensitive ecosystems.** Supplementing industrial, agricultural, and urban water demands by using recycled water allows surface water, which is normally diverted, to remain instream and provide flow that supports plants, wildlife, and fish.

2. **Water recycling decreases discharge to sensitive water bodies.** In some cases, reducing wastewater discharges to water bodies can benefit the water bodies. For example, reducing wastewater discharge to a saltwater habitat could avoid brackish water conditions in the marsh. In addition, application of recycled water for agricultural use and landscape irrigation can provide a source of nutrients and lessen the need to apply synthetic fertilizers.

3. **Recycled water may be used to create or enhance wetlands and stream habitats.** Wetlands and streams provide environmental benefits including flood control, fisheries breeding, and water quality control. Aquatic environments and wildlife habitats can be improved by augmenting the water flow with recycled water.

1.7.7 Recycled Water Quality

Regulations stipulate water quality standards in conjunction with requirements for treatment, sampling, and monitoring. With recycled water, a key concern is the potential risk of human exposure to pathogenic organisms. The California Department of Public Health (CDPH) is responsible for regulating the use of recycled water in California. The California RWQCBs issue requirements for individual projects in conformance with the CDPH regulations. Article 4 in Title 22 of the California Code of Regulations sets water quality standards and treatment reliability criteria for recycled water, including Title 22 regulatory requirements for use of recycled water to protect the beneficial uses of recycled water for land applications, such as irrigation of fields, golf courses, or public access lands. **Table 1-3** lists the regulatory requirements for the recycled water quality permitted for different uses.

Title 22 sets bacteriological water quality standards based on the expected degree of public contact with recycled water. Disinfected tertiary treatment of recycled water is required for use involving direct public contact. Disinfected tertiary recycled water is defined as a filtered and subsequently disinfected wastewater.

Disinfected secondary treatment of recycled water is required for recycled water applications with a lower potential for public contact. There are three levels of secondary treatment based on the level of disinfection: disinfected secondary-2.2; disinfected secondary-23; and undisinfected secondary. Disinfected secondary-2.2 recycled water is defined as recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (mpn) of 2.2 per 100 milliliters of sample. Disinfected secondary-23 recycled water has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed an mpn of 23 per 100 milliliters of sample. Undisinfected secondary recycled water is oxidized

TABLE 1-3
REGULATORY REQUIREMENTS FOR RECYCLED WATER USES IN CALIFORNIA[a]

Use of Recycled Water	Disinfected Tertiary Recycled Water	Treatment Level		
		Disinfected Secondary-2.2 Recycled Water	Disinfected Secondary-23 Recycled Water	Undisinfected Secondary Recycled Water
Irrigation				
Food crops where recycled water contacts the edible portion of the crop, including all root crops	Allowed	Not allowed	Not allowed	Not allowed
Parks and playgrounds	Allowed	Not allowed	Not allowed	Not allowed
School yards	Allowed	Not allowed	Not allowed	Not allowed
Residential landscaping	Allowed	Not allowed	Not allowed	Not allowed
Unrestricted-access golf courses	Allowed	Not allowed	Not allowed	Not allowed
Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	Allowed	Not allowed	Not allowed	Not allowed
Food crops, surface-irrigated, above-ground edible portion, and not contacted by recycled water	Allowed	Allowed	Not allowed	Not allowed
Cemeteries	Allowed	Allowed	Allowed	Not allowed
Freeway landscaping	Allowed	Allowed	Allowed	Not allowed
Restricted-access golf courses	Allowed	Allowed	Allowed	Not allowed
Ornamental nursery stock and sod farms with unrestricted public access	Allowed	Allowed	Allowed	Not allowed
Pasture for milk animals for human consumption	Allowed	Allowed	Allowed	Not allowed
Nonedible vegetation with access control to prevent use as a park, playground or school yard	Allowed	Allowed	Allowed	Not allowed
Orchards with no contact between edible portion and recycled water	Allowed	Allowed	Allowed	Allowed
Vineyards with no contact between edible portion and recycled water	Allowed	Allowed	Allowed	Allowed
Non food-bearing trees, including Christmas trees not irrigated less than 14 days before harvest	Allowed	Allowed	Allowed	Allowed
Fodder and fiber crops and pasture for animals not producing milk for human consumption	Allowed	Allowed	Allowed	Allowed
Seed crops not eaten by humans	Allowed	Allowed	Allowed	Allowed
Food crops undergoing commercial pathogen-destroying processing before consumption by humans	Allowed	Allowed	Allowed	Allowed
Supply for Impoundment				
Nonrestricted recreational impoundments, with supplemental monitoring for pathogenic organisms	Allowed[b]	Not allowed	Not allowed	Not allowed
Restricted recreational impoundments and publicly accessible fish hatcheries	Allowed	Allowed	Not allowed	Not allowed
Landscape impoundments without decorative fountains	Allowed	Allowed	Allowed	Not allowed
Supply for Cooling or Air Conditioning				
Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed[c]	Not allowed	Not allowed	Not allowed

TABLE 1-3 (Continued)
REGULATORY REQUIREMENTS FOR RECYCLED WATER USES IN CALIFORNIA[a]

Use of Recycled Water	Disinfected Tertiary Recycled Water	Treatment Level		
		Disinfected Secondary-2.2 Recycled Water	Disinfected Secondary-23 Recycled Water	Undisinfected Secondary Recycled Water
Supply for Cooling or Air Conditioning (cont.)				
Industrial or commercial cooling or air conditioning not involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed	Allowed	Allowed	Not allowed
Other Uses				
Groundwater Recharge	Allowed under special case-by-case permits by RWQCBs[d]			
Flushing toilets and urinals	Allowed	Not allowed	Not allowed	Not allowed
Priming drain traps	Allowed	Not allowed	Not allowed	Not allowed
Industrial process water that may contact workers	Allowed	Not allowed	Not allowed	Not allowed
Structural fire fighting	Allowed	Not allowed	Not allowed	Not allowed
Decorative fountains	Allowed	Not allowed	Not allowed	Not allowed
Commercial laundries	Allowed	Not allowed	Not allowed	Not allowed
Consolidation of backfill material around potable water pipelines	Allowed	Not allowed	Not allowed	Not allowed
Artificial snow making for commercial outdoor uses	Allowed	Not allowed	Not allowed	Not allowed
Commercial car washes, not heating the water, excluding the general public from washing process	Allowed	Not allowed	Not allowed	Not allowed
Industrial process water that will not come into contact with workers	Allowed	Allowed	Allowed	Not allowed
Industrial boiler feed	Allowed	Allowed	Allowed	Not allowed
Nonstructural fire fighting	Allowed	Allowed	Allowed	Not allowed
Backfill consolidation around nonpotable piping	Allowed	Allowed	Allowed	Not allowed
Soil compaction	Allowed	Allowed	Allowed	Not allowed
Mixing concrete	Allowed	Allowed	Allowed	Not allowed
Dust control on roads and streets	Allowed	Allowed	Allowed	Not allowed
Cleaning roads, sidewalks and outdoor work areas	Allowed	Allowed	Allowed	Not allowed
Flushing sanitary sewers	Allowed	Allowed	Allowed	Allowed

[a] Refer to the full text of the most current (December 2, 2000) version of Title 22: California Code of Regulations, Chapter 3 Water Recycling Criteria. This chart is only an informal summary of the uses allowed in this version. The version of the adopted criteria can be downloaded from: http://www.dhs.ca.gov/ps/ddwem/publications/Regulations/recycleregs_index.htm.
[b] Allowed with "conventional tertiary treatment." Additional monitoring for two years or more is necessary with direct filtration.
[c] Drift eliminators and/or biocides are required if public or employees can be exposed to mist.
[d] Refer to Groundwater Recharge Guidelines, available from the CDPH.

SOURCE: ESA, 2006.

wastewater. Oxidized wastewater is wastewater in which the organic matter has been stabilized, is nonputrescible[4] and contains dissolved oxygen.

1.7.8 Water Conservation Programs Within the Action Area

Within Sonoma County and portions of Marin County, SCWA, its water contractors, including NMWD and the City of Sonoma, and other water customers work together to help the community use water wisely. Similarly, the City of Napa, which provides water supply with in the Napa SD service area, and Napa County have education and water conservation device programs in place to encourage water conservation within Napa County. SCWA provides financial incentives, staffing and technical expertise to assist the water contractors and other water customers with cost-effective water conservation programs. SCWA leads its regional water conservation program with a legislative and research component. SCWA sponsors, supports, and tracks water conservation legislation while serving in a leadership role for many federal, state and local councils and boards. SCWA was made promotional partner of the USEPA's WaterSense program in summer of 2007.

SCWA's leadership role has achieved results in emerging regional conservation measures. In 1998, SCWA became a signatory to the MOU Regarding Urban Water Conservation in California as governed by the California Urban Water Conservation Council (CUWCC). SCWA's retail water contractors are also signatories to the MOU, and are responsible for compliance with developing and implementing cost-effective Best Management Practices (BMPs). SCWA was the first wholesaler in the State of California to have all of its retail water agencies sign the CUWCC MOU. Beyond the BMPs, SCWA tracks and supports other emerging measures like water efficiency standards for new development, requirements to implement best available technology, and financial rebates for retrofit of irrigation meters. A third area of emerging regional measures has resulted in grant funding from Proposition 50, Proposition 13, and the California Public Utilities Council for water conservation programs.

Since 1982, SCWA has offered technical, financial, and program management assistance to its water contractors and other customers with water conservation measures that are cost-effective and would reduce water demands on SCWA's Russian River Project and water transmission system. Water contractors and other customers in turn educate their water customers in the wise use of indoor and outdoor water. Please see **Table 1-4** for a comprehensive list of the current water conservation measures being implemented by SCWA and the water contractors. Estimated savings that have resulted from current water conservation programs is over 6,600 AFY.

SCWA and the water contractors are proposing to implement new water conservation measures along with existing water conservation programs as part of the SCWA Water Project EIR, which is currently undergoing environmental review (SCWA, 2008). The goal of the conservation programs is to achieve total savings of 16,040 AFY by the year 2030, through the continued

[4] Solid wastes which are not capable of being decomposed by micro-organisms with sufficient rapidity as to cause odors, gases, attraction of vectors or other offensive conditions. For example, wastes that are putrescible, and do not qualify as nonputrescible, would include food wastes.

TABLE 1-4
COMPREHENSIVE LIST OF BEST MANAGEMENT PRACTICES BEING IMPLEMENTED BY SCWA AND WATER CONTRACTORS

Measure	Description
Residential Water Surveys- Indoor	This is the indoor component of indoor and outdoor water surveys for existing single-family and multi-family customers. Normally those with high water use are targeted and provided customized report to homeowner.
Residential Water Surveys- Outdoor	This is the outdoor component of indoor and outdoor surveys for existing single-family and multi-family customers. Normally those with high water use are targeted and provided customized report to homeowner.
Residential Retrofit	Provide owners of pre-1992 homes with retrofit kits that contain easy-to-install low flow showerheads, faucet aerators, and toilet tank retrofit devices until saturation reaches 75%.
Water Budgets	90%-100% of all irrigators of landscapes with separate irrigation accounts would receive a monthly or bi-monthly irrigation water use budget.
Large Landscape Conservation Audits	All public and private irrigators of landscapes larger than one acre would be eligible for free landscape water audits upon request.
Public Information Program	Public education would be used to raise awareness of other conservation measures available to customers. Programs could include poster contests, speakers to community groups, radio and television time, and printed educational material such as bill inserts, etc.
Commercial Water Audits	High water use accounts would be offered a free water audit that would evaluate ways for the business to save water and money.
Single Family Residential ULF Toilet Rebate	Homeowners would be eligible to receive a rebate to replace an existing high volume toilet with a new water efficient toilet.
Multi Family Residential ULF Toilet Rebate	Homeowners would be eligible to receive a rebate to replace an existing high volume toilet with a new water efficient toilet.
System Water Audits, Leak Detection and Repair	Water provider will undertake annual system water audits and repair leaks proactively. The budget will be $50,000 per year for 10 years with the net results that un-accounted for water will be reduced to below 10%

SOURCE: SCWA, 2008

implementation of existing and new water conservation programs and measures. Brown and Caldwell screened 75 new water conservation measures and determined that 32 water conservation measures would generally be cost-effective and well-suited to implement in SCWA's service area and could realistically achieve additional approximate total savings of 9,440 AFY. Therefore, these measures were selected for implementation under the Water Conservation Component. Demand projections for the Water Project assume that the water conservation measures described would be implemented through the year 2030.

In June 2006, SCWA and other water contractors signed the Restructured Agreement for Water Supply which establishes water supply for each of the water contractors, encourages water conservation and recycled water use that offsets potable water use, and provides payment to SCWA for water delivered to enable SCWA to pay capital costs of major operation, and maintenance of the Transmission System. The agreement will remain in effect until June 30, 2040. The water contractors would be required, by the Restructured Agreement for Water Supply,

to implement these water conservation measures, or other alternative conservation measures that secure at least the same level of water savings. This requirement does not preclude the water contractors from implementing additional or more aggressive water conservation measures resulting in additional savings. SCWA and the water contractors will continue their commitment to water conservation and encourage alternative and innovative methods of saving water to increase conservation and achieve higher savings in the future.

Additionally, the Restructured Agreement's provisions include monetary sanctions, which consist of a penalty of 10 percent of the "operations and maintenance charge" to be imposed in the event that a water contractor fails to implement required conservation measures. This penalty provides an economic incentive for compliance with the water conservation requirements.

The City of Napa, also a signatory to the MOU Regarding Urban Water Conservation in California, has integrated water conservation into its long-term water management strategy by developing a series of programs to educate residents and provide water-efficient devices to customers (City of Napa, 2009). The City of Napa sponsors the following conservation programs:

- **Water Wise Survey (Residential and Commercial).** A water wise survey is a free service conducted by a city representative to evaluate water use practices in the home, or in commercial or industrial businesses and institutions. The surveyor checks for leaks, inspects equipment, makes recommendations for lawn or large-scale irrigation, provides instruction for reading the water meter, and offers rebates for water efficient devices, such as clothes washers. The city also replaces pre-1992 toilets with more efficient models.

- **Water Wise Landscaping Workshop.** The workshop series promotes the principles of native landscaping and efficient irrigation, sponsors a demonstration garden, and sells CD-ROMs with gardening tips.

- **Free Devices and Literature.** Customers are eligible to receive water efficient devices including low flow showerheads, faucet aerators, toilet leak detection dye, toilet flapper valves, rain/ sprinkler gauges with a lawn watering guide, garden hose nozzle, and a hose timer.

- **Educational Programs.** The City offers WWTP field trips and classroom presentations in an effort to educate children on the importance of water conservation and demonstrate water saving techniques that can be used in the home.

1.7.9 Sustainability

Member Agency Sustainability Programs

The NBWRA Member Agencies and Cooperating Agencies have existing programs and projects that are intended to meet the goal of increasing the sustainability of their operations. The programs and projects are focused on energy conservation, water conservation, and energy efficiency.

LGVSD

Implementing green practices is an ongoing goal of LGVSD. Sustainable aspects of operations at LGVSD include solar generation, community outreach programs, and habitat restoration. LGVSD currently has 2,490 solar panels that provide an alternative source of energy. The solar power plant produces approximately 850,000 kilowatt-hours per year, which is enough energy to power 283 homes. Generating electricity with solar power avoids the need to run standard power plants using fossil fuels, increases energy independence and reduces pollution. Community outreach programs focus on pollution prevention and public involvement. Habitat restoration projects provide environmental benefits and enhance the natural environment. The LGVSD *Strategic Plan*, adopted in 2008, established other sustainable goals for LGVSD. According to the Strategic Plan, LGVSD will identify methods to decrease their district vehicle emissions to reduce their carbon footprint and address climate change issues (LGVSD, 2008).

Novato SD

Novato SD has been implementing the following water conservation and energy efficiency programs:

- **Ongoing Sustainability Programs.** Novato SD has undertaken numerous sustainability initiatives and continues to develop initiatives over time. In addition, Novato SD participates with the Marin County Sustainability Team to develop policies and programs that will help make the county healthy, vibrant, and sustainable for future generations. As a result of these efforts, Novato SD has been certified as a green business since 2004.

- **Onsite Energy Generation from Byproducts.** Novato SD has reduced air pollution and electricity use with the installation of a microturbine at the Novato WWTP. The microturbine generates electricity by burning the methane gas generated by the Novato SD's biological treatment process, which will reduce energy demand by 7.5 percent. Waste heat from the microturbine is used to heat the biological digester, saving natural gas. Once Novato SD's WWTP upgrade (currently under construction) is complete, Novato SD will increase biomass energy generation to produce up to 40 percent of the onsite power requirements. Novato SD also plans to add solar power.

- **Energy Efficiency Measures.** The major renovation of the aging WWTP, conversion of the Ignacio WWTP into a pump station, and movement of wastewater from the Ignacio Pump Station through a new 6-inch pipeline to the Novato WWTP involved energy saving measures. These measures include a low-pressure ultra-violet disinfection system, premium-efficiency motors, high-efficiency aeration blowers, advanced dissolved oxygen control, and variable-speed pump drives.

- **Water Recycling.** Novato SD recycles wastewater to irrigate landscapes and sustain wildlife ponds and pasture land.

- **Other Sustainable Processes.** As noted above, Novato SD uses ultra-violet light as a substitute to chlorine to treat wastewater. In an effort to reduce fuel consumption and greenhouse gas emissions, Novato SD is converting its fleet to hybrid vehicles. Novato SD is involved with the community, and assists property owners to stabilize eroded banks and improve fish habitat along Novato Creek. Novato SD is also a participant in several "sustainable Novato" projects, including household and electrical waste recycling programs.

SVCSD

Alternative energy sources are also being utilized at the SVCSD WWTP. In May 2007, a solar plant that consists of 5,200 solar panels on a 5-acre plot at the SVCSD WWTP provides at least one-third of the energy needed to fuel the current operations at the WWTP. The panels will rotate to track the sun in order to provide maximum solar energy. Feeding the power into the PG&E grid means an immediate one-third reduction in the total energy cost for plant operation and a future additional reduction of up to 30 percent.

Napa SD

The Napa SD has implemented multiple programs to achieve a more sustainable treatment facility, and also participates in incentive programs for Napa area residents to reduce energy and water use. A recent and ongoing energy conservation measure at the Soscol Water Recycling Facility includes the Aeration Blower Replacement Project, which was completed in September 2008. This project included replacement of existing aeration blowers with new turbo blowers and positive displacement blowers. This conversion in blower technology is resulting in an energy savings of just over 100,000,000 kilowatt hours per year, equivalent to the energy utilized by 148 vehicles in a year. The Napa SD also utilizes co-generation technology, which recovers digester gas produced during anaerobic digestion, then uses it to co-generate electrical power using a gas engine generator. Waste heat, a by-product of power generation, is recovered from the engines and exhaust. The electricity and heat, which are produced by the cogeneration system, are utilized in the plant to reduce purchased electricity and natural gas. Electricity produced by the generators is fed into the plant electrical distribution system for use where needed. The average recoverable energy produced by the cogeneration unit is between 4,200 and 4,500 kilowatt-hours/day (Napa SD, 2008).

Napa SD currently recycles 25-30% of its influent for various purposes including landscape irrigation in business parks, golf courses, and municipal parks, as well as vineyard irrigation. In addition, Napa SD significantly reduces the solids volume sent to a landfill through the beneficial reuse of biosolids generated during operations. Napa SD discs the biosolids into fields to enrich the soil.

In addition to efforts in achieving a more sustainable treatment facility, Napa SD contributes funding to water and energy conservation programs administered by the City of Napa. The Toilet Retrofit Program provides incentives for Napa residents to replace old, water intensive toilets with Ultra-Low Flush Toilets, using 1.6 gallons per flush. Napa residents can either receive a direct $100 rebate from Napa SD for each retrofitted toilet, or enroll on a waiting list to have their toilets retrofitted through an alternate program administered by the City of Napa. In the alternate program, for each new house in a Napa development, a developer is required to retrofit four houses on the waiting list, at no cost to the homeowners. Napa SD contributes funds to support the Water Conservation Representative responsible for implementation of the Toilet Retrofit Program. Given that toilet flushes and leaks can represent up to 40% of an *indoor* water budget, these program are an effective approach for water conservation.

Napa SD is also involved in a water conservation program for clothes washers, typically the second largest water user inside the home after toilets. The City of Napa, in combination with Napa SD and **Pacific Gas and Electric Company,** offers residents a combined water-energy rebate on certain high-efficiency clothes washer models. New high-efficiency models use less than half the amount of water used by conventional washers and have higher energy efficiency.

SCWA

In February 2006, SCWA's Board of Directors directed SCWA to take several actions to advance implementation of environmentally sustainable practices by SCWA and to promote adoption of sustainable practices by other entities in the area. Several of the programs such as SCWA's water conservation program, recycled water projects, fishery protection and restoration programs, renewable energy projects, public access on SCWA land, bio-diesel use, and other environmental projects are important components of sustainable resource management. Ultimately, SCWA's goal is to supply water produced without an increase in greenhouse gas and carbon emissions. Since 2006, SCWA has been aggressively pursuing its sustainability initiative with the following programs:

- Construction of 2.0 megawatts of solar energy generation capacity at three facilities;
- Conversion of first plug-in hybrid vehicle by a government agency in Sonoma County;
- Implementation of recognized guidelines from the International Organization for Standardization;
- (ISO) 9001 and 14001 registrations;
- Sponsorship of and participation in several conferences promoting sustainability;
- Filing an application with the Federal Energy Regulatory Commission to perform wave energy;
- Feasibility studies off the coast of Sonoma County;
- Working with the City of Santa Rosa to build a bio-diesel production plant;
- Achieving registration with the California Climate Action Registry;
- Achieving certification from the Sustainable Business Institute;
- Participating in the California Environmental Dialogue;
- Participating in the United Nations Conference on Climate Change in Bali, Indonesia; and
- Achieving a Bay Area Green Business certification for SCWA's administration building.

Nearly 20 percent of the electrical energy in SCWA's service area is spent on the supply and treatment of water. SCWA, along with the County of Sonoma and the incorporated cities in the county, has made a commitment to reduce greenhouse gas emissions by 25 percent below 1990 levels by 2015. The intent of SCWA's sustainability program is to make SCWA and its projects a field laboratory for testing new technologies that reduce greenhouse gas emissions and comply with new and emerging regulatory requirements. In March 2008, SCWA's Board of Directors directed SCWA to work collaboratively with County of Sonoma staff and other stakeholders to implement

the actions listed below to promote energy efficiency and renewable energy in SCWA's operations and projects:

- Create "zero net energy" communities by implementing geothermal heat pump technology and other energy efficiencies;
- Expand use of plug-in hybrid vehicles via incentive programs and volume purchases;
- Collect and analyze electric load data to evaluate opportunities for development of renewable energy projects, and harnessing wave energy;
- Build coalitions with other communities with similar goals; and
- Host conferences related to emerging technologies

As new projects are developed, SCWA will continue its ongoing sustainability programs and participation in climate change protection activities, and will incorporate state-of-the-art water and energy efficiencies into the project wherever possible. SCWA will also evaluate and seek opportunities to use renewable energy for facilities, minimize the use of chemicals and power necessary to provide water supply services, and use technology to improve operational processes. Opportunities for "green building" will be investigated for feasibility. Overall, the goal will be to reduce the environmental impact of construction and reduce the embedded energy of the materials incorporated into the work. This can include everything from using bio-diesel blends in the construction equipment, fly ash concrete[5], local sourcing of materials where possible, and on-site reuse or recycling of construction debris. In addition, SCWA will continue its practice of replacing pool vehicles with smaller hybrid vehicles, lighter fuel efficient trucks, and vehicles using other alternative fuels, as technology becomes available.

1.8 Public Scoping and Response to Climate Change Comments

The initial scoping process, required under NEPA by the CEQ regulations (40 CFR 1501.7), was designed to solicit comments and identify issues that participating agencies and interested members of the public consider to be the principal areas for study and analysis. Significant environmental issues raised during scoping are addressed in the EIR/EIS to the extent applicable. In summary, several major issues identified by stakeholders during the scoping process relate to the carbon footprint of the project, the relationship of the project to AB 32, increased greenhouse gas emissions with respect to climate change, and the overall sustainability of the project. Scoping comments expressed concern for the net carbon impact of treating and delivering the proposed volume of recycled water compared to the impact of current practices and the impact of pumping to irrigate crops. Some stakeholders wanted the project to provide a net reduction in regional carbon emissions and believe the EIR/EIS should evaluate the project in the context of the worst case scenario of climate change.

[5] Fly ash, an industrial by product of coal-fire electric power generation, is a fine, glass-like powder composed of silica, aluminum, and iron that can be recycled as concrete material. It is a cost-competitive substitute for Portland concrete, and is generally considered environmentally superior because it requires less water than Portland concrete, is recycled from material that is normally dumped in landfills, and has a low embodied energy (Tool Base Services and NAHB Research Center, 2008)

In an effort to evaluate the carbon footprint of any new project, both to comply with applicable State and federal law, as well as because the NBWRA intends to minimize unnecessary project contributions to carbon emissions, NBWRA investigated the carbon emissions of the project. In addition, in response to public requests for consideration of the emissions related to the broader regional water development, use, and discharge system, NBWRA convened meetings with an energy and resource technologies expert, Ned Orrett, P.E., to discuss the subject of energy consumption related to the regional municipal water development, use, and discharge system. The following discussion summarizes these meetings, and establishes that these are separate issues from the environmental impacts associated with the NBWRP and are beyond the analysis and mitigation in this EIR/EIS.

The largest component of energy use related to the municipal water system occurs in the home, due primarily to the fact that water is heated in the home for a variety of uses, including food preparation and washing. Home use, by far, results in the largest contribution of carbon to the environment when viewed in the context of the overall regional municipal water system. Strategies and technologies are emerging that are designed to reduce greenhouse gases associated with heating of water in the home; however, those strategies and designs have not been broadly adopted or incorporated on a scale that would result in significant reduction of greenhouse gas emissions in the region.

The NBWRP relates to water after it leaves the home, and enters the WWTPs for water treatment prior to reuse. Regardless of the intended goals of SCWA as a wholesaler, or the NBWRA Member Agencies, none of the agencies have any legal authority to require changes to current water use practices in homes. As discussed above, the Member Agencies have implemented a variety of technologies that promote sustainability and target greenhouse gas reductions on the municipal side.

Some of these technologies could be included on the California Air Pollution Control Officers Association (CAPCOA) "Green List". The CAPCOA, comprised of representatives from 35 local air quality agencies, is involved in training local air district staff on air pollution control techniques, researching new technologies and planning for future needs, and coordinating with federal and state air quality officials to develop and implement statewide air quality regulations. CAPCOA recently developed the "Green List[6]", a list of projects and project types that are deemed a positive contribution to California's efforts to reduce greenhouse gas emissions. The Green List will be updated every six months or as major regulatory or legal developments unfold (CAPCOA, 2008). California Air Resources Board (CARB) and the Attorney General are consulted prior to listing of a project on the Green List to ensure consistency with Assembly Bill 32 (AB 32) efforts and to ensure that that the Green List entries are consistent with how the Attorney General's office interprets AB 32 and GHG CEQA compliance.

6 The definition and function of the Green List is explained in the CAPCOA white paper entitled "CEQA and Climate Change as part of a conceptual approach to developing GHG significance criteria, CAPCOA, 2008.

The potential Green List entries include project types such as wind farms, high-density infill projects, extension of transit lines, projects with LEED "Platinum" rating, and cogeneration plants with a capacity of 50 megawatts or less at existing facilities (as defined in Class 29 Categorical Exemption). It should be noted that the Green List recognizes expansion of recycling facilities within existing urban areas and recycled water projects that reduce energy consumption related to water supplies that service existing development as projects that would be considered to have less than significant impacts for greenhouse gas emission purposes. This list demonstrates the relationship between recycled water projects and greenhouse gas emissions, and further supports that the NBWRP would not contribute to a long-term increase in greenhouse gas emissions.

Nevertheless, the public has raised an important issue for consideration by the broader array of agencies that are responsible for the various stages of water development, use, and discharge. Given the contribution to greenhouse gas emissions that has been demonstrated to occur in homes, NBWRA believes that a robust consideration of strategies to reduce those emissions is in order.

This is comparable to strategies that both required changes in, and provided public incentives to improve the efficiency of, water consumption practices in homes. A large-scale public initiative in California to replace inefficient sinks, faucets, toilets and appliances with more efficient ones has resulted in major reduction of demand on California's limited water supplies. A similar initiative should be considered to reduce the generation of greenhouse gases in the home by replacing inefficient water heating technologies and appliances with those that are more efficient.

Although the Member Agencies cannot directly control in-home water use and energy consumption, the lead agency, SCWA supports Assembly Bill 811 (AB 811), approved by the Governor July 21, 2008, which authorizes local legislative bodies to determine that it would be in the public interest to designate an area with which authorized city officials and free and willing property owners may enter into contractual assessments to finance the installation of distributed generation renewable energy sources or energy efficient improvements that are permanently fixed to real property. The Legislature found that energy conservation efforts, including the promotion of energy efficiency improvements to residential, commercial, industrial, or other real property are necessary to address the issue of global climate change. SCWA, along with several other North Bay local governments, has implemented energy efficiency standards and other strategies that are designed to curb greenhouse gas production. However greenhouse gas emissions generated by in-home water use practices are a separate issue, and unrelated to the environmental impacts associated with the NBWRP; as such, they are beyond the scope of analysis for this EIR/EIS, and are not analyzed.

1.9 Documents Incorporated By Reference

Several documents are referred to and are incorporated in part by reference in this Draft EIR/EIS. As provided for by CEQA Section 15150, an EIR/EIS may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. The incorporated portions of other documents are considered in full as part of the text of

the EIR/EIS. The EIR/EIS must indicate where the incorporated document is available for public review, and the relationship of the referenced document to the EIR/EIS analysis.

The following documents are incorporated by reference and are available for review to gain an understanding of previously completed Master Planning efforts and environmental documents completed by the NBWRA Member Agencies and applicable to the Proposed Action:

1. *Napa River Salt Marsh Restoration Project DEIR/EIS,* April 2003, (State Clearing House Number 1198072074). Certified by California State Coastal Conservancy, April 2003. *Final Napa River Salt Marsh Restoration Project EIR,* April 14, 2004. *Final Napa River Salt Marsh Restoration Project EIS, Vol. 2: Comment Letters and Responses,* June, 2004. Prepared by Jones and Stokes. The California State Coastal Conservancy (Coastal Conservancy), U.S. Army Corps of Engineers (USACE), and California Department of Fish and Game (CDFG) (project sponsors) are proposing a salinity reduction and habitat restoration project for the 9,456-acre Napa River Unit of the Napa-Sonoma Marshes Wildlife Area (Napa River Unit).

2. *Phase 3 Engineering and Economic/ Financial Analysis Report for the North San Pablo Bay Restoration and Reuse Project,* Bureau of Reclamation and SCWA, 2008. Prepared by CDM. The Phase 3 Report, completed in June of 2008, presents a detailed engineering development and evaluation of three alternatives as well as a "No Future Action" alternative. This feasibility report presents an engineering evaluation of a proposed project for a regional approach to reclamation and reuse of treated wastewater in the North San Pablo Bay area of California. The report describes the Proposed Project area and the key water management problems and needs within the Project area, identifies water reuse opportunities in the project area, develops and analyzes alternative measures that could address the identified water management needs, presents an overview of associated legal and institutional requirements, and provides an economic analysis.

3. *Sonoma Valley Recycled Water Project EIR (*State Clearinghouse Number 2005092083), Certified by Sonoma Valley County Sanitation District, December, 2006. Prepared by ESA. SVCSD completed the Final Environmental Impact Report (EIR) in December 2006. The Proposed Project would reduce the discharge of treated wastewater to the waters of the United States and provide a reliable recycled water distribution system to serve agricultural, municipal, and industrial users for irrigation in the Sonoma Valley. The Proposed Project would provide up to approximately 2,750 AFY of recycled water and consist of the construction, operation, and maintenance of approximately 34 miles of recycled water pipelines; capacity and operational storage facilities; one booster pump station; one distribution pump station; associated connecting pipelines; and other appurtenances. The report is detailed with project-level and program-level analysis of the Proposed Project.

4. *Napa Sanitation District Strategic Plan for Recycled Water Use in the Year 2020, Final Draft,* August 2005. Prepared by Larry Walker Associates. The Napa SD completed a Strategic Plan in August 2005 to determine a recycled water planning approach through the year 2020. The potential for recycled water production was estimated to be 9,800 AFY in 2020 if additional storage were available, and 4,540 AFY using existing storage. Various strategies were proposed for consideration ranging from minimal to full recycling, with an associated range of benefits. Recommendations for strategies include consideration of

potential revenues from grants and recycled water users for each strategy. Strategy No. 3 is recommended for phased implementation, but only as funding becomes available. If outside funding is not available, then Strategy No. 2 is recommended, which delivers only enough recycled water to reliably meet NPDES permit requirements.

5. *Final Recycled Water Expansion Hydraulic and Preliminary Engineering Analysis: Phase I Report- Milliken-Sarco-Tulocay (MST) Area*, May 2007. Prepared by Brown and Caldwell. Napa SD and Napa County are investigating expanding Napa SD's existing recycled water system from the corner of Streblow Drive at Napa Valley Community College into southern MST to provide recycled water that will augment surface and well water usage in the basin. The total area that could potentially be serviced is approximately 5,360 acres and includes over 1,100 parcels. Depending on how many users there are, the proposed project will provide between 1,000 and 2,000 AFY of recycled water to the region for outdoor irrigation use.

6. *Recycled Water Implementation Plan*, May 2006. North Marin Water District and Novato Sanitary District. Prepared by Nute Engineering and Winzler & Kelly Consulting Engineers. The Implementation Plan presents a revised basis of design and construction budget for the optimized recycled water treatment and distribution facilities and aligns the project phasing with guidelines for Proposition 50 funding opportunities. The Plan summarized the following recommendations: NMWD should proceed towards implementation of the North service area projects; NMWD and Novato SD should enter into a formal agreement regarding further implementation of the Center service area projects; NMWD should enter into discussions with LGVSD regarding implementation of the South service area project; NMWD should undertake a public information and outreach program; NMWD should develop policies and ordinances necessary for implementation of the project and a programmatic funding source for the projects.

7. *Napa State Hospital Feed and Loop Pipelines and Reservoir Project- Pipeline Alignment and Modifications Mitigated Negative Declaration (MND) and Addendum*, Certified by Napa Sanitation District, January 2007. Prepared by ESA. Napa SD proposed to modify the alignment of the pipeline between Streblow Drive and the potential new storage reservoir to meet irrigation demands at Napa State Hospital and to utilize existing and future treated wastewater as recycled water to meet irrigation demands in areas north of Napa State Hospital in the future. The MND concluded that the pipeline realignment reduces impacts by avoiding wetlands and reducing construction in raptor nesting areas. The Addendum proposed changes to the alignments under the project based on engineering and design efforts subsequent to MND adoption. The Addendum satisfies the requirements of CEQA Guidelines Sections 15162 and 15164.

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