Reservoir Retrofit and Replacement Project

Final
Initial Study-Mitigated Negative Declaration

prepared by

Montecito Water District
583 San Ysidro Road
Santa Barbara, California 93108
Contact: Adam Kanold, Assistant General Manager/Engineering Manager

prepared with the assistance of

Rincon Consultants, Inc.
209 East Victoria Street
Santa Barbara, California 93101

July 2021

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Initial Study

1. Project Title

Reservoir Retrofit and Replacement Project

2. Lead Agency Name and Address

Montecito Water District
583 San Ysidro Road
Santa Barbara, California 93108

3. Contact Person and Phone Number

Adam Kanold, Assistant General Manager/Engineering Manager
(805) 969-2271

4. Project Location

The Reservoir Retrofit and Replacement Project involves seismic retrofits, repairs, and replacements at eight of the District's nine existing water storage reservoirs: Doulton, Romero, Terminal, Bella Vista, Park Lane, Cold Springs, Hot Springs, and Buena Vista. The reservoirs are located in the foothills of the Santa Ynez Mountains in Montecito, California. Assessor's Parcel Numbers (APNs) are as follows: Doulton (155-00-007), Romero (007-080-006), Terminal (013-040-002), Bella Vista (155-030-042), Park Lane (007-050-013), Cold Springs (013-040-005), Hot Springs (011-030-024), and Buena Vista (007-020-018). In addition, construction staging may occur at the Montecito Water District office located at 583 San Ysidro Road in Santa Barbara, California.

5. Project Sponsor's Name and Address

Montecito Water District
583 San Ysidro Road
Santa Barbara, California 93108

6. General Plan Designation

- Doulton Reservoir: Open Land Uses/Mountainous Area (MA-100)
- Bella Vista Reservoir: Public Utility (UT)
- Terminal Reservoir: Semi-Rural Residential (SRR-0.33)
- Bella Vista Reservoir: Semi-Rural Residential (SRR-0.1)
- Park Lane Reservoir: Public Utility (UT)
- Cold Springs Reservoir: Semi-Rural Residential (SRR-0.33)

- Hot Springs Reservoir: Public Utility (UT)
- Buena Vista Reservoir: Open Land Uses/Mountainous Area (MA-40)

7. Zoning

- Doulton Reservoir: Open Land Uses/Mountainous Area (MT-TORO-100)
- Bella Vista Reservoir: Utility (PU)
- Terminal Reservoir: Residential (3-E-1)
- Bella Vista Reservoir: Residential (10-E-1)
- Park Lane Reservoir: Utility (PU)
- Cold Springs Reservoir: Residential (3-E-1)
- Hot Springs Reservoir: Utility (PU)
- Buena Vista Reservoir: Open Land Uses/Open Lands (RMZ-40)

8. Description of Project

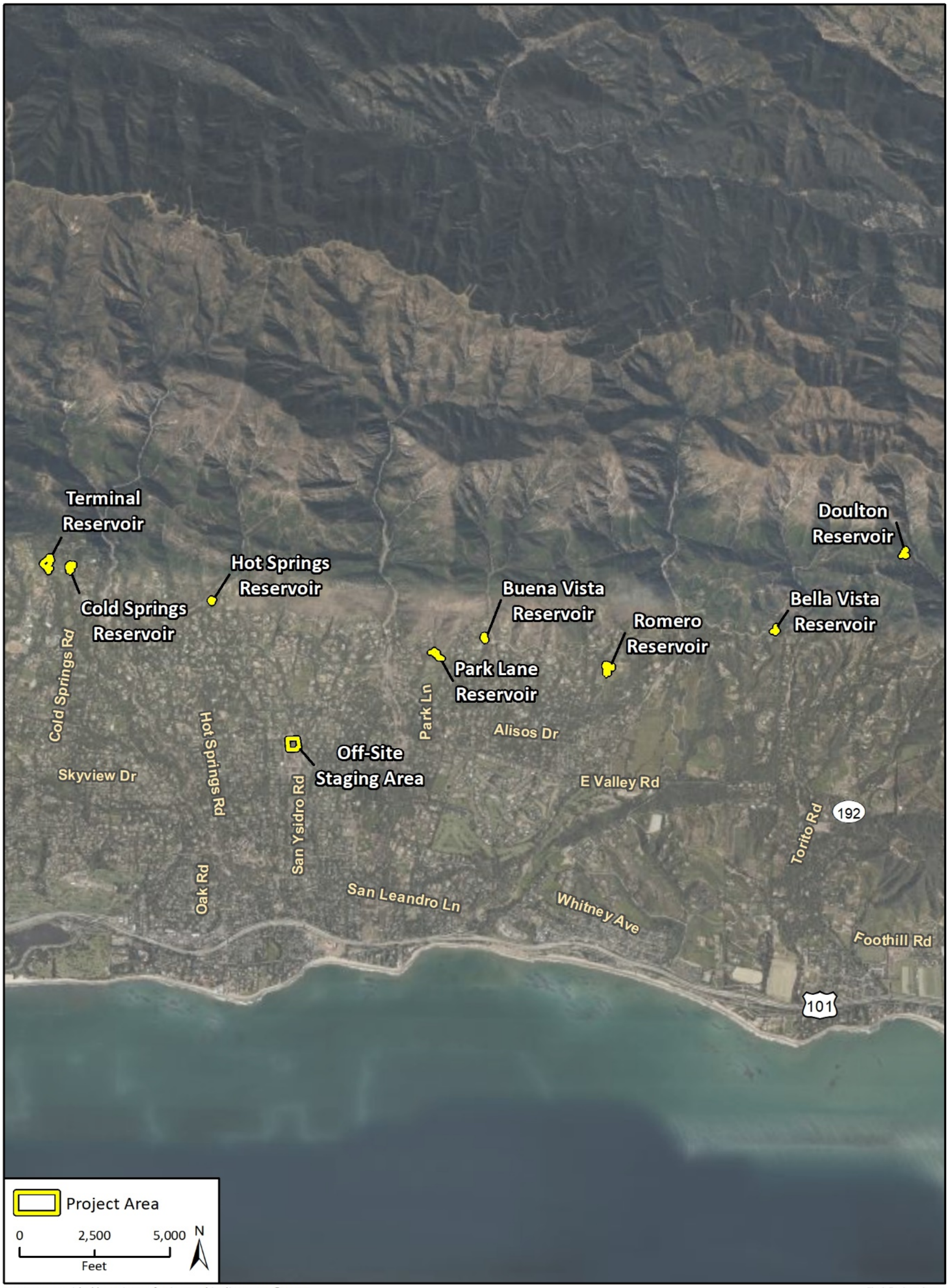
The Montecito Water District (District or MWD) serves water to the communities of Montecito, Summerland, and portions of Toro Canyon in Santa Barbara County. The District owns and operates nine water storage reservoirs throughout its service area. The existing water storage reservoirs, originally built between the early 1900s and 1970s, do not currently meet seismic design codes and regulations, and may be subject to catastrophic failure in the event of a large earthquake.

The Reservoir Retrofit and Replacement Project (project or proposed project) involves seismic retrofits, repairs, and replacements at eight of the District's nine existing water storage reservoirs: Doulton, Romero, Terminal, Bella Vista, Park Lane, Cold Springs, Hot Springs, and Buena Vista. The ninth reservoir, Toro Canyon, has been excluded because it is likely to be decommissioned by the District in the near future.

The District is seeking project funding from the Additional Supplemental Appropriation for Disaster Relief Act (ASADRA) program, in which funds are granted by the United States Environmental Protection Agency (U.S. EPA) and administered by the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF). Although ASADRA funds are granted by the U.S. EPA, ASADRA-funded projects are not subject to federal cross-cutter environmental documentation requirements.

The project would bring all eight reservoirs into compliance with seismic design codes and regulations. No retrofit or replacement would expand the water storage capacity of an existing reservoir. Figure 1 shows a map of all eight reservoir sites and an off-site staging area at the District office at 583 San Ysidro Road in Montecito that may be used during the construction period.

Figure 1 Reservoir Retrofit and Replacement Project Area



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Construction

Construction across the reservoir sites is anticipated to occur from Spring 2022 through Spring 2025. Table 1 identifies the locations and duration of construction activities at each of the eight reservoir sites.

Table 1 Summary of Reservoir Sites

Reservoir Site	Location	Assessor's Parcel Number (APN)	Surrounding Land Uses	Duration of Construction Activities
Doulton	1075 Toro Canyon Road, Montecito	155-020-007	Water treatment facility, open land, agriculture	7 – 12 months
Romero	Near the intersection of Bella Vista Drive and Romero Canyon Road, Montecito	007-080-006	Semi-rural residential	9 – 13 months
Terminal	Near the intersection of East Mountain Drive and Cold Springs Road, Montecito	013-040-002	Semi-rural residential	14 – 19 months
Bella Vista	2750 Bella Vista Drive, Montecito	155-030-042	Water treatment facility, semi-rural residential	4 – 6 months
Park Lane	Near the intersection of Park Hill Lane and East Mountain Drive, Montecito	007-050-013	Semi-rural residential, open land	12 – 17 months
Cold Springs	Near the intersection of East Mountain Drive and Cold Springs Road, Montecito	013-040-005	Semi-rural residential	13 - 14 months
Hot Springs	Near the intersection of Hot Springs Road and Hot Springs Lane, Montecito	011-030-024	Semi-rural residential	7 – 11 months
Buena Vista	Near 915 Park Lane, Montecito	007-020-018	Semi-rural residential	7 – 11 months

Construction activities would occur during the working hours of 7:00 a.m. to 4:00 p.m. Monday through Friday. No construction activities would occur on weekends, District holidays, or federal holidays.

The following sections describe each reservoir site, the proposed retrofits, and construction details.

Doulton Reservoir

Doulton Reservoir is a 0.25-million-gallon (MG), 36-foot diameter by 36-foot high, welded steel tank reservoir constructed in 1975. The tank is located on District-owned property (APN 155-020-007) adjacent to the District's Doulton Treatment Plant at 1075 Toro Canyon Road in Montecito, California. The reservoir structure was designed in accordance with the American Water Works Association (AWWA) standard D100-73 by Trico-Superior. The wall shell consists of layers of steel plates of equal height. The reservoir is founded on an 18-inch by 18-inch concrete ring footing. The reservoir structure is not mechanically anchored to the ring footing. The existing foundation is reinforced concrete. Figure 2 shows current site photographs at Doulton Reservoir.

Doulton Reservoir is the only water storage tank serving the Upper Toro Canyon Area. The reservoir stores treated Jameson Lake water before it is delivered to customers above and below the reservoir.

The proposed project would replace in kind the existing tank and foundation at Doulton Reservoir. The project would demolish all existing above-ground reservoir components and excavate approximately five feet in depth to remove the foundation and prepare the subgrade for the new foundation. Demolition would require cutting and removing the existing steel tank structure and all appurtenant features such as piping and ladders. Shoring may be required along the base of the northern retaining wall to a depth of approximately six feet to protect the slope during construction.

The new foundation may require driven piles to reinforce the new concrete mat foundation, depending on the results of a geotechnical investigation. If needed, the proposed piles would be augered using cast-in-drilled-hole (CIDH) concrete piles, drilled micro-piles, or helical screw anchors, depending on loading and pile capacities. The new steel tank would be designed and fabricated per the AWWA Standard D100. The steel plates for the wall shell, floor, and roof would be approximately eight feet wide. The steel would be prepared, primed, and painted in the field. The new tank would be fabricated on site by welding steel pieces together to form the tank structure. The project also includes new appurtenances such as piping from the treatment plant, drain, air vents, ladder, safety climb, level indicator, and other small items. The selected exterior tank color would be a natural tone to complement the surroundings.

Construction activities at Doulton Reservoir would require approximately seven to 12 months to complete. It is conservatively assumed that approximately 300 cubic yards (cy) of soil would be excavated from the site, with 300 cy of import and 300 cy of export. Approximately nine cy of concrete would be demolished, and approximately 6,100 square feet of steel tank would be demolished.

Construction staging would be located on District property to the south of the existing reservoir in a large open area near an existing treatment tank. During the construction period, a temporary above ground reservoir would be installed on the District’s property to maintain water storage operations. Upon completion of construction, this temporary reservoir would be removed.

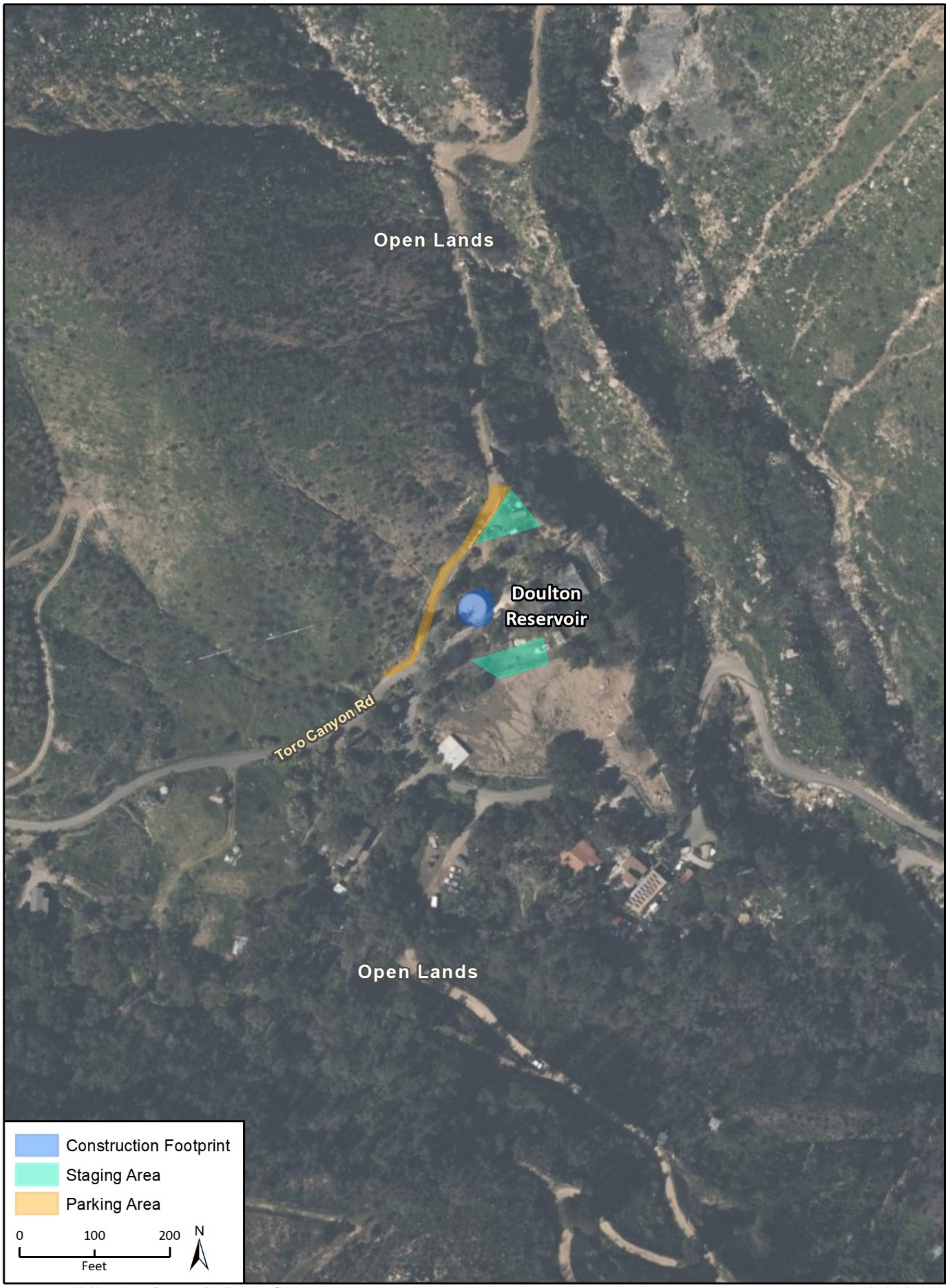
Figure 3 shows the construction footprint, construction staging area, and parking area associated with Doulton Reservoir.

Figure 2 Doulton Reservoir Photographs

Photograph 1. Southwest side of Doulton Reservoir, view facing northeast.

Photograph 2. Treatment Plant south and west elevations, view facing north.

Figure 3 Doulton Reservoir Construction, Staging, and Parking Areas



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Romero Reservoir

Romero Reservoir is a 0.94-MG capacity, rectangular, hopper-bottom water storage reservoir measuring approximately 240 feet long by 63 feet wide, with an average depth of about 12 feet, constructed circa 1933. The reservoir is located on District-owned property (APN 007-080-006) near the intersection of Bella Vista Drive and Romero Canyon Road in Montecito, California. It is predominantly buried, with the roof and a concrete curb exposed. In 1977, the original wood framed roof was replaced with the current roof structure consisting of a corrugated aluminum roof deck supported by steel horizontal beams, which are in turn supported by steel wide flange beams and steel pipe columns. The roof slopes in one direction from the south to the north, with short columns along the south side to support the elevated ends of the roof beams. The existing reservoir has a steel roof and reinforced concrete foundation. Figure 4 shows current site photographs at Romero Reservoir.

Romero Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers. Water from this reservoir is capable of reaching approximately 97 percent of District customers.

The proposed project would reinforce the foundation and roof using additional reinforced concrete around the foundation and additional steel roof members. The project would excavate around the existing reservoir to a depth of approximately four feet and to a distance of approximately 12 feet outside the reservoir walls. A concrete grade beam would be added to the perimeter of the reservoir. Excavation for piping and appurtenances may also be required near the reservoir structure.

At the time of the original construction of the reservoir, soil fill was placed over an existing slope on the south portion of the site to create a level pad large enough for the reservoir. Preliminary evaluations have determined that this fill material may become unstable and slide during an earthquake. The proposed project would construct a pile-supported retaining wall on the south side of the existing reservoir structure to contain this fill material. The project also includes new appurtenances such as piping from the distribution system, overflow drain, air vents, ladder, safety climb, and other small items. The Romero Reservoir improvements would not increase the existing roof height.

Construction activities at Romero Reservoir would require approximately nine to 13 months to complete. It is conservatively assumed that approximately 1,100 cy of soil would be excavated from the site, with 1,100 cy of export.

Construction staging would occur on site within District property around the existing reservoir. Where parking or staging within coast live oak woodland is necessary, impacts to individual oaks would be avoided to the extent practicable. Additional staging may occur at the District office at 583 San Ysidro Road.

Site access is from Romero Canyon Road. The site is located at the end of a 0.5-mile flat dirt road on private property for which the District has an easement. There is a locked gate at the entrance off Romero Canyon Road.

Figure 5 shows the construction footprint, construction staging area, and parking area associated with Romero Reservoir.

Figure 4 Romero Reservoir Photographs

Photograph 1. Romero Reservoir north and west elevations, view facing southeast.

Photograph 2. East end of Romero Reservoir, view facing south.

Figure 5 Romero Reservoir Construction, Staging, and Parking Areas

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Terminal Reservoir

Terminal Reservoir is a 3.38-MG capacity rectangular reservoir measuring approximately 200 feet long by 150 feet wide by 20 feet deep, with a hopper bottom and roughly five-foot tall vertical reinforced concrete masonry walls, constructed circa 1952. The reservoir is located on District-owned property (APN 013-040-002) near the intersection of East Mountain Drive and Cold Springs Road in Montecito, California. It is predominantly buried, with approximately one foot at the top of the walls exposed. The reservoir has a two-inch thick layer of reinforced gunite (concrete blend of sand, cement, and water) lining the floor slab and walls. The original wood framed roof was replaced with the current roof structure consisting of a corrugated aluminum roof deck supported by cold formed steel horizontal beams, which are in turn supported by steel wide flange beams and steel pipe columns. The reservoir has a steel roof and reinforced concrete foundation. Figure 6 shows current site photographs at Terminal Reservoir.

Terminal Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would reinforce the existing foundation, walls, and roof at Terminal Reservoir using additional reinforced concrete around the walls and foundation, replacement of deteriorated roof joists, replacement of the metal roofing panels on the entire roof, and additional steel rod braces. The project would excavate around the entire reservoir to a depth of nine feet and a distance of approximately 15 feet outside the reservoir walls. Shoring would be used to limit excavation. A concrete grade beam would be added to the perimeter of the reservoir to reinforce the existing walls and roof. The project includes new appurtenances such as piping from the distribution system, overflow drain, air vents, ladder, and other small items.

The proposed improvements would not change the height of the existing Terminal Reservoir. The existing roof panels would be replaced, and the color would be selected to complement the surrounding environment.

Construction activities at Terminal Reservoir would require approximately 14 to 19 months to complete. Approximately 3,860 cy of soil would be excavated from the site. It is conservatively assumed there would be up to 3,860 cy of soil exported from the project site and approximately 3,860 cy imported to the project site. Approximately 30 cy of concrete would be demolished.

Construction staging would occur on site within District property around the existing reservoir. Where parking or staging within coast live oak woodland is necessary, impacts to individual oaks would be avoided to the extent practicable. Site access is from East Mountain Drive.

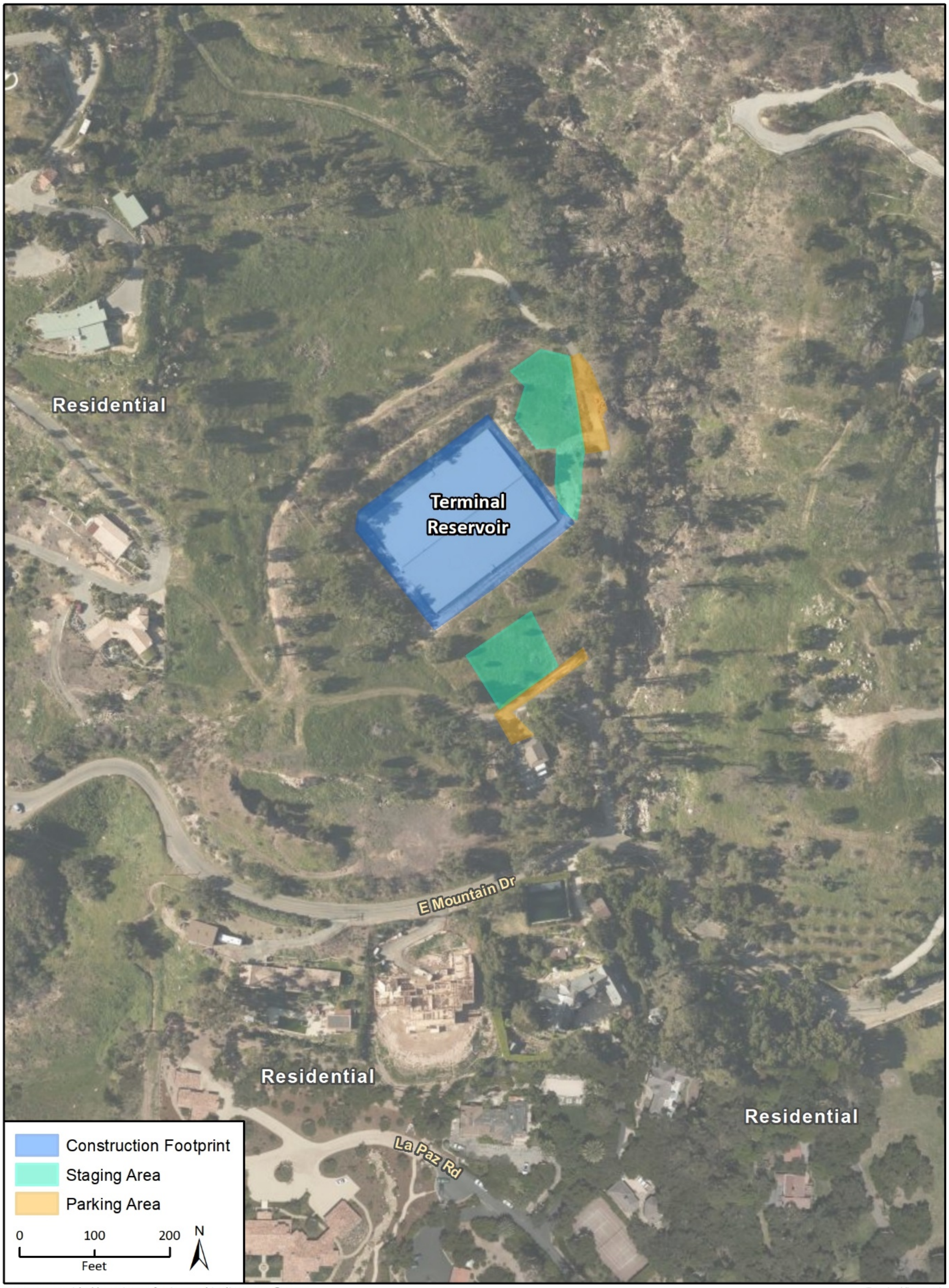
Figure 7 shows the construction footprint, construction staging area, and parking area associated with Terminal Reservoir.

Figure 6 Terminal Reservoir Photographs

Photograph 1. Terminal Reservoir south and east elevations, view facing west.

Photograph 2. Terminal Reservoir wall, view facing north.

Figure 7 Terminal Reservoir Construction, Staging, and Parking Areas



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Bella Vista Reservoir

Bella Vista Reservoir is a 2.25-MG, capacity reinforced concrete rectangular reservoir measuring approximately 132 feet long by 94 feet wide by 24 feet deep, constructed circa 1975. The reservoir is located on District-owned property at 2750 Bella Vista Drive in Montecito (APN 155-030-042), adjacent to the Bella Vista Treatment Plant. It has vertical walls supported on a continuous concrete footing, with a sloped floor slab. The reservoir is partially buried, with exposed wall height above the soil backfill varying from as much as 15 feet on the south side to as little as zero feet on the north side. The reservoir has a reinforced concrete roof slab with uniform thickness, supported by circular concrete columns. The entire roof slab is covered with earth with a depth varying from six inches at the edges to roughly 18 inches near the center. The top of the roof is planted with a lawn. An existing pump station building was constructed over the northeast corner of the reservoir roof in the 1990s. The building is supported by a structural concrete slab. Figure 8 shows current site photographs at Bella Vista Reservoir.

The proposed project would repair concrete and exposed rebar on the roof deck, as well as strengthen the walls and footings to increase their capacity to resist seismic loads prescribed by current codes. The proposed retrofit work would occur in the interior of the reservoir structure. No external improvements would be required.

Construction activities at Bella Vista Reservoir would require approximately four to six months to complete. No excavation, demolition, or soil import or export would occur. During the construction period, a temporary above ground reservoir would be installed on the District's property to maintain water storage operations. Upon completion of construction, this temporary reservoir would be removed.

Construction staging would occur on site in the existing parking lot to the north of the reservoir. Additional staging may occur at the District office at 583 San Ysidro Road.

Construction personnel and equipment would access the site from the adjacent Bella Vista Treatment Plant, which is accessible via Ladera Lane and up a 300-foot driveway.

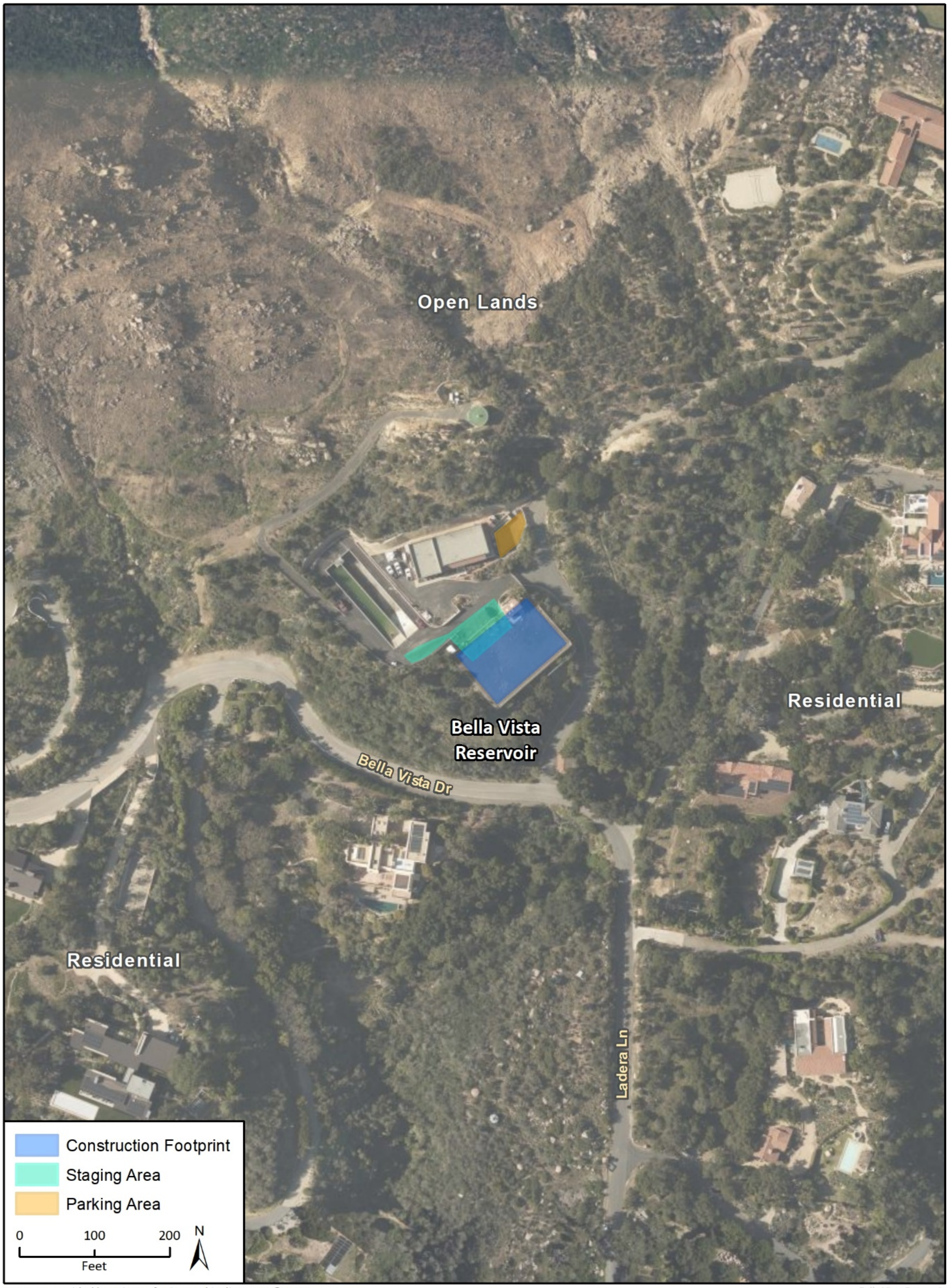
Figure 9 shows the construction footprint, construction staging area, and parking area associated with Bella Vista Reservoir.

Figure 8 Bella Vista Reservoir Photographs

Photograph 1. Bella Vista Reservoir viewed from the roof facing northwest, with the pump station (right) in the background.

Photograph 2. Bella Vista Reservoir viewed from the roof, facing south.

Figure 9 Bella Vista Reservoir Construction, Staging, and Parking Areas



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Bella Vista Reservoir

Park Lane Reservoir

Park Lane Reservoir is a 1.25-MG capacity, reinforced concrete rectangular water storage reservoir measuring approximately 140 feet long by 100 feet wide by 12 feet deep. The reservoir is located on District-owned property (APN 007-050-013) located near the intersection of Park Hill Lane and East Mountain Drive in Montecito, California. The actual date of construction of this reservoir is unknown but is likely to pre-date 1924 when this reservoir was deeded to the District. Park Lane Reservoir has a flat concrete floor slab with cantilevered vertical walls. The reservoir is predominantly buried, with less than a foot of the top of wall exposed on all sides. The reservoir has a wood-framed roof, with a corrugated metal roof deck supported by steel pipe columns. The reservoir walls are constructed of concrete reinforced with wire mesh. A thin coating of unfinished/rough gunite lines the interior wall surfaces. Figure 10 shows current site photographs at Park Lane Reservoir.

Park Lane Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would construct a new reinforced concrete reservoir inside of the existing Park Lane Reservoir. The existing walls would be used as forms for the new concrete walls. The reservoir floor slab would be demolished and removed and approximately 18 inches of the subgrade would be excavated and removed. The project would construct a new reservoir floor slab at this new lower elevation to offset the capacity lost to the new tank walls and columns. The project would replace the existing wood and steel roof with a two-way concrete slab. No excavation would occur outside the existing reservoir's concrete walls, with the exception of excavation necessary for piping and appurtenances. The project also includes new appurtenances such as piping from the distribution system, overflow drain, air vents, ladder, safety climb, and other small items. The new reservoir roof would be two to three feet taller than the existing roof and would be concrete and non-reflective, and may be coated in a non-reflective, earth-tone coating.

Construction activities at Park Lane Reservoir would require approximately 12 to 17 months to complete. Approximately 720 cy of soil would be excavated and exported from the site. Approximately 520 cy of concrete would be demolished.

Construction staging would occur on site in the areas to the southwest and southeast of the reservoir. Where parking or staging within coast live oak woodland is necessary, impacts to individual oaks would be avoided to the extent practicable. Additional off-site staging may occur at the District office located at 583 San Ysidro Road in Montecito.

Construction personnel and equipment would access the site from Park Lane, along an approximately 0.5-mile paved private driveway. The District has an easement to cross the private property leading to the reservoir from Park Lane.

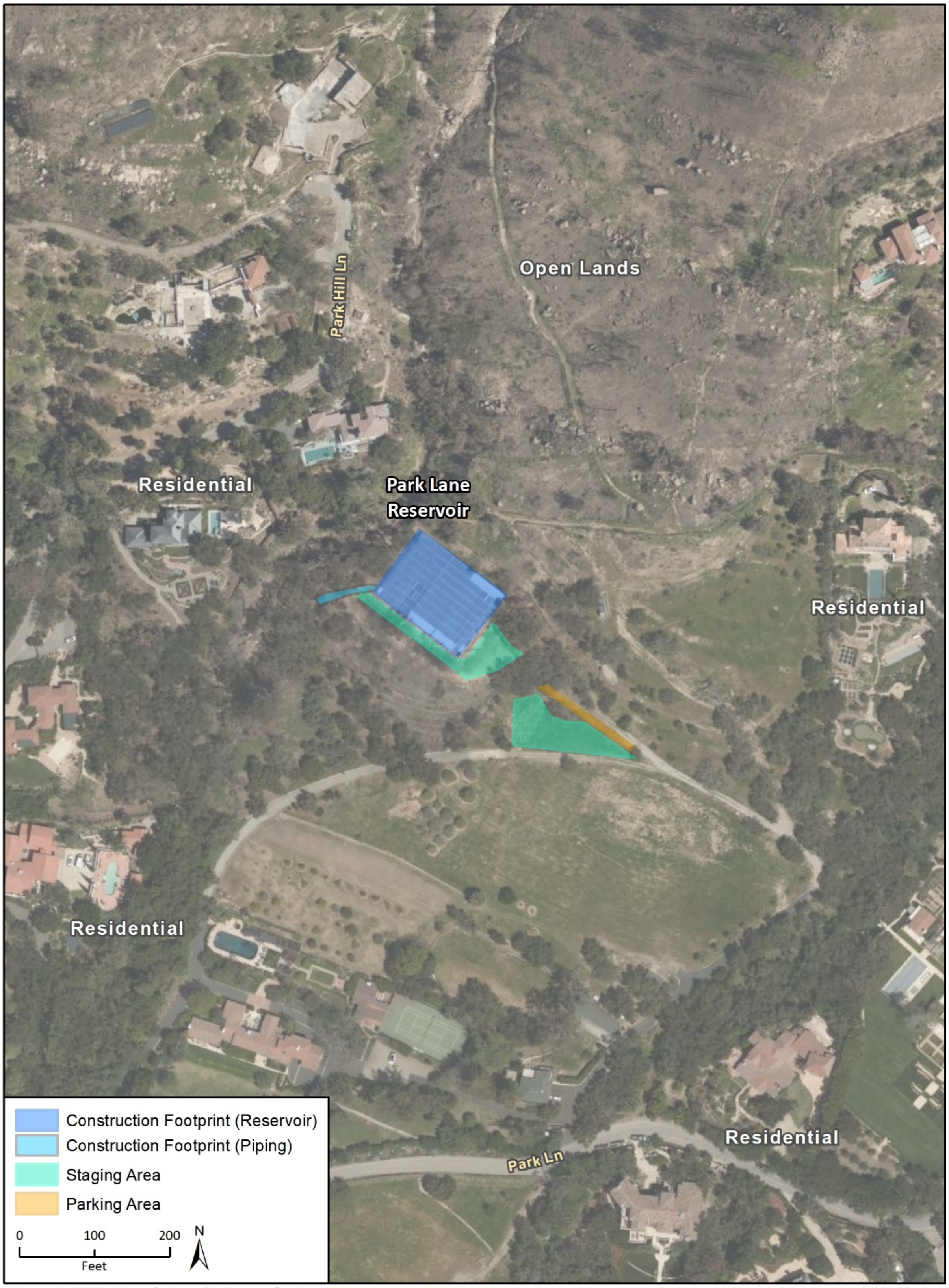
Figure 11 shows the construction footprint, construction staging area, and parking area associated with Park Lane Reservoir.

Figure 10 Park Lane Reservoir Photographs

Photograph 1. Park Lane Reservoir southeast corner, view facing north.

Photograph 2. Roof of Park Land Reservoir, view facing south.

Figure 11 Park Lane Reservoir Construction, Staging, and Parking Areas



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Cold Springs Reservoir

Cold Springs Reservoir is a 0.99-MG capacity, reinforced concrete rectangular water storage reservoir measuring approximately 100 feet long by 60 feet wide by 22 feet deep, constructed circa 1925. Cold Springs Reservoir is located on District-owned property (APN 013-040-005) near the intersection of East Mountain Drive and Cold Springs Road in Montecito, California. The reservoir has a flat floor slab with vertical walls that are buttressed every ten feet. Cold Springs Reservoir is partially buried, with approximately ten feet of the upper wall exposed on the south face and roughly two feet of wall exposed on the remaining three sides. The reservoir was originally constructed with a wood roof and a row of steel columns to support the roof framing. The current roof structure consists of a standing seam metal roof deck supported by cold formed horizontal steel beams, which in turn are supported by tapered steel girders spanning the width of the reservoir. A thin layer of unfinished/rough gunite lines the interior wall surfaces. Figure 12 shows current site photographs at Cold Springs Reservoir.

Cold Springs Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would reinforce the wall, foundation, and roof at Cold Springs Reservoir. The improvements would occur entirely within the interior of the reservoir structure. The project would add interior concrete buttresses coinciding with the existing exterior buttresses. A reinforced concrete lining would be added to the inside faces of the walls. The footing would be extended on the inside of the reservoir and the existing concrete divider wall would be removed. In addition, the project would reinforce the roof with a lateral bracing system consisting of a steel rod bracing across the entire roof.

Construction activities at Cold Springs Reservoir would require approximately six to nine months to complete. Approximately 100 cy of soil would be excavated and exported from the site for piping retrofits. Demolition of the interior concrete divider wall would be required.

Construction staging would occur in the area to the south and southwest of the existing reservoir, on private land which may require a temporary construction easement. Where parking or staging within coast live oak woodland is necessary, impacts to individual oaks would be avoided to the extent practicable. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

Site access is from East Mountain Drive along an approximately 0.25-mile asphalt and dirt road.

Figure 13 shows the construction footprint, construction staging area, and parking area associated with Cold Springs Reservoir.

Figure 12 Cold Springs Reservoir Photographs

Photograph 1. Cold Springs Reservoir south elevation, view facing northeast.

Photograph 2. Cold Springs Reservoir north and east elevations, view facing southwest.

Figure 13 Cold Springs Reservoir Construction, Staging, and Parking Areas

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Hot Springs Reservoir

Hot Springs Reservoir was constructed in 1939 using the same structural standard drawings as the Buena Vista Reservoir. It is 0.83 MG in capacity and 80 feet in diameter with a six-inch thick floor slab. The reservoir is located on District-owned property (APN 011-030-024) near the intersection of Hot Springs Road and Hot Springs Lane in Montecito, California. Hot Springs Reservoir is reinforced with welded wire mesh and equipped with 23-foot high reinforced concrete walls supported on a three-foot wide by one-foot thick continuous reinforced concrete footing. The existing concrete walls vary in thickness from 15 inches at the base to nine inches at the top and are reinforced with vertical and circumferential steel bars. Figure 14 shows current site photographs at Hot Springs Reservoir.

Hot Springs Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would add reinforcing steel and sprayed concrete to the outside wall shell, coat the entire exterior surface with crystalline waterproofing, widen the existing wall footing, and replace the roof with a new roof made of either steel or concrete. If the new roof is steel, the structure would need to be five to six feet higher than the existing roof with the new roof painted a natural tone to complement the surroundings. If the new roof is concrete, it would be the same height as the existing reservoir roof and the surface would be non-reflective.

The project would excavate up to approximately three feet in depth around the entire reservoir to allow for additional reinforcement and concrete to be added to the foundation. The existing concrete swale would be replaced in kind after the foundation work.

Construction activities at Hot Springs Reservoir would require approximately seven to 11 months to complete. Approximately 700 cy of soil would be excavated and exported from the site. Approximately 15 cy of concrete would be demolished.

Construction staging would occur on site in the areas surrounding the existing reservoir. Where parking or staging within coast live oak woodland is necessary, impacts to individual oaks would be avoided to the extent practicable. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

Construction personnel and equipment would access the site from East Mountain Drive, at the end of an approximately 0.5-mile private road on Hot Springs Road.

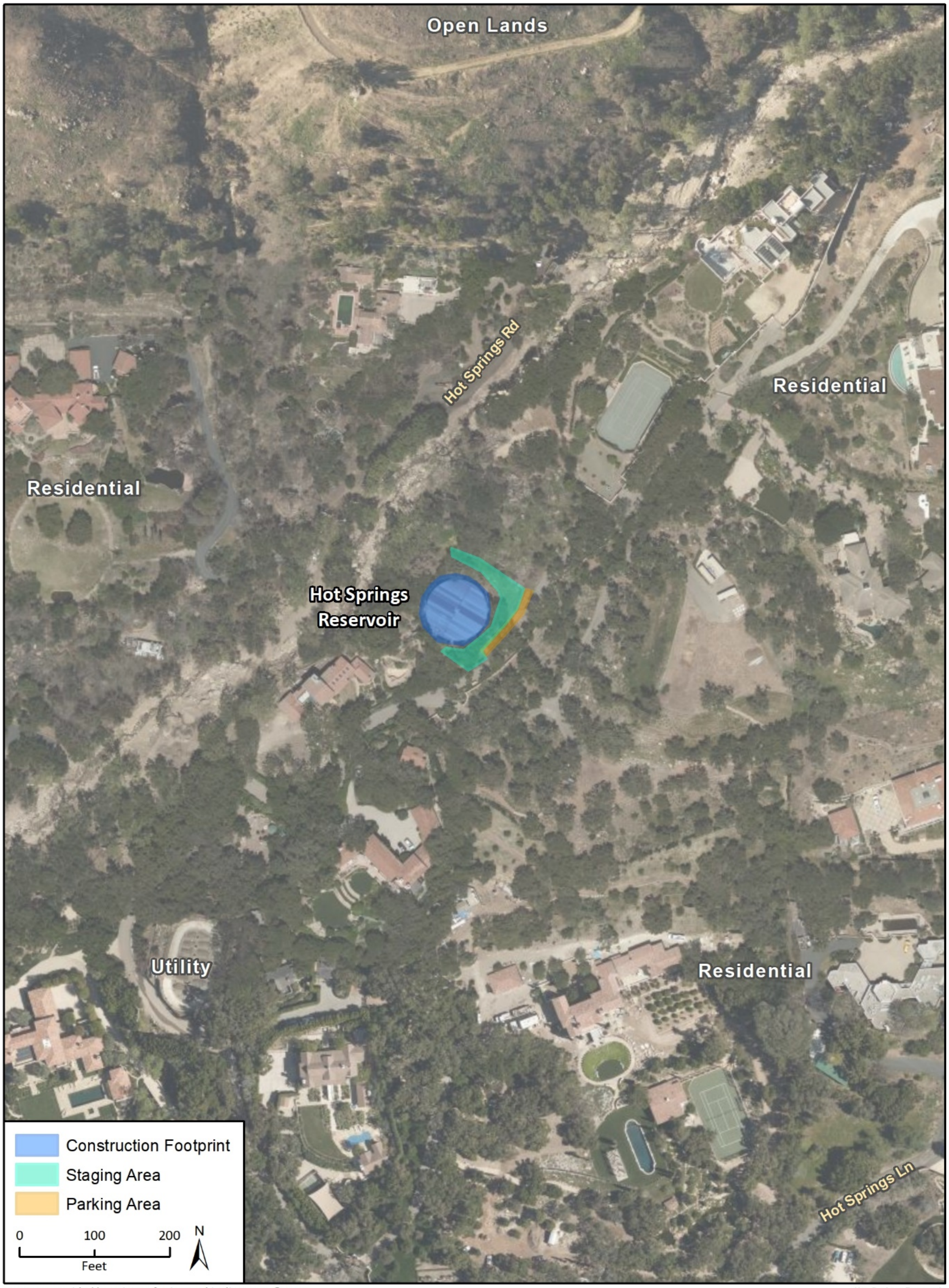
Figure 15 shows the construction footprint, construction staging area, and parking area associated with Hot Springs Reservoir.

Figure 14 Hot Springs Reservoir Photographs

Photograph 1. Hot Springs Reservoir west elevation, view facing east.

Photograph 2. Hot Springs Reservoir wall, view facing south.

Figure 15 Hot Springs Reservoir Construction, Staging, and Parking Areas



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Buena Vista Reservoir

Buena Vista Reservoir was constructed in 1939 using the same structural standard drawings as the Hot Springs Reservoir. It is 0.83-MG in capacity and 80 feet in diameter with a six-inch thick floor slab. The reservoir is located on District-owned property (APN 007-020-018) near 915 Park Lane in Montecito, California. Buena Vista Reservoir is reinforced with welded wire mesh and equipped with 23-foot-high reinforced concrete walls supported on a three-foot wide by one-foot thick continuous reinforced concrete footing. The existing concrete walls vary in thickness from 15 inches at the base to nine inches at the top and are reinforced with vertical and circumferential steel bars. Figure 16 shows current site photographs at Buena Vista Reservoir.

Buena Vista Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would add reinforcing steel and sprayed concrete to the outside wall shell, coat the entire exterior surface with crystalline waterproofing, widen the existing wall footing, and replace the roof with a new roof made of either steel or concrete. If the new roof is steel, the structure would need to be five to six feet higher than the existing roof with the new roof painted a natural tone to complement the surroundings. If the new roof is concrete, it would be the same height as the existing reservoir roof and the surface would be non-reflective.

The project would excavate up to approximately three feet in depth around the entire reservoir to allow for additional reinforcement and concrete to be added to the foundation. The existing concrete swale would be replaced in kind after the foundation work.

Construction activities at Buena Vista Reservoir would require approximately seven to 11 months to complete. Approximately 700 cy of soil would be excavated and exported from the site. Approximately 15 cy of concrete would be demolished.

Construction staging would occur on site in the asphalt parking area to the south and north of the existing reservoir. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

Construction personnel and equipment would access the site from Park Lane, at the end of a 500-foot private driveway.

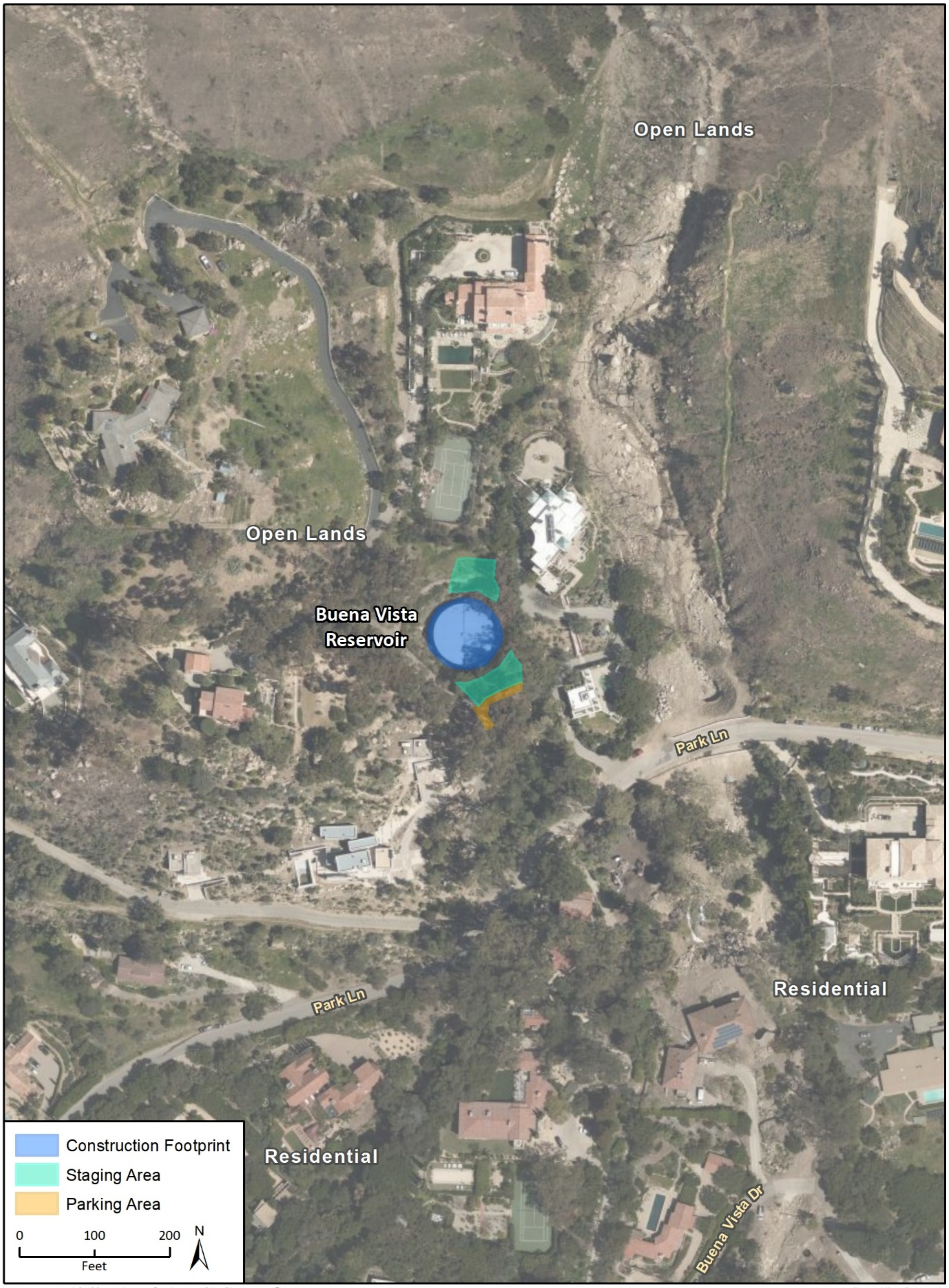
Figure 17 shows the construction footprint, construction staging area, and parking area associated with Buena Vista Reservoir.

Figure 16 Buena Vista Reservoir Photographs

Photograph 1. North elevation of Buena Vista Reservoir, view facing south.

Photograph 2. Roof of Buena Vista Reservoir, view facing east.

Figure 17 Buena Vista Reservoir Construction, Staging, and Parking Areas



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Operation

Upon completion of construction, operational activities at the eight reservoir sites would resume per existing conditions. District staff would perform approximately one daily vehicle trip to each reservoir site for visual observation, as under existing conditions. The proposed project would not increase storage capacity or throughput at the reservoirs. Project operation would not introduce new noise-generating activities or increase electricity consumption at the reservoir sites.

9. Surrounding Land Uses and Setting

The reservoir sites are generally surrounded by semi-rural residential space, open land, and existing water treatment facilities. Table 1 identifies surrounding land uses at each reservoir site.

10. Other Public Agencies Whose Approval is Required

The District is the lead agency under CEQA with responsibility for approving the project. Table 2 lists the other approvals potentially required for the project.

Table 2 Summary of Potentially Required Approvals

Regulating Agency	Potential Permit/Approval	Reason for Permit/Approval
State Water Resources Control Board, Division of Drinking Water	Amended Drinking Water Supply Permit	Seismic modifications and improvements to potable reservoirs.
Central Coast Regional Quality Control Board	NPDES General Permit for Discharges of Groundwater from Construction	Construction activities resulting in ground disturbance exceeding one acre

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Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture and Forestry Resources	■	Air Quality
■	Biological Resources	■	Cultural Resources	☐	Energy
☐	Geology and Soils	☐	Greenhouse Gas Emissions	☐	Hazards and Hazardous Materials
☐	Hydrology and Water Quality	☐	Land Use and Planning	☐	Mineral Resources
■	Noise	☐	Population and Housing	☐	Public Services
☐	Recreation	☐	Transportation	■	Tribal Cultural Resources
☐	Utilities and Service Systems	☐	Wildfire	■	Mandatory Findings of Significance

Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	June 2, 2021 Date
Adam Kanold Printed Name	Asst. General Manager Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	□	□	□	■
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	□	□	□	■
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	□	□	■	□
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	□	□	□	■

a. Would the project have a substantial adverse effect on a scenic vista?

Although the Santa Barbara County General Plan does not specifically designate scenic vistas, scenic resources can be described as singular vantage points that offer unobstructed views of valued viewsheds. The reservoir sites are located across the foothills of the Santa Ynez Mountains. The Santa Barbara Comprehensive Plan Open Space Element places the project sites within an area of "moderate scenic value" (County of Santa Barbara 1979a). The Montecito Community Plan identifies several primary scenic corridors in the general vicinity of the reservoir sites, such as U.S. Highway 101, Channel Drive, Olive Mill Road, East Valley Road, Mountain Drive, and many major north-south roads within the area (County of Santa Barbara 1992).

The reservoir sites are located on District-owned property which is inaccessible to the general public and generally obscured from public views by topography and vegetation. The off-site staging area is located at the District offices, at which the District regularly stages construction equipment, vehicles, and materials. Furthermore, the proposed project involves repairs and in-kind replacements of existing water storage reservoir infrastructure and would not result in substantial permanent adverse aesthetic changes. As such, no impact related to substantial adverse effects on scenic vistas would occur.

NO IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

According to the California Department of Transportation (Caltrans), there are no officially designated state scenic highways within the vicinity of the reservoir sites. The segment of U.S. Highway 101 running east-to-west through Montecito is classified as an eligible state scenic highway (Caltrans 2018). This eligible state scenic highway is located approximately two miles south of the reservoir sites, which are spread east-to-west across the foothills of the Santa Ynez Mountains.

As described above, the reservoir sites are located on District-owned property which is inaccessible to the general public and generally obscured from public views by topography and vegetation. The sites and the off-site staging area are not visible from the nearest eligible state scenic highway. No impact to scenic resources within a state scenic highway would occur.

NO IMPACT

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The reservoir sites are generally located in semi-rural residential areas, surrounded by open space and semi-rural single-family residential homes. For the purposes of this analysis, the project is considered to be located in a non-urbanized area.

The reservoir sites currently house existing water storage reservoirs. As described above, the reservoir sites are located on District-owned property which is inaccessible to the general public and generally obscured from public views by topography and vegetation. Furthermore, the proposed project involves repairs and in-kind replacements of existing water storage reservoir infrastructure and would not result in substantial permanent adverse aesthetic changes.

During construction activities, the existing visual character of the reservoir sites would be temporarily affected by the staging and operation of construction equipment, which may be visible from nearby public roadways. Temporary aboveground reservoirs would be staged at Doulton Reservoir and Bella Vista Reservoir. The off-site staging area is located at the District offices, at which the District regularly stages construction equipment, vehicles, and materials. The longest proposed construction period, associated with the Terminal Reservoir improvements, would last up to 19 months. However, construction-related impacts to the visual character or quality of public views of the sites and their surroundings would be temporary. Upon completion of construction, construction equipment and materials would be removed from each site and normal operations would resume.

The proposed project would not result in substantial permanent adverse aesthetic changes to the reservoir sites. As described in the *Project Description*, the proposed work primarily involves repairs and in-kind replacements of existing infrastructure which would not result in any aesthetic changes. In some cases (e.g., Doulton, Terminal, Hot Springs, and Buena Vista), the exterior tank color may change from existing conditions. However, the new color would be a natural tone selected to complement the surroundings and would not degrade the visual character of the sites. At Hot Springs Reservoir and Buena Vista Reservoir, if the new roofs are constructed of steel, the structures would need to be five to six feet higher than the existing roofs. However, this increase in height would similarly not degrade the visual character of the sites or their surroundings. In addition, as mentioned above, the sites are generally obscured from public views by topography and vegetation. As such, the proposed project would not substantially degrade the existing visual character or quality of public views of the reservoir sites or their surroundings. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Construction would occur during the daytime hours and would generally not require the use of lighting. However, construction lighting may be required during the early morning hours in the late fall and early winter months. In this case, lights may be visible from surrounding roadways and residential and other land uses. Any necessary lights during construction activities would create a new temporary light source that would otherwise not be present. The lighting would not face toward adjacent uses and would be directed down towards construction activities. Furthermore, this timing would be short-term. Therefore, construction activities would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the vicinity of the project sites.

Upon completion of construction, the reservoir sites would return to pre-construction operational conditions. Park Lane Reservoir would have a new, non-reflective concrete roof which may be coated in a non-reflective, earth-tone coating. Similarly, if Hot Springs Reservoir or Buena Vista Reservoir are rebuilt with concrete roofs, the surface would be non-reflective. Therefore, the project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views. No impact would occur.

NO IMPACT

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2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	■

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

The reservoir sites and off-site staging area are not zoned for agricultural use and are not located on or near land mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance under the California Department of Conservation's (CDOC) Farmland Mapping and Monitoring Program (CDOC 2016). Furthermore, the proposed project involves repairs and replacements to existing water storage infrastructure and would not change the land uses on the project sites. As the project sites would not convert important farmland to non-agricultural use or conflict with existing zoning, no impact to agricultural resources would occur.

NO IMPACT

c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

The reservoir sites, off-site staging area, and vicinity are not designated or zoned for forest land, timberland, or timberland zoned Timberland Production. Doulton Reservoir is located within mapped Los Padres National Forest land, on District-owned property adjacent to the District's Doulton Treatment Plant.

The proposed project involves repairs and replacements to existing water storage infrastructure and would not change the land uses on the reservoir sites or facilitate off-site loss of forest land or conversion of forest land to non-forest use. At Doulton Reservoir, all construction activities would occur on District-owned property and would not change the existing land use.

Therefore, implementation of the proposed project would not convert any forest land to non-forest use, nor would it conflict with existing zoning for such lands. As such, no impact to forestry resources would occur.

NO IMPACT

e. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

As previously discussed in items (a)-(d), the proposed project would not result in the conversion of farmland or forest land to non-agricultural or non-forest uses, respectively. Therefore, no impact to agricultural or forestry resources would occur.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	□	■	□	□
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	□	□	■	□
c. Expose sensitive receptors to substantial pollutant concentrations?	□	□	■	□
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	□	□	□	■

Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic compounds (ROC),[1] nitrogen oxides, particulate matter with diameters of ten microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROC and nitrogen oxides. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

[1] CARB defines VOC and ROC similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROC and VOC are considered comparable in terms of mass emissions, and the term ROC is used in this IS-MND.

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

Air Quality Standards and Attainment

The project sites are located in the Santa Barbara County portion of the South Central Coast Air Basin, which is under the jurisdiction of the Santa Barbara County Air Pollution Control District (SBCAPCD). As the local air quality management agency, the SBCAPCD is required to monitor air pollutant levels to ensure that the NAAQS and CAAQS are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the South Central Coast Air Basin is classified as being in “attainment” or “nonattainment.” In areas designated as non-attainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts associated with these criteria pollutants, presented in Table 3, are already occurring in that area as part of the environmental baseline condition. Under State law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. Santa Barbara County is designated nonattainment for the PM_{10} CAAQS and is designated attainment or unclassified for all other NAAQS and CAAQS (SBCAPCD 2020).

Table 3 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).[1]

Source: United States Environmental Protection Agency 2021a

Air Quality Management

The SBCAPCD is required to implement strategies to reduce pollutant levels to achieve attainment of the NAAQS and CAAQS. The most recent 2019 Ozone Plan was adopted by SBCAPCD in December 2019 and was the ninth triennial update to the initial Air Quality Attainment Plan adopted in 1991. The 2019 Ozone Plan only addresses SBCAPCD’s progress toward attaining the ozone CAAQS, determining that all feasible control measures from prior plan updates have been implemented and that potential additional measures would yield relatively smaller emission reductions with higher associated costs. The 2019 Ozone Plan carries forward contingency measures and some “further study” measures from the prior plan. The primary focus of the 2019 Ozone Plan is reducing ozone precursor (ROC and nitrogen oxides) emissions from marine shipping, which accounts for a large portion of the countywide ozone precursor inventory (SBCAPCD 2019). The SBCAPCD was recently designated attainment for the ozone CAAQS effective July 1, 2020 (SBCAPCD 2020)

Air Pollutant Emission Thresholds

The SBCAPCD has adopted guidelines for quantifying and determining the significance of air quality emissions in its *Scope and Content of Air Quality Sections in Environmental Documents* (Guidelines). SBCAPCD has not adopted quantitative significance criteria for temporary construction emissions associated with conventional land development projects. However, the SBCAPCD Guidelines recommend quantification of construction-related emissions and uses 25 tons per year for ROC or nitrogen oxides as a guideline for determining the significance of construction impacts. This is a limit that requires offsets if the construction activity is for a project that requires SBCAPCD permits (SBCAPCD 2017), but also provides guidance for other construction projects involving standard grading and building activities, such as the proposed project. In addition, SBCAPCD notes that consistency with the applicable air quality plan is based on whether the project would exceed the growth assumptions in the air quality plan and whether the project would implement standard dust control measures during construction activities (SBCAPCD 2017).

Based on the criteria suggested by the SBCAPCD Guidelines (2017), project operation would have a significant effect on air quality if the project would:

- Emit from all project sources (both stationary and mobile) greater than 240 pounds per day of ROC;
- Emit from all project sources (both stationary and mobile) greater than 240 pounds per day of nitrogen oxides;
- Emit from all project sources (both stationary and mobile) greater than 80 pounds per day of PM_{10};
- Emit greater than 25 pounds per day of ROC from motor vehicle trips only;
- Emit greater than 25 pounds per day of nitrogen oxides from motor vehicle trips only; or
- Exceed the public notification health risk thresholds adopted by the SBCAPCD of 10 excess cancer cases in a million for cancer risk or a Hazard Index of more than 1.0 for non-cancer risk.

The Guidelines state that due to the relatively low background ambient carbon monoxide levels in Santa Barbara County, localized carbon monoxide impacts associated with congested intersections are not expected to exceed the carbon monoxide health-related air quality standards. As such, carbon monoxide hotspot analyses are no longer required.

Methodology

Air pollutant emissions generated by project construction were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod uses project-specific information, including the project’s land uses, square footages for different uses, and location, to model a project’s construction and operational emissions. The analysis reflects construction of the project as described under *Project Description*. Operational emissions were not quantified because, as detailed under *Project Description*, the project would not result in changes to existing operation and maintenance activities conducted by the District; therefore, no net new operational emissions would be generated by the project.

Construction emissions modeled include emissions generated by construction equipment used on site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed project was analyzed based on the anticipated construction schedule, construction equipment list, soil material export quantity, demolition debris quantity, and concrete import quantity for each reservoir as summarized under *Project Description* and further detailed in Table 4. It is assumed that all construction equipment used would be diesel-powered. This analysis assumes that the project would comply with all applicable regulatory standards. In particular, the project would comply with SBCAPCD Rule 345 (Fugitive Dust Control). For the purpose of providing a conservative estimate of project impacts in comparison to SBCAPCD-recommend thresholds for annual construction-related emissions, this analysis assumes all construction activities for the eight reservoirs would occur at the same time, beginning March 2022. The assumption that all construction would commence in March 2022 is a conservative assumption because construction equipment is anticipated to become more efficient and generate fewer air pollutant emissions over time. Therefore, assuming the use of the least-efficient equipment possible results in reasonable worst-case construction emissions. In reality, construction activities at the eight reservoirs would be spaced out over an approximately three-year period, resulting in lower annual emissions than those estimated herein.

Table 4 Construction Parameters

Reservoir	Construction Equipment	Soil Material Export/Import (cubic yards)	Demolition Debris Export (tons)[1, 2]	Concrete Delivery Trips (One-Way)
Bella Vista	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Crane, Excavator, Generator, Rubber Tired Loader, Welders	Export/Import: 0	0	106
Buena Vista	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welder	Export: 707 Import: 0	14.0	60
Cold Springs	Backhoe, Crane, Concrete/Industrial Saw, Compactor, Compressor, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Welders	Export: 100 Import: 0	9.3	230
Doulton	Backhoe, Bore/Drill Rig, Concrete/Industrial Saw, Compactor, Compressor, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welders	Export: 308 Import: 308	245.0	12
Hot Springs	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welder	Export: 707 Import: 0	14.0	60
Park Lane	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welders	Export: 720 Import: 0	483.6	380

Reservoir	Construction Equipment	Soil Material Export/Import (cubic yards)	Demolition Debris Export (tons)[1, 2]	Concrete Delivery Trips (One-Way)
Romero	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welders	Export: 1,163 Import: 0	43.7	22
Terminal	Backhoe, Concrete/Industrial Saw, Compactor, Compressor, Crane, Excavator, Rough Terrain Forklift, Generator, Grader, Rubber Tired Loader, Paver, Paving Equipment, Welders	Export: 3,860 Import: 3,860	27.9	32

[1] Assumes 1 cubic yard of concrete weighs 0.93 ton.

[2] Assumes 6,100 square feet of steel weighs 225.9 tons, based on an exponential interpolation of steel weight conversion factors that results in an estimated 1 ton per 27 square foot of 3.7-inch steel (the approximate thickness of the steel tank at the Doulton Reservoir site that would be demolished; Futura 2008).

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The SBCAPCD Guidelines state a project is consistent with the Clean Air Plan if its direct and indirect emissions have been accounted for in the Clean Air Plan's emissions forecast assumptions and if it would incorporate the standard fugitive dust control measures recommended by SBCAPCD during construction activities. The 2019 Ozone Plan's direct and indirect emissions inventory for the County as a whole is reliant on population projections provided by the Santa Barbara County Association of Governments. Given the relatively small size of project construction activities, it is anticipated that construction workers would come from the regional workforce and would not relocate to Santa Barbara County as a result of the project. In addition, the proposed project would not require additional employees for operation and maintenance activities. Therefore, the project would not directly or indirectly contribute to an increase in population and would be consistent with the population projections on which the emissions forecast of the 2019 Ozone Plan is based. However, the proposed project does not include implementation of the standard fugitive dust control measures recommended by SBCAPCD during construction activities. Therefore, the project would be inconsistent with the applicable air quality plan, and impacts would be potentially significant. Implementation of Mitigation Measure AQ-1 would be required to reduce impacts to a less-than-significant level. Implementation of the standard SBCAPCD fugitive dust control measures as required by Mitigation Measure AQ-1 would achieve consistency with the applicable air quality control plan per SBCAPCD guidance. Therefore, Mitigation Measure AQ-1 would reduce project impacts to a less-than-significant level.

Mitigation Measure

AQ-1 Fugitive Dust Control Measure

The following standard SBCAPCD fugitive dust control measures shall be implemented during project construction activities:

- During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site and from exceeding SBCAPCD's limit of 20 percent opacity for greater than three minutes in any 30 minute period. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency shall be required whenever the wind speed exceeds 15 miles per hour (mph). Reclaimed water shall be used whenever practicable. However, reclaimed water shall not be used in or around crops for human consumption.

- The amount of disturbed area shall be minimized.
- On-site vehicle speeds shall be no greater than 15 mph when traveling on unpaved surfaces.
- A track-out prevention device shall be installed and operated where vehicles enter and exit unpaved roads onto paved streets. The track-out prevention device can include any device or combination of devices that are effective at preventing track out of dirt such as gravel pads, pipe-grid track-out control devices, rumble strips, or wheel washing systems.
- If stockpiling of material is involved, soil stockpiled for more than one day shall be covered, kept moist, or treated with soil binders to prevent dust generation.
- After clearing, grading, earth moving or excavation is completed, the disturbed area shall be treated by watering, or using roll-compaction, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur. All driveways and sidewalks to be paved/surfaced shall be completed as soon as practicable.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SBCAPCD prior to grading/building permit issuance and/or map clearance.
- The project contractor(s) shall comply with SBCAPCD Rule 345: Control of Fugitive Dust from Construction and Demolition Activities, including all applicable standards and measures therein.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Santa Barbara County is designated nonattainment for the CAAQS for PM_{10}. The following subsections discuss emissions associated with construction and operation of the proposed project.

Construction Emissions

Project construction would generate temporary air pollutant emissions associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction equipment and construction vehicles. Table 5 summarizes the estimated annual emissions of pollutants during project construction. As shown therein, construction-related emissions would not exceed SBCAPCD thresholds. Therefore, project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.

Table 5 Estimated Annual Construction Emissions (tons/year)

Construction Year	ROC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2022						
Bella Vista	0.1	1.0	1.1	< 0.1	0.1	< 0.1
Buena Vista	0.1	1.3	1.3	< 0.1	0.1	0.1
Cold Springs	0.3	2.5	2.5	< 0.1	0.2	0.1
Doulton	0.3	2.3	2.3	< 0.1	0.1	0.1
Hot Springs	0.2	2.0	2.1	< 0.1	0.1	0.1
Park Lane	0.2	2.2	2.2	< 0.1	0.1	0.1
Romero	0.3	2.2	2.3	< 0.1	0.1	0.1
Terminal	0.2	1.8	2.0	< 0.1	0.1	0.1
Total Annual Emissions	**1.7**	**15.3**	**15.8**	**< 0.1**	**0.9**	**0.7**
SBCAPCD Thresholds	25	25	N/A	N/A	N/A	N/A
Threshold Exceeded?	**No**	**No**	N/A	N/A	N/A	N/A
2023						
Cold Springs	0.1	1.0	1.0	< 0.1	0.1	0.1
Doulton	< 0.1	0.2	0.2	< 0.1	< 0.1	< 0.1
Hot Springs	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Park Lane	0.1	1.1	1.4	< 0.1	0.1	0.1
Romero	< 0.1	0.3	0.3	< 0.1	< 0.1	< 0.1
Terminal	0.2	1.4	1.6	< 0.1	0.1	0.1
Total Annual Emissions	**0.4**	**4.0**	**4.5**	**< 0.1**	**0.3**	**0.3**
SBCAPCD Thresholds	25	25	N/A	N/A	N/A	N/A
Threshold Exceeded?	**No**	**No**	N/A	N/A	N/A	N/A

lbs/day = pounds per day; ROC = reactive organic compounds, NO_X = nitrogen oxides, CO = carbon monoxide, SO_2 = sulfur dioxide, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

Notes: All emissions modeling was completed using CalEEMod. See Appendix A for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results, which account for compliance with regulations (including SBCAPCD Rule 345 1).

Operational Emissions

As detailed under *Project Description*, operational activities at the eight reservoir sites would resume per existing conditions upon completion of construction. District staff would perform approximately one daily vehicle trip to each reservoir site for visual observation, as under existing conditions. Therefore, there would be no net new air pollutant emissions associated with operational activities, and project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. No impact would occur.

LESS THAN SIGNIFICANT IMPACT

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Certain population groups, such as children, the elderly, and people with health problems, are particularly sensitive to air pollution. Therefore, the majority of sensitive receptor locations are schools, hospitals, and residences. Sensitive receptors in the project area include residences located immediately adjacent to the project sites as well as El Montecito Early School (located approximately 950 feet to the south of the secondary staging area) and Westmont College (located approximately 1,000 feet south of the Terminal Reservoir).

Toxic air contaminants (TACs) are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

Construction

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. However, project construction activities at each project site would be temporary and short-term in nature, and SBCAPCD does not require a health risk assessment for short-term projects or construction projects (SBCAPCD 2017). Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Operation

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). The CARB guidelines recommend siting distances both for the development of sensitive land uses in proximity to TAC sources and for the addition of new TAC sources in proximity to existing sensitive land uses. Water infrastructure is not a land use that would generate substantial TAC emissions based on review of the air toxic sources listed in the CARB guidelines. Furthermore, the nature of operation and maintenance activities at the reservoirs would remain generally the same as under existing conditions. Therefore, project operation would not result in the exposure of sensitive receptors to substantial concentrations of TAC emissions. No impact would occur.

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d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

During construction activities, heavy equipment and vehicles would emit odors associated with vehicle and engine exhaust and during idling. However, these odors would be intermittent and temporary and would cease upon completion, and odors would disperse with distance. Overall, project construction would not generate other emissions, such as those leading to odors, affecting a substantial number of people. Construction-related impacts would be less than significant.

Land uses that typically produce odorous emissions include landfills, rendering plants, chemical plants, agricultural uses, wastewater treatment plants, refineries, fast food restaurants, bakeries, and coffee roasting facilities (CARB 2005; SBCAPCD 2017). The proposed project would not include odor-generating components or land uses. Therefore, project operation would not result in odorous emissions adversely affecting a substantial number of people. No operational impacts would occur.

NO IMPACT

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4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	■	☐	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	■	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	■	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	■	☐	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

In April 2021, Rincon Consultants, Inc. evaluated biological resources at each of the eight reservoir sites. The evaluation included a literature review and field reconnaissance survey and documented existing site conditions, such as the potential presence of special status plant and wildlife species, sensitive plant communities, jurisdictional waters and wetlands, and habitat for nesting birds.

Rincon conducted a biological reconnaissance survey on April 6 and 7, 2021 encompassing the proposed project footprint (i.e., areas which are expected to be affected by the proposed project including the reservoir construction footprint, staging areas, and parking areas) and a 100-foot survey buffer beyond the limits of the project footprint (study area).

Queries of the United States Fish and Wildlife Service (USFWS) *Information for Planning and Consultation System* (USFWS 2021a), USFWS Critical Habitat Portal (USFWS 2021b), and California Department of Fish and Wildlife (CDFW) *California Natural Diversity Database* (CNDDB) (CDFW 2021) were conducted within a five-mile radius of the study area. The queries were conducted to obtain comprehensive information regarding state and federally listed species, as well as other special status species, considered to have potential to occur within the study area. In addition, the following resources were reviewed for further information about the study area:

- Aerial photographs of the study area and vicinity
- United States Department of Agriculture, Natural Resources Conservation Service *Web Soil Survey* (2021)
- National Wetlands Inventory (USFWS 2021c)

The findings of the assessment are considered in the impact analysis below.

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special Status Plant Species

No special status plant species were observed within the study area during the reconnaissance-level field survey. No threatened or endangered plant species have a potential to occur within the project area, and no designated critical habitat occurs within or adjacent to the sites. Nine special status plant species have a low to moderate potential to occur within the project area, including Miles' milk-vetch (*Astragalus didymocarpus* var. *milesianus*), late-flowered mariposa lily (*Calochortus fimbriatus*), umbrella larkspur (*Delphinium umbraculorum*), Ojai fritillary (*Fritillaria ojaiensis*), mesa horkelia (*Horkelia cuneata* var. *puberula*), Santa Barbara honeysuckle (*Lonicera subspicata* var. *subspicata*), white-veined monardella (*Monardella hypoleuca* ssp. *hypoleuca*), Nuttal's scrub oak (*Quercus dumosa*), and black-flowered figwort (*Scrophularia atrata*). These special status plant species have a low to moderate potential to occur within the project area at the Terminal, Cold Springs, Hot Springs, Park Lane, Buena Vista, and Romero sites in areas of chaparral, coastal scrub, and coast live oak woodland habitat. The majority of these habitats are located at the edges of the reservoir sites.

Many of the sites have planted native species such as deergrass (*Muhlenbergia rigens*) and California sagebrush (*Artemisia californica*) in previously disturbed areas around the perimeter of the reservoirs. The majority of staging and access roads are located in previously disturbed areas (i.e., paved or dirt roads, non-native annual grasslands, or graded areas around the reservoirs).

Impacts to chaparral, coastal scrub, and coast live oak woodland habitat may occur at Terminal, Cold Springs, Hot Springs, Park Lane, Buena Vista, and Romero from excavation around the reservoirs and grading for access roads and/or staging.

Due to the limited habitat within the project area and low to moderate potential for non-listed special status plant species to occur, the number of individuals affected by the project would be low, if any, and would not result in population-level effects on these species. Indirect impacts to special status plant species potentially occurring outside of the project area could occur from dust or run-off material generated during construction but would be minor. Impacts to special status plants would be less than significant and would be further reduced through Mitigation Measures BIO-1 through BIO-10, which would limit encroachment into habitat areas, require topsoil salvage, establish a worker environmental training program for the project, and require the presence of a biological monitor.

Special Status Wildlife Species

As described below, vegetation surrounding the reservoir sites and associated workspaces, staging, and parking areas has the potential to support special-status wildlife species. No wildlife species are anticipated to occur within reservoirs themselves, as they all have covered roofs and mesh coverings over all openings that restrict small animal access.

A single special status wildlife species was observed during the biological reconnaissance surveys: an oak titmouse (*Baeolophus inornatus*), a CDFW Watch List species. This bird species nests in oak woodlands, and although the individual was observed at the Bella Vista site, the coast live oak woodland habitats that occur at many of the reservoir sites are suitable for this species. Because the project is expected to require trimming and/or removal of oak trees, it is possible that oak titmouse nests could be destroyed, or that oak titmouse eggs or nestlings could be injured or killed during construction. In addition, noise and human presence may cause adult oak titmice to abandon their nests, which can also lead to mortality of eggs and nestlings. These impacts would be potentially significant absent mitigation, but would be reduced to a less-than-significant level through Mitigation Measure BIO-7, which requires pre-construction nesting bird surveys and establishment of a protective buffer around any nests encountered.

Seven additional special status wildlife species, which were not observed or detected during the biological survey, were determined to have potential to occur within the study area based upon known ranges, habitat preferences for the species, and species occurrence records from CNDDB. Foothill yellow-legged frog (*Rana boylii*), California red-legged frog (*Rana draytonii)*, coast horned lizard (*Phrynosoma blainvillii*), southwestern willow flycatcher (*Empidonax trailii extimus*), and least Bell's vireo (*Vireo bellii pusillus*) have a low potential to occur within the study area. Marginally suitable habitat for these species (rocky or vegetated drainages with limited or no riparian vegetation) is present within or adjacent to the study area but outside of the project area associated with the Terminal, Hot Springs, Park Lane, Buena Vista, Bella Vista, and Doulton sites. These species have a low potential to occur as transients within the project area and are not expected to be impacted by the project.

Coast range newt (*Taricha torosa*) and coast patch-nosed snake (S*alvadora hexalepis virgultea*), have a moderate potential to occur within the study area, and northern California legless lizard (*Anniella pulchra*) has a high potential to occur within the study area associated with all project sites. These species are associated with shrubby chaparral, coastal scrub, and ornamental vegetation and leaf litter and sandy loose and/or moist soils. Excavation and grading for the project would occur mainly in previously disturbed areas with compacted soils and sparse vegetation cover or non-native annual grasslands that do not provide suitable habitat for these species. However, some woodland and scrub habitats may be impacted by the project and are suitable for these species, and individuals may be killed or injured during excavations or vehicle movements. Even staging and parking, if occurring in areas where leaf litter and loose soils could accommodate these species, could result in injury or mortality due to crushing. These impacts would be potentially significant absent mitigation, but would be reduced to a less-than-significant level by Mitigation Measures BIO-1 through BIO-10 which would provide for worker environmental training, minimization of intrusion into habitats, a pre-construction survey and relocation of encountered individuals, establishing protective site rules, and the presence of a biological monitor during construction. Indirect impacts and loss of habitat for these species would not be significant because the proposed activities would be temporary and localized.

In addition to special status species, the reservoir sites contain habitat which can support nesting birds, including raptors, protected under the California Fish and Game Code (CFGC) and the federal Migratory Bird Treaty Act (MBTA). The native, non-native, and ornamental vegetation throughout the study area provides suitable nesting habitat for avian species. Specifically, the mature coast live oak and eucalyptus trees throughout the study area contain suitable habitat for raptor species while the various chaparral and coastal scrub shrub layers provide suitable habitat for passerine species. Potentially significant direct impacts to raptors and other nesting birds may result if construction occurs while they are present within or adjacent to the project footprint, through direct mortality or abandonment of nests. Though impacts to common avian species do not rise to the level of significance under CEQA, the destruction of nests during construction activities would be a violation of the MBTA and CFGC Section 3503 and therefore must be avoided. Implementation of Mitigation Measures BIO-1 and BIO-7 would maintain compliance with these federal and state laws.

Impacts related to candidate, sensitive, or special status species would be less than significant with mitigation incorporated.

Mitigation Measures

BIO-1 Worker Environmental Awareness Program

Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to assist workers in recognizing special status biological resources which may occur in the study area. This training will include information about nesting birds and the special status species potentially occurring in the study area.

The specifics of this program shall include identification of special status species and habitats, a description of the regulatory status and general ecological characteristics of special status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special status species. If new construction personnel are added to the project, the crew foreman shall confirm the new personnel receive the WEAP training before starting work. The subsequent training of personnel can include a video recording of the initial training and/or the use of written materials rather than in-person training by a biologist.

BIO-2 Sensitive Habitat Fencing

Prior to project mobilization, where the project is adjacent to native habitat (i.e., environmentally sensitive habitat [ESH], riparian habitat, sensitive natural communities); temporary construction fencing shall be erected by the contractor at the edge of the temporary construction area to avoid impacts to the habitat throughout the duration of construction. If complete avoidance is not feasible, impacts shall be minimized as described in Mitigation Measure BIO-3.

BIO-3 Minimization of Sensitive Habitat Impacts

If encroachment into sensitive natural communities cannot be avoided, areas of temporary disturbance within these habitats shall be minimized to the extent practicable. Staging and parking areas shall be limited to sites which are unvegetated and/or previously disturbed areas comprising ruderal vegetation or non-native annual grasslands, ornamental landscaping, and paved/graded areas, to the extent practicable. If removal of sensitive vegetation is necessary during excavation and/or grading, the topsoil (top six inches) shall be salvaged and stored in temporary stockpiles and replaced <u>in the same area</u> following completion of excavation/grading activities. <u>If removal of non-native invasive vegetation is necessary during excavation and/or grading, the plant material and topsoil shall be separated and exported off-site to a landfill or similar disposal facility. Temporary stockpiles with invasive species shall be stored away from salvaged sensitive natural communities and separate from sensitive vegetation topsoil. If revegetation of the site is necessary for soil stabilization and/or fugitive dust control, the revegetation plant palette shall be free of invasive plants listed in the California Invasive Plant Council Inventory.</u>

BIO-4 Construction Material Storage to Prevent Leaks and Spills

Materials and equipment (when not in use) shall be stored on impervious surfaces or plastic ground covers to prevent spills or leakage. Material storage and material/spoils from project activities shall be located and stored 100 feet from waterways. Adequate spill prevention and response equipment shall be maintained on site and readily available to implement to minimize impacts to the aquatic and marine environments. Construction materials and spoils shall be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.

BIO-5 Construction Best Management Practices

To avoid and/or minimize potential direct and indirect impacts to special status species and potentially jurisdictional waters and water quality outside of the project area, the following Best Management Practices (BMPs) shall be implemented:

a. Prior to project mobilization, all limits of construction work adjacent to potentially jurisdictional waters shall be clearly delineated with orange construction fencing or similar highly visible material and maintained throughout the duration of construction.
b. Off-site tracking of loose construction and landscape materials shall be prevented by implementing street sweeping, vacuuming, and rumble plates, as appropriate.
c. Site washout areas shall be at least 100 feet from a storm drain, open ditch, or surface water and prevent runoff flows from such activities from entering receiving water bodies.
d. All vehicles and equipment shall be in good working condition and free of leaks. The contractor shall prevent oil, petroleum products, or any other pollutants from contaminating the soil or

entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans shall be placed below vehicles to contain fluid leaks.

e. Fugitive dust from ground disturbance activities shall be minimized using water trucks and covering of soil stockpiles.
f. A speed limit of 15 mph for construction vehicles shall be implemented on unpaved non-public roads.
g. All food related trash shall be disposed of in closed containers and removed from the project site each day during the construction period. Construction personnel shall not feed or otherwise attract wildlife to the construction area. At project completion, all project-generated debris, vehicles, building materials, and rubbish shall be removed from the project site.
h. Pets and firearms shall not be allowed on the project sites during construction.

BIO-6 Arborist Study

Prior to the start of construction, an Arborist Study should be conducted for protected trees with any portion of their dripline within the project area and a 20-foot buffer. Protected trees shall be defined as native trees that are six inches or greater in diameter, as is standard in the county (County of Santa Barbara 2021a). The study should plot the location of protected trees and identify the species. The Arborist Report shall be prepared by a Certified Arborist and include, at minimum, the following:

- An inventory of all trees containing a canopy drip line within 20 feet of the project area, as feasible without trespassing on private lands. Inventory data shall record, at minimum: diameter at breast height (DBH), height, canopy spread, and overall health rating
- Description of proposed site development activities including, but not limited to, excavation and grading, any tree trimming for access, and staging/parking.
- Tree protection recommendations which would at a minimum include a site plan depicting the project area, the tree protection zone (TPZ; six feet from the dripline, as is typical in the county [County of Santa Barbara 2021a]), and project encroachment boundaries; tree protection fencing, activities prohibited/permitted within the tree protective zone, and standard measures for protecting trees during construction.

The Arborist Report shall be submitted to the District for approval prior to the start of any tree-disturbing construction activities.

BIO-7 Pre-Construction Nesting Bird Surveys

To avoid disturbance of nesting and special status birds, including raptor species, protected by the MBTA and CFGC 3503, activities related to the project including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season for migratory birds (January 1 through September 1), if practicable.

If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction survey shall be conducted on foot inside the project footprint, including a 100-foot buffer (300 feet for raptors), and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practicable. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities. If nests are found, an avoidance buffer (dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground-disturbing activities shall occur inside this buffer until the avian biologist has confirmed breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.

BIO-8 Pre-Construction Presence/Absence Survey for Special Status Wildlife Species

Within seven days prior to the commencement of ground disturbing activities, a qualified biologist shall be retained to perform a survey for coast range newt, coast patch-nosed snake, and northern California legless lizard in natural habitat areas within the project footprint and a 50-foot buffer to determine the presence/absence of these species. The pre-construction survey shall be conducted on foot within the project footprint and 50-foot buffer. Raking shall be conducted in areas of sandy, loose, and moist soils under sparse vegetation/leaf litter to determine the presence/absence of northern California legless lizard. The qualified biologist shall temporarily move any identified special status wildlife species outside of the construction area, and temporary barriers shall be placed around the construction area, as practicable, to prevent ingress. Construction shall not proceed until the work area is determined to be free of special status wildlife species. The results of these surveys shall be documented in a technical memorandum.

BIO-9 Biological Construction Monitoring

A qualified biological monitor shall be present during initial ground disturbing activities and vegetation removal to confirm impacts to special status wildlife species are avoided. The monitor shall have the authority to halt construction activities to avoid potential impacts to special status species. The results of biological monitoring shall be documented in daily logs and a technical memorandum at project completion.

BIO-10 Night Construction and Night Lighting

Night-time construction should be avoided adjacent to Hot Springs Creek and the four unnamed drainages associated with the Terminal, Hot Springs, Park Lane, Buena Vista, and Bella Vista sites to avoid impacts to special status wildlife in and near these drainages. If construction must occur at night (between dusk and dawn), all lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties and to reduce impacts on local wildlife.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The eight reservoir sites occur in mountainous, rural residential areas on the southern slopes of the Santa Ynez Mountains above the communities of Montecito and Summerland. All the sites contain existing reservoirs and associated facilities and have been subjected to disturbance in the past. However, native vegetation has become established in some locations around the reservoirs since their construction including sensitive communities in some cases. Vegetation around the reservoir sites was documented during the reconnaissance-level biological survey and is summarized in

Table 6 below. Riparian habitat is not present at any of the reservoir sites, and the project would not directly or indirectly affect riparian vegetation. The off-site staging area would be located at the District offices, which are completely paved and developed.

Table 6 Vegetation Communities

Reservoir Site	Vegetation Community	Sensitive?	Proposed Activity Level
Doulton	Non-native landscaping	No	Reservoir demolition and reconstruction
Romero	Annual Grassland	No	Excavation around reservoir, staging, parking
	Eucalyptus Woodland	No	Staging
	Landscaped Vegetation	No	Excavation around reservoir
	Lemonade Berry Scrub	Yes	Excavation around reservoir
	Coast Live Oak Woodland	Yes	Parking
Terminal	Coast Live Oak Woodland	Yes	Excavation around reservoir, parking and staging
	Bigpod Ceanothus Chaparral	No	Excavation around reservoir
	Annual Grassland	No	Parking and staging
Bella Vista	Annual Grassland/Ruderal	No	Parking and staging
	Coast Live Oak Woodland	Yes	None
Park Lane	Coast Live Oak Woodland	Yes	Staging/workspace for reservoir work
	Annual Grassland	No	Parking and staging
	Mountain Mahogany Chaparral	No	Piping/minor appurtenances only
	California Sagebrush Scrub	No	Piping/minor appurtenances only
Cold Springs	Coast Live Oak Woodland	Yes	Staging
	Annual Grassland	No	Staging
	Bigpod Ceanothus Chaparral	No	Staging
	California Sagebrush Scrub	No	Staging
Hot Springs	Coast Live Oak Woodland	Yes	Parking on slope, excavation around reservoir
	Annual Grassland	No	Staging, excavation around reservoir
	Bigpod Ceanothus Chaparral	No	Excavation around reservoir and staging
	Non-native landscaping	No	None
Buena Vista	Eucalyptus Woodland	No	Excavation around reservoir, staging, parking
	California Sagebrush Scrub	No	Excavation around reservoir, staging

As shown in Table 6, sensitive natural communities occur at many of the reservoir sites, and include lemonade berry scrub (*Rhus integrifolia* shrubland alliance), which is listed on the CDFW's Sensitive Natural Communities List (CDFW 2020), and coast live oak woodland (*Quercus agrifolia* woodland alliance) which is considered sensitive by the County. The California sagebrush scrub and bigpod ceanothus chapparal vegetation communities do not include sensitive associations where present. Where sensitive communities occur, the project has been designed to avoid impacts to the extent feasible. As summarized in Table 6 above, parking and staging will occur mostly within annual grasslands and other previously disturbed areas. Where parking or staging within coast live oak woodland is necessary, such as at the Terminal, Romero, Cold Springs, Hot Springs, and Park Lane sites, impacts to individual oaks will be avoided to the extent practicable. However, oaks may need to be trimmed to accommodate equipment passage along access routes or to allow staging activities to proceed. At sites where oak woodlands overlap work areas, such as Terminal, Park Lane, and Hot

Springs, oaks may need to be trimmed or removed to allow equipment access to the reservoir structure or to facilitate excavation of soils needed to expose buried portions of the reservoir for repairs. The extent of habitat impacts caused by the project are expected to be minor, because the affected areas are small and at the interface where oak woodland habitat abuts the developed reservoirs. However, because oaks have high biological value and take a long time to reach maturity, potential impacts to coast live oak woodland would be potentially significant absent mitigation. These impacts would be reduced to a less-than-significant level through Mitigation Measures BIO-2, BIO-3, and BIO-6, which would fence sensitive areas to prevent inadvertent encroachment and ensure that any necessary trimming of oaks is conducted using approved arboricultural practices.

Impacts to lemonade berry scrub would occur only at the Romero site, and would be associated with excavations needed to expose the buried reservoir for repairs. Excavation would remove all vegetation rooted in the soils to be removed. However, impacts to this community would be minor, as only a 12-foot area along the edge of the reservoir would be affected. Due to the small area affected, and because the impacted area is along the edge of the habitat and adjacent to the developed reservoir, impacts to lemonade berry scrub would be less than significant. These impacts would be further reduced through implementation of Mitigation Measures BIO-2 and BIO-3, which would fence sensitive areas to prevent inadvertent intrusion and require salvaging of topsoil when excavation occurs in sensitive habitat.

Impacts related to riparian habitat or other sensitive natural communities would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

None of the reservoir sites is within or abutting a wetland, streambed, or waterway, nor is the off-site staging area. However, potentially jurisdictional streams (Hot Springs Creek and an unnamed drainage) occur within 100 feet of the Hot Springs and Park Lane sites. At the Hot Springs site, work activities would include reinforcing the walls, spraying new concrete and waterproofing onto the exterior of the reservoir, and replacing the roof. This would entail excavating around the edges of the reservoir to accommodate the concrete work. Work activities at the Park Lane site would occur mostly inside the existing reservoir, as the project would create a new reinforced concrete reservoir inside the existing one using the old reservoir walls as forms for the concrete. Impacts outside the reservoir footprint at Park Lane would be minor and associated with piping and appurtenances. Direct impacts to streambeds from construction are not anticipated; however indirect impacts from construction material run-off could adversely affect water quality (e.g., increased turbidity, addition of pollutants) particularly during storm events. These impacts would be potentially significant absent mitigation, but would be reduced to a less-than-significant level through Mitigation Measures BIO-4 and BIO-5, which would ensure materials are appropriately stored and stormwater controls are in place to protect water quality.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

All eight of the reservoir locations are situated in rural residential areas near the interface with adjacent wildlands, and regional wildlife movement is fairly unrestricted in this area. Many of the nearby properties are unfenced, and oak woodland vegetation provides extensive cover for animals conducting localized movements to meet basic life history needs such as feeding, sheltering, and breeding, and are also passable during longer movements such as migration or dispersal. The presence of drainage channels near some of the sites increases the suitability of these areas for wildlife movement, as these features provide both topographic relief and a source of drinking water. Roads can also be used as movement routes by certain species. The area is not documented as a wildlife corridor from a regional perspective, and the reservoir sites and off-site staging area are not located within an Essential Connectivity Area as mapped in the *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (CDFW 2010).

Although the areas surrounding the reservoir sites are permeable to wildlife, the reservoir sites themselves are developed and offer little value to migrating wildlife. The Terminal, Cold Springs, Park Lane, Romero, and Bella Vista sites are entirely fenced with security chain-link fencing or facility walls and inaccessible to larger wildlife, although the Hot Springs, Buena Vista, and Doulton sites are not fenced. Staging and parking areas outside of the reservoir sites are not fenced. In all cases, the reservoirs are constructed to prevent access by wildlife and therefore do not constitute water sources that would attract wildlife or increase migration through the sites. Construction activities would be limited to foundation reinforcements in previously disturbed areas surrounding the reservoirs and concrete/steel reinforcements on the exterior and interior of existing reservoirs; as well as demolition and replacement in-kind of the reservoir at the Doulton site. Temporary reservoirs would be placed at the Bella Vista and Doulton sites and removed following project completion. During construction, it is possible wildlife may avoid the reservoir sites due to added noise and human presence. In these instances, the animals would be expected to easily find alternate travel routes due to the open and permeable nature of the area (i.e., access to resources would not be cut off by the project). The project would not result in any substantial permanent changes to the reservoir sites, and long-term suitability for wildlife movement is expected to be the same as the current condition. As such, the project’s effects on wildlife movement would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The project is located outside the coastal zone in the Montecito Community Plan (MCP) area, with the exception of the Doulton site which is located in the Toro Canyon Community Plan (TCP) area. Because the project involves the repair and replacement of water storage facilities, County zoning and building codes would not apply to the project pursuant to Section 53091 of the California Government Code. However, the project’s consistency with local policies and ordinances protecting biological resources is addressed below for informational purposes. The MCP Policy BIO-M-1.17 states oak trees shall be protected to the maximum extent feasible (County of Santa Barbara 1995). The MCP Policies BIO-M-1.15 and BIO-M-1.16 state native specimen trees (mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species) regardless of size, shall be protected from damage or removal by development to the maximum extent feasible.

The project does not propose to remove any native specimen trees or coast live oak trees. However, excavation and grading has the potential to impact the roots and canopy of native trees. Implementation of Mitigation Measure BIO-6 would reduce impacts to native trees to a less-than-significant level.

MCP Policy BIO-M-1.19 protects oak woodlands as habitat rather than as individual trees. The project is not anticipated to remove any woodland trees but may encroach into woodland habitats during construction. Implementation of Mitigation Measure BIO-6 would reduce impacts to woodlands to a less-than-significant level.

MCP-mapped riparian ESH is present within the study area but outside the project area at the Terminal and Hot Springs sites (County of Santa Barbara 2021b). No construction will occur within the riparian ESH, however project construction may be within 100 feet of ESH. Per the MCP Policies BIO-M-1.2 and BIO-M-1.8, riparian ESH shall be protected and a minimum buffer strip for development near streams and creeks in rural areas shall be 50 feet in urban areas and 100 feet in rural areas. The buffers may be adjusted upward or downward on a case-by-case basis but shall not preclude reasonable development of a parcel. Implementation of Mitigation Measures BIO-3 through BIO-5 and BIO-10 would reduce indirect impacts to riparian ESH to a less than significant level.

MCP Policies BIO-M.1.2 and BIO-M-1.11 designate coastal sage scrub as ESH and state areas of one or more acres of coastal sage scrub shall be preserved to the maximum extent feasible. In addition, MCP Policy BIO-M-1.13 states habitat on the hillside area north of Mountain Drive and Bella Vista Road shall be recognized as particularly valuable because of chaparral, sensitive native flora, and riparian resources. The project does not propose to remove significant amounts of native vegetation but may encroach upon coastal sage scrub present around the perimeters of the construction footprint and in previously disturbed staging areas at the Terminal, Cold Springs, Hot Springs, Park Lane, Buena Vista, and Romero sites. The Terminal, Cold Springs, and Hot Springs sites are in the hillside areas north of Mountain Drive and may impact sensitive native flora. Implementation of Mitigation Measures BIO-2 through BIO-3 and BIO-5 would reduce impacts to coastal sage scrub and sensitive native flora to a less-than-significant level.

TCP Policy BIO-TC-1 states development shall be required to include buffer areas from ESH including coast live oak forests, coastal sage scrub, scrub oak chaparral, and southern coast live oak riparian forest corridors (County of Santa Barbara 2004). The project at the Doulton site would not directly impact native vegetation or trees or jurisdictional waters but may encroach into the buffer areas of coastal sage scrub ESH. Impacts are anticipated to be less than significant as construction will be limited to previously disturbed areas and paved roads without native vegetation. Therefore, the project would not conflict with the TCP.

Impacts related to local policies or ordinances protecting biological resources would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project does not occur within the coverage area of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan, and would not cause any impact related to inconsistencies with such a plan. No impact would occur.

NO IMPACT

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

This section provides an analysis of the project's impacts on cultural resources, including historical and archaeological resources, as well as human remains. CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In May 2021, Rincon Consultants, Inc. prepared a Cultural Resources Assessment (Appendix B) for the project. Methods included a cultural resources records search of the California Historical Resources Information System at the Central Coast Information Center (CCIC) at the University of California, Santa Barbara and a pedestrian field survey (Williams et al 2021).

The CCIC records search was performed to identify previously conducted cultural resources studies, as well as previously recorded cultural resources within the reservoir sites and a 0.5-mile radius extending from the reservoir sites. Also reviewed were the Register of Historic Places (NRHP), the CRHR, the California Points of Historical Interest list, and historic buildings surveys. The CCIC search identified 14 previously recorded cultural resources within a 0.5-mile radius of the project sites; none of the resources are located within the project sites. The closest resources to the project sites, a prehistoric archaeological site and historic-period transmission line, are located over 350 feet from the reservoir sites.

On April 7, 2021, Rincon Consultants, Inc. conducted a pedestrian field survey of the project sites to identify archaeological and built environment resources. Ground visibility throughout the project sites was generally poor, ranging from five to 30 percent, due to pavement and vegetation. Results of the pedestrian field survey indicate that the majority of the project sites have undergone previous ground disturbances associated with the construction and maintenance of the reservoir systems and associated buildings. No archaeological resources were identified during the pedestrian field survey.

Eight historical age built environment resources (45 years of age or older) were identified in the project area as part of the field survey: Bella Vista Reservoir and Treatment Plant, Buena Vista Reservoir, Cold Springs Reservoir, Doulton Reservoir and Treatment Plant, Hot Springs Reservoir, Park Lane Reservoir, Romero Reservoir, and Terminal Reservoir. Background research confirmed none of the reservoirs within the project area have been subject to previous historical resources evaluation. Each of these facilities contains a water distribution reservoir, and some sites are augmented with associated buildings and structures, including but not limited to pumping stations and water treatment plants. Each facility was evaluated for inclusion in the NRHP and the CRHR. As a result of the analysis, all were found to lack sufficient historical or architectural significance to qualify for inclusion in the NRHP or CRHR. Therefore, none are considered a historical resource for the purposes of CEQA pursuant to §15064.5(a) of the CEQA Guidelines.

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

The results of the cultural resources assessment concluded no historical resources are located within the project sites. The eight reservoirs proposed for retrofit or replacement were not found to possess the historical or architectural associations which would warrant eligibility in the NRHP or CRHR. As such, the reservoirs are not considered historical resources and their replacement or modification would not cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.

NO IMPACT

b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The results of the cultural resources assessment concluded no archaeological resources are located within the project sites. A known prehistoric cultural resource is located approximately 350 feet from one of the project sites; therefore, the project vicinity is considered sensitive for the presence of archaeological resources. However, because no archaeological resources were identified during the pedestrian field survey and proposed ground disturbance would occur mostly within previously disturbed soils, the potential to encounter intact archaeological resources is low. Nonetheless there is potential, although low, for archaeological resources to be unexpectedly encountered during ground disturbing activities. In the unlikely event of an unanticipated discovery, impacts to unknown archaeological resources would be potentially significant and mitigation measures would be required. With implementation of Mitigation Measure CUL-1, impacts pertaining to the potential discovery of archaeological resources would be less than significant.

Mitigation Measure

CUL-1 Unanticipated Discovery of Archaeological Resources

In the event cultural resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be NRHP eligible, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any adverse effects.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

While no formal cemeteries, other places of human internment, or burial grounds or sites are known to occur within the project area, there is a possibility that human remains can be unexpectedly encountered during ground disturbing activities. If human remains are unexpectedly encountered during ground disturbing activities, regulatory requirements specified in State Health and Safety Code Section 7050.5 require that no further disturbance occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If human remains of Native American origin are discovered during construction, the project would be required to adhere to state laws, including those that fall within the jurisdiction of the Native American Heritage Commission (NAHC) (PRC Section 5097) relating to the disposition of Native American burials. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours of granted access, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

With adherence to state law concerning the discovery of human remains, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	□	□	□	■
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	□	□	□	■

California is one of the lowest per capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2021). Because the project would not result in a net increase in electricity or natural gas consumption during project construction or operation, the energy analysis focuses on the use of petroleum fuels. Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes. California is one of the top producers of petroleum in the nation with drilling operations occurring throughout the state but concentrated primarily in Kern and Los Angeles counties. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received at ports in Los Angeles, Long Beach, and the San Francisco Bay area (California Energy Commission [CEC] 2021). California requires all motorists use California Reformulated Gasoline, which is sourced almost exclusively from in-state refineries. Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 15.4 billion gallons sold in 2019 (CEC 2020). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 1.8 billion gallons sold in 2019 (CEC 2020). Table 7 summarizes the petroleum fuel consumption for Santa Barbara County, in which the project sites are located, as compared to statewide consumption.

Table 7 2019 Annual Gasoline and Diesel Consumption

Fuel Type	Santa Barbara County (gallons)	California (gallons)	Proportion of Statewide Consumption[1]
Gasoline	177,000,000	15,365,000,000	1.2%
Diesel	19,000,000	1,756,000,000	1.1%

[1] For reference, the population of Santa Barbara County (451,840 persons) is approximately 1.1 percent of the population of California (39,782,870 persons) (California Department of Finance 2020).

Source: California Energy Commission 2020

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the project's energy consumption are discussed in detail in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, respectively.

a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

The proposed project would use nonrenewable resources as detailed in the following subsections. Project-specific information and the CalEEMod outputs for the air pollutant and GHG emissions modeling (Appendix A) were used to estimate energy consumption associated with the proposed project.

Construction Energy Demand

The project would require various construction activities, including demolition, site preparation, grading, reservoir modifications, and site restoration. During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project sites, construction worker travel to and from the project sites, and vehicles used to deliver materials to the site. As shown in Table 8, project construction would require approximately 12,090 gallons of gasoline and approximately 368,620 gallons of diesel fuel. These construction energy estimates are conservative because they assume that the construction equipment used in each phase of construction is operating every day of construction.

Table 8 Estimated Fuel Consumption during Construction

	Fuel Consumption (gallons)	
Source	**Gasoline**	**Diesel**
Construction Equipment and Hauling Trips	–	368,620
Construction Worker Vehicle Trips	12,090	–

See Appendix C for energy calculation sheets.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. These practices would result in efficient use of energy necessary to construct the project. In the interest of cost-efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or unnecessary. Overall, construction of the project would be temporary and typical of similar projects. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and the construction-phase impact related to energy consumption would be less than significant.

Operational Energy Demand

As detailed under *Project Description*, operational activities at the eight reservoir sites would resume per existing conditions upon completion of construction. District staff would perform approximately one daily vehicle trip to each reservoir site for visual observation, as under existing conditions. The proposed project would not increase storage capacity or throughput at the reservoirs. Project operation would not increase electricity consumption at the reservoir sites. Therefore, there would be no net new energy consumption associated with operational activities, and project operation would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. No impact would occur.

NO IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The District does not have any specific renewable energy or energy efficiency plans with which the project could comply. Therefore, no impact would occur.

NO IMPACT

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7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	■
2. Strong seismic ground shaking?	☐	☐	☐	■
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	■
4. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	■
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

Geologic Setting

The project sites are situated throughout the foothills of the Santa Ynez Mountains in Santa Barbara County. The project sites are located in the Transverse Ranges Geomorphic Province, characterized by east-west trending mountain ranges (County of Santa Barbara 1979b). The province is bounded on the north by the Coastal Ranges (Sierra Madre Mountains), on the south by the Peninsular Ranges and the Pacific Ocean, on the east by the Mojave Desert, and on the west by the Pacific Ocean.

The Transverse Ranges Geomorphic Province is seismically active, bounded by three major fault zones, including the San Andreas Fault and Big Pine Fault to the north and the Malibu Coast Fault to the south. Seismic events can result in ground shaking, liquefaction, landslides, subsidence, tsunamis, and seiches.

The paleontological sensitivities of the geologic units underlying the reservoir sites were evaluated to determine if the proposed project could result in significant impacts to paleontological resources. The analysis was based on the results of an online paleontological locality search and review of existing information in the scientific literature concerning known fossils within geologic units mapped within the reservoir sites. Fossil collections records from the Paleobiology Database and University of California Museum of Paleontology (UCMP) online database were reviewed for known fossil localities in Santa Barbara County (Paleobiology Database 2021; UCMP 2021). Based on the available information contained within existing scientific literature and the UCMP database, paleontological sensitivities were assigned to the geologic units underlying the reservoir sites. The potential for impacts to scientifically important paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (SVP 2010). This system is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

The reservoir sites are situated within the Transverse Ranges geomorphic province (California Geological Survey 2002). The Transverse Ranges extend from southwestern San Bernardino County, westward through northern Los Angeles County and Ventura County, and terminate at the Pacific Ocean near Point Arguello in western Santa Barbara County. The Transverse Ranges near the reservoir sites include the Santa Ynez Mountains and are characterized by east-west trending faults, and folds, including the active San Andreas fault (Norris and Webb 1990). The surface geology of the reservoir sites is mapped as Quaternary young (middle to late Holocene) alluvial deposits (Qa), Quaternary old (Pleistocene to early Holocene) alluvial deposits (Qoa), Oligocene Sespe Formation (Tspl), and Eocene Coldwater Sandstone (Tcw) (Dibblee and Ehrenspeck 1986; Minor et al. 2009)

- **Quaternary young (middle to late Holocene) alluvium (Qa).** Middle to late Holocene alluvial deposits, mapped within the Buena Vista Reservoir site, are composed of unconsolidated to moderately consolidated, silt, sand, and gravel. Middle to late Holocene alluvial fan deposits are typically too young (i.e., less than 5,000 years old) to preserve paleontological resources and are determined to have a low paleontological sensitivity according to SVP (2010) standards. However, middle to late Holocene alluvial deposits may grade downward into older alluvial sediments of early Holocene to Pleistocene age at shallow or unknown depths within the reservoir sites. Accurately assessing the boundaries between younger and older units is generally not possible without site-specific stratigraphic data, radiometric dating or fossil analysis; however, underlying geologic units can occur near the surface, especially in areas near basin margins. A conservative estimate of the depth at which paleontologically sensitive units may occur ensures impact avoidance. Given the proximity of the proposed project to the surrounding mountains (i.e., Santa Ynez Mountains) and the prevalence of older deposits (e.g., Qoa) mapped at the surface throughout the region, Rincon estimates the transition between younger alluvial sediments (i.e., Qa) and older units could occur at depths as shallow as three (3) feet below ground surface. Consequently, middle to late Holocene alluvial deposits are assigned a low paleontological sensitivity at the surface, increasing to high at depths below three feet.

- **Quaternary old (Pleistocene to early Holocene) alluvium (Qoa).** Pleistocene to early Holocene alluvial deposits, mapped within the Bella Vista Reservoir, Doulton Reservoir, Hot Springs Reservoir, Park Lane Reservoir, and Romero Reservoir sites; consist of moderately-consolidated, crudely stratified, nonmarine sediments of poorly-sorted clayey to silty and pebbly sand, silty to sandy pebble-cobble-boulder gravel, sandy to pebbly clay, and conglomerate (Minor et al. 2009). Quaternary old alluvial deposits have yielded significant vertebrate fossil localities throughout southern California from the coastal areas to the inland valleys. These localities have produced fossil specimens of terrestrial mammals such as mammoth, horse, camel, bison, rodent, bird, and reptile (Jefferson 2010; Paleobiology Database 2021; UCMP 2021). Therefore, Pleistocene to early Holocene alluvial deposits (Qoa) are assigned a high paleontological sensitivity.
- **Oligocene Sespe Formation (Tspl).** The non-marine Sespe Formation, mapped within the Cold Springs Reservoir and Terminal Reservoir sites, is composed of red-brown to yellow-brown, well-indurated, commonly cross bedded sandstone with imbricated pebble conglomerate and dark brown claystone (Dibblee and Ehrenspeck 1986). The Sespe Formation has yielded numerous fossil specimens of at least 35 mammalian, rodent, reptile, and bird species (Paleobiology Database 2021; UCMP 2021). Consequently, Oligocene Sespe Formation (Tsp) is assigned a high paleontological sensitivity.
- **Eocene Coldwater Sandstone (Tcw).** The marine Coldwater Sandstone, mapped within the Bella Vista Reservoir, Cold Springs Reservoir, Park Lane Reservoir, and Terminal Reservoir sites, is composed of sandstone, greenish-gray shale and siltstone, pebble conglomerate, and oyster reef debris (Dibblee and Ehrenspeck 1986). The Coldwater Formation has produced various invertebrate and microfossil localities and at least two vertebrate localities yielding unidentified mammalian specimens (Paleobiology Database 2021; UCMP 2021). Therefore, Eocene Coldwater Sandstone (Tcw) is assigned a high paleontological sensitivity.

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

The project sites are not located in an Alquist-Priolo Fault Zone (CDOC 2021a). The nearest faults to the project are the Santa Ynez, Mission Ridge, and Arroyo Parida faults, approximately two miles north, three miles southwest, and two miles south, respectively (CDOC 2021b). Liquefaction occurs when the strength and stiffness of a soil is reduced by intense ground shaking typically associated with an earthquake in areas with a high groundwater table. There is no historical evidence of liquefaction in Santa Barbara County (County of Santa Barbara 1979b).

The purpose of the proposed project is to seismically retrofit existing water storage infrastructure in the District's service area. Design and construction of the proposed project would conform to the current seismic design provisions of the California Building Code, which incorporates the latest seismic design standards for structural loads and materials. Consequently, the project would not expose people or structures to potential substantial adverse effects involving strong seismic ground shaking. In fact, the project would have a beneficial impact related to risks associated with seismic ground shaking. No adverse impact would occur.

NO IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The proposed project involves seismic retrofits, repairs, and replacements at existing water storage infrastructure. According to the CDOC, the Doulton Reservoir is located in a potential landslide zone. However, the proposed project would improve the structural stability of Doulton Reservoir. As stated in the *Project Description*, the proposed project would replace in kind the existing tank and foundation at Doulton Reservoir. The new steel tank would be designed and fabricated per the AWWA Standard D100. As a result of the proposed project, the infrastructure at Doulton Reservoir would be more resilient against the risk of landslides. Further, the project does not include habitable structures and would therefore not expose people to loss, injury, or death involving landslides. As such, no adverse impact related to landslides would occur.

NO IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project sites. Construction activities would include grading and excavation, which could potentially result in erosion.

Construction activities would be subject to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. The Construction General Permit requires implementation of a Stormwater Pollution Prevention Plan (SWPPP) that outlines project-specific BMPs for stormwater control, including BMPs to control erosion. Such BMPs include the use of temporary de-silting basins, installation of silt fences and erosion control blankets, and use of tarps on stockpiled soil.

As discussed in Section 10, *Hydrology and Water Quality*, compliance with the NPDES Construction General Permit would reduce potential impacts associated with construction-related soil erosion to a less-than-significant level. The proposed project would not expand impervious surfaces on the reservoir sites. Upon completion of construction, operation and maintenance activities would return to existing conditions. As such, operation of the project would not increase soil erosion or the loss of topsoil on the reservoir sites.

Potential impacts to soil erosion and the loss of topsoil would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

Although the project sites are located in a seismically active area, the project is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides, liquefaction, lateral spreading, or collapse. The proposed project would seismically retrofit existing water infrastructure, and would reduce rather than exacerbate seismic hazards. Design and construction of the proposed project would conform to the current design provisions of the California Building Code. As such, no adverse impact would occur.

LESS THAN SIGNIFICANT IMPACT

d. *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

The proposed project involves seismic retrofits, repairs, and replacements at existing water storage infrastructure in the District's service area. As such, the purpose of the project is to improve the physical stability of the reservoir infrastructure. Furthermore, prior to construction, geotechnical investigations would be conducted at the reservoir sites to inform soil fill needs for excavated areas, thereby reducing the risk of expansive soils in excavated areas.

In addition, the proposed project does not include habitable structures and would therefore not expose people to direct or indirect fatal risks. Therefore, no adverse impact related to expansive soils would occur.

NO IMPACT

e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The proposed project would not include the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

NO IMPACT

f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

As discussed above, the paleontological sensitivities of the geologic units underlying the reservoir sites were evaluated to determine if the proposed project could result in significant impacts to paleontological resources. The analysis was based on the results of an online paleontological locality search and review of existing information in the scientific literature concerning known fossils within geologic units mapped within the reservoir sites. Ground-disturbing activities in previously undisturbed (intact/native) portions of the reservoir sites underlain by geologic units with a high paleontological sensitivity (i.e., Qoa, Tspl, and Tcw) may result in significant impacts to paleontological resources under CEQA. Impacts would be significant if construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data. The activities may include grading, excavation, or other activities that disturb substantial quantities of the subsurface geologic units with a high paleontological sensitivity. However, all project areas mapped as high paleontological sensitivity at the surface have been previously developed. Based on the nature of the proposed improvements, proposed depths of disturbance, and existing site conditions, project-related ground disturbance (i.e., excavations) is not anticipated to include ground disturbing activities within previously undisturbed (native) sediments, and is thus unlikely to impact fossiliferous deposits or result in significant impacts to paleontological resources.

Although encountering fossil resources during project-related ground disturbance is unlikely, a low potential for impacts to paleontological resources remains. In the unlikely event of an unanticipated discovery, impacts to unknown paleontological resources would be potentially significant and mitigation measures would be required.

Mitigation Measure GEO-1 would be triggered in the event that previously undisturbed (native) deposits with high paleontological sensitivity units are impacted during project ground disturbance. Mitigation Measure GEO-1 would apply to all phases of project construction and would reduce potential impacts to paleontological resources to a less-than-significant level by providing for the recovery, identification, and curation of previously unrecovered fossils. This impact would be less than significant with mitigation incorporated.

Mitigation Measure

GEO-1 Unanticipated Discovery of Paleontological Resources

In the event an unanticipated fossil discovery is made during the course of project development, construction activity should be halted in the immediate vicinity of the fossil, and a qualified professional paleontologist should be notified and retained to evaluate the discovery, determine its significance, and determine if additional mitigation or treatment is warranted. Work in the area of the discovery will resume once the find is properly documented and authorization is given to resume construction work. Any significant paleontological resources found during construction monitoring will be prepared, identified, analyzed, and permanently curated in an approved regional museum repository under the oversight of the qualified paleontologist.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	□	□	■	□
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	□	□	□	■

Overview of Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of GHG emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. The majority of radiation from the sun hits the Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (carbon dioxide) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis (IPCC 2014).[2]

Anthropogenic activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the concentration of GHGs in the atmosphere that trap heat. Since the late 1700s, estimated concentrations of carbon dioxide, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (U.S. EPA 2021b). Emissions resulting from

[2] The IPCC's (2014b) *Fifth Assessment Report* determined that methane has a GWP of 28. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the IPCC's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

human activities are thereby contributing to an average increase in the Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

Regulatory Framework

In response to climate change, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed Senate Bill (SB) 32 into law, extending AB 32 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as SB 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and SB 100 (discussed further below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of carbon dioxide equivalents (CO_2e) by 2030 and two MT of CO_2e by 2050 (CARB 2017).

Methodology

Calculations of carbon dioxide, methane, and nitrous oxide emissions are provided to identify the magnitude of potential project effects. GHG emissions associated with project construction were estimated using CalEEMod, version 2016.3.2, with the assumptions described under Section 3, *Air Quality*. In addition, in accordance with the County of Santa Barbara's recommended methodology, GHG emissions from construction of the proposed project were amortized over a 30-year period and added to annual operational emissions to determine the project's total annual GHG emissions (County of Santa Barbara 2021a).[3] Operational emissions were not quantified because, as detailed under *Project Description*, the project would not result in changes to existing operation and maintenance activities conducted by the District; therefore, no net new operational emissions would be generated by the project.

Significance Thresholds

Individual projects do not generate sufficient GHG emissions to influence climate change directly. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact

[3] The lifespan of the reservoirs is likely greater than 30 years; however, 30 years has been conservatively used as the amortization period consistent with the County of Santa Barbara's recommended methodology.

would be cumulatively considerable. “Cumulatively considerable” means the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

According to CEQA Guidelines Section 15183.5(b), projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project’s consistency with the GHG reduction policies included in a qualified GHG reduction plan. The District has not adopted a qualified GHG reduction plan; therefore, this approach cannot be utilized for this analysis.

On January 26, 2021, the Santa Barbara County Board of Supervisors adopted interim thresholds of significance that apply to land use projects and plans that are not otherwise subject to the County’s existing industrial stationary source threshold. The interim thresholds for land use projects and plans are based on the County’s 2030 GHG emissions target (i.e., 50 percent below 2007 levels by 2030). The County’s GHG emissions inventory and forecast include emissions generated by the treatment and conveyance of water to residential, commercial, and other land uses; however, it does not include emissions generated by the District’s operation and maintenance activities. Given that the eight reservoirs are located in the unincorporated area of Santa Barbara County and the project would involve construction activities similar in nature to those included in the County’s GHG emissions inventory for land use development projects, the District has determined that it is appropriate to use the County’s thresholds. The County’s thresholds consist of a bright-line Screening Threshold and an efficiency (i.e., per capita) Significance Threshold. The Screening Threshold is 300 MT of CO_2e per year; projects that emit GHG emissions less than this threshold are presumed to have a less-than-significant impact. For projects that generate emissions in excess of the Screening Threshold, emissions should be evaluated using the Significance Threshold of 3.8 MT of CO_2e per service person per year (County of Santa Barbara 2021a).

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Construction of the proposed project would generate temporary GHG emissions primarily from operation of on-site construction equipment as well as from vehicles transporting construction workers to and from the project sites and heavy trucks to transport building materials and soil export. As shown in Table 9, construction of the proposed project would generate an estimated total of 3,503 MT of CO_2e. Amortized over a 30-year period per County of Santa Barbara guidance, construction of the proposed project would generate an estimated 117 MT of CO_2e per year, which would not exceed the screening threshold of 300 MT of CO_2e per year. Therefore, impacts would be less than significant.

Table 9 Estimated Construction GHG Emissions

	Total Emissions (MT of CO_2e)
Bella Vista	184
Buena Vista	236
Cold Springs	574
Doulton	442
Hot Springs	370
Park Lane	614
Romero	385
Terminal	698
Total	**3,503**
Amortized over 30 years	**117 per year**
Screening Threshold	300 per year
Threshold Exceeded?	No

GHG = greenhouse gas emissions; MT = metric tons; CO_2e = carbon dioxide equivalents

Notes: Emissions modeling was completed using CalEEMod. See Appendix A for modeling results.

Operational Emissions

As detailed under *Project Description*, operational activities at the eight reservoir sites would resume per existing conditions upon completion of construction. District staff would perform approximately one daily vehicle trip to each reservoir site for visual observation, as under existing conditions. The proposed project would not increase storage capacity or throughput at the reservoirs. Project operation would not increase electricity consumption at the reservoir sites. Therefore, there would be no net new GHG emissions associated with operational activities, and project operation would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. No impact would occur.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The SBCAPCD and District have not adopted any plans, policies, or regulations for the purpose of reducing GHG emissions. The County of Santa Barbara adopted its current Energy and Climate Action Plan in 2015; however, this plan is not applicable to the proposed project because it does not cover GHG emissions generated by District activities. Nevertheless, because the proposed project would not result in a significant increase in GHG emissions, it would not conflict with any applicable plans, policies or regulations for the purpose of reducing GHG emissions. Therefore, no impact would occur.

NO IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	□	□	■	□
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	□	□	■	□
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	□	□	□	■
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	□	□	□	■
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	□	□	□	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	□	□	■	□
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	□	□	■	□

a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Construction of the proposed project would temporarily increase the transport and use of hazardous materials during the use of construction vehicles and equipment. Construction activities could cause an upset or accident condition. If such conditions result in a release of hazardous materials into the environment, potential impacts could occur. Limited quantities of miscellaneous hazardous substances, such as diesel fuel, oil, solvents, painting/coating systems and other similar materials, would be brought onto the reservoir sites, used, and stored during the construction period. These materials would be disposed off-site in accordance with applicable laws pertaining to the handling and disposal of hazardous waste. The transport, use, and storage of hazardous materials during construction would be conducted in accordance with applicable federal and State laws, such as the Hazardous Materials Transportation Act, California Hazardous Material Management Act, and California Code of Regulations, Title 22. As such, construction-related impacts related to reasonably foreseeable upset and accident conditions would be less than significant. Furthermore, Mitigation Measure BIO-4 requires the implementation of construction materials and equipment storage BMPs to prevent spills or leakage. Mitigation Measure BIO-5 requires additional construction BMPs, including a measure requiring the contractor to prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse. These mitigation measures would further reduce the already less than significant construction impacts related to the transport, use, and storage of hazardous materials and reasonably foreseeable upset and accident conditions.

Upon completion of construction, operational activities at the eight reservoir sites would resume per existing conditions. The existing water storage facilities do not store hazardous materials. As such, operation of the proposed project would not introduce a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. No operational impacts would occur.

LESS THAN SIGNIFICANT IMPACT

c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The nearest school to the project sites is Westmont College, which is located approximately 0.4 mile southwest of Cold Springs Reservoir. As previously described in items (a) and (b), there is potential for an accidental spill or release of hazardous or potentially hazardous materials, such as vehicle and equipment fuels, to occur during project construction. However, the reservoir sites and off-site staging area are not within 0.25 mile of an existing or proposed school. Project construction would not involve substantial airborne emissions of hazardous materials, and any vehicle and equipment fuels accidentally released on the project sites would be unlikely to travel 0.4 miles over ground or via waterways to impact Westmont College. In addition, as previously discussed in items (a) and (b), project operation would not involve the storage of hazardous materials. Neither project construction nor operation would adversely impact schools due to the handling of hazardous materials.

Therefore, the project would not emit hazardous emissions or handle hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. No impact would occur.

NO IMPACT

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Government Code Section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List. The California Department of Toxic Substance Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List. The analysis for this section included a review of the following resources on April 28, 2021 to provide hazardous material release information: (1) SWRCB (2021) GeoTracker database and (2) DTSC (2021) EnviroStor database.

Based on review of these databases, it was determined the existing reservoirs and off-site staging area are not included on existing lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, no impact would occur.

NO IMPACT

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The closest public airport to the project is the Santa Barbara Airport, located approximately 10.5 miles southwest of Cold Springs Reservoir. Therefore, the project would not be located in an area covered by an airport land use plan and within two miles of a public or public-use airport. No impact would occur.

NO IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

As discussed in Section 17, *Transportation,* the proposed project would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Although there would be construction-related vehicle trips associated with the project, equipment staging would occur on property owned by the District and result in minimal trips.

No changes to the existing street system are proposed that could result in inadequate emergency access post-construction, nor would project operation and maintenance introduce new activities or substantial operational traffic with the potential to result in inadequate emergency access. Operational use of the proposed project would return to existing conditions, which currently do not interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the impact related to emergency access during project operation would be less than significant.

LESS THAN SIGNIFICANT IMPACT

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

As discussed in Section 20, *Wildfire*, the reservoir sites are located in a State Responsibility Area designated as a moderate to very high fire hazard severity zone (California Department of Forestry and Fire Protection [CALFIRE] 2020). Project construction would involve the use of heavy equipment in a vegetated hillside area, which could potentially result in sparks which could ignite surrounding vegetation. The project would be required to comply with applicable regulations relating to construction in vegetated and forested landscapes, including mandatory use of spark arrestors (PRC Section 4442), maintenance of fire suppression equipment during the highest fire danger period (PRC Section 4428), and adherence to standards for conducting construction activities on days when a burning permit is required (PRC Sections 4427 and 4431). With adherence to these regulatory requirements, construction-related wildfire risks would be less than significant.

The project would not pose a substantial risk of wildfire ignition once operational. The project would not include housing or other structures which could accommodate occupants, and therefore, would not house occupants which could potentially be exposed to risk of loss, injury, or death involving wildland fires. Impacts related to wildland fires would be less than significant.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	■	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
(iv) Impede or redirect flood flows?	☐	☐	■	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	■
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	■	☐

Hydrologic Setting

The project sites are located in the Central Coast Hydrologic Region, which covers approximately 11,300 square miles of watersheds draining to the Pacific Ocean. The Central Coast Hydrological Region includes all of Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara counties, most of San Benito County, and parts of San Mateo, Santa Clara, and Ventura counties. The region contains numerous major drainages, such as the Salinas, Cuyama, Santa Ynez, Santa Maria, San Antonio, San Lorenzo, San Benito, Pajaro, Nacimiento, Carmel, and Big Sur Rivers (California Department of Water Resources [DWR] 2003).

The project sites are located in the approximately 563-square mile San Pedro Creek-Frontal Santa Barbara Channel Watershed. The project sites are located approximately two miles north of the Pacific Ocean in the Santa Ynez foothills above Montecito. The San Pedro Creek-Frontal Santa Barbara Channel Watershed, including the project sites, is under the jurisdiction of the Central Coast Regional Water Quality Control Board (RWQCB) (Region 3). The Central Coast RWQCB sets water quality objectives and monitors surface water quality through the implementation of the Water Quality Control Plan for the Central Coast Region (Basin Plan).

The project sites overlie the Santa Barbara and Carpinteria Subbasins of the Central Coast Groundwater Basin (Basin 3-1). In 2018, the District formed the Montecito Groundwater Basin Groundwater Sustainability Agency to implement the planning requirements of the Sustainable Groundwater Management Act (SGMA) for the Montecito Groundwater Basin, which includes the Santa Barbara and Carpinteria Subbasins (Montecito Water District 2021). The Montecito Groundwater Basin is designated a “Medium” priority basin by DWR and, therefore, requires preparation of a Groundwater Sustainability Plan (GSP).

a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

Construction

Grading, excavation, and other construction activities associated with the project could adversely affect water quality due to erosion resulting from exposed soils and the generation of water pollutants, including trash, construction materials, and equipment fluids. Soil disturbance associated with site preparation and grading activities would result in looser, exposed soils, which are more susceptible to erosion. Additionally, spills, leakage, or improper handling and storage of substances such as oils, fuels, chemicals, metals, and other substances from vehicles, equipment, and materials used during project construction could contribute to stormwater pollutants or leach to underlying groundwater.

Construction activities would be subject to the NPDES Construction General Permit, which requires visual monitoring of stormwater and non-stormwater discharges, sampling, analysis, and monitoring of non-visible pollutants, and compliance with all applicable water quality standards established for receiving waters potentially affected by construction discharges. Furthermore, the Construction General Permit requires implementation of a SWPPP that outlines project-specific BMPs to control erosion. Such BMPs may include but would not be limited to the use of temporary de-silting basins, construction vehicle maintenance in staging areas to avoid leaks, and installation of silt fences and erosion control blankets. The construction SWPPP and BMPs would be designed to prevent sedimentation of both on-site and off-site surface waters from construction activities; prevent leaking of pollutants such as oil, grease, and chemicals; and implement spill control and response measures in the case of accidental releases.

As such, construction-related impacts would be less than significant.

Operation

The proposed project would not expand impervious surfaces on the reservoir sites. As such, the project would not increase stormwater runoff from the sites. In addition, project operation would not involve storage of hazardous materials that could infiltrate or degrade surface and groundwater. Therefore, project operation would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. No operational impact would occur.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The proposed project would not expand impervious surface area on the reservoir sites which could inhibit groundwater recharge, as the project consists of repairs to existing infrastructure. The existing water reservoirs store surface water supplies, not groundwater supplies. Moreover, the project would not increase the amount of water currently being supplied to existing customers or provide water to areas currently not serviced by the District. As such, the project would not involve acquisition of new water supplies or additional groundwater extraction. No impact related to groundwater supplies or groundwater recharge would occur.

NO IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, Doulton Reservoir is located in Zone D, Buena Vista Reservoir is located within a Special Flood Hazard Area, and the remaining six reservoirs are located in Zone X (FEMA 2021). Zone D indicates an area of undetermined flood hazard, and Zone X indicates an area of minimal flood hazard. The

Special Flood Hazard Area in which Buena Vista Reservoir is located is designated as a regulatory floodway.

The project would generally preserve drainage patterns on site, with water continuing to flow from higher elevations during precipitation events. The project would not alter the course of a stream or river. Additionally, construction and operation of the project would not increase impervious surfaces on site. Consequently, the project would not divert or redirect flood flows.

Given that the project would generally preserve existing drainage patterns on site, would not alter the course of a stream or river, and would not divert or redirect flood flows, potential impacts related to the alteration of the site's drainage pattern would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

As discussed above, the reservoir sites are designated Zones D, X, and within a Special Flood Hazard Area on the most recent FEMA Flood Insurance Rate Map, indicating areas of undetermined flood hazard, minimal flood hazard, and presence of a regulatory floodway, respectively. The reservoir sites are located approximately two miles north of the Pacific Ocean and are not located within a tsunami inundation zone (CDOC 2021c). The nearest inland surface water body that may be subject to seiche is Jameson Lake, located approximately four miles northeast of the reservoir sites. Given the distance to this water body, the reservoir sites would not be subject to inundation by seiche.

Although Buena Vista Reservoir is located within a regulatory floodway and therefore subject to inundation, the operational use of the proposed project would be consistent with existing site conditions, and therefore would not increase the risk of pollutant release due to flooding. As such, no impact related to risk of release of pollutants due to project inundation would occur.

NO IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The reservoir sites are located in the jurisdiction of Central Coast RWQCB Region 3 (Central Coast), which is responsible for preparing the Basin Plan for the Central Coast Basin. The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. The State has developed total maximum daily loads (also called TMDLs), which are a calculation of the maximum amount of a pollutant a water body can have and still meet water quality objectives established by the region.

As described above, the project would implement stormwater BMPs to minimize potential temporary, construction-related water quality impacts pursuant to compliance with the NPDES Construction General Permit. Furthermore, project operation would not involve ground disturbance that would contribute to runoff of sediment or sediment-bound pollutants, and the project does not involve use of septic systems, pet parks, agricultural land, or other land uses commonly associated with high concentrations of nutrients, indicator bacteria, or chemical toxicity. Therefore, the project would not impair existing or potential beneficial uses of nearby water bodies. As such, the project would not conflict with or obstruct implementation of the Basin Plan.

The reservoir sites overlie the Santa Barbara and Carpinteria Groundwater Subbasins, which are within the jurisdiction for of the Montecito Groundwater Sustainability Agency. The District leads the Montecito Groundwater Basin Groundwater Sustainability Agency and is in the process of preparing a GSP pursuant to the requirements of SGMA (County of Santa Barbara 2021c). The project would involve repairs to water storage reservoirs and proposes no increase in groundwater production. As such, the project would not increase groundwater extraction and would not conflict with or obstruct implementation of a GSP. This impact would be less than significant.

NO IMPACT

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11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■

a. Would the project physically divide an established community?

The proposed project would repair and retrofit existing water storage reservoirs in the District's service area. Although existing reservoirs are located adjacent to and within communities, no new or expanded facilities are proposed as part of the project. Therefore, the project would not physically divide an established community. No impact would occur.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Per California Government Code 53091, building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water, wastewater, or electrical energy by a local agency. The project would entail seismic retrofits, repairs, and replacements of existing water storage facilities and is therefore exempt from local building and zoning ordinances. Therefore, the project is only evaluated for consistency with the County of Santa Barbara Comprehensive Plan.

The Santa Barbara County Comprehensive Plan Conservation Element, Groundwater Resources Section contains the following goals and actions with which the project would be consistent (County of Santa Barbara 1994):

> **Goal 3:** To coordinate County land use planning decisions and water resources planning and supply availability.
>
> > **Action 3.4.4**: Santa Barbara County shall encourage and assist local water purveyors in developing adequate water supplies (groundwater, surface water, desalination, etc.) to serve their customers and communities consistent with the applicable general plan(s).

The proposed project would improve the resilience of the local water storage infrastructure network against earthquakes, thereby protecting the adequacy of local water supplies, consistent with the goal and action identified above. There would be no conflicts with land use plans, policies, or regulations of the County of Santa Barbara. Therefore, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

NO IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	□	□	□	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	□	□	□	■

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The project sites are not located in an area designated by the Santa Barbara County Comprehensive Plan, the Montecito Community Plan, or the Toro Canyon Plan as an area with the known potential for mineral resources (County of Santa Barbara 1992; County of Santa Barbara 2010; County of Santa Barbara 2004). The reservoir sites are not currently used for mineral resource extraction, nor are they located in an area with the known potential for mineral resources. Consequently, the proposed project would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site. No impact to mineral resources would occur.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Overview of Noise and Vibration

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

SOUND PROPAGATION AND SHIELDING

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions.

Sound levels are described as either a "sound power level" or a "sound pressure level," which are two distinct characteristics of sound. Both share the same unit of measurement, the dB. However, sound power (expressed as L_{pw}) is the energy converted into sound by the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers, such as an eardrum or microphone, which is the sound pressure level. Sound measurement instruments only measure sound pressure, and noise level limits are typically expressed as sound pressure levels.

Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well. The FHWA's guidance indicates that modern building construction generally provides an exterior-to-interior noise level reduction of 10 dBA with open windows and an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows (FHWA 2011).

DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptor used for this study is the equivalent noise level (L_{eq}).

L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (L_{DN}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.). Community noise can also be measured using Community Noise Equivalent Level (CNEL or L_{DEN}), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013).[4] The relationship between the peak-hour L_{eq} value and the L_{DN}/CNEL depends on the distribution of noise during the day, evening, and night; however noise levels described by L_{DN} and CNEL usually differ by 1 dBA or less. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 CNEL, while areas near arterial streets are in the 50 to 60+ CNEL range (FTA 2018).

Groundborne Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration may be felt, may manifest as an audible low-frequency rumbling noise (referred to as groundborne noise), and may cause windows, items on shelves, and pictures on walls to rattle. Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage.

Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby building or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. The American Association of State Highway and Transportation Officials (AASHTO) has determined vibration levels with potential to damage nearby buildings and structures; these levels are identified in Table 10.

Table 10 AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in/sec)[1]
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

[1]in/sec= inches per second.

Source: Caltrans 2020

[4] Because DNL and CNEL are typically used to assess human exposure to noise, the use of A-weighted sound pressure level (dBA) is implicit. Therefore, when expressing noise levels in terms of DNL or CNEL, the dBA unit is not included.

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in Table 11.

Table 11 Vibration Annoyance Potential Criteria

	Vibration Level (in/sec PPV)	
Human Response	Transient Sources	Continuous/Frequent Intermittent Sources[1]
Severe	2.00	0.40
Strongly perceptible	0.90	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

in/sec = inches per second; PPV = peak particle velocity

[1] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2020

Project Site Setting

The reservoir sites are located in low-density residential areas spanning the communities of Montecito, Summerland, and Toro Canyon within the unincorporated area of Santa Barbara County. The surroundings of the reservoir sites are characterized by single-family residences on large lots as well as open space. Figure 1 in the *Project Description* shows the location of the proposed project components. The nearest divided highway in the vicinity of the reservoir sites is U.S. Highway 101, approximately 1.8 miles southwest of the reservoir sites.

Noise levels at the reservoir sites are typical of low-density residential areas. The primary sources of noise are vehicular traffic along roadways including local streets and ambient sounds from local fauna. Traffic in these areas ranges from infrequent along private roadways to moderate frequencies along State Route 192.

Seven 15-minute noise measurements were collected at locations in the project area on April 2, 2021. Noise measurement locations were selected to characterize ambient noise levels near project components and sensitive receivers in the project area. All noise measurement locations were selected to avoid walls or structures, which could interfere with collection of noise measurements. Table 12 shows the recorded noise measurements. Figure 18 through Figure 25 show noise measurement locations in relation to project components.

Table 12 Summary of Noise Measurements

Measurement Number	Measurement Location	Sample Times[1]	L_{eq} (dBA)[2]	L_{min} (dBA)[3]	L_{max} (dBA)[4]
NM1	Doulton Reservoir, approximately 12 feet northeast from Toro Canyon Road	9:26 a.m. – 9:41 a.m.	40.6	27.2	57.7
NM2	Bella Vista Reservoir, approximately 14 feet north from Ladera Lane	10:10 a.m. – 10:25 a.m.	37.0	26.9	56.7
NM3	Romero Reservoir, approximately 720 feet north from Romero Canyon Road	11:01 a.m. – 11:16 a.m.	41.3	33.2	57.5
NM4	Park Lane Reservoir, approximately 834 feet north from Park Lane	12:05 p.m. – 12:19 p.m.	44.0	31.6	66.1
NM5	Buena Vista Reservoir, approximately 476 feet north from Park Lane	1:48 p.m. – 2:03 p.m.	51.9	50.6	54.6
NM6	Hot Springs Reservoir, approximately 198 feet east from Hot Springs Road	2:50 p.m. – 3:05 p.m.	47.9	42.2	65.3
NM7	Cold Springs/Terminal Reservoir, approximately 15 feet north from East Mountain Road	3:41 p.m. – 3:56 p.m.	50.4	31.8	67.0

[1] Measurements NM1 through NM7 were collected on April 2, 2021. Only one measurement was taken in the vicinity of the Cold Springs and Terminal Reservoirs due to the reservoirs' close proximity to each other (approximately 0.1 mile).

[2] A-weighted decibel (dBA) is defined as a decibel (dB) adjusted to be consistent with human response. The equivalent noise level (L_{eq}) is defined as the single steady A-weighted level equivalent to the same amount of energy contained in the actual fluctuating levels over a period of time (essentially, the average noise level).

[3] L_{min} is the minimum sound level experienced within the recorded measurement with A-weighted frequency response.

[4] L_{max} is the maximum sound level experienced within the recorded measurement with A-weighted frequency response.

Source: Rincon Consultants, field visit on April 2, 2021 using ANSI Type 2 Integrating sound level meter. See Appendix D for noise monitoring data.

Sensitive Receivers

Noise exposure goals for different types of land uses reflect the varying noise sensitivities associated with those uses. The Santa Barbara County Comprehensive Plan Noise Element considers noise-sensitive land uses to include residential uses (including single- and multi-family housing, mobile home parks, and dormitories), transient lodging (including hotels and motels), hospitals, nursing homes, convalescent hospitals, other long-term medical care facilities), public or private educational facilities, libraries, churches, and places of public assembly (County of Santa Barbara 2009). Table 13 identifies the nearest noise-sensitive receivers to each reservoir site.

Figure 18 Noise Measurement Locations – Doulton

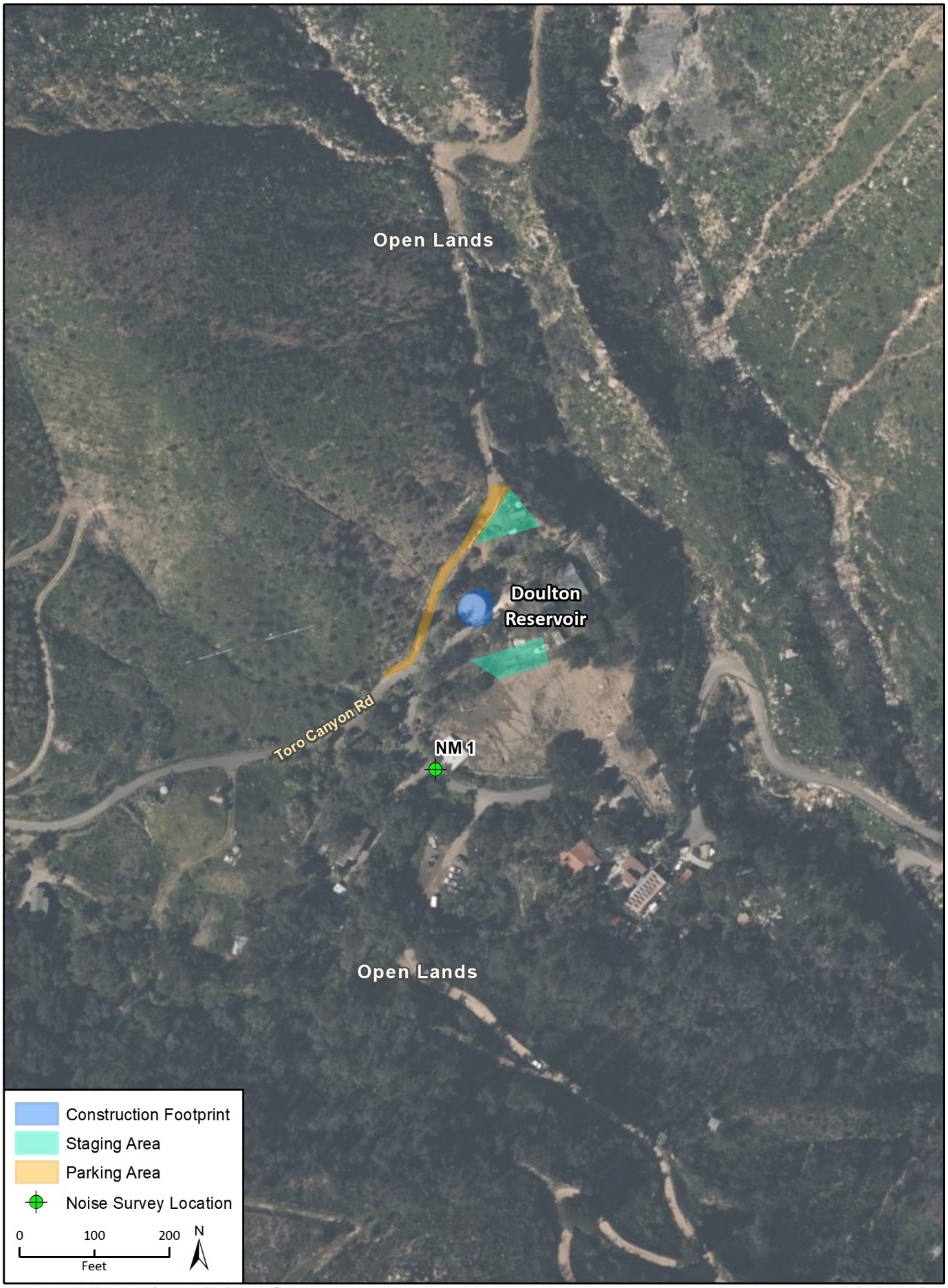

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Figure 19 Noise Measurement Locations – Bella Vista

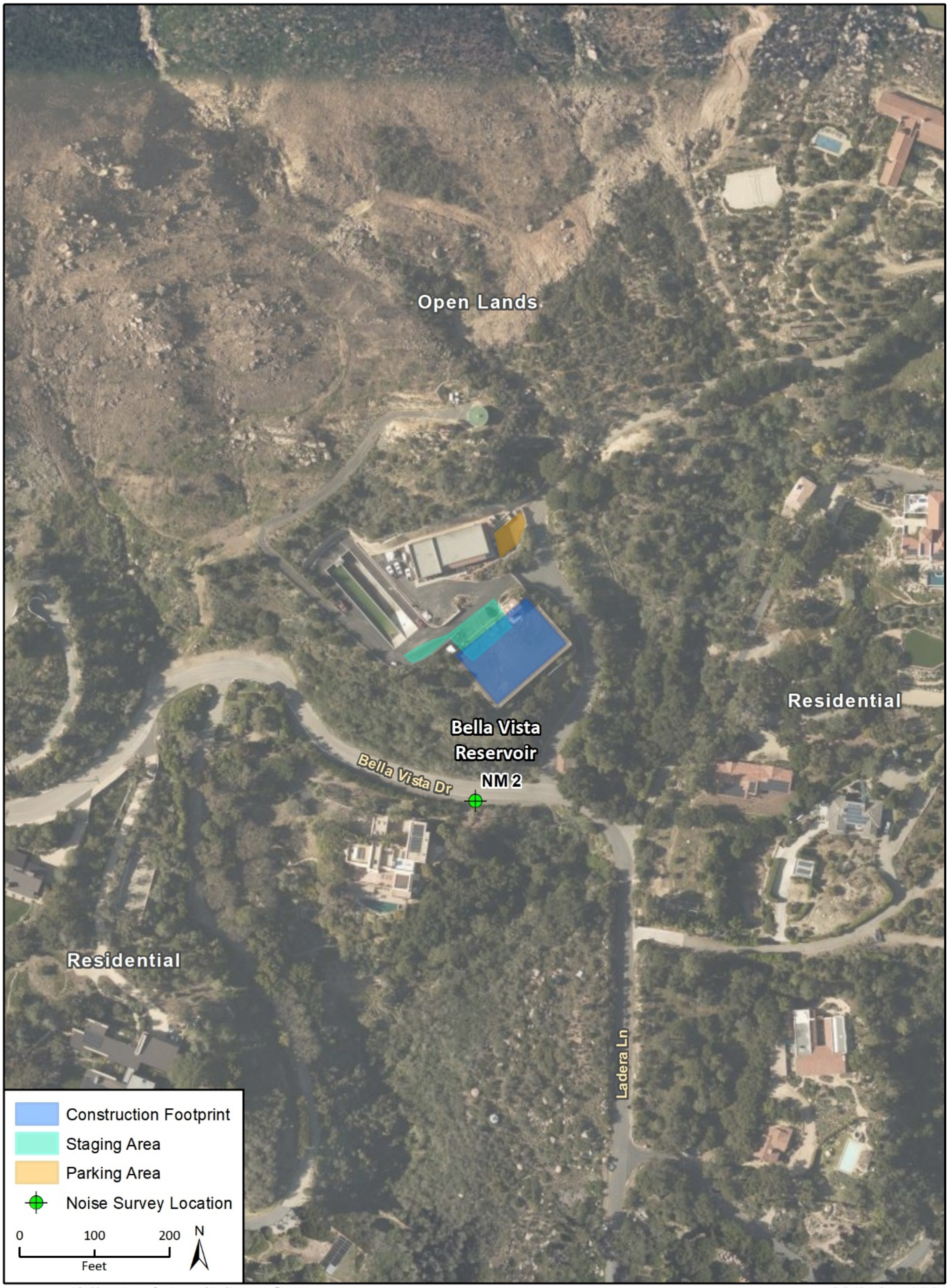

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Figure 20 Noise Measurement Locations – Romero

Imagery provided by Microsoft Bing and its licensors © 2021.

Figure 21 Noise Measurement Locations – Park Lane

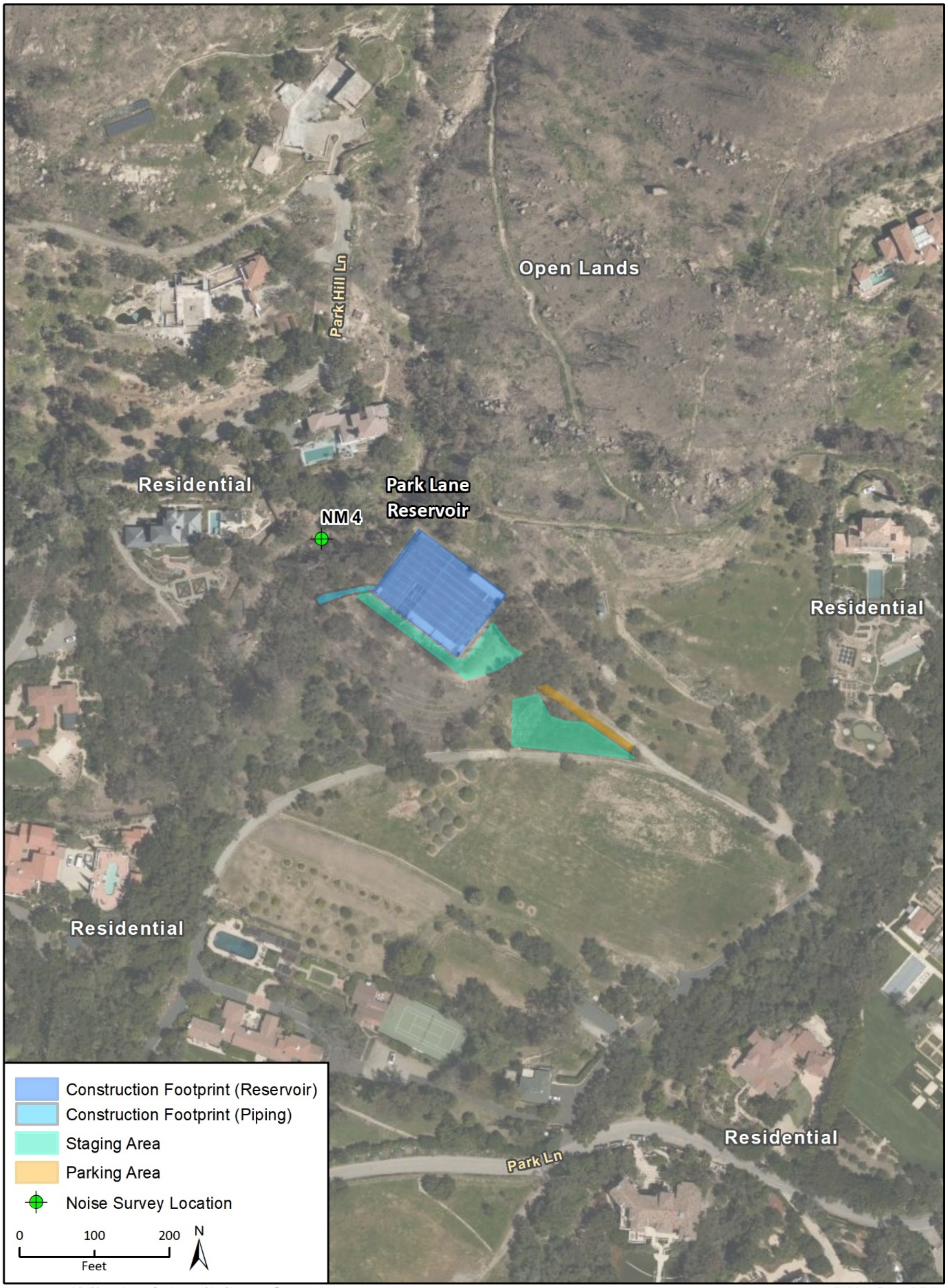

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Figure 22 Noise Measurement Locations – Buena Vista

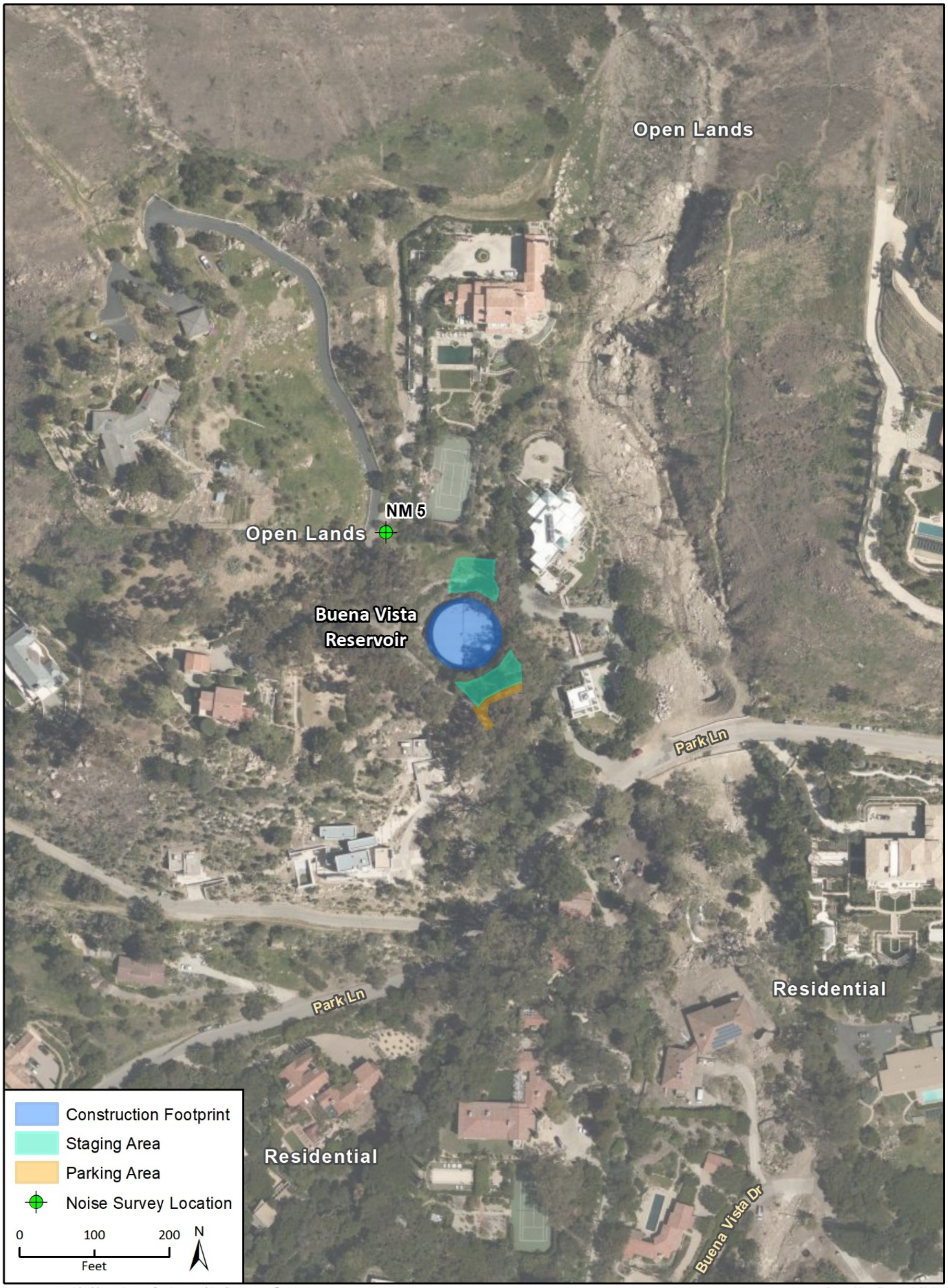

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Figure 23 Noise Measurement Locations – Hot Springs

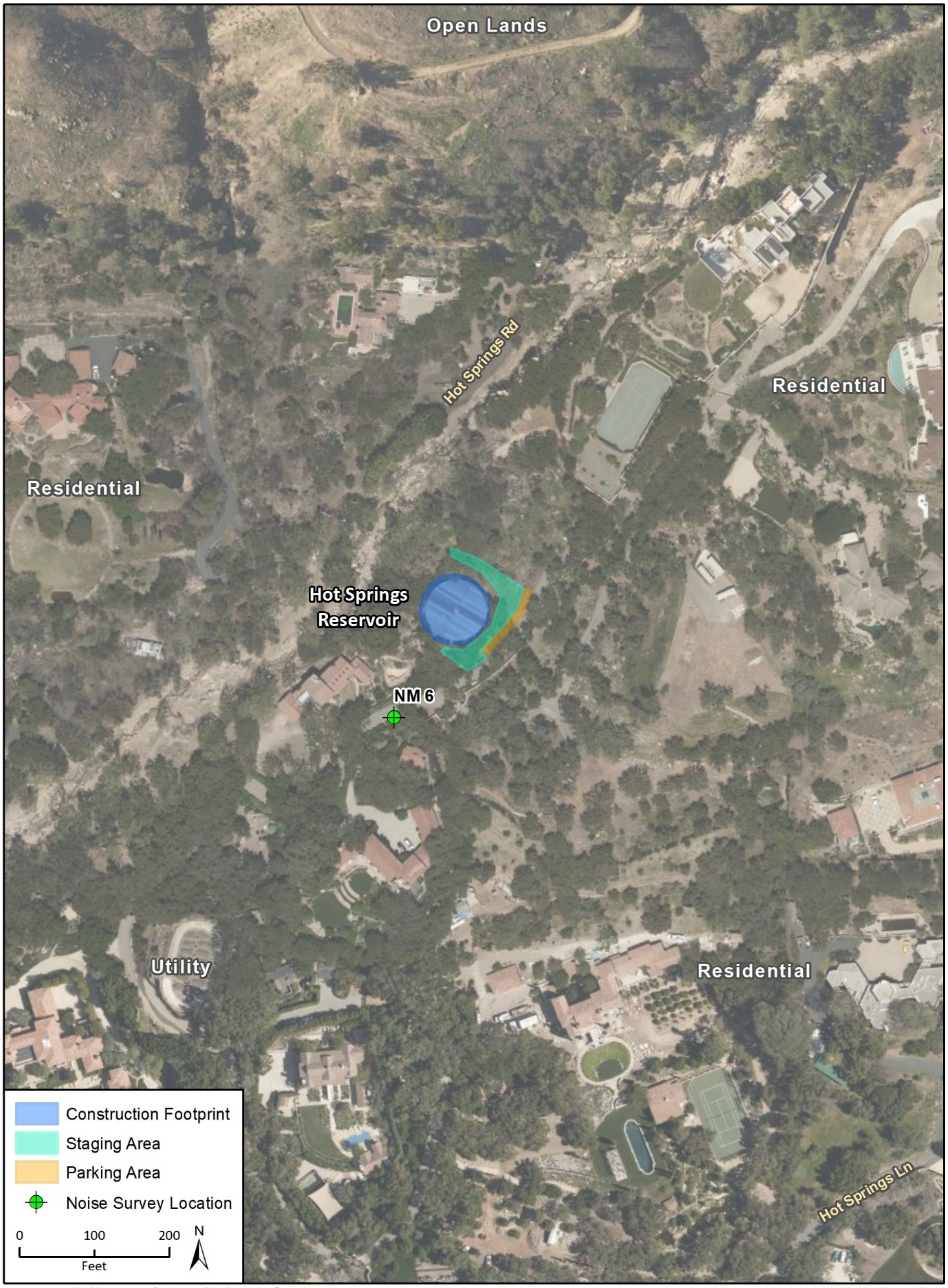

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Figure 24 Noise Measurement Locations – Cold Springs

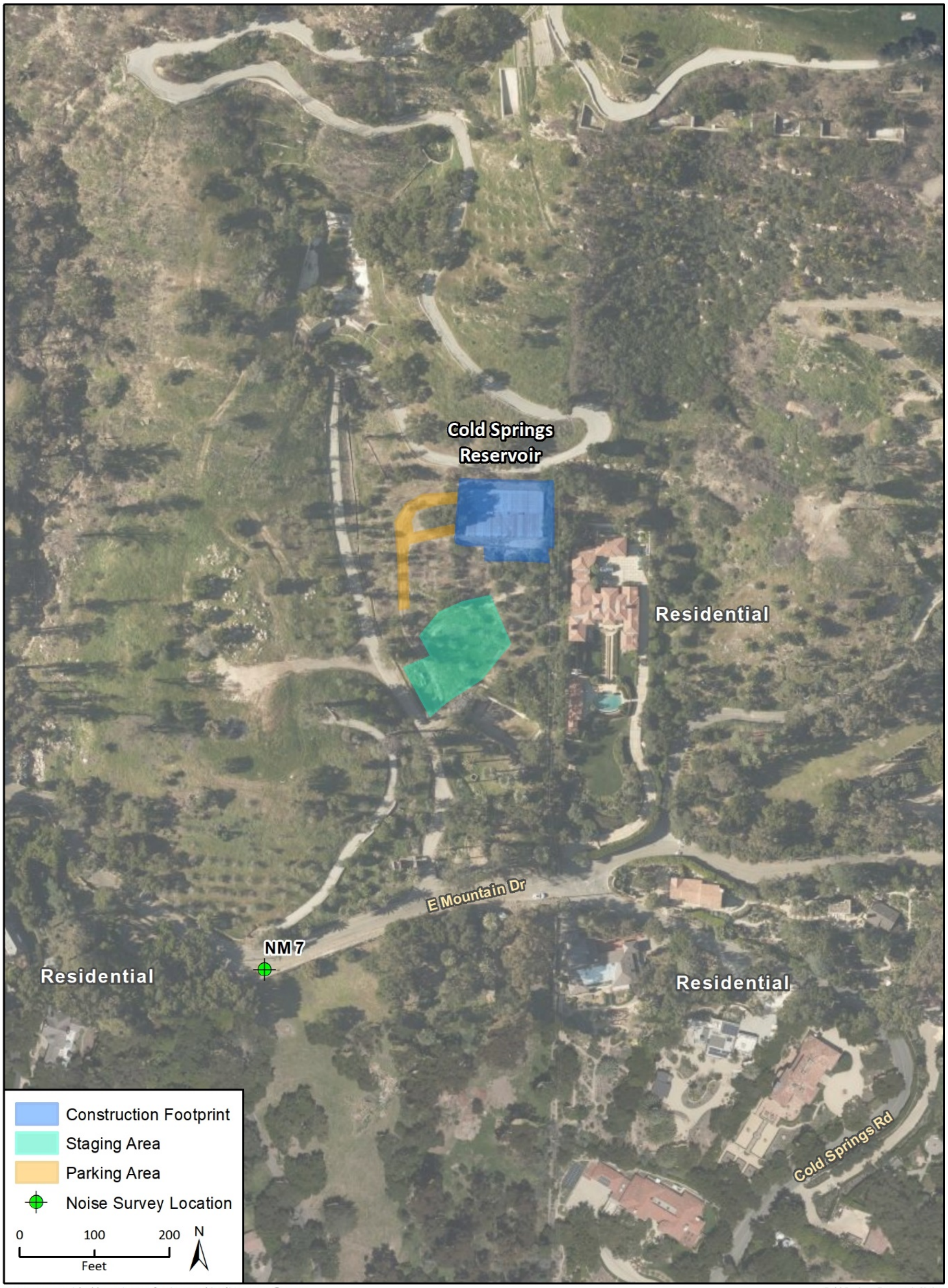

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Figure 25 Noise Measurement Locations – Terminal

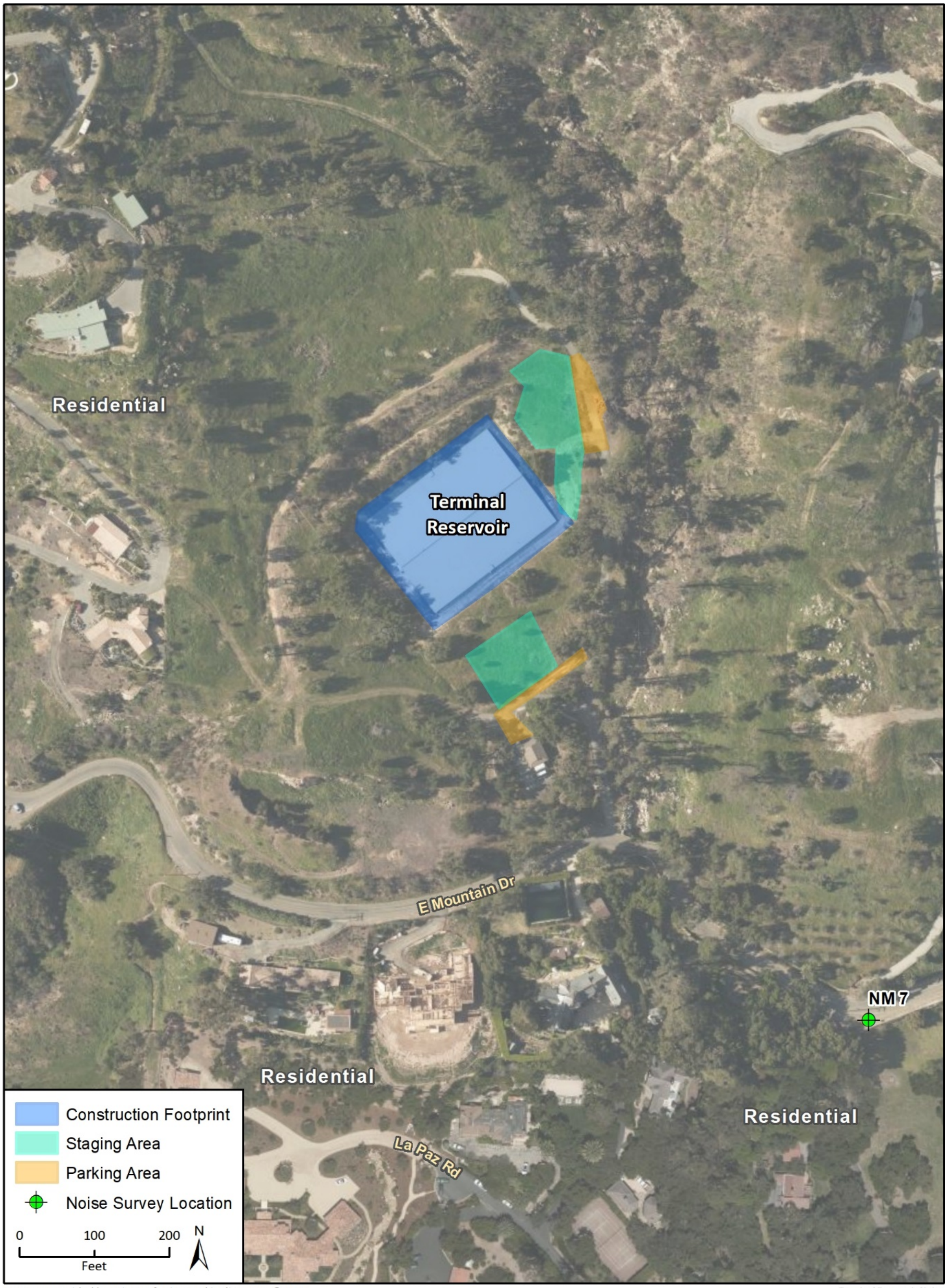

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Table 13 Noise Sensitive Receivers in Project Area

Project Component	Nearest Noise-Sensitive Receiver	Distance to Project Site [1]
Reservoirs		
Doulton	Single-Family Residence at 1150 Toro Canyon Road	Approximately 325 feet
Bella Vista	Single-Family Residence at 2765 Bella Vista Drive	Approximately 250 feet
Romero	Single-Family Residence at 777 Romero Canyon Road	Approximately 340 feet
Park Lane	Single-Family Residence at 811 Park Hill Lane	Approximately 210 feet
Buena Vista	Single-Family Residence at 915 Park Lane	Approximately 120 feet
Hot Springs	Single-Family Residence at 999 Hot Springs Road	Approximately 100 feet
Cold Springs	Single-Family Residence 700 East Mountain Drive	Approximately 105 feet
Terminal	Single-Family Residence at 356 East Mountain Drive	Approximately 425 feet

[1] Distance to project site is distance from center of construction site to the nearest outdoor activity for the residential receiver.

Regulatory Setting

California Government Code

California Government Code Section 53091 exempts the location and construction of facilities for the production, generation, storage, treatment, or transmission of water from compliance with local zoning and building ordinances but not from codified stand-alone noise ordinances. The noise standards contained in the Santa Barbara County Code are located outside the zoning and building ordinances; therefore, the District is not exempt from compliance.

County of Santa Barbara General Plan and County Code

No noise-related policies from the County of Santa Barbara General Plan or noise standards from the Santa Barbara County Code are specifically applicable to the proposed project.

FTA Transit and Noise Vibration Impact Assessment Manual

The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction in its *Transit and Noise Vibration Impact Assessment Manual* (FTA 2018). For residential uses, the daytime noise threshold is 80 dBA for an 8-hour period.

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction Noise

Temporary noise levels caused by construction activity would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of noise-generating activities.

For construction noise assessment, construction equipment can be considered to operate in two modes: stationary and mobile. As a rule, stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Mobile equipment moves around construction sites with power applied in cyclic fashion, such as bulldozers, graders, and loaders (FTA 2018). Noise impacts from stationary equipment are assessed from the center of the equipment, while noise impacts from mobile construction equipment are assessed from the center of the equipment activity area (e.g., construction site).

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (see Appendix D for RCNM worksheets). Typical construction projects have long-term noise averages which are lower than louder short-term noise events due to equipment moving from one point to another on the site, work breaks, and idle time. Additionally, due to the dynamic nature of a construction site, noise levels are calculated from the center of the activity over the time period of a construction day to the nearest outdoor activity area of the sensitive receiver. Due to the relatively small size of the project sites, construction noise modeling conservatively assumes simultaneous operation of three pieces of equipment. Based on the construction equipment mix anticipated to be used for project activities at each of the eight reservoir sites, the loudest phases of construction would be the reservoir construction for the Bella Vista and Cold Springs reservoirs and the site restoration phase for the six remaining reservoirs.[5] Noise levels for the reservoir construction phase are estimated at the sensitive receivers nearest to the Cold Springs reservoir because these are the closest receivers to a reservoir site for the two reservoirs for which reservoir construction would be the loudest phase. Noise levels for the site restoration phase are estimated at the sensitive receivers nearest to the Hot Springs reservoir because these are the closest receivers to a reservoir site for the six reservoirs for which site restoration would be the loudest phase. Construction noise modeling assumes the following three pieces of construction equipment would operate simultaneously during each phase and would generate the indicated noise levels shown below:

- Reservoir construction would involve the use of an excavator, compactor, and concrete saw. With these pieces of equipment operating concurrently, the hourly noise level at 50 feet from the center of the construction site is calculated to be 84 dBA L_{eq}, with a maximum noise level of 90 dBA L_{max}.
- Site restoration would involve the use of a grader, excavator, and concrete saw. With these pieces of equipment operating concurrently, the hourly noise level at 50 feet from the center of the construction site is calculated to be 86 dBA L_{eq}, with a maximum noise level of 90 dBA L_{max}.

The nearest noise-sensitive receivers to the locations of project components include single-family residences located east of the Cold Springs site at a distance of approximately 100 feet from the center of the construction site and located southwest of the Hot Springs site at a distance of approximately 75 feet from the center of construction site. Therefore, project construction activities would generate maximum hourly noise levels up to 78 dBA L_{eq} and 82 dBA L_{eq}, respectively, at these locations. Table 14 summarizes construction noise levels at the nearest sensitive receiver.

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[5] The majority of construction activities for the Bella Vista and Cold Springs reservoirs would occur within the reservoir structures themselves. Therefore, noise-generating construction equipment would be partially or fully shielded from the nearest sensitive receivers by the reservoir structures, which would reduce noise levels at sensitive receivers by approximately 5 dB or more (FHWA 2011). However, to provide a conservative estimate of project impacts, this noise level reduction was not included in the estimate of construction noise.

Table 14 Estimated Construction Noise Levels

Location	Hourly L_{eq} (dBA)[1]	L_{max} (dBA)[2]
Reservoir Construction		
Reference Distance (50 feet)	84	90
Single-Family Residence (700 East Mountain Drive) near Cold Springs (100 feet)[3]	78	84
Site Restoration		
Reference Distance (50 feet)	86	90
Single-Family Residence (999 Hot Springs Road) of Hot Springs (75 feet)	82	86

[1] L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period.

[2] The L_{max} is the highest noise level within the sampling period.

[3] The majority of construction activities for the Bella Vista and Cold Springs reservoirs would occur within the reservoir structures themselves. Therefore, noise-generating construction equipment would be partially or fully shielded from the nearest sensitive receivers by the reservoir structures, which would reduce noise levels at sensitive receivers by approximately 5 dB or more (FHWA 2011). However, to provide a conservative estimate of project impacts, this noise level reduction was not included in the estimate of construction noise.

Source: Appendix D

Construction noise impacts at residences near construction activities would be temporary in nature and limited to the duration of construction activities at each reservoir location. Project construction would occur between the hours 7:00 a.m. and 4:00 p.m. Monday through Friday, excluding holidays. For purposes of analyzing impacts from this project, the FTA Transit Noise and Vibration Impact Assessment Manual (FTA 2018) criteria were used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period (FTA 2018). As shown in Table 14, construction-generated noise levels are estimated to be up to 82 dBA L_{eq} for an 8-hour period at the nearest sensitive receiver. As such, construction-generated noise impacts would be potentially significant and mitigation would be required.

With implementation of sound barriers/blankets as described Mitigation Measure N-1, per manufacturer's specifications (see Appendix D), construction noise levels would be reduced by at least 10 dBA. Therefore, construction noise levels would reach up to approximately 72 dBA L_{eq} (8-hour), and impacts would be less than significant with mitigation incorporated.

Operation

Operational noise levels were not evaluated because, as detailed under *Project Description*, the project would not result in changes to existing operation and maintenance activities conducted by the District. As such, no new operational noise levels would be generated by the project.

Mitigation Measure

The project contractor shall reduce construction noise levels at the adjacent single-family uses near the reservoir sites to a noise level not to exceed the FTA's residential construction noise threshold of 80 dBA L_{eq} (8-hour). This shall be accomplished through the following required measures.

N-1 Construction Noise Reduction Measures

The following construction noise reduction measures shall be implemented during project construction activities:

- Installation of temporary sound barriers/blankets along each project boundary line adjacent to the nearest single-family receivers, respectively. The temporary barriers/blankets shall have a minimum sound transmission loss of 21 and noise reduction coefficient of 0.75. The temporary barriers/blankets will be of sufficient height to extend from the top of the temporary construction fence and drape on the ground or be sealed at the ground. The temporary barriers/blankets will have grommets along the top edge with exterior grade hooks, and loop fasteners along the vertical edges with overlapping seams, with a minimum overlap of 2 inches
- All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers.
- A sign shall be provided at the yard entrance, or other conspicuous location, that includes a 24-hour telephone number for project information, and a procedure where a field engineer/construction manager will respond to and investigate noise complaints and take corrective action if necessary in a timely manner. The sign will have a minimum dimension of 48 inches wide by 24 inches high. The sign will be placed 5 feet above ground level.
- If a noise complaint(s) is registered, the contractor will retain a District-approved noise consultant to conduct noise measurements at the use(s) that registered the complaint. The noise measurements will be conducted for a minimum of 1 hour and will include 1-minute intervals. The consultant will prepare a letter report for code enforcement summarizing the measurements, calculation data used in determining impacts, and potential measures to reduce noise levels to the maximum extent feasible.

The following measures may also be used to reduce noise levels:

- The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only.
- Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators).
- Stationary noise-generating equipment shall be located as far from sensitive receivers, as feasible.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Certain types of construction equipment can generate high levels of groundborne vibration. Construction of the proposed project would potentially use loaded trucks and a bore rig (caisson drilling used as a proxy) during the reservoir construction phase. Neither blasting nor pile driving would be required for construction of the proposed project.

Construction vibration estimates are based on vibration levels reported by Caltrans and the FTA (Caltrans 2020; FTA 2018). A quantitative assessment of potential vibration impacts from construction activities that typically generate high vibration levels, such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation, may be conducted using the equations developed by Caltrans and the FTA (Caltrans 2020; FTA 2018). Table 15 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration (FTA 2018).

Table 15 Typical Vibration Levels Measured during Construction Activities

Equipment	PPV at 25 feet (in/sec)	Approximate L_v VdB at 25 feet
Caisson drilling	0.089	87
Loaded trucks	0.076	83

ppv = peak particle velocity; in/sec = inches per second; L_v = velocity level; VdB = vibration decibels

Source: FTA 2018

Vibration-related impact distances are measured from the edge of the construction footprint boundary to the nearest off-site structure. Measuring from the edge of the construction footprint boundary, project construction activities across all eight reservoir sites would occur as close as 35 feet from the nearest off-site structures, which include a single-family residence at 700 East Mountain Drive, east of the Cold Springs property line. Therefore, construction vibration impacts are assessed at a distance of 35 feet to estimate maximum vibration impacts to structures in the project area. Vibration levels at structures located at a distance of greater than 35 feet from the reservoir sites would be less than those experienced at structures located 35 feet from the reservoir sites; therefore, vibration levels were not quantified at receivers greater than 35 feet from the reservoir sites. For the purposes of this analysis, construction vibration impacts would be considered significant if vibration levels exceed 0.25 in/sec PPV, which is considered a distinctly perceptible impact for humans, and 0.2 in/sec PPV, which is the structural damage impact to residential structures (Caltrans 2020). As shown in Table 16, groundborne vibration from construction equipment would be lower than what is considered a distinctly perceptible impact for humans of 0.25 in/sec PPV and the structural damage impact to residential structures of 0.2 in/sec PPV. Therefore, construction vibration impacts would be less than significant.

After construction, the proposed project would not include significant stationary sources of vibration, such heavy equipment operations. Therefore, no operational vibration impacts would occur.

Table 16 Estimated Construction Vibration Levels

	Estimated PPV (in/sec) at Nearest Structures
Equipment	Residence (35 feet)
Caisson Drilling	0.062
Loaded Trucks	0.053
Threshold	**0.2**
Threshold Exceeded?	No

in/sec = inches per second

See Appendix D for vibration analysis worksheets.

Source: FTA 2018

LESS THAN SIGNIFICANT IMPACT

c. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The closest public airport to the project is the Santa Barbara Airport, located approximately 10 miles west of the reservoir sites. The reservoir sites are not located within an airport land use plan or within two miles of an airport. Therefore, the project would not expose people working in the project area to excessive noise levels due to proximity to an airport. No impact would occur.

NO IMPACT

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14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	□	□	□	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	□	□	□	■

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed project would not be utilized to increase the amount of water currently being supplied to existing customers or to provide water to areas currently not serviced by the District. Rather, the purpose of the proposed project is to bring existing reservoirs into regulatory compliance with seismic safety standards. The proposed project would not allow development of land which previously could not be developed due to water service constraints. The proposed project would not result in the construction of new homes or new commercial or industrial uses. Therefore, no impact associated with direct or indirect population growth would occur.

NO IMPACT

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed project would retrofit, repair, and replace existing water reservoirs on District-owned land. The project would not include demolition of existing housing. As such, the project would not displace people or housing and no impact related to displacement of people or housing would occur.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1 Fire protection?	☐	☐	☐	■
2 Police protection?	☐	☐	☐	■
3 Schools?	☐	☐	☐	■
4 Parks?	☐	☐	☐	■
5 Other public facilities?	☐	☐	☐	■

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

As discussed in Section 14, *Population and Housing*, the proposed project would not directly or indirectly induce population growth. The proposed project would not include any features or facilities requiring additional or unusual fire protection resources during operational use. In the event of the unexpected need for fire resources and protection for the proposed project, the closest fire station is the Montecito Fire Department Fire Station No. 2, approximately 0.9 mile to the south of Terminal Reservoir. The proposed project would not change existing demand for fire protection services because population growth would not result from construction or operation of the proposed project. No impact would occur.

Similarly, the project would not involve the construction of housing or other such facilities which may increase demand for police protection facilities, school services, parks, or other new or physically altered public facilities. Therefore, no impact related to police protection facilities, schools, parks, or public facilities would occur.

NO IMPACT

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	□	□	□	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	□	□	□	■

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

As discussed in Section 14, *Population and Housing,* the proposed project would neither directly nor indirectly support population growth. Therefore, the project would not generate any residents who would require parks or other recreational facilities. Consequently, no impact would occur to such facilities.

NO IMPACT

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The proposed project does not include recreational facilities, nor does it require the construction or expansion of recreational facilities. As such, no impact would occur.

NO IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	■	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	■
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☐	■
d. Result in inadequate emergency access?	☐	☐	■	☐

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The proposed project would generate construction-related vehicle trips during retrofit, repair, and replacement activities. The majority of heavy-duty equipment would be staged at each reservoir site, reducing the need for daily vehicle trips to and from the reservoir site. However, project construction would require construction-related vehicle trips including construction workers traveling to and from the project work zones and staging areas, haul trucks (including for export of excavated materials, as needed), and other trucks associated with equipment and material deliveries. As described in Section 3, *Air Quality*, vendor trips would be required for soil material export/import, demolition debris export, and concrete delivery.

Table 17 identifies estimated daily worker trips, vendor trips, and haul trips at the reservoir sites throughout the construction period. The trip counts identified therein are approximations. The ranges represent the estimated minimum and maximum trip counts associated with different construction phases for each reservoir site. Such trips would occur on public and private area roadways that provide access to the reservoir sites and off-site staging area. Construction-generated trips would occur during the working hours of 7:00 a.m. to 4:00 p.m. Monday through Friday. No construction-generated trips would occur on weekends, District holidays, or federal holidays.

Table 17 Construction-Generated Vehicle Trips

Reservoir Site	Worker Trips (per day)	Vendor Trips (per day)	Haul Trips (per day)
Doulton Reservoir	3 – 25	0 – 2	0 – 11
Romero Reservoir	13 – 25	0 – 5	0 – 8
Terminal Reservoir	18 – 25	0 – 10	0 – 65[1]
Bella Vista Reservoir	6 – 13	0 – 2	0
Park Lane Reservoir	9 – 25	0 – 3	0 – 3
Cold Springs Reservoir	15 – 23	0 – 2	0 – 1
Hot Springs Reservoir	5 – 25	0 – 2	0 – 5
Buena Vista Reservoir	7 – 25	0 – 2	0 – 5

1. The high end of this range for Terminal Reservoir would be restricted to the 15-day grading period. Daily haul trips would otherwise range from 0 to 1 trip per day.

Note: Construction-generated vehicle trip counts identified in this table are approximations. The ranges represent the estimated minimum and maximum daily trip counts associated with different construction phases for each reservoir site. For estimated trip counts and trip lengths, see Appendix C.

Construction-related traffic would be short-term and would cease upon completion of construction activities. Upon completion of construction, operational activities at the eight reservoir sites would resume per existing conditions. District staff would perform approximately one daily vehicle trip to each reservoir site for visual observation, as under existing conditions.

The proposed project involves construction and operation of existing water infrastructure, which would not conflict with adopted policies, plans, or programs addressing the circulation system, including public transit, bicycle, or pedestrian facilities. Given the minimal number of trips generated, construction and operational transportation impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. According to Section 15064.3(b)(3) of the State CEQA Guidelines, a lead agency may include a qualitative analysis of operational and construction traffic. As discussed below, the project is not expected to affect VMT in the project area.

A VMT calculation is typically conducted on a daily or annual basis to determine operational usage of a project. Construction of the proposed project would result in a minimal, short-term increase in local traffic as a result of construction-related worker traffic, material and equipment deliveries, and construction activities. VMT generated from construction-related traffic would cease once construction is completed, and VMT levels would return to pre-project conditions. As vehicle miles generated from construction would be temporary and short term and operational use of the proposed project would not increase VMT, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). Therefore, no impacts associated with VMT would occur.

NO IMPACT

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

The proposed project would not include any new roadway design features, nor would it include any geometric design features; no sharp curves or dangerous intersections are proposed. Project components consist of seismically retrofitting existing reservoirs within their current footprint on District-owned property. The proposed project would not create or substantially increase a traffic hazard due to a design feature, and therefore no impact would occur.

NO IMPACT

d. Would the project result in inadequate emergency access?

Although Park Lane and Hot Springs Road are the only access roadways to the residential properties past the Buena Vista Reservoir and Hot Springs Reservoirs, respectively, construction and staging of the proposed project would occur on District-owned property. Additionally, closures of public roadways would not be necessary due to staging and other activities occurring on District-owned property.

No changes to the existing street system are proposed that could result in inadequate emergency access post-construction of the proposed project, nor would project operation and maintenance introduce new activities or substantial operational traffic with the potential to result in inadequate emergency access. Therefore, the impact related to emergency access during project operation would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	■	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." AB 52 states, "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts altering the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

1. Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC section 5020.1(k), or

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those having requested notice of projects proposed in the jurisdiction of the lead agency.

On April 28, 2021, the District distributed AB 52 consultation letters for the proposed project, including project information, map, and contact information, to 10 individuals representing seven Native American Tribes (see Appendix E for a copy of the letters). Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation. AB 52 consultation letters were distributed to the following Native American Tribes:

- Barbareño/Ventureño Band of Mission Indians
- Chumash Council of Bakersfield
- Coastal Band of the Chumash Nation
- Northern Chumash Tribal Council
- San Luis Obispo County Chumash Council
- Santa Ynez Band of Chumash Indians
- *Yak tityu tityu yak tilhini* – Northern Chumash Tribe

In a letter simply dated May 2021, Chairperson Eleanor Fishburn, née Arellanes, of the Barbareño Band of Chumash Indians requested formal notification and information from the District on proposed projects for which the District serves as the lead agency under CEQA.

The District received responses from four Tribal contacts. During a phone call with District staff on May 10, 2021, Chairperson Mona Tucker of the *Yak tityu tityu yak tiłhini* – Northern Chumash Tribe stated she had no comments on the project other than suggesting the District contact local Tribes. During a phone call with District staff on May 10, 2021, Patrick Tumamait of the Barbareño/Ventureño Band of Mission Indians recommended a Native American monitor be present on-site during project related ground disturbing activities. During a follow-up call with District staff on May 27, 2021, Mr. Tumamait indicated consultation was concluded. On May 10, 2021, Ms. Fishburn, née Arellanes, requested consultation during a phone call with District staff and then, during a phone call with District staff on May 11, 2021, indicated she had no questions about the project. During a follow-up call with District staff on May 27, 2021, Ms. Fishburn, née Arellanes, requested a Native American monitor be present on-site during project related ground disturbing activities, and indicated she had completed her review of the project and consultation was concluded. On May 12, 2021, during a phone call with District staff, Karen Keever of the Santa Ynez Band of Chumash Indians indicated the Tribe had received the letter and they would review the information and respond. No additional responses from Tribal contacts have been received.

a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*

b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

On March 30, 2021, Rincon requested a records search of the Sacred Lands File (SLF) from the NAHC to identify the potential for cultural resources within the reservoir sites and to obtain contact information for Native American groups or individuals who may have knowledge of cultural resources within the reservoir sites. The SLF search was returned with positive results, indicating the NAHC has knowledge of sacred sites in the vicinity of the project area. However, the NAHC reviews the SLF by United States Geological Survey quadrangle map, an approximately 50 square mile area, and it is not known whether the tribal cultural resource is located within the reservoir sites. A specific location of the sacred site is not provided by the NAHC. None of the Tribes identified above have indicated the presence of a tribal cultural resource within or near the reservoir sites.

Although no evidence of cultural materials was identified during the pedestrian field survey and no tribal cultural resources are expected to be present on site, there is the possibility, although low, of encountering tribal cultural resources during proposed ground disturbances. Based on input from local Native American representatives during the AB 52 consultation process, Mitigation Measures TCR-1 and TCR-2 identified below would reduce impacts on tribal cultural resources to a less-than-significant level.

Mitigation Measure

TCR-1 Cultural Resources Sensitivity Training

Prior to the start of ground-disturbing activities, an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall conduct cultural and tribal cultural resources sensitivity training for all construction workers involved in ground-disturbing activities. A local Native American representative shall participate in the sensitivity training and have the opportunity to distribute information regarding cultural resources and/or protection of cultural resources.

TCR-2 Native American Monitoring

The District shall retain a local Native American representative to observe ground-disturbing activities up to five feet below the ground surface. Ground disturbing activities include, but are not limited to, clearing/grubbing, excavation, grading, and trenching. If cultural resources are encountered, the local Native American representative shall have the authority to request ground disturbing activities cease within 50 feet of the discovery. An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to document and evaluate the find. Impacts to the find shall be avoided to the extent feasible; methods of avoidance may include, but shall not be limited to, capping or fencing, or project redesign. If necessary, the archaeologist may be required to prepare a treatment plan for archaeological testing in consultation with the local Native American representative. If the discovery proves to be eligible for the CRHR and cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	■	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	■
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	■
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

The proposed project would involve seismic retrofits, repairs, and replacements to existing water infrastructure, the environmental effects of which are analyzed in this document. During construction, temporary reservoirs would be erected on site in order to maintain potable water service to existing District customers. After construction, temporary reservoirs would be dismantled, and water service would occur from the retrofitted reservoirs. The project would not increase the capacity of the reservoirs. Consequently, no additional impact related to water facilities would occur.

Wastewater Treatment

The proposed project would not generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment. Therefore, the project would not require relocation or construction of new wastewater facilities, and no impact would occur.

Stormwater Drainage

As discussed in Section 10, *Hydrology and Water Quality*, the project would generally preserve drainage patterns on site. The project would not require new or expanded stormwater drainage infrastructure. No impact related to stormwater drainage would occur.

Electric Power

As discussed in Section 6, *Energy*, the proposed project would not increase storage capacity or throughput at the reservoirs. Project operation would not increase electricity consumption at the reservoir sites as compared to existing conditions. Therefore, there would be no net new energy consumption associated with operational activities, and project operation would not require new or expanded electric power infrastructure. No impact would occur.

Natural Gas

The project would not involve any components requiring natural gas service and would not involve the relocation of existing natural gas facilities. Therefore, no impact related to natural gas facilities would occur.

Telecommunications

The District currently uses a Supervisory Control and Data Acquisition (SCADA) system to remotely monitor and control the existing reservoirs. No substantial changes are proposed to the existing SCADA system. The project would not require the construction or relocation of new telecommunication facilities. Therefore, no impact related to telecommunications facilities would occur.

LESS THAN SIGNIFICANT IMPACT

b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

As mentioned above, the proposed project would involve seismic retrofits, repairs, and replacements of existing water storage infrastructure. Temporary reservoirs would be erected during construction to maintain service. Project operation would not increase the amount of water supplied to existing customers and would not expand service beyond areas presently served by the District. Therefore, no impact related to sufficiency of water supplies would occur.

NO IMPACT

c. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

As discussed under item (a), the project would not generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. Thus, no impact would occur.

NO IMPACT

d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

The Tajiguas Landfill, operated by the County of Santa Barbara Public Works Department, has a permitted capacity of 23.3 million cubic yards and a maximum permitted throughput of 1,500 tons per day. As of March 2016, the remaining capacity at the landfill was approximately 4.3 million cubic yards. Tajiguas Landfill accepts a variety of waste, including agricultural, asbestos, construction/demolition, industrial, mixed municipal, sludge (biosolids), and tires (CalRecycle 2019).

Project construction would temporarily generate solid waste. Across the eight reservoir sites, construction activities would generate approximately 7,500 cy of excavated soil, 590 cy of demolished concrete, and 6,100 square feet of demolished steel to be exported from the project sites. Construction-generated solid waste would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. As described above, the Tajiguas Landfill has the capacity to accept solid waste generated by project construction activities. Once constructed, project operation would not generate solid waste, substantial or otherwise. The project would not impair the attainment of solid waste reduction goals. Therefore, impacts to solid waste would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	□	□	□	■
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	□	□	■	□
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	□	□	□	■
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	□	□	□	□

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Seven of the eight reservoirs are located in a State Responsibility Area designated as a very high fire hazard severity zone. Romero Reservoir is located in a State Responsibility Area designated as high fire hazard severity zone (CALFIRE 2020).

Project construction and operation would not introduce new activities with the potential to impair an adopted emergency response plan or emergency evacuation plan. The County of Santa Barbara's Emergency Management Plan (2013) details the chain of command and operation of the Standardized Emergency Management System. As discussed in Section 17, *Transportation*, construction activities associated with the proposed project would not require temporary road or lane closures which could impede emergency response or emergency evacuation. Therefore, the project would not interfere with an adopted emergency response plan or emergency evacuation plan. No impact would occur.

NO IMPACT

b. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Heavy duty equipment used during project construction may produce sparks with the potential to ignite vegetation. However, California PRC Section 4442 mandates the use of spark arrestors, which prevent the emission of flammable debris from exhaust, on earth-moving and portable construction equipment with internal combustion engines operating on any forest-covered, brush-covered, or grass-covered land. Furthermore, PRC Sections 4427 and 4431 specify standards for conducting construction activities on days when a burning permit is required, and PRC Section 4428 requires construction contractors to maintain fire suppression equipment during the highest fire danger period (April 1 to December 1) when operating on or near any forest-covered, brush-covered, or grass-covered land. Therefore, with compliance with applicable PRC provisions, project construction would not exacerbate wildfire risk.

Project operation would not involve potentially flammable activities. In addition, the proposed project would not introduce habitable structures to the project sites and therefore would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

With regulatory compliance, the proposed project would not exacerbate fire risks. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

As discussed in Section 19, *Utilities and Service Systems,* the project would not result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities beyond those water infrastructure facilities evaluated in this analysis. The project would not require the installation or maintenance of associated fire protection infrastructure, as it does not involve housing or other structures which could accommodate occupants. No impact related to installation of fire protection infrastructure would occur.

NO IMPACT

d. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

As discussed in Section 10, *Hydrology and Water Quality*, the proposed project would not significantly alter drainage patterns or stormwater runoff volumes or rates in the vicinity of the project sites. Construction activities would be short-term. The project would not include housing or other structures which could accommodate occupants. If a wildfire were to cause runoff, post-fire slope instability, or drainage changes in the vicinity of the reservoir sites, it is unlikely that post-fire flooding or landslides would occur as a result of the project. Moreover, the project would not expose people or structures to post-fire risks and would not exacerbate such risks.

No impact related to post-fire risks would occur.

NO IMPACT

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21 Mandatory Findings of Significance

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

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Potential impacts to biological resources are addressed in Section 4, *Biological Resources*. As described therein, there is low to high potential for certain special-status plant and wildlife species to occur on the reservoir sites. Implementation of Mitigation Measures BIO-1 through BIO-10 would mitigate direct and indirect impacts to special-status plant and wildlife species to a less-than-significant level. Therefore, the project would not substantially reduce the habitat of fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. In addition, as discussed in Section 5, *Cultural Resources*, the project would not eliminate important examples of the major periods of California history or prehistory because none are known to be present in the project area. No impact would occur.

NO IMPACT

b. *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Cumulative impacts are defined as two or more individual project effects which, when considered together or in concert with other projects, combine to result in a significant impact within an identified geographic area. In order for a project to contribute to cumulative impacts, it must result in some level of impact on a project-specific level. As described in the discussion of environmental checklist Sections 1 through 20, with respect to all environmental issues, the proposed project would not result in significant and unmitigable impacts to the environment; all anticipated impacts associated with project construction and operation would be either less than significant or less than significant with mitigation incorporated. This is largely due to the fact that project construction activities would be temporary, and project operational activities would not significantly alter the environmental baseline condition. The environmental analyses previously addressed in this IS-MND already evaluate the combined impacts of construction and operational activities at the eight reservoir sites. Generally, the reservoir sites are not located within close proximity to each other.

As described in the impact analyses provided in Sections 1 through 20 of this IS-MND, a number of the environmental topic areas would experience "No Impact" as a result of the proposed project; in other words, none of the significance criteria identified for these environmental topic areas would result in impacts. These environmental topics include the following: Agricultural and Forestry Resources; Energy; Land Use and Planning; Mineral Resources; Population and Housing; Public Services; and Recreation. These topic areas are not addressed further for cumulative impacts, because they would have no impact and therefore would not contribute to the cumulative scenario for cumulative impacts.

The following analysis of cumulative impacts addresses those effects for which some level of potential impact was identified, which includes topics for which a "Less than Significant Impact" was identified, as well as those for which the threshold question assumed some level of impact (i.e., those for which consideration of a potential "significant" effect was considered, per *CEQA Guidelines* Section 15382; in this case, threshold questions which assumed impacts would be "Less than Significant with Mitigation Incorporated"). Potential regional cumulative effects were considered for the environmental topics which would result in less than significant impacts from project implementation (without or with project mitigation).

- **Aesthetics.** Temporary aesthetic impacts associated with the presence and use of equipment and machinery at and around the reservoir sites may be visible from public roadways near the sites. As discussed in Section 1, *Aesthetics*, the areas around the reservoir sites are not identified as scenic vistas or scenic resource areas. The proposed project would not conflict with applicable zoning and other regulations governing scenic quality or create a significant new source of light and glare when considered in tandem with other cumulative development. Therefore, no contribution to a cumulative impact would occur.

- **Air Quality.** Air pollutant and GHG emissions disperse from their original source and can affect the entire air basin (or, with global warming, potentially the entire Earth). For air quality, the baseline analysis addresses the cumulative condition, or the project's contribution to the larger picture which is assessed in analyses of consistency with regional air quality strategies and pollutant dispersal. As discussed in Section 3, *Air Quality,* the proposed project's construction and operational air quality emissions would be less than significant. The region is in non-attainment for criteria pollutant standard for PM_{10}, which means that cumulative air quality impacts are inherently significant. However, SBCAPCD's significance thresholds are intended to determine whether a project would individually or cumulatively jeopardize attainment of the CAAQS and NAAQS. The project would not exceed the thresholds. Therefore, the project's air quality impacts would not individually jeopardize attainment of the CAAQS or NAAQS and the project's contribution to cumulative impacts would not be considerable.
- **Biological Resources.** As described in Section 4, *Biological Resources*, implementation of Mitigation Measures BIO-1 through BIO-10 would reduce biological resources impacts to less-than-significant levels. Other projects in the region would also be required to comply with federal, State, regional, and local regulations and laws put in place to minimize impacts to biological resources. Therefore, cumulative impacts would be less than significant.
- **Cultural Resources.** As described in Section 5, *Cultural Resources*, although no historical or archaeological resources are known to exist within the reservoir sites, unanticipated discoveries are a possibility during ground disturbance. Implementation of Mitigation Measure CR-1 would reduce impacts to a less-than-significant level. Cultural resources impacts are inherently site-specific. The project, in combination with other projects in the area, would not result in significant cumulative impacts to archaeological resources. In addition, the project would not result in a substantial adverse change to a built environment resource listed or eligible for listing in the NRHP or the CRHR. Therefore, no contribution to cumulative impacts, significant or otherwise, would occur.
- **Geology and Soils.** Impacts associated with geology and soils, including paleontological resources, are inherently restricted to the location of the project activities. Implementation of Mitigation Measure GEO-1 would reduce potential impacts associated with unanticipated discovery of paleontological resources to a less-than-significant level. Due to the site-specific nature of impacts and the implementation of appropriate mitigation, the proposed project would not contribute to cumulative impacts associated with other future developments.
- **GHG Emissions.** Refer to the discussion within the *Air Quality* bullet above. The County of Santa Barbara's significance thresholds are intended to determine whether a project would individually or cumulatively contribute to global climate change. The project would not exceed the thresholds. Therefore, the project's GHG impacts would not be cumulatively considerable.
- **Hazards and Hazardous Materials.** With regard to hazards and hazardous materials, no regional concern is identified (i.e., no significant cumulative impact). In the event the project would result in accidental discharge associated with transport, use, storage, and/or disposal of hazardous materials during construction or operation of the project, prescribed activities to be conducted in accordance with the NPDES Construction General Permit would reduce potential impacts associated with the discharge of contaminants to a less-than-significant level. The project would also comply with applicable federal, State, and local laws and regulations regarding hazardous materials. Therefore, no contribution to cumulative impacts, significant or otherwise, would occur.

- **Hydrology and Water Quality.** Cumulative development in the project area would increase impervious surfaces, thereby increasing stormwater runoff volumes and flow rates. The proposed project would not substantially increase impervious surface areas on the reservoir sites, nor would it exceed the capacity of the existing stormwater drainage system. In addition, implementation of BMPs as part of project conformance with NPDES permit conditions would effectively eliminate the potential for drainage- and water quality-related impacts. Therefore, no contribution to cumulative impacts would occur.
- **Noise.** Noise levels at the reservoir sites are typical of low-density residential areas. The primary sources of noise are vehicular traffic along roadways including local streets and ambient sounds from local fauna. As discussed in Section 13, *Noise,* project construction would construction would occur between the hours of 7:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays, and would not exceed the FTA daytime noise threshold of 80 dBA L_{eq} for an 8-hour period. Therefore, project construction would not contribute to a cumulative noise impact. In addition, the proposed project would not generate additional operational noise levels. Future cumulative development would be subject to the County's noise ordinance. No contribution to a cumulative impact would occur.
- **Transportation.** No substantial long-term transportation impacts would occur as a result of the project. Given the temporary nature of construction-related traffic impacts and the fact the project would not generate new operational traffic, the contribution to cumulative transportation impact would not be cumulatively considerable.
- **Tribal Cultural Resources.** Implementation of Mitigation Measures TCR-1 and TCR-2 would reduce the proposed project's potential impacts to tribal cultural resources to a less-than-significant level. Tribal cultural resources are inherently site-specific. The project, in combination with other projects in the area, would not result in significant cumulative impacts to tribal cultural resources. Therefore, no contribution to cumulative impacts, significant or otherwise, would occur.
- **Utilities and Service Systems.** The project would not induce population growth and therefore would not directly or indirectly contribute to cumulative impacts to utilities and service systems.
- **Wildfire.** As described in Section 20, *Wildfire*, potential wildfire impacts associated with the project would be less than significant. Given there would be no long-term operational wildfire impacts and the short-term nature of any construction-related wildfire impacts, the project's contribution to any cumulative impact would not be considerable.

For these reasons, the project would not result in a considerable contribution to any cumulative effects significant or otherwise. Impacts would be less than significant.

NO IMPACT

c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As detailed in the preceding sections, the project would not result, either directly or indirectly, in substantial adverse effects related to air quality or hazards and hazardous materials. With implementation of Mitigation Measure N-1 noise impacts would be reduced to a less-than-significant level. Therefore, impacts to human beings would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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Appendix A

Air Quality and Greenhouse Gas Modeling Results

Reservoir Retrofits - Bella Vista

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.32	Acre	0.32	13,939.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD.

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD.

Grading - No soil import/export required.

Demolition - No demolition required.

Trips and VMT - Vendor trips include 53 total concrete delivery trips (106 one-way trips).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	101.00
tblConstructionPhase	NumDays	1.00	21.00
tblConstructionPhase	PhaseEndDate	8/4/2022	8/31/2022
tblConstructionPhase	PhaseEndDate	3/15/2022	4/12/2022
tblConstructionPhase	PhaseStartDate	3/18/2022	4/13/2022
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblTripsAndVMT	WorkerTripNumber	15.00	13.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1175	1.0026	1.1053	2.1300e-003	8.8700e-003	0.0467	0.0555	1.4900e-003	0.0449	0.0464	0.0000	183.4320	183.4320	0.0350	0.0000	184.3063
Maximum	**0.1175**	**1.0026**	**1.1053**	**2.1300e-003**	**8.8700e-003**	**0.0467**	**0.0555**	**1.4900e-003**	**0.0449**	**0.0464**	**0.0000**	**183.4320**	**183.4320**	**0.0350**	**0.0000**	**184.3063**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1175	1.0026	1.1053	2.1300e-003	8.8700e-003	0.0467	0.0555	1.4900e-003	0.0449	0.0464	0.0000	183.4318	183.4318	0.0350	0.0000	184.3061
Maximum	**0.1175**	**1.0026**	**1.1053**	**2.1300e-003**	**8.8700e-003**	**0.0467**	**0.0555**	**1.4900e-003**	**0.0449**	**0.0464**	**0.0000**	**183.4318**	**183.4318**	**0.0350**	**0.0000**	**184.3061**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2022**	**5-31-2022**	0.4728	0.4728
2	**6-1-2022**	**8-31-2022**	0.6425	0.6425
		Highest	0.6425	0.6425

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3900e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3900e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3900e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3900e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/15/2022	4/12/2022	5	21	
2	Reservoir Construction	Building Construction	4/13/2022	8/31/2022	5	101	

Acres of Grading (Site Preparation Phase): 10.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.32

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Reservoir Construction	Plate Compactors	1	4.00	8	0.43
Reservoir Construction	Air Compressors	1	6.00	78	0.48
Site Preparation	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	1	8.00	46	0.45
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	13.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	11	6.00	2.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.5700e-003	0.0000	5.5700e-003	6.0000e-004	0.0000	6.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.1185	0.1377	2.6000e-004		5.6000e-003	5.6000e-003		5.3700e-003	5.3700e-003	0.0000	22.9108	22.9108	4.8500e-003	0.0000	23.0320
Total	**0.0132**	**0.1185**	**0.1377**	**2.6000e-004**	**5.5700e-003**	**5.6000e-003**	**0.0112**	**6.0000e-004**	**5.3700e-003**	**5.9700e-003**	**0.0000**	**22.9108**	**22.9108**	**4.8500e-003**	**0.0000**	**23.0320**

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.9000e-004	2.6700e-003	1.0000e-005	8.4000e-004	1.0000e-005	8.5000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6415	0.6415	2.0000e-005	0.0000	0.6419
Total	**3.8000e-004**	**2.9000e-004**	**2.6700e-003**	**1.0000e-005**	**8.4000e-004**	**1.0000e-005**	**8.5000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6415**	**0.6415**	**2.0000e-005**	**0.0000**	**0.6419**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.5700e-003	0.0000	5.5700e-003	6.0000e-004	0.0000	6.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.1185	0.1377	2.6000e-004		5.6000e-003	5.6000e-003		5.3700e-003	5.3700e-003	0.0000	22.9107	22.9107	4.8500e-003	0.0000	23.0320
Total	**0.0132**	**0.1185**	**0.1377**	**2.6000e-004**	**5.5700e-003**	**5.6000e-003**	**0.0112**	**6.0000e-004**	**5.3700e-003**	**5.9700e-003**	**0.0000**	**22.9107**	**22.9107**	**4.8500e-003**	**0.0000**	**23.0320**

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.9000e-004	2.6700e-003	1.0000e-005	8.4000e-004	1.0000e-005	8.5000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6415	0.6415	2.0000e-005	0.0000	0.6419
Total	**3.8000e-004**	**2.9000e-004**	**2.6700e-003**	**1.0000e-005**	**8.4000e-004**	**1.0000e-005**	**8.5000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6415**	**0.6415**	**2.0000e-005**	**0.0000**	**0.6419**

3.3 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1027	0.8735	0.9558	1.8200e-003		0.0410	0.0410		0.0395	0.0395	0.0000	156.1392	156.1392	0.0299	0.0000	156.8863
Total	**0.1027**	**0.8735**	**0.9558**	**1.8200e-003**		**0.0410**	**0.0410**		**0.0395**	**0.0395**	**0.0000**	**156.1392**	**156.1392**	**0.0299**	**0.0000**	**156.8863**

3.3 Reservoir Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	9.7500e-003	3.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.1000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.3167	2.3167	1.8000e-004	0.0000	2.3212
Worker	8.4000e-004	6.5000e-004	5.9200e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4239	1.4239	4.0000e-005	0.0000	1.4249
Total	**1.1500e-003**	**0.0104**	**9.1300e-003**	**4.0000e-005**	**2.4600e-003**	**4.0000e-005**	**2.4900e-003**	**6.7000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**3.7406**	**3.7406**	**2.2000e-004**	**0.0000**	**3.7461**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1027	0.8735	0.9558	1.8200e-003		0.0410	0.0410		0.0395	0.0395	0.0000	156.1390	156.1390	0.0299	0.0000	156.8861
Total	**0.1027**	**0.8735**	**0.9558**	**1.8200e-003**		**0.0410**	**0.0410**		**0.0395**	**0.0395**	**0.0000**	**156.1390**	**156.1390**	**0.0299**	**0.0000**	**156.8861**

3.3 Reservoir Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	9.7500e-003	3.2100e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.1000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.3167	2.3167	1.8000e-004	0.0000	2.3212
Worker	8.4000e-004	6.5000e-004	5.9200e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4239	1.4239	4.0000e-005	0.0000	1.4249
Total	**1.1500e-003**	**0.0104**	**9.1300e-003**	**4.0000e-005**	**2.4600e-003**	**4.0000e-005**	**2.4900e-003**	**6.7000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**3.7406**	**3.7406**	**2.2000e-004**	**0.0000**	**3.7461**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3900e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	1.3900e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.3800e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.3800e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Buena Vista

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.36	Acre	0.36	15,681.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD.

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 30 total concrete delivery trips (60 one-way trips).

Demolition - 15 CY of concrete demolished = 14.0 tons (1 CY concrete = 0.93 tons)

Grading -

Off-road Equipment - Provided by Montecito WD

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	70.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	20.00
tblGrading	MaterialExported	0.00	707.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblTripsAndVMT	VendorTripNumber	3.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1425	1.3066	1.3481	2.7000e-003	0.0182	0.0570	0.0752	3.1500e-003	0.0544	0.0576	0.0000	234.5969	234.5969	0.0513	0.0000	235.8802
Maximum	**0.1425**	**1.3066**	**1.3481**	**2.7000e-003**	**0.0182**	**0.0570**	**0.0752**	**3.1500e-003**	**0.0544**	**0.0576**	**0.0000**	**234.5969**	**234.5969**	**0.0513**	**0.0000**	**235.8802**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1425	1.3066	1.3481	2.7000e-003	0.0182	0.0570	0.0752	3.1500e-003	0.0544	0.0576	0.0000	234.5967	234.5967	0.0513	0.0000	235.8799
Maximum	**0.1425**	**1.3066**	**1.3481**	**2.7000e-003**	**0.0182**	**0.0570**	**0.0752**	**3.1500e-003**	**0.0544**	**0.0576**	**0.0000**	**234.5967**	**234.5967**	**0.0513**	**0.0000**	**235.8799**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2022**	**5-31-2022**	0.6401	0.6401
2	**6-1-2022**	**8-31-2022**	0.6355	0.6355
3	**9-1-2022**	**9-30-2022**	0.1729	0.1729
		Highest	0.6401	0.6401

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5600e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5600e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	3/21/2022	5	15	
2	Site Preparation	Site Preparation	3/22/2022	4/18/2022	5	20	
3	Grading	Grading	4/19/2022	5/16/2022	5	20	
4	Reservoir Construction	Building Construction	5/17/2022	8/22/2022	5	70	
5	Site Restoration	Paving	8/23/2022	9/19/2022	5	20	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.36

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74

Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	1	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42
Site Restoration	Paving Equipment	1	8.00	132	0.36

Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	1.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	88.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	9	7.00	2.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0155	0.1450	0.1530	3.0000e-004		6.6500e-003	6.6500e-003		6.3600e-003	6.3600e-003	0.0000	25.9579	25.9579	5.4800e-003	0.0000	26.0949
Total	**0.0155**	**0.1450**	**0.1530**	**3.0000e-004**	**1.5000e-004**	**6.6500e-003**	**6.8000e-003**	**2.0000e-005**	**6.3600e-003**	**6.3800e-003**	**0.0000**	**25.9579**	**25.9579**	**5.4800e-003**	**0.0000**	**26.0949**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0382	0.0382	0.0000	0.0000	0.0383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.2000e-004	2.9300e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7049	0.7049	2.0000e-005	0.0000	0.7054
Total	**4.2000e-004**	**4.5000e-004**	**2.9700e-003**	**1.0000e-005**	**9.4000e-004**	**1.0000e-005**	**9.4000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.7430**	**0.7430**	**2.0000e-005**	**0.0000**	**0.7437**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0155	0.1450	0.1530	3.0000e-004		6.6500e-003	6.6500e-003		6.3600e-003	6.3600e-003	0.0000	25.9579	25.9579	5.4800e-003	0.0000	26.0949
Total	**0.0155**	**0.1450**	**0.1530**	**3.0000e-004**	**1.5000e-004**	**6.6500e-003**	**6.8000e-003**	**2.0000e-005**	**6.3600e-003**	**6.3800e-003**	**0.0000**	**25.9579**	**25.9579**	**5.4800e-003**	**0.0000**	**26.0949**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0382	0.0382	0.0000	0.0000	0.0383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.2000e-004	2.9300e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7049	0.7049	2.0000e-005	0.0000	0.7054
Total	**4.2000e-004**	**4.5000e-004**	**2.9700e-003**	**1.0000e-005**	**9.4000e-004**	**1.0000e-005**	**9.4000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.7430**	**0.7430**	**2.0000e-005**	**0.0000**	**0.7437**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1679	0.1505	3.2000e-004		7.1000e-003	7.1000e-003		6.7500e-003	6.7500e-003	0.0000	27.9501	27.9501	6.5300e-003	0.0000	28.1134
Total	**0.0172**	**0.1679**	**0.1505**	**3.2000e-004**	**5.3000e-003**	**7.1000e-003**	**0.0124**	**5.7000e-004**	**6.7500e-003**	**7.3200e-003**	**0.0000**	**27.9501**	**27.9501**	**6.5300e-003**	**0.0000**	**28.1134**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**5.0000e-004**	**3.9000e-004**	**3.5200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8459**	**0.8459**	**2.0000e-005**	**0.0000**	**0.8465**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1679	0.1505	3.2000e-004		7.1000e-003	7.1000e-003		6.7500e-003	6.7500e-003	0.0000	27.9501	27.9501	6.5300e-003	0.0000	28.1134
Total	**0.0172**	**0.1679**	**0.1505**	**3.2000e-004**	**5.3000e-003**	**7.1000e-003**	**0.0124**	**5.7000e-004**	**6.7500e-003**	**7.3200e-003**	**0.0000**	**27.9501**	**27.9501**	**6.5300e-003**	**0.0000**	**28.1134**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**5.0000e-004**	**3.9000e-004**	**3.5200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8459**	**0.8459**	**2.0000e-005**	**0.0000**	**0.8465**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.3600e-003**	**6.8800e-003**	**0.0122**	**5.8000e-004**	**6.5400e-003**	**7.1200e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0113	3.6300e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.3573	3.3573	3.4000e-004	0.0000	3.3657
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**8.2000e-004**	**0.0117**	**7.1500e-003**	**4.0000e-005**	**1.8600e-003**	**5.0000e-005**	**1.9100e-003**	**5.1000e-004**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**4.2031**	**4.2031**	**3.6000e-004**	**0.0000**	**4.2121**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.3600e-003**	**6.8800e-003**	**0.0122**	**5.8000e-004**	**6.5400e-003**	**7.1200e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0113	3.6300e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.3573	3.3573	3.4000e-004	0.0000	3.3657
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**8.2000e-004**	**0.0117**	**7.1500e-003**	**4.0000e-005**	**1.8600e-003**	**5.0000e-005**	**1.9100e-003**	**5.1000e-004**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**4.2031**	**4.2031**	**3.6000e-004**	**0.0000**	**4.2121**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0657	0.5800	0.6391	1.2100e-003		0.0261	0.0261		0.0249	0.0249	0.0000	103.5207	103.5207	0.0234	0.0000	104.1048
Total	**0.0657**	**0.5800**	**0.6391**	**1.2100e-003**		**0.0261**	**0.0261**		**0.0249**	**0.0249**	**0.0000**	**103.5207**	**103.5207**	**0.0234**	**0.0000**	**104.1048**

3.5 Reservoir Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	6.7500e-003	2.2300e-003	2.0000e-005	4.1000e-004	2.0000e-005	4.3000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.6056	1.6056	1.2000e-004	0.0000	1.6088
Worker	6.8000e-004	5.3000e-004	4.7900e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.1513	1.1513	3.0000e-005	0.0000	1.1522
Total	**8.9000e-004**	**7.2800e-003**	**7.0200e-003**	**3.0000e-005**	**1.9200e-003**	**3.0000e-005**	**1.9500e-003**	**5.2000e-004**	**3.0000e-005**	**5.5000e-004**	**0.0000**	**2.7570**	**2.7570**	**1.5000e-004**	**0.0000**	**2.7609**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0657	0.5800	0.6391	1.2100e-003		0.0261	0.0261		0.0249	0.0249	0.0000	103.5206	103.5206	0.0234	0.0000	104.1046
Total	**0.0657**	**0.5800**	**0.6391**	**1.2100e-003**		**0.0261**	**0.0261**		**0.0249**	**0.0249**	**0.0000**	**103.5206**	**103.5206**	**0.0234**	**0.0000**	**104.1046**

3.5 Reservoir Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	6.7500e-003	2.2300e-003	2.0000e-005	4.1000e-004	2.0000e-005	4.3000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.6056	1.6056	1.2000e-004	0.0000	1.6088
Worker	6.8000e-004	5.3000e-004	4.7900e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.1513	1.1513	3.0000e-005	0.0000	1.1522
Total	**8.9000e-004**	**7.2800e-003**	**7.0200e-003**	**3.0000e-005**	**1.9200e-003**	**3.0000e-005**	**1.9500e-003**	**5.2000e-004**	**3.0000e-005**	**5.5000e-004**	**0.0000**	**2.7570**	**2.7570**	**1.5000e-004**	**0.0000**	**2.7609**

3.6 Site Restoration - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0241	0.2296	0.2351	4.6000e-004		0.0102	0.0102		9.7300e-003	9.7300e-003	0.0000	40.1774	40.1774	9.0400e-003	0.0000	40.4035
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0241**	**0.2296**	**0.2351**	**4.6000e-004**		**0.0102**	**0.0102**		**9.7300e-003**	**9.7300e-003**	**0.0000**	**40.1774**	**40.1774**	**9.0400e-003**	**0.0000**	**40.4035**

3.6 Site Restoration - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.4000e-004	4.8800e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1748	1.1748	3.0000e-005	0.0000	1.1757
Total	**6.9000e-004**	**5.4000e-004**	**4.8800e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1748**	**1.1748**	**3.0000e-005**	**0.0000**	**1.1757**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0241	0.2296	0.2351	4.6000e-004		0.0102	0.0102		9.7300e-003	9.7300e-003	0.0000	40.1774	40.1774	9.0400e-003	0.0000	40.4034
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0241**	**0.2296**	**0.2351**	**4.6000e-004**		**0.0102**	**0.0102**		**9.7300e-003**	**9.7300e-003**	**0.0000**	**40.1774**	**40.1774**	**9.0400e-003**	**0.0000**	**40.4034**

3.6 Site Restoration - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.4000e-004	4.8800e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1748	1.1748	3.0000e-005	0.0000	1.1757
Total	**6.9000e-004**	**5.4000e-004**	**4.8800e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1748**	**1.1748**	**3.0000e-005**	**0.0000**	**1.1757**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	1.5600e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.5600e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.5600e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Cold Springs

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.57	Acre	0.57	24,829.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD.

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD. Grader user as proxy for excavator to allow for soil export.

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 115 total concrete delivery trips (230 one-way trips).

Demolition - 10 CY of concrete demolished = 9.3 tons (1 CY concrete = 0.93 tons)

Grading -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	256.00
tblGrading	MaterialExported	0.00	100.00
tblOffRoadEquipment	HorsePower	187.00	158.00
tblOffRoadEquipment	LoadFactor	0.41	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblOffRoadEquipment	PhaseName		Reservoir Construction
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2921	2.4788	2.4607	4.7000e-003	0.0865	0.1151	0.2017	0.0123	0.1101	0.1224	0.0000	403.0270	403.0270	0.0791	0.0000	405.0052
2023	0.1159	0.9667	1.0242	1.9700e-003	0.0760	0.0430	0.1190	9.5000e-003	0.0411	0.0506	0.0000	168.5194	168.5194	0.0325	0.0000	169.3313
Maximum	**0.2921**	**2.4788**	**2.4607**	**4.7000e-003**	**0.0865**	**0.1151**	**0.2017**	**0.0123**	**0.1101**	**0.1224**	**0.0000**	**403.0270**	**403.0270**	**0.0791**	**0.0000**	**405.0052**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2921	2.4788	2.4607	4.7000e-003	0.0865	0.1151	0.2017	0.0123	0.1101	0.1224	0.0000	403.0265	403.0265	0.0791	0.0000	405.0047
2023	0.1159	0.9667	1.0242	1.9700e-003	0.0760	0.0430	0.1190	9.5000e-003	0.0411	0.0506	0.0000	168.5192	168.5192	0.0325	0.0000	169.3311
Maximum	**0.2921**	**2.4788**	**2.4607**	**4.7000e-003**	**0.0865**	**0.1151**	**0.2017**	**0.0123**	**0.1101**	**0.1224**	**0.0000**	**403.0265**	**403.0265**	**0.0791**	**0.0000**	**405.0047**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.6793	0.6793
2	6-1-2022	8-31-2022	0.8962	0.8962
3	9-1-2022	11-30-2022	0.8869	0.8869
4	12-1-2022	2-28-2023	0.8267	0.8267
5	3-1-2023	5-31-2023	0.5599	0.5599
		Highest	0.8962	0.8962

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4700e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4700e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/15/2022	5/9/2022	5	40	
2	Reservoir Construction	Grading	5/10/2022	5/2/2023	5	256	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.57

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Welders	1	8.00	46	0.45
Reservoir Construction	Air Compressors	1	6.00	78	0.48
Reservoir Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Reservoir Construction	Cranes	1	8.00	231	0.29
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Graders	1	8.00	158	0.38
Reservoir Construction	Plate Compactors	1	4.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	6.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	9	23.00	0.00	1.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	11	28.00	2.00	13.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0468	0.4159	0.4420	8.5000e-004		0.0190	0.0190		0.0182	0.0182	0.0000	72.9855	72.9855	0.0151	0.0000	73.3622
Total	**0.0468**	**0.4159**	**0.4420**	**8.5000e-004**	**1.0000e-004**	**0.0190**	**0.0191**	**2.0000e-005**	**0.0182**	**0.0183**	**0.0000**	**72.9855**	**72.9855**	**0.0151**	**0.0000**	**73.3622**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0382	0.0382	0.0000	0.0000	0.0383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	9.9000e-004	8.9800e-003	2.0000e-005	2.8400e-003	2.0000e-005	2.8600e-003	7.6000e-004	2.0000e-005	7.7000e-004	0.0000	2.1617	2.1617	6.0000e-005	0.0000	2.1632
Total	**1.2800e-003**	**1.1200e-003**	**9.0200e-003**	**2.0000e-005**	**2.8500e-003**	**2.0000e-005**	**2.8700e-003**	**7.6000e-004**	**2.0000e-005**	**7.7000e-004**	**0.0000**	**2.1998**	**2.1998**	**6.0000e-005**	**0.0000**	**2.2015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0468	0.4159	0.4420	8.5000e-004		0.0190	0.0190		0.0182	0.0182	0.0000	72.9854	72.9854	0.0151	0.0000	73.3621
Total	**0.0468**	**0.4159**	**0.4420**	**8.5000e-004**	**1.0000e-004**	**0.0190**	**0.0191**	**2.0000e-005**	**0.0182**	**0.0183**	**0.0000**	**72.9854**	**72.9854**	**0.0151**	**0.0000**	**73.3621**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0382	0.0382	0.0000	0.0000	0.0383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	9.9000e-004	8.9800e-003	2.0000e-005	2.8400e-003	2.0000e-005	2.8600e-003	7.6000e-004	2.0000e-005	7.7000e-004	0.0000	2.1617	2.1617	6.0000e-005	0.0000	2.1632
Total	**1.2800e-003**	**1.1200e-003**	**9.0200e-003**	**2.0000e-005**	**2.8500e-003**	**2.0000e-005**	**2.8700e-003**	**7.6000e-004**	**2.0000e-005**	**7.7000e-004**	**0.0000**	**2.1998**	**2.1998**	**6.0000e-005**	**0.0000**	**2.2015**

3.3 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0679	0.0000	0.0679	7.3300e-003	0.0000	7.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2369	2.0393	1.9577	3.6600e-003		0.0960	0.0960		0.0918	0.0918	0.0000	312.5194	312.5194	0.0633	0.0000	314.1028
Total	**0.2369**	**2.0393**	**1.9577**	**3.6600e-003**	**0.0679**	**0.0960**	**0.1639**	**7.3300e-003**	**0.0918**	**0.0991**	**0.0000**	**312.5194**	**312.5194**	**0.0633**	**0.0000**	**314.1028**

3.3 Reservoir Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1000e-003	3.5000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3274	0.3274	3.0000e-005	0.0000	0.3282
Vendor	5.2000e-004	0.0163	5.3800e-003	4.0000e-005	9.8000e-004	4.0000e-005	1.0300e-003	2.8000e-004	4.0000e-005	3.3000e-004	0.0000	3.8765	3.8765	3.0000e-004	0.0000	3.8840
Worker	6.5600e-003	5.1100e-003	0.0462	1.2000e-004	0.0146	9.0000e-005	0.0147	3.8800e-003	8.0000e-005	3.9700e-003	0.0000	11.1185	11.1185	3.2000e-004	0.0000	11.1265
Total	**7.1100e-003**	**0.0225**	**0.0519**	**1.6000e-004**	**0.0157**	**1.3000e-004**	**0.0158**	**4.1900e-003**	**1.2000e-004**	**4.3300e-003**	**0.0000**	**15.3224**	**15.3224**	**6.5000e-004**	**0.0000**	**15.3387**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0679	0.0000	0.0679	7.3300e-003	0.0000	7.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2369	2.0393	1.9577	3.6600e-003		0.0960	0.0960		0.0918	0.0918	0.0000	312.5190	312.5190	0.0633	0.0000	314.1024
Total	**0.2369**	**2.0393**	**1.9577**	**3.6600e-003**	**0.0679**	**0.0960**	**0.1639**	**7.3300e-003**	**0.0918**	**0.0991**	**0.0000**	**312.5190**	**312.5190**	**0.0633**	**0.0000**	**314.1024**

3.3 Reservoir Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1000e-003	3.5000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3274	0.3274	3.0000e-005	0.0000	0.3282
Vendor	5.2000e-004	0.0163	5.3800e-003	4.0000e-005	9.8000e-004	4.0000e-005	1.0300e-003	2.8000e-004	4.0000e-005	3.3000e-004	0.0000	3.8765	3.8765	3.0000e-004	0.0000	3.8840
Worker	6.5600e-003	5.1100e-003	0.0462	1.2000e-004	0.0146	9.0000e-005	0.0147	3.8800e-003	8.0000e-005	3.9700e-003	0.0000	11.1185	11.1185	3.2000e-004	0.0000	11.1265
Total	**7.1100e-003**	**0.0225**	**0.0519**	**1.6000e-004**	**0.0157**	**1.3000e-004**	**0.0158**	**4.1900e-003**	**1.2000e-004**	**4.3300e-003**	**0.0000**	**15.3224**	**15.3224**	**6.5000e-004**	**0.0000**	**15.3387**

3.3 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0679	0.0000	0.0679	7.3300e-003	0.0000	7.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1126	0.9569	0.9999	1.8900e-003		0.0430	0.0430		0.0411	0.0411	0.0000	160.8854	160.8854	0.0322	0.0000	161.6895
Total	**0.1126**	**0.9569**	**0.9999**	**1.8900e-003**	**0.0679**	**0.0430**	**0.1109**	**7.3300e-003**	**0.0411**	**0.0484**	**0.0000**	**160.8854**	**160.8854**	**0.0322**	**0.0000**	**161.6895**

3.3 Reservoir Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.3000e-004	1.7000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1642	0.1642	2.0000e-005	0.0000	0.1646
Vendor	2.1000e-004	6.9700e-003	2.4900e-003	2.0000e-005	5.1000e-004	1.0000e-005	5.2000e-004	1.5000e-004	1.0000e-005	1.6000e-004	0.0000	1.9600	1.9600	1.5000e-004	0.0000	1.9637
Worker	3.1500e-003	2.3500e-003	0.0217	6.0000e-005	7.5200e-003	4.0000e-005	7.5700e-003	2.0000e-003	4.0000e-005	2.0400e-003	0.0000	5.5098	5.5098	1.5000e-004	0.0000	5.5135
Total	**3.3700e-003**	**9.7500e-003**	**0.0244**	**8.0000e-005**	**8.1200e-003**	**5.0000e-005**	**8.1800e-003**	**2.1700e-003**	**5.0000e-005**	**2.2200e-003**	**0.0000**	**7.6340**	**7.6340**	**3.2000e-004**	**0.0000**	**7.6418**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0679	0.0000	0.0679	7.3300e-003	0.0000	7.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1126	0.9569	0.9999	1.8900e-003		0.0430	0.0430		0.0411	0.0411	0.0000	160.8852	160.8852	0.0322	0.0000	161.6893
Total	**0.1126**	**0.9569**	**0.9999**	**1.8900e-003**	**0.0679**	**0.0430**	**0.1109**	**7.3300e-003**	**0.0411**	**0.0484**	**0.0000**	**160.8852**	**160.8852**	**0.0322**	**0.0000**	**161.6893**

3.3 Reservoir Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.3000e-004	1.7000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1642	0.1642	2.0000e-005	0.0000	0.1646
Vendor	2.1000e-004	6.9700e-003	2.4900e-003	2.0000e-005	5.1000e-004	1.0000e-005	5.2000e-004	1.5000e-004	1.0000e-005	1.6000e-004	0.0000	1.9600	1.9600	1.5000e-004	0.0000	1.9637
Worker	3.1500e-003	2.3500e-003	0.0217	6.0000e-005	7.5200e-003	4.0000e-005	7.5700e-003	2.0000e-003	4.0000e-005	2.0400e-003	0.0000	5.5098	5.5098	1.5000e-004	0.0000	5.5135
Total	**3.3700e-003**	**9.7500e-003**	**0.0244**	**8.0000e-005**	**8.1200e-003**	**5.0000e-005**	**8.1800e-003**	**2.1700e-003**	**5.0000e-005**	**2.2200e-003**	**0.0000**	**7.6340**	**7.6340**	**3.2000e-004**	**0.0000**	**7.6418**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	2.4700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.4600e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.4600e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO_2	CH_4	N_2O	CO_2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO_2	CH_4	N_2O	CO_2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Doulton

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.16	Acre	0.16	6,969.60	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.9 **Precipitation Freq (Days)** 37

Climate Zone 8 **Operational Year** 2023

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 6 total concrete delivery trips (12 one-way trips).

Demolition - 9.4 CY of concrete demolished = 19.1 tons (1 CY concrete = 2.03 tons) + 6,100 sf of steel tank demolished = 225.9 tons (6,100 sf of 3.7-foot steel = 1 ton)

Grading -

Area Coating -

Off-road Equipment - Provided by Montecito WD

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	120.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblGrading	MaterialExported	0.00	308.00
tblGrading	MaterialImported	0.00	308.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblTripsAndVMT	VendorTripNumber	1.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2675	2.3189	2.3091	4.6300e-003	0.0180	0.1008	0.1189	3.6700e-003	0.0966	0.1002	0.0000	396.6094	396.6094	0.0843	0.0000	398.7157
2023	0.0241	0.2163	0.2489	4.9000e-004	1.5600e-003	9.3400e-003	0.0109	4.1000e-004	8.9000e-003	9.3100e-003	0.0000	42.9092	42.9092	9.3500e-003	0.0000	43.1429
Maximum	**0.2675**	**2.3189**	**2.3091**	**4.6300e-003**	**0.0180**	**0.1008**	**0.1189**	**3.6700e-003**	**0.0966**	**0.1002**	**0.0000**	**396.6094**	**396.6094**	**0.0843**	**0.0000**	**398.7157**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2675	2.3189	2.3091	4.6300e-003	0.0180	0.1008	0.1189	3.6700e-003	0.0966	0.1002	0.0000	396.6090	396.6090	0.0843	0.0000	398.7152
2023	0.0241	0.2163	0.2489	4.9000e-004	1.5600e-003	9.3400e-003	0.0109	4.1000e-004	8.9000e-003	9.3100e-003	0.0000	42.9092	42.9092	9.3500e-003	0.0000	43.1429
Maximum	**0.2675**	**2.3189**	**2.3091**	**4.6300e-003**	**0.0180**	**0.1008**	**0.1189**	**3.6700e-003**	**0.0966**	**0.1002**	**0.0000**	**396.6090**	**396.6090**	**0.0843**	**0.0000**	**398.7152**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.9578	0.9578
2	6-1-2022	8-31-2022	0.7348	0.7348
3	9-1-2022	11-30-2022	0.6629	0.6629
4	12-1-2022	2-28-2023	0.4703	0.4703
		Highest	0.9578	0.9578

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	6/20/2022	5	80	
2	Site Preparation	Site Preparation	6/21/2022	7/4/2022	5	10	
3	Grading	Grading	7/5/2022	7/18/2022	5	10	
4	Reservoir Construction	Building Construction	7/19/2022	1/2/2023	5	120	
5	Site Restoration	Paving	1/3/2023	1/30/2023	5	20	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0.16

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Graders	1	8.00	187	0.41
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Welders	2	8.00	46	0.45
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38

Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	2	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41

Site Restoration	Pavers	1	7.00	130	0.42
Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	25.00	0.00	24.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	77.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	10	3.00	2.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6800e-003	0.0000	2.6800e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1168	1.0414	0.9292	1.9200e-003		0.0452	0.0452		0.0433	0.0433	0.0000	164.6590	164.6590	0.0347	0.0000	165.5252
Total	**0.1168**	**1.0414**	**0.9292**	**1.9200e-003**	**2.6800e-003**	**0.0452**	**0.0479**	**4.1000e-004**	**0.0433**	**0.0437**	**0.0000**	**164.6590**	**164.6590**	**0.0347**	**0.0000**	**165.5252**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0900e-003	9.9000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9156	0.9156	9.0000e-005	0.0000	0.9179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7700e-003	2.1600e-003	0.0195	5.0000e-005	6.1800e-003	4.0000e-005	6.2100e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.6993	4.6993	1.4000e-004	0.0000	4.7027
Total	**2.8600e-003**	**5.2500e-003**	**0.0205**	**6.0000e-005**	**6.3800e-003**	**5.0000e-005**	**6.4300e-003**	**1.7000e-003**	**4.0000e-005**	**1.7500e-003**	**0.0000**	**5.6149**	**5.6149**	**2.3000e-004**	**0.0000**	**5.6206**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6800e-003	0.0000	2.6800e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1168	1.0414	0.9292	1.9200e-003		0.0452	0.0452		0.0433	0.0433	0.0000	164.6588	164.6588	0.0347	0.0000	165.5250
Total	**0.1168**	**1.0414**	**0.9292**	**1.9200e-003**	**2.6800e-003**	**0.0452**	**0.0479**	**4.1000e-004**	**0.0433**	**0.0437**	**0.0000**	**164.6588**	**164.6588**	**0.0347**	**0.0000**	**165.5250**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0900e-003	9.9000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9156	0.9156	9.0000e-005	0.0000	0.9179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7700e-003	2.1600e-003	0.0195	5.0000e-005	6.1800e-003	4.0000e-005	6.2100e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.6993	4.6993	1.4000e-004	0.0000	4.7027
Total	**2.8600e-003**	**5.2500e-003**	**0.0205**	**6.0000e-005**	**6.3800e-003**	**5.0000e-005**	**6.4300e-003**	**1.7000e-003**	**4.0000e-005**	**1.7500e-003**	**0.0000**	**5.6149**	**5.6149**	**2.3000e-004**	**0.0000**	**5.6206**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5800e-003	0.0840	0.0753	1.6000e-004		3.5500e-003	3.5500e-003		3.3700e-003	3.3700e-003	0.0000	13.9751	13.9751	3.2700e-003	0.0000	14.0567
Total	**8.5800e-003**	**0.0840**	**0.0753**	**1.6000e-004**	**2.6500e-003**	**3.5500e-003**	**6.2000e-003**	**2.9000e-004**	**3.3700e-003**	**3.6600e-003**	**0.0000**	**13.9751**	**13.9751**	**3.2700e-003**	**0.0000**	**14.0567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.9000e-004	1.7600e-003	0.0000	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4229	0.4229	1.0000e-005	0.0000	0.4232
Total	**2.5000e-004**	**1.9000e-004**	**1.7600e-003**	**0.0000**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4229**	**0.4229**	**1.0000e-005**	**0.0000**	**0.4232**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5800e-003	0.0840	0.0753	1.6000e-004		3.5500e-003	3.5500e-003		3.3700e-003	3.3700e-003	0.0000	13.9751	13.9751	3.2700e-003	0.0000	14.0567
Total	**8.5800e-003**	**0.0840**	**0.0753**	**1.6000e-004**	**2.6500e-003**	**3.5500e-003**	**6.2000e-003**	**2.9000e-004**	**3.3700e-003**	**3.6600e-003**	**0.0000**	**13.9751**	**13.9751**	**3.2700e-003**	**0.0000**	**14.0567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.9000e-004	1.7600e-003	0.0000	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4229	0.4229	1.0000e-005	0.0000	0.4232
Total	**2.5000e-004**	**1.9000e-004**	**1.7600e-003**	**0.0000**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4229**	**0.4229**	**1.0000e-005**	**0.0000**	**0.4232**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-003	0.0000	2.7000e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-003	0.0932	0.0827	2.0000e-004		3.8000e-003	3.8000e-003		3.6000e-003	3.6000e-003	0.0000	17.7773	17.7773	4.5000e-003	0.0000	17.8897
Total	**9.5000e-003**	**0.0932**	**0.0827**	**2.0000e-004**	**2.7000e-003**	**3.8000e-003**	**6.5000e-003**	**2.9000e-004**	**3.6000e-003**	**3.8900e-003**	**0.0000**	**17.7773**	**17.7773**	**4.5000e-003**	**0.0000**	**17.8897**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	9.9100e-003	3.1800e-003	3.0000e-005	6.6000e-004	4.0000e-005	6.9000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	2.9376	2.9376	2.9000e-004	0.0000	2.9450
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.2000e-004	1.9500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4699	0.4699	1.0000e-005	0.0000	0.4703
Total	**5.6000e-004**	**0.0101**	**5.1300e-003**	**4.0000e-005**	**1.2800e-003**	**4.0000e-005**	**1.3100e-003**	**3.4000e-004**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**3.4075**	**3.4075**	**3.0000e-004**	**0.0000**	**3.4152**

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-003	0.0000	2.7000e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-003	0.0932	0.0827	2.0000e-004		3.8000e-003	3.8000e-003		3.6000e-003	3.6000e-003	0.0000	17.7773	17.7773	4.5000e-003	0.0000	17.8897
Total	**9.5000e-003**	**0.0932**	**0.0827**	**2.0000e-004**	**2.7000e-003**	**3.8000e-003**	**6.5000e-003**	**2.9000e-004**	**3.6000e-003**	**3.8900e-003**	**0.0000**	**17.7773**	**17.7773**	**4.5000e-003**	**0.0000**	**17.8897**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	9.9100e-003	3.1800e-003	3.0000e-005	6.6000e-004	4.0000e-005	6.9000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	2.9376	2.9376	2.9000e-004	0.0000	2.9450
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.2000e-004	1.9500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4699	0.4699	1.0000e-005	0.0000	0.4703
Total	**5.6000e-004**	**0.0101**	**5.1300e-003**	**4.0000e-005**	**1.2800e-003**	**4.0000e-005**	**1.3100e-003**	**3.4000e-004**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**3.4075**	**3.4075**	**3.0000e-004**	**0.0000**	**3.4152**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1281	1.0730	1.1873	2.2000e-003		0.0482	0.0482		0.0462	0.0462	0.0000	187.1843	187.1843	0.0411	0.0000	188.2107
Total	**0.1281**	**1.0730**	**1.1873**	**2.2000e-003**		**0.0482**	**0.0482**		**0.0462**	**0.0462**	**0.0000**	**187.1843**	**187.1843**	**0.0411**	**0.0000**	**188.2107**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	0.0115	3.7900e-003	3.0000e-005	6.9000e-004	3.0000e-005	7.2000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	2.7296	2.7296	2.1000e-004	0.0000	2.7349
Worker	4.9000e-004	3.9000e-004	3.4900e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8388	0.8388	2.0000e-005	0.0000	0.8394
Total	**8.5000e-004**	**0.0119**	**7.2800e-003**	**4.0000e-005**	**1.7900e-003**	**4.0000e-005**	**1.8300e-003**	**4.9000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**3.5684**	**3.5684**	**2.3000e-004**	**0.0000**	**3.5743**

3.5 Reservoir Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1281	1.0730	1.1873	2.2000e-003		0.0482	0.0482		0.0462	0.0462	0.0000	187.1841	187.1841	0.0411	0.0000	188.2105
Total	**0.1281**	**1.0730**	**1.1873**	**2.2000e-003**		**0.0482**	**0.0482**		**0.0462**	**0.0462**	**0.0000**	**187.1841**	**187.1841**	**0.0411**	**0.0000**	**188.2105**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	0.0115	3.7900e-003	3.0000e-005	6.9000e-004	3.0000e-005	7.2000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	2.7296	2.7296	2.1000e-004	0.0000	2.7349
Worker	4.9000e-004	3.9000e-004	3.4900e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8388	0.8388	2.0000e-005	0.0000	0.8394
Total	**8.5000e-004**	**0.0119**	**7.2800e-003**	**4.0000e-005**	**1.7900e-003**	**4.0000e-005**	**1.8300e-003**	**4.9000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**3.5684**	**3.5684**	**2.3000e-004**	**0.0000**	**3.5743**

3.5 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-003	8.3000e-003	9.9300e-003	2.0000e-005		3.5000e-004	3.5000e-004		3.4000e-004	3.4000e-004	0.0000	1.5731	1.5731	3.4000e-004	0.0000	1.5817
Total	**1.0000e-003**	**8.3000e-003**	**9.9300e-003**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**1.5731**	**1.5731**	**3.4000e-004**	**0.0000**	**1.5817**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	8.0000e-005	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0225	0.0225	0.0000	0.0000	0.0226
Worker	0.0000	0.0000	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	6.7900e-003	6.7900e-003	0.0000	0.0000	6.7900e-003
Total	**0.0000**	**8.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0293**	**0.0293**	**0.0000**	**0.0000**	**0.0294**

3.5 Reservoir Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-003	8.3000e-003	9.9300e-003	2.0000e-005		3.5000e-004	3.5000e-004		3.4000e-004	3.4000e-004	0.0000	1.5731	1.5731	3.4000e-004	0.0000	1.5817
Total	**1.0000e-003**	**8.3000e-003**	**9.9300e-003**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**1.5731**	**1.5731**	**3.4000e-004**	**0.0000**	**1.5817**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	8.0000e-005	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0225	0.0225	0.0000	0.0000	0.0226
Worker	0.0000	0.0000	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	6.7900e-003	6.7900e-003	0.0000	0.0000	6.7900e-003
Total	**0.0000**	**8.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0293**	**0.0293**	**0.0000**	**0.0000**	**0.0294**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2074	0.2344	4.6000e-004		8.9800e-003	8.9800e-003		8.5500e-003	8.5500e-003	0.0000	40.1758	40.1758	8.9700e-003	0.0000	40.4002
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0225**	**0.2074**	**0.2344**	**4.6000e-004**		**8.9800e-003**	**8.9800e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**40.1758**	**40.1758**	**8.9700e-003**	**0.0000**	**40.4002**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.4500e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1309	1.1309	3.0000e-005	0.0000	1.1317
Total	**6.5000e-004**	**4.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1309**	**1.1309**	**3.0000e-005**	**0.0000**	**1.1317**

3.6 Site Restoration - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2074	0.2344	4.6000e-004		8.9800e-003	8.9800e-003		8.5500e-003	8.5500e-003	0.0000	40.1758	40.1758	8.9700e-003	0.0000	40.4001
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0225**	**0.2074**	**0.2344**	**4.6000e-004**		**8.9800e-003**	**8.9800e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**40.1758**	**40.1758**	**8.9700e-003**	**0.0000**	**40.4001**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.4500e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1309	1.1309	3.0000e-005	0.0000	1.1317
Total	**6.5000e-004**	**4.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1309**	**1.1309**	**3.0000e-005**	**0.0000**	**1.1317**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	6.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Hot Springs

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.25	Acre	0.25	10,890.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 30 total concrete delivery trips (60 one-way trips).

Demolition - 15 CY of concrete demolished = 14 tons (1 CY concrete = 0.93 ton)

Grading -

Area Coating -

Off-road Equipment - Provided by Montecito WD

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	41.00
tblConstructionPhase	NumDays	1.00	20.00
tblGrading	MaterialExported	0.00	707.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2208	2.0188	2.1109	4.1900e-003	0.0214	0.0890	0.1104	4.0100e-003	0.0850	0.0890	0.0000	363.3972	363.3972	0.0792	0.0000	365.3769
2023	2.3100e-003	0.0208	0.0239	5.0000e-005	1.5000e-004	9.0000e-004	1.0500e-003	4.0000e-005	8.6000e-004	9.0000e-004	0.0000	4.1307	4.1307	9.0000e-004	0.0000	4.1532
Maximum	**0.2208**	**2.0188**	**2.1109**	**4.1900e-003**	**0.0214**	**0.0890**	**0.1104**	**4.0100e-003**	**0.0850**	**0.0890**	**0.0000**	**363.3972**	**363.3972**	**0.0792**	**0.0000**	**365.3769**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2208	2.0188	2.1109	4.1900e-003	0.0214	0.0890	0.1104	4.0100e-003	0.0850	0.0890	0.0000	363.3968	363.3968	0.0792	0.0000	365.3765
2023	2.3100e-003	0.0208	0.0239	5.0000e-005	1.5000e-004	9.0000e-004	1.0500e-003	4.0000e-005	8.6000e-004	9.0000e-004	0.0000	4.1307	4.1307	9.0000e-004	0.0000	4.1532
Maximum	**0.2208**	**2.0188**	**2.1109**	**4.1900e-003**	**0.0214**	**0.0890**	**0.1104**	**4.0100e-003**	**0.0850**	**0.0890**	**0.0000**	**363.3968**	**363.3968**	**0.0792**	**0.0000**	**365.3765**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2022**	**5-31-2022**	0.6710	0.6710
2	**6-1-2022**	**8-31-2022**	0.6177	0.6177
3	**9-1-2022**	**11-30-2022**	0.6629	0.6629
4	**12-1-2022**	**2-28-2023**	0.3071	0.3071
		Highest	0.6710	0.6710

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0800e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0800e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0800e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	4/25/2022	5	40	
2	Site Preparation	Site Preparation	4/26/2022	5/23/2022	5	20	
3	Grading	Grading	5/24/2022	6/20/2022	5	20	
4	Reservoir Construction	Building Construction	6/21/2022	11/7/2022	5	100	
5	Site Restoration	Paving	11/8/2022	1/3/2023	5	41	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74

Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	1	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42
Site Restoration	Paving Equipment	1	8.00	132	0.36

Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	1.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	88.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	9	5.00	2.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0413	0.3866	0.4081	8.0000e-004		0.0177	0.0177		0.0170	0.0170	0.0000	69.2210	69.2210	0.0146	0.0000	69.5865
Total	**0.0413**	**0.3866**	**0.4081**	**8.0000e-004**	**1.5000e-004**	**0.0177**	**0.0179**	**2.0000e-005**	**0.0170**	**0.0170**	**0.0000**	**69.2210**	**69.2210**	**0.0146**	**0.0000**	**69.5865**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0382	0.0382	0.0000	0.0000	0.0383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	8.6000e-004	7.8100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.8797	1.8797	5.0000e-005	0.0000	1.8811
Total	**1.1100e-003**	**9.9000e-004**	**7.8500e-003**	**2.0000e-005**	**2.4800e-003**	**2.0000e-005**	**2.5000e-003**	**6.6000e-004**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**1.9179**	**1.9179**	**5.0000e-005**	**0.0000**	**1.9193**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0413	0.3866	0.4081	8.0000e-004		0.0177	0.0177		0.0170	0.0170	0.0000	69.2210	69.2210	0.0146	0.0000	69.5864
Total	**0.0413**	**0.3866**	**0.4081**	**8.0000e-004**	**1.5000e-004**	**0.0177**	**0.0179**	**2.0000e-005**	**0.0170**	**0.0170**	**0.0000**	**69.2210**	**69.2210**	**0.0146**	**0.0000**	**69.5864**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0382	0.0382	0.0000	0.0000	0.0383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	8.6000e-004	7.8100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.8797	1.8797	5.0000e-005	0.0000	1.8811
Total	**1.1100e-003**	**9.9000e-004**	**7.8500e-003**	**2.0000e-005**	**2.4800e-003**	**2.0000e-005**	**2.5000e-003**	**6.6000e-004**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**1.9179**	**1.9179**	**5.0000e-005**	**0.0000**	**1.9193**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1679	0.1505	3.2000e-004		7.1000e-003	7.1000e-003		6.7500e-003	6.7500e-003	0.0000	27.9501	27.9501	6.5300e-003	0.0000	28.1134
Total	**0.0172**	**0.1679**	**0.1505**	**3.2000e-004**	**5.3000e-003**	**7.1000e-003**	**0.0124**	**5.7000e-004**	**6.7500e-003**	**7.3200e-003**	**0.0000**	**27.9501**	**27.9501**	**6.5300e-003**	**0.0000**	**28.1134**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**5.0000e-004**	**3.9000e-004**	**3.5200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8459**	**0.8459**	**2.0000e-005**	**0.0000**	**0.8465**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1679	0.1505	3.2000e-004		7.1000e-003	7.1000e-003		6.7500e-003	6.7500e-003	0.0000	27.9501	27.9501	6.5300e-003	0.0000	28.1134
Total	**0.0172**	**0.1679**	**0.1505**	**3.2000e-004**	**5.3000e-003**	**7.1000e-003**	**0.0124**	**5.7000e-004**	**6.7500e-003**	**7.3200e-003**	**0.0000**	**27.9501**	**27.9501**	**6.5300e-003**	**0.0000**	**28.1134**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**5.0000e-004**	**3.9000e-004**	**3.5200e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8459**	**0.8459**	**2.0000e-005**	**0.0000**	**0.8465**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.3600e-003**	**6.8800e-003**	**0.0122**	**5.8000e-004**	**6.5400e-003**	**7.1200e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0113	3.6300e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.3573	3.3573	3.4000e-004	0.0000	3.3657
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**8.2000e-004**	**0.0117**	**7.1500e-003**	**4.0000e-005**	**1.8600e-003**	**5.0000e-005**	**1.9100e-003**	**5.1000e-004**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**4.2031**	**4.2031**	**3.6000e-004**	**0.0000**	**4.2121**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3600e-003	0.0000	5.3600e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.3600e-003**	**6.8800e-003**	**0.0122**	**5.8000e-004**	**6.5400e-003**	**7.1200e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0113	3.6300e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.3573	3.3573	3.4000e-004	0.0000	3.3657
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**8.2000e-004**	**0.0117**	**7.1500e-003**	**4.0000e-005**	**1.8600e-003**	**5.0000e-005**	**1.9100e-003**	**5.1000e-004**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**4.2031**	**4.2031**	**3.6000e-004**	**0.0000**	**4.2121**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0938	0.8285	0.9130	1.7200e-003		0.0373	0.0373		0.0356	0.0356	0.0000	147.8867	147.8867	0.0334	0.0000	148.7211
Total	**0.0938**	**0.8285**	**0.9130**	**1.7200e-003**		**0.0373**	**0.0373**		**0.0356**	**0.0356**	**0.0000**	**147.8867**	**147.8867**	**0.0334**	**0.0000**	**148.7211**

3.5 Reservoir Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	9.6500e-003	3.1800e-003	2.0000e-005	5.8000e-004	3.0000e-005	6.1000e-004	1.7000e-004	3.0000e-005	1.9000e-004	0.0000	2.2938	2.2938	1.8000e-004	0.0000	2.2982
Worker	6.9000e-004	5.4000e-004	4.8800e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1748	1.1748	3.0000e-005	0.0000	1.1757
Total	**1.0000e-003**	**0.0102**	**8.0600e-003**	**3.0000e-005**	**2.1200e-003**	**4.0000e-005**	**2.1600e-003**	**5.8000e-004**	**4.0000e-005**	**6.1000e-004**	**0.0000**	**3.4686**	**3.4686**	**2.1000e-004**	**0.0000**	**3.4739**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0938	0.8285	0.9130	1.7200e-003		0.0373	0.0373		0.0356	0.0356	0.0000	147.8865	147.8865	0.0334	0.0000	148.7209
Total	**0.0938**	**0.8285**	**0.9130**	**1.7200e-003**		**0.0373**	**0.0373**		**0.0356**	**0.0356**	**0.0000**	**147.8865**	**147.8865**	**0.0334**	**0.0000**	**148.7209**

3.5 Reservoir Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	9.6500e-003	3.1800e-003	2.0000e-005	5.8000e-004	3.0000e-005	6.1000e-004	1.7000e-004	3.0000e-005	1.9000e-004	0.0000	2.2938	2.2938	1.8000e-004	0.0000	2.2982
Worker	6.9000e-004	5.4000e-004	4.8800e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1748	1.1748	3.0000e-005	0.0000	1.1757
Total	**1.0000e-003**	**0.0102**	**8.0600e-003**	**3.0000e-005**	**2.1200e-003**	**4.0000e-005**	**2.1600e-003**	**5.8000e-004**	**4.0000e-005**	**6.1000e-004**	**0.0000**	**3.4686**	**3.4686**	**2.1000e-004**	**0.0000**	**3.4739**

3.6 Site Restoration - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0471	0.4477	0.4584	9.0000e-004		0.0199	0.0199		0.0190	0.0190	0.0000	78.3460	78.3460	0.0176	0.0000	78.7868
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0471**	**0.4477**	**0.4584**	**9.0000e-004**		**0.0199**	**0.0199**		**0.0190**	**0.0190**	**0.0000**	**78.3460**	**78.3460**	**0.0176**	**0.0000**	**78.7868**

3.6 Site Restoration - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3500e-003	1.0500e-003	9.5200e-003	3.0000e-005	3.0100e-003	2.0000e-005	3.0300e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.2909	2.2909	7.0000e-005	0.0000	2.2926
Total	**1.3500e-003**	**1.0500e-003**	**9.5200e-003**	**3.0000e-005**	**3.0100e-003**	**2.0000e-005**	**3.0300e-003**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.2909**	**2.2909**	**7.0000e-005**	**0.0000**	**2.2926**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0471	0.4477	0.4584	9.0000e-004		0.0199	0.0199		0.0190	0.0190	0.0000	78.3459	78.3459	0.0176	0.0000	78.7867
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0471**	**0.4477**	**0.4584**	**9.0000e-004**		**0.0199**	**0.0199**		**0.0190**	**0.0190**	**0.0000**	**78.3459**	**78.3459**	**0.0176**	**0.0000**	**78.7867**

3.6 Site Restoration - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3500e-003	1.0500e-003	9.5200e-003	3.0000e-005	3.0100e-003	2.0000e-005	3.0300e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.2909	2.2909	7.0000e-005	0.0000	2.2926
Total	**1.3500e-003**	**1.0500e-003**	**9.5200e-003**	**3.0000e-005**	**3.0100e-003**	**2.0000e-005**	**3.0300e-003**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.2909**	**2.2909**	**7.0000e-005**	**0.0000**	**2.2926**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2500e-003	0.0207	0.0234	5.0000e-005		9.0000e-004	9.0000e-004		8.5000e-004	8.5000e-004	0.0000	4.0176	4.0176	9.0000e-004	0.0000	4.0400
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2500e-003**	**0.0207**	**0.0234**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**4.0176**	**4.0176**	**9.0000e-004**	**0.0000**	**4.0400**

3.6 Site Restoration - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.5000e-004	0.0000	1.5000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1131	0.1131	0.0000	0.0000	0.1132
Total	**6.0000e-005**	**5.0000e-005**	**4.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1131**	**0.1131**	**0.0000**	**0.0000**	**0.1132**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2500e-003	0.0207	0.0234	5.0000e-005		9.0000e-004	9.0000e-004		8.5000e-004	8.5000e-004	0.0000	4.0176	4.0176	9.0000e-004	0.0000	4.0400
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2500e-003**	**0.0207**	**0.0234**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**4.0176**	**4.0176**	**9.0000e-004**	**0.0000**	**4.0400**

3.6 Site Restoration - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.5000e-004	0.0000	1.5000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1131	0.1131	0.0000	0.0000	0.1132
Total	**6.0000e-005**	**5.0000e-005**	**4.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1131**	**0.1131**	**0.0000**	**0.0000**	**0.1132**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0800e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	1.0800e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0800e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0800e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Park Lane

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.61	Acre	0.61	26,571.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 190 total concrete delivery trips (380 one-way trips).

Demolition - 520 CY of concrete demolished = 583.6 tons (1 CY concrete = 0.93 ton)

Grading -

Area Coating -

Off-road Equipment - Provided by Montecito WD

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	140.00
tblConstructionPhase	NumDays	10.00	90.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	1.00	40.00
tblGrading	MaterialExported	0.00	720.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblOffRoadEquipment	PhaseName		Site Restoration
tblTripsAndVMT	VendorTripNumber	4.00	3.00
tblTripsAndVMT	WorkerTripNumber	11.00	9.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2458	2.1636	2.2418	4.4500e-003	0.0406	0.0955	0.1361	6.8400e-003	0.0916	0.0984	0.0000	384.5079	384.5079	0.0785	0.0000	386.4715
2023	0.1308	1.1314	1.3630	2.6200e-003	5.6400e-003	0.0491	0.0547	1.5200e-003	0.0471	0.0486	0.0000	225.9432	225.9432	0.0451	0.0000	227.0709
Maximum	**0.2458**	**2.1636**	**2.2418**	**4.4500e-003**	**0.0406**	**0.0955**	**0.1361**	**6.8400e-003**	**0.0916**	**0.0984**	**0.0000**	**384.5079**	**384.5079**	**0.0785**	**0.0000**	**386.4715**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2458	2.1636	2.2418	4.4500e-003	0.0406	0.0955	0.1361	6.8400e-003	0.0916	0.0984	0.0000	384.5075	384.5075	0.0785	0.0000	386.4711
2023	0.1308	1.1314	1.3630	2.6200e-003	5.6400e-003	0.0491	0.0547	1.5200e-003	0.0471	0.0486	0.0000	225.9429	225.9429	0.0451	0.0000	227.0706
Maximum	**0.2458**	**2.1636**	**2.2418**	**4.4500e-003**	**0.0406**	**0.0955**	**0.1361**	**6.8400e-003**	**0.0916**	**0.0984**	**0.0000**	**384.5075**	**384.5075**	**0.0785**	**0.0000**	**386.4711**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2022**	**5-31-2022**	0.8258	0.8258
2	**6-1-2022**	**8-31-2022**	0.6842	0.6842
3	**9-1-2022**	**11-30-2022**	0.6511	0.6511
4	**12-1-2022**	**2-28-2023**	0.6670	0.6670
5	**3-1-2023**	**5-31-2023**	0.6856	0.6856
6	**6-1-2023**	**8-31-2023**	0.1567	0.1567
		Highest	0.8258	0.8258

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.6400e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6400e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.6400e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6400e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	7/4/2022	5	90	
2	Site Preparation	Site Preparation	7/5/2022	8/29/2022	5	40	
3	Grading	Grading	8/30/2022	10/24/2022	5	40	
4	Reservoir Construction	Building Construction	10/25/2022	5/8/2023	5	140	
5	Site Restoration	Paving	5/9/2023	6/19/2023	5	30	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Welders	2	8.00	46	0.45
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38

Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	1	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42

Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	25.00	0.00	48.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	90.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	10	9.00	3.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.2900e-003	0.0000	5.2900e-003	8.0000e-004	0.0000	8.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1177	1.0015	1.0708	2.0200e-003		0.0456	0.0456		0.0439	0.0439	0.0000	172.6872	172.6872	0.0349	0.0000	173.5602
Total	**0.1177**	**1.0015**	**1.0708**	**2.0200e-003**	**5.2900e-003**	**0.0456**	**0.0509**	**8.0000e-004**	**0.0439**	**0.0447**	**0.0000**	**172.6872**	**172.6872**	**0.0349**	**0.0000**	**173.5602**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	6.1800e-003	1.9800e-003	2.0000e-005	4.1000e-004	2.0000e-005	4.3000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	1.8312	1.8312	1.8000e-004	0.0000	1.8358
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-003	2.4300e-003	0.0220	6.0000e-005	6.9500e-003	4.0000e-005	6.9900e-003	1.8500e-003	4.0000e-005	1.8900e-003	0.0000	5.2867	5.2867	1.5000e-004	0.0000	5.2905
Total	**3.2900e-003**	**8.6100e-003**	**0.0240**	**8.0000e-005**	**7.3600e-003**	**6.0000e-005**	**7.4200e-003**	**1.9600e-003**	**6.0000e-005**	**2.0200e-003**	**0.0000**	**7.1179**	**7.1179**	**3.3000e-004**	**0.0000**	**7.1263**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.2900e-003	0.0000	5.2900e-003	8.0000e-004	0.0000	8.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1177	1.0015	1.0708	2.0200e-003		0.0456	0.0456		0.0439	0.0439	0.0000	172.6870	172.6870	0.0349	0.0000	173.5600
Total	**0.1177**	**1.0015**	**1.0708**	**2.0200e-003**	**5.2900e-003**	**0.0456**	**0.0509**	**8.0000e-004**	**0.0439**	**0.0447**	**0.0000**	**172.6870**	**172.6870**	**0.0349**	**0.0000**	**173.5600**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	6.1800e-003	1.9800e-003	2.0000e-005	4.1000e-004	2.0000e-005	4.3000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	1.8312	1.8312	1.8000e-004	0.0000	1.8358
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-003	2.4300e-003	0.0220	6.0000e-005	6.9500e-003	4.0000e-005	6.9900e-003	1.8500e-003	4.0000e-005	1.8900e-003	0.0000	5.2867	5.2867	1.5000e-004	0.0000	5.2905
Total	**3.2900e-003**	**8.6100e-003**	**0.0240**	**8.0000e-005**	**7.3600e-003**	**6.0000e-005**	**7.4200e-003**	**1.9600e-003**	**6.0000e-005**	**2.0200e-003**	**0.0000**	**7.1179**	**7.1179**	**3.3000e-004**	**0.0000**	**7.1263**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.3308	0.2968	6.3000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	55.2747	55.2747	0.0130	0.0000	55.5997
Total	**0.0335**	**0.3308**	**0.2968**	**6.3000e-004**	**0.0106**	**0.0140**	**0.0246**	**1.1500e-003**	**0.0133**	**0.0145**	**0.0000**	**55.2747**	**55.2747**	**0.0130**	**0.0000**	**55.5997**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	6.5000e-004	5.8600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4098	1.4098	4.0000e-005	0.0000	1.4108
Total	**8.3000e-004**	**6.5000e-004**	**5.8600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4098**	**1.4098**	**4.0000e-005**	**0.0000**	**1.4108**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.3308	0.2968	6.3000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	55.2746	55.2746	0.0130	0.0000	55.5996
Total	**0.0335**	**0.3308**	**0.2968**	**6.3000e-004**	**0.0106**	**0.0140**	**0.0246**	**1.1500e-003**	**0.0133**	**0.0145**	**0.0000**	**55.2746**	**55.2746**	**0.0130**	**0.0000**	**55.5996**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	6.5000e-004	5.8600e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4098	1.4098	4.0000e-005	0.0000	1.4108
Total	**8.3000e-004**	**6.5000e-004**	**5.8600e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4098**	**1.4098**	**4.0000e-005**	**0.0000**	**1.4108**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0107	0.0000	0.0107	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.3275	0.2898	6.3000e-004		0.0138	0.0138		0.0131	0.0131	0.0000	54.5339	54.5339	0.0126	0.0000	54.8494
Total	**0.0335**	**0.3275**	**0.2898**	**6.3000e-004**	**0.0107**	**0.0138**	**0.0244**	**1.1500e-003**	**0.0131**	**0.0142**	**0.0000**	**54.5339**	**54.5339**	**0.0126**	**0.0000**	**54.8494**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0116	3.7100e-003	3.0000e-005	7.7000e-004	4.0000e-005	8.1000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.4336	3.4336	3.4000e-004	0.0000	3.4422
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.8000e-004	7.0300e-003	2.0000e-005	2.2200e-003	1.0000e-005	2.2400e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.6917	1.6917	5.0000e-005	0.0000	1.6930
Total	**1.3200e-003**	**0.0124**	**0.0107**	**5.0000e-005**	**2.9900e-003**	**5.0000e-005**	**3.0500e-003**	**8.0000e-004**	**5.0000e-005**	**8.5000e-004**	**0.0000**	**5.1253**	**5.1253**	**3.9000e-004**	**0.0000**	**5.1351**

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0107	0.0000	0.0107	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.3275	0.2898	6.3000e-004		0.0138	0.0138		0.0131	0.0131	0.0000	54.5338	54.5338	0.0126	0.0000	54.8494
Total	**0.0335**	**0.3275**	**0.2898**	**6.3000e-004**	**0.0107**	**0.0138**	**0.0244**	**1.1500e-003**	**0.0131**	**0.0142**	**0.0000**	**54.5338**	**54.5338**	**0.0126**	**0.0000**	**54.8494**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0116	3.7100e-003	3.0000e-005	7.7000e-004	4.0000e-005	8.1000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.4336	3.4336	3.4000e-004	0.0000	3.4422
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.8000e-004	7.0300e-003	2.0000e-005	2.2200e-003	1.0000e-005	2.2400e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.6917	1.6917	5.0000e-005	0.0000	1.6930
Total	**1.3200e-003**	**0.0124**	**0.0107**	**5.0000e-005**	**2.9900e-003**	**5.0000e-005**	**3.0500e-003**	**8.0000e-004**	**5.0000e-005**	**8.5000e-004**	**0.0000**	**5.1253**	**5.1253**	**3.9000e-004**	**0.0000**	**5.1351**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0547	0.4746	0.5371	1.0000e-003		0.0219	0.0219		0.0211	0.0211	0.0000	85.6371	85.6371	0.0171	0.0000	86.0639
Total	**0.0547**	**0.4746**	**0.5371**	**1.0000e-003**		**0.0219**	**0.0219**		**0.0211**	**0.0211**	**0.0000**	**85.6371**	**85.6371**	**0.0171**	**0.0000**	**86.0639**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	7.0900e-003	2.3400e-003	2.0000e-005	4.3000e-004	2.0000e-005	4.5000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.6859	1.6859	1.3000e-004	0.0000	1.6892
Worker	6.1000e-004	4.8000e-004	4.3100e-003	1.0000e-005	1.3600e-003	1.0000e-005	1.3700e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.0362	1.0362	3.0000e-005	0.0000	1.0369
Total	**8.3000e-004**	**7.5700e-003**	**6.6500e-003**	**3.0000e-005**	**1.7900e-003**	**3.0000e-005**	**1.8200e-003**	**4.8000e-004**	**3.0000e-005**	**5.1000e-004**	**0.0000**	**2.7221**	**2.7221**	**1.6000e-004**	**0.0000**	**2.7261**

3.5 Reservoir Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0547	0.4746	0.5371	1.0000e-003		0.0219	0.0219		0.0211	0.0211	0.0000	85.6370	85.6370	0.0171	0.0000	86.0638
Total	**0.0547**	**0.4746**	**0.5371**	**1.0000e-003**		**0.0219**	**0.0219**		**0.0211**	**0.0211**	**0.0000**	**85.6370**	**85.6370**	**0.0171**	**0.0000**	**86.0638**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	7.0900e-003	2.3400e-003	2.0000e-005	4.3000e-004	2.0000e-005	4.5000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.6859	1.6859	1.3000e-004	0.0000	1.6892
Worker	6.1000e-004	4.8000e-004	4.3100e-003	1.0000e-005	1.3600e-003	1.0000e-005	1.3700e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.0362	1.0362	3.0000e-005	0.0000	1.0369
Total	**8.3000e-004**	**7.5700e-003**	**6.6500e-003**	**3.0000e-005**	**1.7900e-003**	**3.0000e-005**	**1.8200e-003**	**4.8000e-004**	**3.0000e-005**	**5.1000e-004**	**0.0000**	**2.7221**	**2.7221**	**1.6000e-004**	**0.0000**	**2.7261**

3.5 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0947	0.8079	0.9934	1.8500e-003		0.0355	0.0355		0.0342	0.0342	0.0000	159.0555	159.0555	0.0313	0.0000	159.8385
Total	**0.0947**	**0.8079**	**0.9934**	**1.8500e-003**		**0.0355**	**0.0355**		**0.0342**	**0.0342**	**0.0000**	**159.0555**	**159.0555**	**0.0313**	**0.0000**	**159.8385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0109	3.9100e-003	3.0000e-005	7.9000e-004	2.0000e-005	8.1000e-004	2.3000e-004	2.0000e-005	2.5000e-004	0.0000	3.0751	3.0751	2.3000e-004	0.0000	3.0810
Worker	1.0600e-003	7.9000e-004	7.3000e-003	2.0000e-005	2.5300e-003	2.0000e-005	2.5400e-003	6.7000e-004	1.0000e-005	6.9000e-004	0.0000	1.8525	1.8525	5.0000e-005	0.0000	1.8537
Total	**1.3800e-003**	**0.0117**	**0.0112**	**5.0000e-005**	**3.3200e-003**	**4.0000e-005**	**3.3500e-003**	**9.0000e-004**	**3.0000e-005**	**9.4000e-004**	**0.0000**	**4.9276**	**4.9276**	**2.8000e-004**	**0.0000**	**4.9346**

3.5 Reservoir Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0947	0.8079	0.9934	1.8500e-003		0.0355	0.0355		0.0342	0.0342	0.0000	159.0553	159.0553	0.0313	0.0000	159.8383
Total	**0.0947**	**0.8079**	**0.9934**	**1.8500e-003**		**0.0355**	**0.0355**		**0.0342**	**0.0342**	**0.0000**	**159.0553**	**159.0553**	**0.0313**	**0.0000**	**159.8383**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0109	3.9100e-003	3.0000e-005	7.9000e-004	2.0000e-005	8.1000e-004	2.3000e-004	2.0000e-005	2.5000e-004	0.0000	3.0751	3.0751	2.3000e-004	0.0000	3.0810
Worker	1.0600e-003	7.9000e-004	7.3000e-003	2.0000e-005	2.5300e-003	2.0000e-005	2.5400e-003	6.7000e-004	1.0000e-005	6.9000e-004	0.0000	1.8525	1.8525	5.0000e-005	0.0000	1.8537
Total	**1.3800e-003**	**0.0117**	**0.0112**	**5.0000e-005**	**3.3200e-003**	**4.0000e-005**	**3.3500e-003**	**9.0000e-004**	**3.0000e-005**	**9.4000e-004**	**0.0000**	**4.9276**	**4.9276**	**2.8000e-004**	**0.0000**	**4.9346**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0337	0.3111	0.3517	6.9000e-004		0.0135	0.0135		0.0128	0.0128	0.0000	60.2638	60.2638	0.0135	0.0000	60.6003
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0337**	**0.3111**	**0.3517**	**6.9000e-004**		**0.0135**	**0.0135**		**0.0128**	**0.0128**	**0.0000**	**60.2638**	**60.2638**	**0.0135**	**0.0000**	**60.6003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.3000e-004	6.6800e-003	2.0000e-005	2.3200e-003	1.0000e-005	2.3300e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.6964	1.6964	5.0000e-005	0.0000	1.6975
Total	**9.7000e-004**	**7.3000e-004**	**6.6800e-003**	**2.0000e-005**	**2.3200e-003**	**1.0000e-005**	**2.3300e-003**	**6.2000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.6964**	**1.6964**	**5.0000e-005**	**0.0000**	**1.6975**

3.6 Site Restoration - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0337	0.3111	0.3517	6.9000e-004		0.0135	0.0135		0.0128	0.0128	0.0000	60.2637	60.2637	0.0135	0.0000	60.6002
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0337**	**0.3111**	**0.3517**	**6.9000e-004**		**0.0135**	**0.0135**		**0.0128**	**0.0128**	**0.0000**	**60.2637**	**60.2637**	**0.0135**	**0.0000**	**60.6002**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.3000e-004	6.6800e-003	2.0000e-005	2.3200e-003	1.0000e-005	2.3300e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.6964	1.6964	5.0000e-005	0.0000	1.6975
Total	**9.7000e-004**	**7.3000e-004**	**6.6800e-003**	**2.0000e-005**	**2.3200e-003**	**1.0000e-005**	**2.3300e-003**	**6.2000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.6964**	**1.6964**	**5.0000e-005**	**0.0000**	**1.6975**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.6400e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	2.6400e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.6400e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.6400e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Romero

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.69	Acre	0.69	30,056.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 11 total concrete delivery trips (22 one-way trips).

Demolition - 47 CY of concrete demolished = 43.7 tons (1 CY concrete = 0.93 ton)

Grading -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	160.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	1,163.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2107	1.7818	2.0133	3.8700e-003	0.0229	0.0780	0.1009	4.6100e-003	0.0750	0.0797	0.0000	332.4767	332.4767	0.0665	0.0000	334.1399
2023	0.0288	0.2532	0.2968	5.8000e-004	1.8700e-003	0.0109	0.0128	5.0000e-004	0.0104	0.0109	0.0000	50.4995	50.4995	0.0108	0.0000	50.7704
Maximum	**0.2107**	**1.7818**	**2.0133**	**3.8700e-003**	**0.0229**	**0.0780**	**0.1009**	**4.6100e-003**	**0.0750**	**0.0797**	**0.0000**	**332.4767**	**332.4767**	**0.0665**	**0.0000**	**334.1399**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2107	1.7818	2.0133	3.8700e-003	0.0229	0.0780	0.1009	4.6100e-003	0.0750	0.0797	0.0000	332.4763	332.4763	0.0665	0.0000	334.1396
2023	0.0288	0.2532	0.2968	5.8000e-004	1.8700e-003	0.0109	0.0128	5.0000e-004	0.0104	0.0109	0.0000	50.4995	50.4995	0.0108	0.0000	50.7704
Maximum	**0.2107**	**1.7818**	**2.0133**	**3.8700e-003**	**0.0229**	**0.0780**	**0.1009**	**4.6100e-003**	**0.0750**	**0.0797**	**0.0000**	**332.4763**	**332.4763**	**0.0665**	**0.0000**	**334.1396**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.5765	0.5765
2	6-1-2022	8-31-2022	0.6066	0.6066
3	9-1-2022	11-30-2022	0.6001	0.6001
4	12-1-2022	2-28-2023	0.4901	0.4901
		Highest	0.6066	0.6066

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9900e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9900e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	4/11/2022	5	30	
2	Site Preparation	Site Preparation	4/12/2022	5/2/2022	5	15	
3	Grading	Grading	5/3/2022	5/30/2022	5	20	
4	Reservoir Construction	Building Construction	5/31/2022	1/9/2023	5	160	
5	Site Restoration	Paving	1/10/2023	2/6/2023	5	20	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.69

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43

Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	2	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42
Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	4.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	145.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	9	13.00	5.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8000e-004	0.0000	4.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2050	0.2434	4.6000e-004		9.9200e-003	9.9200e-003		9.6100e-003	9.6100e-003	0.0000	39.7697	39.7697	7.0400e-003	0.0000	39.9456
Total	**0.0237**	**0.2050**	**0.2434**	**4.6000e-004**	**4.8000e-004**	**9.9200e-003**	**0.0104**	**7.0000e-005**	**9.6100e-003**	**9.6800e-003**	**0.0000**	**39.7697**	**39.7697**	**7.0400e-003**	**0.0000**	**39.9456**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.1000e-004	1.7000e-004	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1526	0.1526	2.0000e-005	0.0000	0.1530
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.9000e-004	4.3900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.0573	1.0573	3.0000e-005	0.0000	1.0581
Total	**6.3000e-004**	**1.0000e-003**	**4.5600e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2099**	**1.2099**	**5.0000e-005**	**0.0000**	**1.2111**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8000e-004	0.0000	4.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2050	0.2434	4.6000e-004		9.9200e-003	9.9200e-003		9.6100e-003	9.6100e-003	0.0000	39.7696	39.7696	7.0400e-003	0.0000	39.9455
Total	**0.0237**	**0.2050**	**0.2434**	**4.6000e-004**	**4.8000e-004**	**9.9200e-003**	**0.0104**	**7.0000e-005**	**9.6100e-003**	**9.6800e-003**	**0.0000**	**39.7696**	**39.7696**	**7.0400e-003**	**0.0000**	**39.9455**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.1000e-004	1.7000e-004	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1526	0.1526	2.0000e-005	0.0000	0.1530
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.9000e-004	4.3900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.0573	1.0573	3.0000e-005	0.0000	1.0581
Total	**6.3000e-004**	**1.0000e-003**	**4.5600e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2099**	**1.2099**	**5.0000e-005**	**0.0000**	**1.2111**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1260	0.1129	2.4000e-004		5.3300e-003	5.3300e-003		5.0600e-003	5.0600e-003	0.0000	20.9626	20.9626	4.9000e-003	0.0000	21.0851
Total	**0.0129**	**0.1260**	**0.1129**	**2.4000e-004**	**3.9800e-003**	**5.3300e-003**	**9.3100e-003**	**4.3000e-004**	**5.0600e-003**	**5.4900e-003**	**0.0000**	**20.9626**	**20.9626**	**4.9000e-003**	**0.0000**	**21.0851**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.7000e-004**	**2.9000e-004**	**2.6400e-003**	**1.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6344**	**0.6344**	**2.0000e-005**	**0.0000**	**0.6349**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1260	0.1129	2.4000e-004		5.3300e-003	5.3300e-003		5.0600e-003	5.0600e-003	0.0000	20.9626	20.9626	4.9000e-003	0.0000	21.0851
Total	**0.0129**	**0.1260**	**0.1129**	**2.4000e-004**	**3.9800e-003**	**5.3300e-003**	**9.3100e-003**	**4.3000e-004**	**5.0600e-003**	**5.4900e-003**	**0.0000**	**20.9626**	**20.9626**	**4.9000e-003**	**0.0000**	**21.0851**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.7000e-004**	**2.9000e-004**	**2.6400e-003**	**1.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6344**	**0.6344**	**2.0000e-005**	**0.0000**	**0.6349**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.4000e-003	0.0000	5.4000e-003	5.9000e-004	0.0000	5.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.4000e-003**	**6.8800e-003**	**0.0123**	**5.9000e-004**	**6.5400e-003**	**7.1300e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.2000e-004	0.0187	5.9800e-003	5.0000e-005	1.2400e-003	7.0000e-005	1.3000e-003	3.4000e-004	7.0000e-005	4.0000e-004	0.0000	5.5318	5.5318	5.5000e-004	0.0000	5.5457
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**1.0200e-003**	**0.0191**	**9.5000e-003**	**6.0000e-005**	**2.3500e-003**	**8.0000e-005**	**2.4200e-003**	**6.4000e-004**	**8.0000e-005**	**7.0000e-004**	**0.0000**	**6.3777**	**6.3777**	**5.7000e-004**	**0.0000**	**6.3922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.4000e-003	0.0000	5.4000e-003	5.9000e-004	0.0000	5.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1637	0.1449	3.1000e-004		6.8800e-003	6.8800e-003		6.5400e-003	6.5400e-003	0.0000	27.2669	27.2669	6.3100e-003	0.0000	27.4247
Total	**0.0168**	**0.1637**	**0.1449**	**3.1000e-004**	**5.4000e-003**	**6.8800e-003**	**0.0123**	**5.9000e-004**	**6.5400e-003**	**7.1300e-003**	**0.0000**	**27.2669**	**27.2669**	**6.3100e-003**	**0.0000**	**27.4247**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.2000e-004	0.0187	5.9800e-003	5.0000e-005	1.2400e-003	7.0000e-005	1.3000e-003	3.4000e-004	7.0000e-005	4.0000e-004	0.0000	5.5318	5.5318	5.5000e-004	0.0000	5.5457
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.9000e-004	3.5200e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.8459	0.8459	2.0000e-005	0.0000	0.8465
Total	**1.0200e-003**	**0.0191**	**9.5000e-003**	**6.0000e-005**	**2.3500e-003**	**8.0000e-005**	**2.4200e-003**	**6.4000e-004**	**8.0000e-005**	**7.0000e-004**	**0.0000**	**6.3777**	**6.3777**	**5.7000e-004**	**0.0000**	**6.3922**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1514	1.2275	1.4637	2.6300e-003		0.0556	0.0556		0.0536	0.0536	0.0000	222.7205	222.7205	0.0468	0.0000	223.8909
Total	**0.1514**	**1.2275**	**1.4637**	**2.6300e-003**		**0.0556**	**0.0556**		**0.0536**	**0.0536**	**0.0000**	**222.7205**	**222.7205**	**0.0468**	**0.0000**	**223.8909**

3.5 Reservoir Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1800e-003	0.0372	0.0123	9.0000e-005	2.2400e-003	1.0000e-004	2.3400e-003	6.5000e-004	1.0000e-004	7.4000e-004	0.0000	8.8310	8.8310	6.9000e-004	0.0000	8.8481
Worker	2.7800e-003	2.1600e-003	0.0196	5.0000e-005	6.1800e-003	4.0000e-005	6.2200e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.7040	4.7040	1.4000e-004	0.0000	4.7074
Total	**3.9600e-003**	**0.0393**	**0.0318**	**1.4000e-004**	**8.4200e-003**	**1.4000e-004**	**8.5600e-003**	**2.2900e-003**	**1.3000e-004**	**2.4200e-003**	**0.0000**	**13.5350**	**13.5350**	**8.3000e-004**	**0.0000**	**13.5555**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1514	1.2275	1.4637	2.6300e-003		0.0556	0.0556		0.0536	0.0536	0.0000	222.7202	222.7202	0.0468	0.0000	223.8907
Total	**0.1514**	**1.2275**	**1.4637**	**2.6300e-003**		**0.0556**	**0.0556**		**0.0536**	**0.0536**	**0.0000**	**222.7202**	**222.7202**	**0.0468**	**0.0000**	**223.8907**

3.5 Reservoir Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1800e-003	0.0372	0.0123	9.0000e-005	2.2400e-003	1.0000e-004	2.3400e-003	6.5000e-004	1.0000e-004	7.4000e-004	0.0000	8.8310	8.8310	6.9000e-004	0.0000	8.8481
Worker	2.7800e-003	2.1600e-003	0.0196	5.0000e-005	6.1800e-003	4.0000e-005	6.2200e-003	1.6400e-003	3.0000e-005	1.6800e-003	0.0000	4.7040	4.7040	1.4000e-004	0.0000	4.7074
Total	**3.9600e-003**	**0.0393**	**0.0318**	**1.4000e-004**	**8.4200e-003**	**1.4000e-004**	**8.5600e-003**	**2.2900e-003**	**1.3000e-004**	**2.4200e-003**	**0.0000**	**13.5350**	**13.5350**	**8.3000e-004**	**0.0000**	**13.5555**

3.5 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4800e-003	0.0441	0.0568	1.0000e-004		1.8800e-003	1.8800e-003		1.8200e-003	1.8200e-003	0.0000	8.6784	8.6784	1.8000e-003	0.0000	8.7235
Total	**5.4800e-003**	**0.0441**	**0.0568**	**1.0000e-004**		**1.8800e-003**	**1.8800e-003**		**1.8200e-003**	**1.8200e-003**	**0.0000**	**8.6784**	**8.6784**	**1.8000e-003**	**0.0000**	**8.7235**

3.5 Reservoir Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.2000e-003	4.3000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3379	0.3379	3.0000e-005	0.0000	0.3386
Worker	1.0000e-004	8.0000e-005	6.9000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1764	0.1764	0.0000	0.0000	0.1765
Total	**1.4000e-004**	**1.2800e-003**	**1.1200e-003**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.5143**	**0.5143**	**3.0000e-005**	**0.0000**	**0.5151**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4800e-003	0.0441	0.0568	1.0000e-004		1.8800e-003	1.8800e-003		1.8200e-003	1.8200e-003	0.0000	8.6784	8.6784	1.8000e-003	0.0000	8.7235
Total	**5.4800e-003**	**0.0441**	**0.0568**	**1.0000e-004**		**1.8800e-003**	**1.8800e-003**		**1.8200e-003**	**1.8200e-003**	**0.0000**	**8.6784**	**8.6784**	**1.8000e-003**	**0.0000**	**8.7235**

3.5 Reservoir Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.2000e-003	4.3000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3379	0.3379	3.0000e-005	0.0000	0.3386
Worker	1.0000e-004	8.0000e-005	6.9000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1764	0.1764	0.0000	0.0000	0.1765
Total	**1.4000e-004**	**1.2800e-003**	**1.1200e-003**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.5143**	**0.5143**	**3.0000e-005**	**0.0000**	**0.5151**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2074	0.2344	4.6000e-004		8.9800e-003	8.9800e-003		8.5500e-003	8.5500e-003	0.0000	40.1758	40.1758	8.9700e-003	0.0000	40.4002
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0225**	**0.2074**	**0.2344**	**4.6000e-004**		**8.9800e-003**	**8.9800e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**40.1758**	**40.1758**	**8.9700e-003**	**0.0000**	**40.4002**

3.6 Site Restoration - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.4500e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1309	1.1309	3.0000e-005	0.0000	1.1317
Total	**6.5000e-004**	**4.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1309**	**1.1309**	**3.0000e-005**	**0.0000**	**1.1317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2074	0.2344	4.6000e-004		8.9800e-003	8.9800e-003		8.5500e-003	8.5500e-003	0.0000	40.1758	40.1758	8.9700e-003	0.0000	40.4001
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0225**	**0.2074**	**0.2344**	**4.6000e-004**		**8.9800e-003**	**8.9800e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**40.1758**	**40.1758**	**8.9700e-003**	**0.0000**	**40.4001**

3.6 Site Restoration - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.4500e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.1309	1.1309	3.0000e-005	0.0000	1.1317
Total	**6.5000e-004**	**4.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.1309**	**1.1309**	**3.0000e-005**	**0.0000**	**1.1317**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.9800e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**2.9800e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO_2	CH_4	N_2O	CO_2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO_2	CH_4	N_2O	CO_2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Reservoir Retrofits - Terminal

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.38	Acre	1.38	60,025.68	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project area + staging area

Construction Phase - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Off-road Equipment - Provided by Montecito WD

Trips and VMT - Vendor trips include 16 total concrete delivery trips (32 one-way trips).

Demolition - 30 CY of concrete demolished = 27.9 tons (1 CY concrete = 0.93 ton)

Grading -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	260.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	4.00	15.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	15.00
tblGrading	MaterialExported	0.00	3,860.00
tblGrading	MaterialImported	0.00	3,860.00
tblLandUse	LandUseSquareFeet	60,112.80	60,025.68
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2512	2.2395	2.2992	4.8000e-003	0.0377	0.0918	0.1295	8.8300e-003	0.0880	0.0969	0.0000	418.9254	418.9254	0.0820	0.0000	420.9741
2023	0.1623	1.3837	1.6203	3.2000e-003	0.0149	0.0574	0.0723	4.0300e-003	0.0549	0.0589	0.0000	276.0123	276.0123	0.0570	0.0000	277.4373
Maximum	**0.2512**	**2.2395**	**2.2992**	**4.8000e-003**	**0.0377**	**0.0918**	**0.1295**	**8.8300e-003**	**0.0880**	**0.0969**	**0.0000**	**418.9254**	**418.9254**	**0.0820**	**0.0000**	**420.9741**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2512	2.2395	2.2992	4.8000e-003	0.0377	0.0918	0.1295	8.8300e-003	0.0880	0.0969	0.0000	418.9250	418.9250	0.0820	0.0000	420.9736
2023	0.1623	1.3837	1.6203	3.2000e-003	0.0149	0.0574	0.0723	4.0300e-003	0.0549	0.0589	0.0000	276.0120	276.0120	0.0570	0.0000	277.4370
Maximum	**0.2512**	**2.2395**	**2.2992**	**4.8000e-003**	**0.0377**	**0.0918**	**0.1295**	**8.8300e-003**	**0.0880**	**0.0969**	**0.0000**	**418.9250**	**418.9250**	**0.0820**	**0.0000**	**420.9736**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.8263	0.8263
2	6-1-2022	8-31-2022	0.7284	0.7284
3	9-1-2022	11-30-2022	0.6921	0.6921
4	12-1-2022	2-28-2023	0.6473	0.6473
5	3-1-2023	5-31-2023	0.6414	0.6414
6	6-1-2023	8-31-2023	0.4967	0.4967
		Highest	0.8263	0.8263

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.9700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9700e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.9700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9700e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	4/25/2022	5	40	
2	Site Preparation	Site Preparation	4/26/2022	5/16/2022	5	15	
3	Grading	Grading	5/17/2022	6/6/2022	5	15	
4	Reservoir Construction	Building Construction	6/7/2022	6/5/2023	5	260	
5	Site Restoration	Paving	6/6/2023	7/31/2023	5	40	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 7.5

Acres of Paving: 1.38

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Cranes	1	8.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Welders	2	8.00	46	0.45
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	1	8.00	158	0.38

Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Reservoir Construction	Air Compressors	1	8.00	78	0.48
Reservoir Construction	Cranes	1	4.00	231	0.29
Reservoir Construction	Excavators	1	8.00	158	0.38
Reservoir Construction	Generator Sets	1	8.00	84	0.74
Reservoir Construction	Plate Compactors	1	8.00	8	0.43
Reservoir Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Reservoir Construction	Rubber Tired Loaders	1	8.00	203	0.36
Reservoir Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Reservoir Construction	Welders	2	8.00	46	0.45
Site Restoration	Air Compressors	1	8.00	78	0.48
Site Restoration	Concrete/Industrial Saws	1	8.00	81	0.73
Site Restoration	Excavators	1	8.00	158	0.38
Site Restoration	Generator Sets	1	8.00	84	0.74
Site Restoration	Graders	1	8.00	187	0.41
Site Restoration	Pavers	1	7.00	130	0.42

Site Restoration	Paving Equipment	1	8.00	132	0.36
Site Restoration	Plate Compactors	1	8.00	8	0.43
Site Restoration	Rubber Tired Loaders	1	8.00	203	0.36
Site Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	25.00	0.00	3.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	965.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Reservoir Construction	10	25.00	10.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	10	25.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1000e-004	0.0000	3.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.4451	0.4759	9.0000e-004		0.0203	0.0203		0.0195	0.0195	0.0000	76.7499	76.7499	0.0155	0.0000	77.1379
Total	**0.0523**	**0.4451**	**0.4759**	**9.0000e-004**	**3.1000e-004**	**0.0203**	**0.0206**	**5.0000e-005**	**0.0195**	**0.0196**	**0.0000**	**76.7499**	**76.7499**	**0.0155**	**0.0000**	**77.1379**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.9000e-004	1.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1145	0.1145	1.0000e-005	0.0000	0.1147
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3900e-003	1.0800e-003	9.7700e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.3496	2.3496	7.0000e-005	0.0000	2.3513
Total	**1.4000e-003**	**1.4700e-003**	**9.8900e-003**	**3.0000e-005**	**3.1200e-003**	**2.0000e-005**	**3.1400e-003**	**8.3000e-004**	**2.0000e-005**	**8.5000e-004**	**0.0000**	**2.4641**	**2.4641**	**8.0000e-005**	**0.0000**	**2.4661**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1000e-004	0.0000	3.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.4451	0.4759	9.0000e-004		0.0203	0.0203		0.0195	0.0195	0.0000	76.7498	76.7498	0.0155	0.0000	77.1378
Total	**0.0523**	**0.4451**	**0.4759**	**9.0000e-004**	**3.1000e-004**	**0.0203**	**0.0206**	**5.0000e-005**	**0.0195**	**0.0196**	**0.0000**	**76.7498**	**76.7498**	**0.0155**	**0.0000**	**77.1378**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.9000e-004	1.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1145	0.1145	1.0000e-005	0.0000	0.1147
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3900e-003	1.0800e-003	9.7700e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.3496	2.3496	7.0000e-005	0.0000	2.3513
Total	**1.4000e-003**	**1.4700e-003**	**9.8900e-003**	**3.0000e-005**	**3.1200e-003**	**2.0000e-005**	**3.1400e-003**	**8.3000e-004**	**2.0000e-005**	**8.5000e-004**	**0.0000**	**2.4641**	**2.4641**	**8.0000e-005**	**0.0000**	**2.4661**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1260	0.1129	2.4000e-004		5.3300e-003	5.3300e-003		5.0600e-003	5.0600e-003	0.0000	20.9626	20.9626	4.9000e-003	0.0000	21.0851
Total	**0.0129**	**0.1260**	**0.1129**	**2.4000e-004**	**3.9800e-003**	**5.3300e-003**	**9.3100e-003**	**4.3000e-004**	**5.0600e-003**	**5.4900e-003**	**0.0000**	**20.9626**	**20.9626**	**4.9000e-003**	**0.0000**	**21.0851**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.7000e-004**	**2.9000e-004**	**2.6400e-003**	**1.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6344**	**0.6344**	**2.0000e-005**	**0.0000**	**0.6349**

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1260	0.1129	2.4000e-004		5.3300e-003	5.3300e-003		5.0600e-003	5.0600e-003	0.0000	20.9626	20.9626	4.9000e-003	0.0000	21.0851
Total	**0.0129**	**0.1260**	**0.1129**	**2.4000e-004**	**3.9800e-003**	**5.3300e-003**	**9.3100e-003**	**4.3000e-004**	**5.0600e-003**	**5.4900e-003**	**0.0000**	**20.9626**	**20.9626**	**4.9000e-003**	**0.0000**	**21.0851**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.7000e-004**	**2.9000e-004**	**2.6400e-003**	**1.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6344**	**0.6344**	**2.0000e-005**	**0.0000**	**0.6349**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.6000e-003	0.0000	4.6000e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.1228	0.1087	2.4000e-004		5.1600e-003	5.1600e-003		4.9100e-003	4.9100e-003	0.0000	20.4502	20.4502	4.7300e-003	0.0000	20.5685
Total	**0.0126**	**0.1228**	**0.1087**	**2.4000e-004**	**4.6000e-003**	**5.1600e-003**	**9.7600e-003**	**5.2000e-004**	**4.9100e-003**	**5.4300e-003**	**0.0000**	**20.4502**	**20.4502**	**4.7300e-003**	**0.0000**	**20.5685**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4600e-003	0.1242	0.0398	3.6000e-004	8.2200e-003	4.5000e-004	8.6700e-003	2.2500e-003	4.3000e-004	2.6900e-003	0.0000	36.8153	36.8153	3.6900e-003	0.0000	36.9076
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.8300e-003**	**0.1245**	**0.0425**	**3.7000e-004**	**9.0500e-003**	**4.6000e-004**	**9.5100e-003**	**2.4700e-003**	**4.3000e-004**	**2.9200e-003**	**0.0000**	**37.4497**	**37.4497**	**3.7100e-003**	**0.0000**	**37.5424**

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.6000e-003	0.0000	4.6000e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.1228	0.1087	2.4000e-004		5.1600e-003	5.1600e-003		4.9100e-003	4.9100e-003	0.0000	20.4502	20.4502	4.7300e-003	0.0000	20.5685
Total	**0.0126**	**0.1228**	**0.1087**	**2.4000e-004**	**4.6000e-003**	**5.1600e-003**	**9.7600e-003**	**5.2000e-004**	**4.9100e-003**	**5.4300e-003**	**0.0000**	**20.4502**	**20.4502**	**4.7300e-003**	**0.0000**	**20.5685**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4600e-003	0.1242	0.0398	3.6000e-004	8.2200e-003	4.5000e-004	8.6700e-003	2.2500e-003	4.3000e-004	2.6900e-003	0.0000	36.8153	36.8153	3.6900e-003	0.0000	36.9076
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.9000e-004	2.6400e-003	1.0000e-005	8.3000e-004	1.0000e-005	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6344	0.6344	2.0000e-005	0.0000	0.6349
Total	**3.8300e-003**	**0.1245**	**0.0425**	**3.7000e-004**	**9.0500e-003**	**4.6000e-004**	**9.5100e-003**	**2.4700e-003**	**4.3000e-004**	**2.9200e-003**	**0.0000**	**37.4497**	**37.4497**	**3.7100e-003**	**0.0000**	**37.5424**

3.5 Reservoir Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1604	1.3435	1.4867	2.7600e-003		0.0603	0.0603		0.0578	0.0578	0.0000	234.3736	234.3736	0.0514	0.0000	235.6588
Total	**0.1604**	**1.3435**	**1.4867**	**2.7600e-003**		**0.0603**	**0.0603**		**0.0578**	**0.0578**	**0.0000**	**234.3736**	**234.3736**	**0.0514**	**0.0000**	**235.6588**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2800e-003	0.0719	0.0237	1.7000e-004	4.3300e-003	2.0000e-004	4.5300e-003	1.2500e-003	1.9000e-004	1.4400e-003	0.0000	17.0885	17.0885	1.3300e-003	0.0000	17.1217
Worker	5.1600e-003	4.0200e-003	0.0364	1.0000e-004	0.0115	7.0000e-005	0.0116	3.0600e-003	6.0000e-005	3.1200e-003	0.0000	8.7524	8.7524	2.5000e-004	0.0000	8.7587
Total	**7.4400e-003**	**0.0759**	**0.0601**	**2.7000e-004**	**0.0158**	**2.7000e-004**	**0.0161**	**4.3100e-003**	**2.5000e-004**	**4.5600e-003**	**0.0000**	**25.8409**	**25.8409**	**1.5800e-003**	**0.0000**	**25.8805**

3.5 Reservoir Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1604	1.3435	1.4867	2.7600e-003		0.0603	0.0603		0.0578	0.0578	0.0000	234.3734	234.3734	0.0514	0.0000	235.6585
Total	**0.1604**	**1.3435**	**1.4867**	**2.7600e-003**		**0.0603**	**0.0603**		**0.0578**	**0.0578**	**0.0000**	**234.3734**	**234.3734**	**0.0514**	**0.0000**	**235.6585**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2800e-003	0.0719	0.0237	1.7000e-004	4.3300e-003	2.0000e-004	4.5300e-003	1.2500e-003	1.9000e-004	1.4400e-003	0.0000	17.0885	17.0885	1.3300e-003	0.0000	17.1217
Worker	5.1600e-003	4.0200e-003	0.0364	1.0000e-004	0.0115	7.0000e-005	0.0116	3.0600e-003	6.0000e-005	3.1200e-003	0.0000	8.7524	8.7524	2.5000e-004	0.0000	8.7587
Total	**7.4400e-003**	**0.0759**	**0.0601**	**2.7000e-004**	**0.0158**	**2.7000e-004**	**0.0161**	**4.3100e-003**	**2.5000e-004**	**4.5600e-003**	**0.0000**	**25.8409**	**25.8409**	**1.5800e-003**	**0.0000**	**25.8805**

3.5 Reservoir Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1111	0.9208	1.1019	2.0500e-003		0.0393	0.0393		0.0377	0.0377	0.0000	174.6190	174.6190	0.0379	0.0000	175.5658
Total	**0.1111**	**0.9208**	**1.1019**	**2.0500e-003**		**0.0393**	**0.0393**		**0.0377**	**0.0377**	**0.0000**	**174.6190**	**174.6190**	**0.0379**	**0.0000**	**175.5658**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3200e-003	0.0445	0.0159	1.3000e-004	3.2300e-003	7.0000e-005	3.3000e-003	9.3000e-004	7.0000e-005	1.0000e-003	0.0000	12.5032	12.5032	9.5000e-004	0.0000	12.5270
Worker	3.5900e-003	2.6800e-003	0.0247	7.0000e-005	8.5700e-003	5.0000e-005	8.6200e-003	2.2800e-003	5.0000e-005	2.3200e-003	0.0000	6.2766	6.2766	1.7000e-004	0.0000	6.2808
Total	**4.9100e-003**	**0.0472**	**0.0406**	**2.0000e-004**	**0.0118**	**1.2000e-004**	**0.0119**	**3.2100e-003**	**1.2000e-004**	**3.3200e-003**	**0.0000**	**18.7798**	**18.7798**	**1.1200e-003**	**0.0000**	**18.8077**

3.5 Reservoir Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1111	0.9208	1.1019	2.0500e-003		0.0393	0.0393		0.0377	0.0377	0.0000	174.6188	174.6188	0.0379	0.0000	175.5656
Total	**0.1111**	**0.9208**	**1.1019**	**2.0500e-003**		**0.0393**	**0.0393**		**0.0377**	**0.0377**	**0.0000**	**174.6188**	**174.6188**	**0.0379**	**0.0000**	**175.5656**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3200e-003	0.0445	0.0159	1.3000e-004	3.2300e-003	7.0000e-005	3.3000e-003	9.3000e-004	7.0000e-005	1.0000e-003	0.0000	12.5032	12.5032	9.5000e-004	0.0000	12.5270
Worker	3.5900e-003	2.6800e-003	0.0247	7.0000e-005	8.5700e-003	5.0000e-005	8.6200e-003	2.2800e-003	5.0000e-005	2.3200e-003	0.0000	6.2766	6.2766	1.7000e-004	0.0000	6.2808
Total	**4.9100e-003**	**0.0472**	**0.0406**	**2.0000e-004**	**0.0118**	**1.2000e-004**	**0.0119**	**3.2100e-003**	**1.2000e-004**	**3.3200e-003**	**0.0000**	**18.7798**	**18.7798**	**1.1200e-003**	**0.0000**	**18.8077**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0450	0.4148	0.4689	9.2000e-004		0.0180	0.0180		0.0171	0.0171	0.0000	80.3517	80.3517	0.0180	0.0000	80.8004
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0450**	**0.4148**	**0.4689**	**9.2000e-004**		**0.0180**	**0.0180**		**0.0171**	**0.0171**	**0.0000**	**80.3517**	**80.3517**	**0.0180**	**0.0000**	**80.8004**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	9.7000e-004	8.9100e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.2618	2.2618	6.0000e-005	0.0000	2.2634
Total	**1.2900e-003**	**9.7000e-004**	**8.9100e-003**	**3.0000e-005**	**3.0900e-003**	**2.0000e-005**	**3.1100e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**2.2618**	**2.2618**	**6.0000e-005**	**0.0000**	**2.2634**

3.6 Site Restoration - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0450	0.4148	0.4689	9.2000e-004		0.0180	0.0180		0.0171	0.0171	0.0000	80.3516	80.3516	0.0180	0.0000	80.8003
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0450**	**0.4148**	**0.4689**	**9.2000e-004**		**0.0180**	**0.0180**		**0.0171**	**0.0171**	**0.0000**	**80.3516**	**80.3516**	**0.0180**	**0.0000**	**80.8003**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	9.7000e-004	8.9100e-003	3.0000e-005	3.0900e-003	2.0000e-005	3.1100e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.2618	2.2618	6.0000e-005	0.0000	2.2634
Total	**1.2900e-003**	**9.7000e-004**	**8.9100e-003**	**3.0000e-005**	**3.0900e-003**	**2.0000e-005**	**3.1100e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**2.2618**	**2.2618**	**6.0000e-005**	**0.0000**	**2.2634**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.567965	0.027871	0.206163	0.120389	0.019588	0.005343	0.017610	0.019838	0.002797	0.002169	0.006725	0.002609	0.000932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.9700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	5.9700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**5.9700e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**5.9700e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Cultural Resources Assessment

Reservoir Retrofit and Replacement Project

Public Review: Cultural Resources Assessment Report

prepared for

Montecito Water District
583 San Ysidro Road
Santa Barbara, California 93108

prepared by

Rincon Consultants, Inc.
209 East Victoria Street
Santa Barbara, California 93101

May 2021

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Executive Summary

Purpose and Scope

The Montecito Water District (District or MWD) retained Rincon Consultants, Inc. (Rincon) to conduct a cultural resources study for the Reservoir Retrofit and Replacement Project (project), located on District-owned and private property within and near the community of Montecito in unincorporated Santa Barbara County, California. The proposed project includes seismic retrofits, repairs, and replacements at eight existing water storage reservoirs in MWD's service area. This cultural resources assessment report was prepared in compliance with California Environmental Quality Act (CEQA), and includes a Sacred Lands File (SLF) search, a cultural resources records search, archival research, a pedestrian field survey, evaluation of the reservoir properties for eligibility for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR), and preparation of this report.

Dates of Investigation

The Native American Heritage Commission (NAHC) completed a search of the SLF on March 30, 2021. The Central Coast Information Center (CCIC) completed a cultural resources records search of the California Historical Resources Information System (CHRIS) on March 31, 2021. Rincon conducted a field survey of the project sites on April 7, 2021. The archival and background research summarized in this report was conducted throughout March and April 2021.

Summary of Findings

The CHRIS search identified 14 previously recorded cultural resources within a 0.5-mile radius of the project sites; one of these resources is a prehistoric archaeological site located **(*the remainder of this sentence has been redacted due to the confidentiality of archaeological site locations*)**. The other, P-42-041018, is a historic-period transmission line (Santa Clara-Ojai-Santa Barbara 66kV) located approximately 420 feet south of the Doulton Reservoir, which was found ineligible for listing in the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR).The SLF search conducted by the NAHC returned positive results. The District has initiated AB 52 consultation with tribal contacts that have requested formal notification of proposed projects in the geographic area within which the tribe is traditional and culturally affiliated.

Results of the pedestrian field survey indicate that the majority of the project sites have undergone previous ground disturbances associated with the construction and maintenance of the reservoir systems and associated buildings and no archaeological resources were identified during the field survey. No evidence of cultural materials associated with the previously recorded prehistoric archaeological resource were observed during the field survey. Given the **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** proximity to a known prehistoric cultural resource the project vicinity is considered sensitive for the presence of archaeological resources; however, the site is located over **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** from the reservoir. Proposed ground disturbance at the **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** will occur mostly within previously disturbed soils and the potential to encounter intact archaeological resources is low. Based on the results of this study, Rincon recommends a standard unanticipated discovery measure, presented below, in the event of a discovery of cultural resources during the execution of the current project. The project is also required to adhere to state health and safety codes regarding the unanticipated discovery of human remains, detailed below.

Eight historical age built environment resources (45 years of age or older) were identified in the project area: Bella Vista Reservoir and Treatment Plant, Buena Vista Reservoir, Cold Springs Reservoir, Doulton Reservoir and Treatment Plant, Hot Springs Reservoir, Park Lane Reservoir, Romero Reservoir, and Terminal Reservoir. Background research confirmed none of the reservoirs within the project area have been subject to previous historical resources evaluation. Each of these facilities contains a water distribution reservoir, and some sites are augmented with associated buildings and structures, including but not limited to pumping stations and water treatment plants. Each facility was recorded on California Department of Parks and Recreation (DPR) forms and evaluated for inclusion in the NRHP and the CRHR. As a result of the analysis, all of the facilities were found to lack sufficient historical or architectural significance to qualify for inclusion in the NRHP or CRHR. Therefore, none are considered a historical resource for the purposes of CEQA and their replacement or retrofit would not result in a significant impact to historical resources pursuant to Section 15064.5(b) of the CEQA Guidelines.

Based on the information summarized above, Rincon recommends a finding for the proposed project of ***no impact to historical resources*** and ***less than significant impact to archaeological resources with mitigation incorporated under CEQA.***

The project is required to adhere to state health and safety codes regarding the unanticipated discovery of human remains, detailed below. Based on the results of the cultural study, Rincon recommends a standard unanticipated discovery measure, presented below as Mitigation Measure CUL-1, in the event of a discovery of cultural resources during the execution of the current project. Additionally, input from local Native American representatives during the AB 52 consultation process resulted in the inclusion of Mitigation Measures TCR-1 and TCR-2, which are detailed below.

Regulatory Compliance Measure

Unanticipated Discovery of Human Remains

If human remains are unexpectedly encountered, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the unlikely event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

Mitigation Measures

CUL-1 Unanticipated Discovery of Cultural Resources

In the event cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional

Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be eligible for listing in the National Register of Historic Places or the California Register of Historical Resources, additional work such as data recovery excavation and/or Native American consultation to treat the find may be warranted.

TCR-1 Cultural Resources Sensitivity Training

Prior to the start of ground-disturbing activities, an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall conduct cultural and tribal cultural resources sensitivity training for all construction workers involved in ground-disturbing activities. A local Native American representative shall participate in the sensitivity training and have the opportunity to distribute information regarding cultural resources and/or protection of cultural resources.

TCR-2 Native American Monitoring

The District shall retain a local Native American representative to observe ground-disturbing activities up to five feet below the ground surface. Ground disturbing activities include, but are not limited to, clearing/grubbing, excavation, grading, and trenching. If cultural resources are encountered, the local Native American representative shall have the authority to request ground disturbing activities cease within 50 feet of the discovery. An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to document and evaluate the find. Impacts to the find shall be avoided to the extent feasible; methods of avoidance may include, but shall not be limited to, capping or fencing, or project redesign. If necessary, the archaeologist may be required to prepare a treatment plan for archaeological testing in consultation with the local Native American representative. If the discovery proves to be eligible for the CRHR and cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

Introduction

The Montecito Water District (District or MWD) retained Rincon Consultants, Inc. (Rincon) to conduct a cultural resources study for the Reservoir Retrofit and Replacement Project (project), located on District-owned and private property within and near the unincorporated community of Montecito in Santa Barbara County, California. The proposed project includes seismic retrofits, repairs, and replacements at eight existing water storage reservoirs in MWD's service area. This cultural resources assessment report was prepared in compliance with California Environmental Quality Act (CEQA), and includes a Sacred Lands File (SLF) search, a cultural resources records search, archival research, field surveys, evaluation of the eight reservoirs for potential historic resources eligibility, and preparation of this report.

Project Description and Location

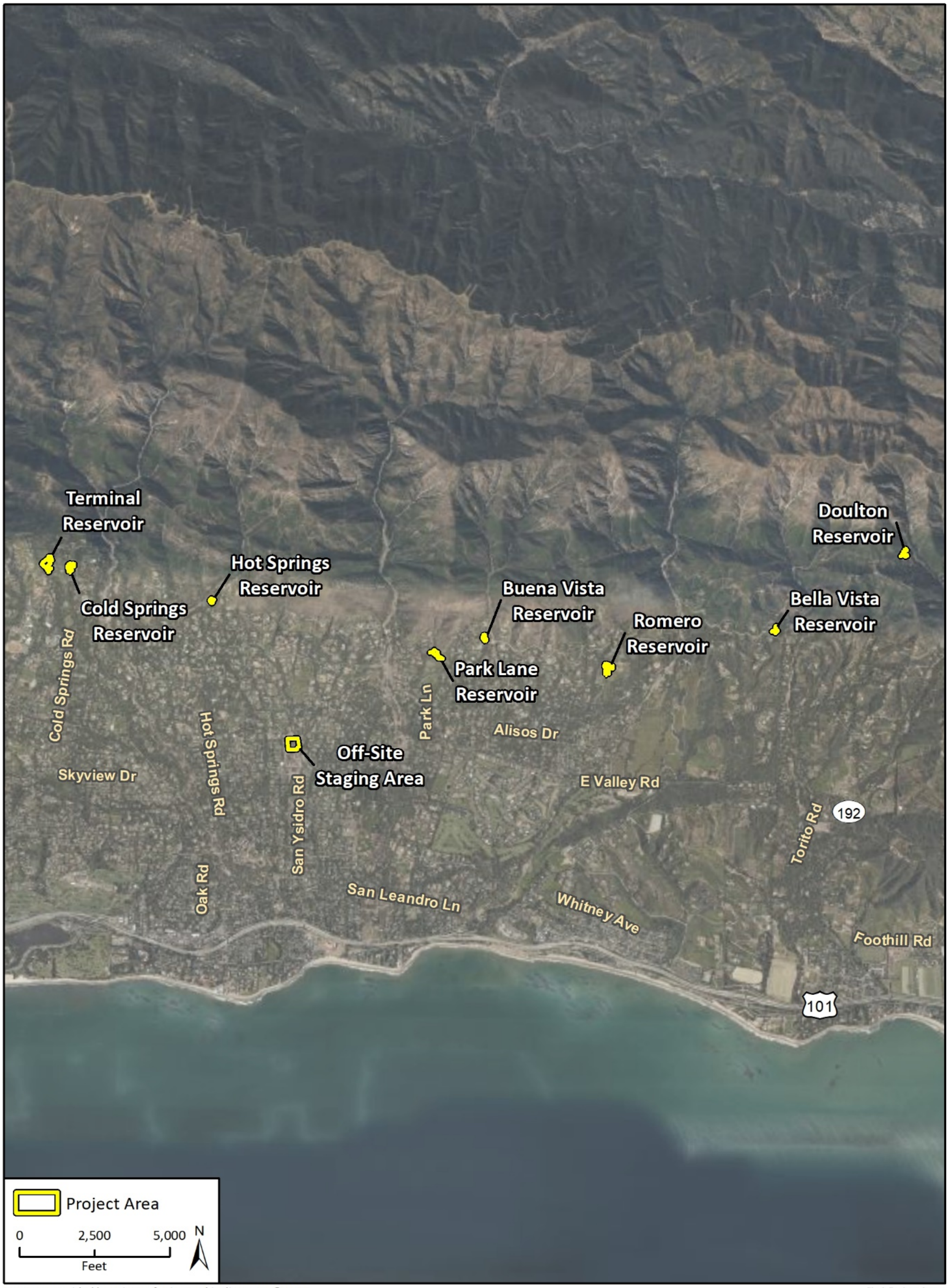
The District serves water to the communities of Montecito, Summerland, and portions of Toro Canyon in Santa Barbara County. The District owns and operates nine water storage reservoirs throughout its service area. The existing water storage reservoirs, originally built between the early 1900s and 1970s, do not currently meet seismic design codes and regulations, and may be subject to catastrophic failure in the event of a large earthquake.

The Reservoir Retrofit and Replacement Project (project or proposed project) involves seismic retrofits, repairs, and replacements at eight of the District's nine existing water storage reservoirs: Doulton, Romero, Terminal, Bella Vista, Park Lane, Cold Springs, Hot Springs, and Buena Vista. The ninth reservoir, Toro Canyon, has been excluded because it is likely to be decommissioned by the District soon.

The District is seeking project funding from the Additional Supplemental Appropriation for Disaster Relief Act (ASADRA) program, in which funds are granted by the United States Environmental Protection Agency (U.S. EPA) and administered by the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF). Although ASADRA funds are granted by the U.S. EPA, ASADRA-funded projects are not subject to federal cross-cutter environmental documentation requirements.

The project would bring all eight reservoirs into compliance with seismic design codes and regulations. No retrofit or replacement would expand the water storage capacity of an existing reservoir. Figure 1 shows a map of all eight reservoir sites and an off-site staging area at the District office at 583 San Ysidro Road in Montecito that may be used during the construction period.

Figure 1 Reservoir Retrofit and Replacement Project Area



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The following sections describe each reservoir site, the proposed retrofits, and construction details.

Doulton Reservoir

Doulton Reservoir is a 0.25-million-gallon (MG), 36-foot diameter by 36-foot high, welded steel tank reservoir constructed in 1975. The tank is located on District-owned property (APN 155-020-007) adjacent to the District's Doulton Treatment Plant at 1075 Toro Canyon Road in Montecito, California. The reservoir structure was designed in accordance with the American Water Works Association (AWWA) standard D100-73 by Trico-Superior. The wall shell consists of layers of steel plates of equal height. The reservoir is founded on an 18-inch by 18-inch concrete ring footing. The reservoir structure is not mechanically anchored to the ring footing. The existing foundation is reinforced concrete.

Doulton Reservoir is the only water storage tank serving the Upper Toro Canyon Area. The reservoir stores treated Jameson Lake water before it is delivered to customers above and below the reservoir.

The proposed project would replace in kind the existing tank and foundation at Doulton Reservoir. The project would demolish all existing above-ground reservoir components and excavate approximately five feet in depth to remove the foundation and prepare the subgrade for the new foundation. Demolition would require cutting and removing the existing steel tank structure and all appurtenant features such as piping and ladders. Shoring may be required along the base of the northern retaining wall to a depth of approximately six feet to protect the slope during construction.

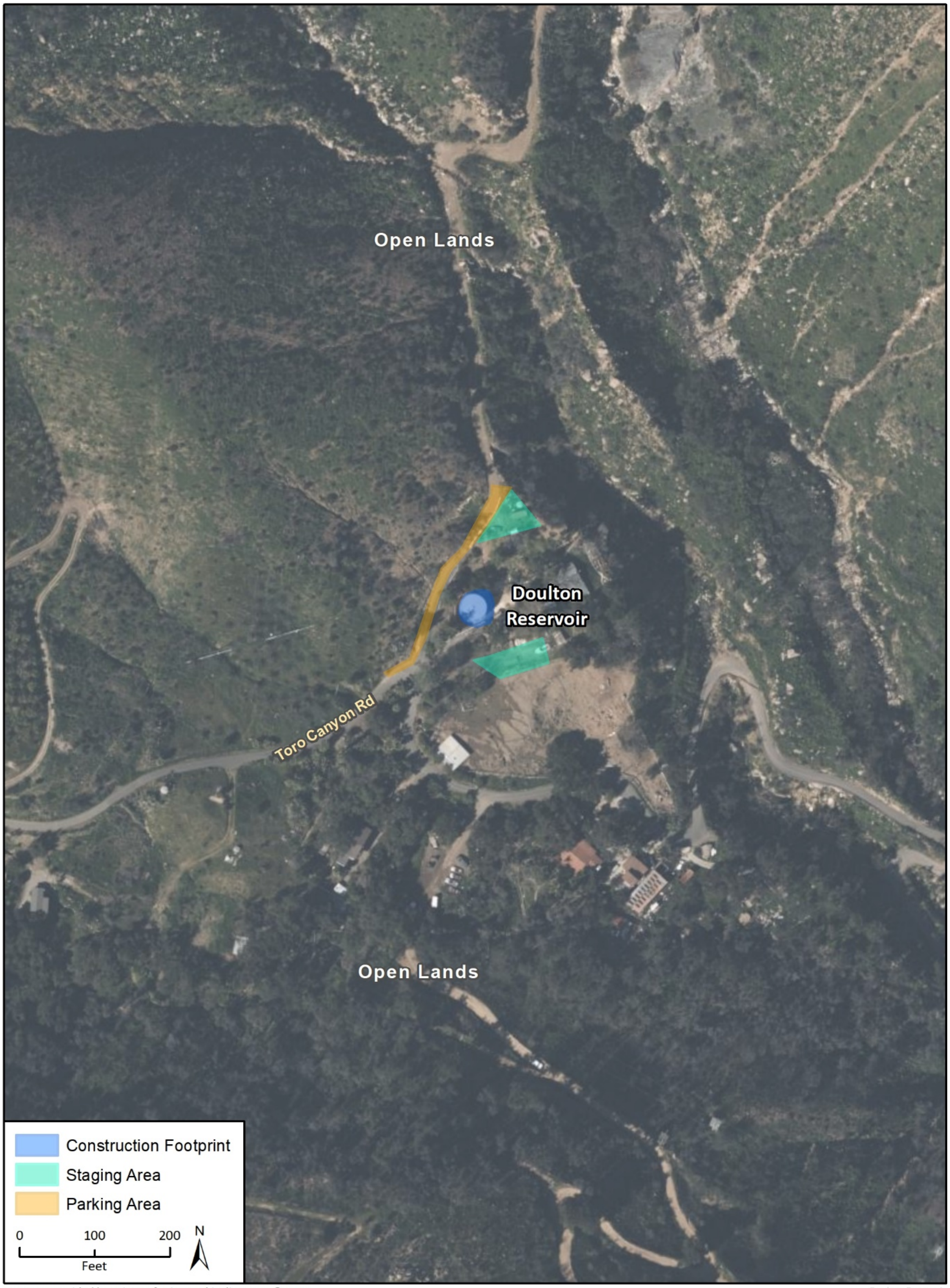
The new foundation may require driven piles to reinforce the new concrete mat foundation, depending on the results of a geotechnical investigation. If needed, the proposed piles would be augered using cast-in-drilled-hole (CIDH) concrete piles, drilled micro-piles, or helical screw anchors, depending on loading and pile capacities. The new steel tank would be designed and fabricated per the AWWA Standard D100. The steel plates for the wall shell, floor, and roof would be approximately eight feet wide. The steel would be prepared, primed, and painted in the field. The new tank would be fabricated on-site by welding steel pieces together to form the tank structure. The project also includes new appurtenances such as piping from the treatment plant, drain, air vents, ladder, safety climb, level indicator, and other small items. The selected exterior tank color would be a natural tone to complement the surroundings.

Construction activities at Doulton Reservoir would require approximately seven to 12 months to complete. It is conservatively assumed that approximately 300 cubic yards (cy) of soil would be excavated from the site, with 300 cy of import and 300 cy of export. Approximately nine cy of concrete would be demolished, and approximately 6,100 square feet of steel tank would be demolished.

Construction staging would be located on District property to the south in a large open area near an existing treatment tank. During the construction period, a temporary above ground reservoir would be installed on the District's property to maintain water storage operations. Upon completion of construction, this temporary reservoir would be removed.

Figure 2 shows the construction footprint, construction staging area, and parking area associated with Doulton Reservoir.

Figure 2 Doulton Reservoir Construction, Staging, and Parking Areas



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Romero Reservoir

Romero Reservoir is a 0.94-MG capacity, rectangular, hopper-bottom water storage reservoir measuring approximately 240 feet long by 63 feet wide, with an average depth of about 12 feet, constructed circa 1933. The reservoir is located on District-owned property (APN 007-080-006) near the intersection of Bella Vista Drive and Romero Canyon Road in Montecito, California. It is predominantly buried, with just the roof and a concrete curb exposed. In 1977, the original wood framed roof was replaced with the current roof structure consisting of a corrugated aluminum roof deck supported by steel horizontal beams, which are in turn supported by steel wide flange beams and steel pipe columns. The roof slopes in one direction from the south to the north, with short columns along the south side to support the elevated ends of the roof beams. The existing reservoir has a steel roof and reinforced concrete foundation.

Romero Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers. Water from this reservoir is capable of reaching approximately 97 percent of District customers.

The proposed project would reinforce the foundation and roof using additional reinforced concrete around the foundation and additional steel roof members. The project would excavate around the existing reservoir to a depth of approximately four feet and to a distance of approximately 12 feet outside the reservoir walls. A concrete grade beam would be added to the perimeter of the reservoir. Excavation for piping and appurtenances may also be required near the reservoir structure.

At the time of the original construction of the reservoir, soil fill was placed over an existing slope on the south portion of the site to create a level pad large enough for the reservoir. Preliminary evaluations have determined that this fill material may become unstable and slide during an earthquake. The proposed project would construct a pile-supported retaining wall on the south side of the existing reservoir structure to contain this fill material. The project also includes new appurtenances such as piping from the distribution system, overflow drain, air vents, ladder, safety climb, and other small items. The Romero Reservoir improvements would not increase the existing roof height.

Construction activities at Romero Reservoir would require approximately nine to 13 months to complete. It is conservatively assumed that approximately 1,100 cy of soil would be excavated from the site, with 1,100 cy of export.

Construction staging would occur on-site within District property around the existing reservoir. Additional staging may occur at the District office at 583 San Ysidro Road.

Site access is from Romero Canyon Road. The site is located at the end of a 0.5-mile flat dirt road on private property for which the District has an easement. There is a locked gate at the entrance off Romero Canyon Road.

Figure 3 shows the construction footprint, construction staging area, and parking area associated with Romero Reservoir.

Figure 3 Romero Reservoir Construction, Staging, and Parking Areas

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Terminal Reservoir

Terminal Reservoir is a 3.38-MG capacity rectangular reservoir measuring approximately 200 feet long by 150 feet wide by 20 feet deep, with a hopper bottom and roughly five-foot tall vertical reinforced concrete masonry walls, constructed circa 1952. The reservoir is located on District-owned property (APN 013-040-002) near the intersection of East Mountain Drive and Cold Springs Road in Montecito, California. It is predominantly buried, with approximately one foot at the top of the walls exposed. The reservoir has a two-inch thick layer of reinforced gunite (concrete blend of sand, cement, and water) lining the floor slab and walls. The original wood framed roof was replaced with the current roof structure consisting of a corrugated aluminum roof deck supported by cold formed steel horizontal beams, which are in turn supported by steel wide flange beams and steel pipe columns. The reservoir has a steel roof and reinforced concrete foundation.

Terminal Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would reinforce the existing foundation, walls, and roof at Terminal Reservoir using additional reinforced concrete around the walls and foundation, replacement of deteriorated roof joists, replacement of the metal roofing panels on the entire roof, and additional steel rod braces. The project would excavate around the entire reservoir to a depth of nine feet and a distance of approximately 15 feet outside the reservoir walls. Shoring would be used to limit excavation. A concrete grade beam would be added to the perimeter of the reservoir to reinforce the existing walls and roof. The project includes new appurtenances such as piping from the distribution system, overflow drain, air vents, ladder, and other small items.

The proposed improvements would not change the height of the existing Terminal Reservoir. The existing roof panels would be replaced, and the color would be selected to complement the surrounding environment.

Construction activities at Terminal Reservoir would require approximately 14 to 19 months to complete. Approximately 3,860 cy of soil would be excavated from the site. It is conservatively assumed there would be up to 3,860 cy of soil exported from the project site and approximately 3,860 cy imported to the project site. Approximately 30 cy of concrete would be demolished.

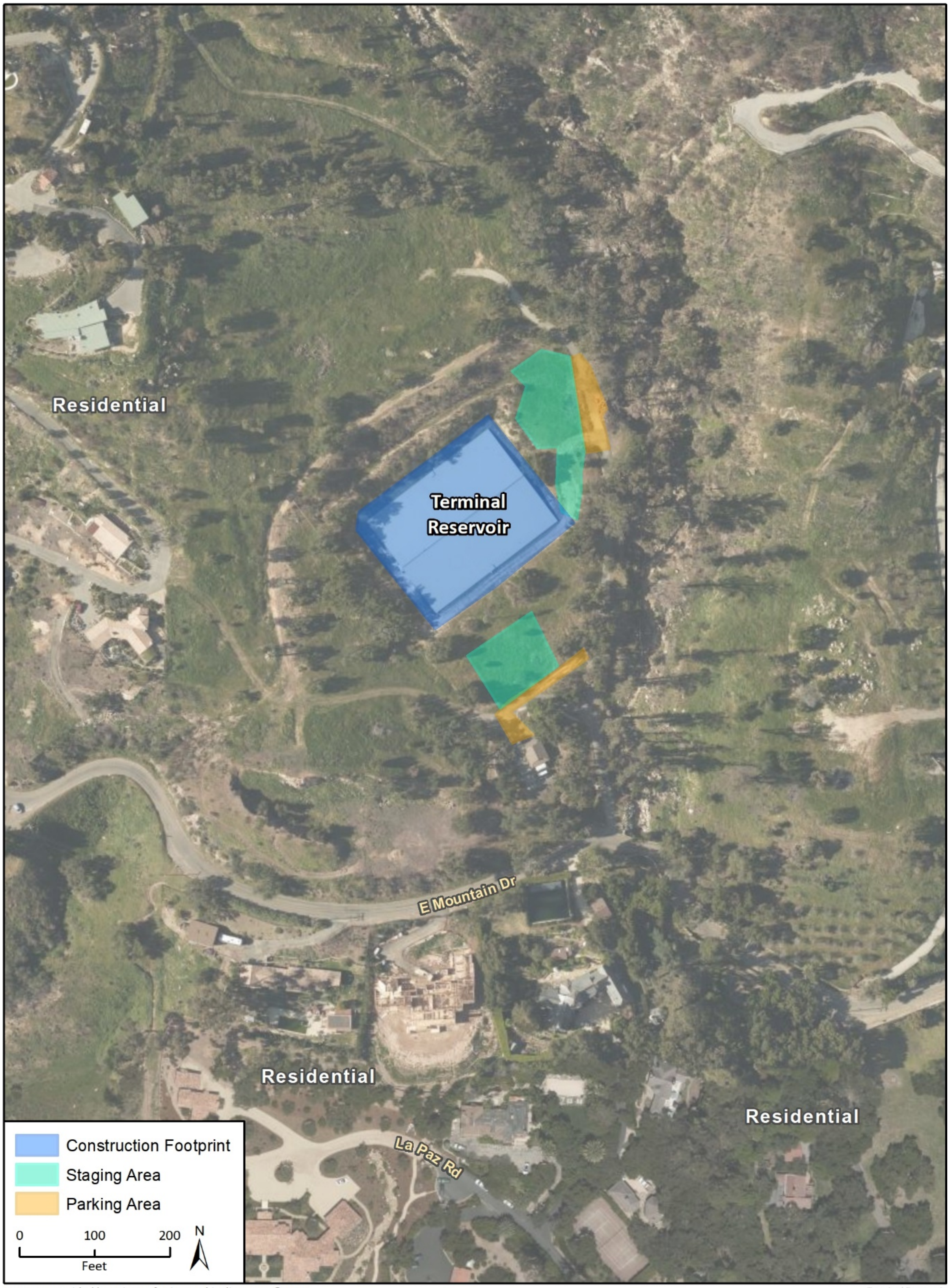
Construction staging would occur on-site within District property around the existing reservoir. Site access is from East Mountain Drive.

Figure 4 shows the construction footprint, construction staging area, and parking area associated with Terminal Reservoir.

Bella Vista Reservoir

Bella Vista Reservoir is a 2.25-MG, capacity reinforced concrete rectangular reservoir measuring approximately 132 feet long by 94 feet wide by 24 feet deep, constructed circa 1975. The reservoir is located on District-owned property at 2750 Bella Vista Drive in Montecito (APN 155-030-042), adjacent to the Bella Vista Treatment Plant. It has vertical walls supported on a continuous concrete footing, with a sloped floor slab. The reservoir is partially buried, with exposed wall height above the soil backfill varying from as much as 15 feet on the south side to as little as zero feet on the north side. The reservoir has a reinforced concrete roof slab with uniform thickness, supported by circular concrete columns. The entire roof slab is covered with earth with a depth varying from six inches at the edges to roughly 18 inches near the center. An existing pump station building was constructed

Figure 4 Terminal Reservoir Construction, Staging, and Parking Areas



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over the northeast corner of the reservoir roof in the 1990s. The building is supported by a structural concrete slab.

The proposed project would repair concrete and exposed rebar on the roof deck, as well as strengthen the walls and footings to increase their capacity to resist seismic loads prescribed by current codes. The proposed retrofit work would occur in the interior of the reservoir structure. No external improvements would be required.

Construction activities at Bella Vista Reservoir would require approximately four to six months to complete. No excavation, demolition, or soil import or export would occur. During the construction period, a temporary above ground reservoir would be installed on the District's property to maintain water storage operations. Upon completion of construction, this temporary reservoir would be removed.

Construction staging would occur on-site in the existing parking lot to the north of the reservoir. Additional staging may occur at the District office at 583 San Ysidro Road.

Construction personnel and equipment would access the site from the adjacent Bella Vista Treatment Plant, which is accessible via Ladera Lane and up a 300-foot driveway.

Figure 5 shows the construction footprint, construction staging area, and parking area associated with Bella Vista Reservoir.

Park Lane Reservoir

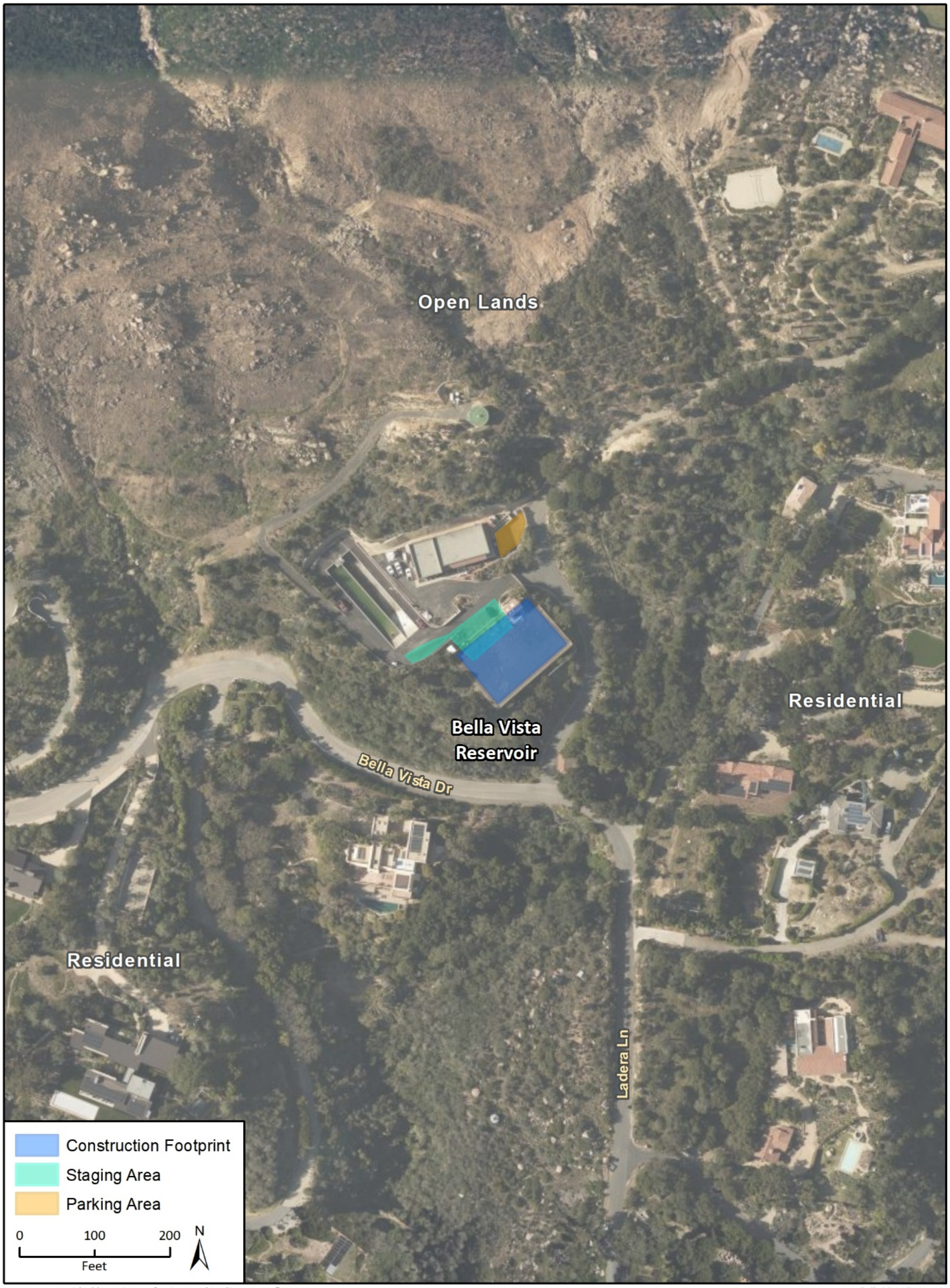
Park Lane Reservoir is a 1.25-MG capacity, reinforced concrete rectangular water storage reservoir measuring approximately 140 feet long by 100 feet wide by 12 feet deep. The reservoir is located on District-owned property (APN 007-050-013) located off Park Hill Lane in Montecito, California. The actual date of construction of this reservoir is unknown but is likely to pre-date 1924 when this reservoir was deeded to the District. Park Lane Reservoir has a flat concrete floor slab with cantilevered vertical walls. The reservoir is predominantly buried, with less than a foot of the top of wall exposed on all sides. The reservoir has a wood-framed roof, with corrugated metal roof deck supported by steel pipe columns. The reservoir walls are constructed of concrete reinforced with wire mesh. A thin coating of unfinished/rough Gunite lines the interior wall surfaces

Park Lane Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would construct a new reinforced concrete reservoir inside of the existing Park Lane Reservoir. The existing walls would be used as forms for the new concrete walls. The reservoir floor slab would be demolished and removed and approximately 18 inches of the subgrade would be excavated and removed. The project would construct a new reservoir floor slab at this new lower elevation to offset the capacity lost to the new tank walls and columns. The project would replace the existing wood and steel roof with a two-way concrete slab. No excavation would occur outside the existing reservoir's concrete walls, with the exception of excavation necessary for piping and appurtenances. The project also includes new appurtenances such as piping from the distribution system, overflow drain, air vents, ladder, safety climb, and other small items. The new reservoir roof would be two to three feet taller than the existing roof and would be concrete and non-reflective.

Construction activities at Park Lane Reservoir would require approximately 12 to 17 months to complete. Approximately 720 cy of soil would be excavated and exported from the site. Approximately 520 cy of concrete would be demolished.

Figure 5 Bella Vista Reservoir Construction, Staging, and Parking Areas



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Construction staging would occur on-site in the areas to the southwest and southeast of the reservoir. Additional off-site staging may occur at the District office located at 583 San Ysidro Road in Montecito.

Construction personnel and equipment would access the site from Park Lane, along an approximately 0.5-mile paved private driveway. The District has an easement to cross the private property leading to the reservoir from Park Lane.

Figure 6 shows the construction footprint, construction staging area, and parking area associated with Park Lane Reservoir.

Cold Springs Reservoir

Cold Springs Reservoir is a 0.99-MG capacity, reinforced concrete rectangular water storage reservoir measuring approximately 100 feet long by 60 feet wide by 22 feet deep, constructed circa 1925. Cold Springs Reservoir is located on District-owned property (APN 013-040-005) near the intersection of East Mountain Drive and Cold Springs Road in Montecito, California. The reservoir has a flat floor slab with vertical walls that are buttressed every ten feet. Cold Springs Reservoir is partially buried, with approximately ten feet of the upper wall exposed on the south face and roughly two feet of wall exposed on the remaining three sides. The reservoir was originally constructed with a wood roof and a row of steel columns to support the roof framing. The current roof structure consists of a standing seam metal roof deck supported by cold formed horizontal steel beams, which in turn are supported by tapered steel girders spanning the width of the reservoir. A thin layer of unfinished/rough Gunite lines the interior wall surfaces.

Cold Springs Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would reinforce the wall, foundation, and roof at Cold Springs Reservoir. The improvements would occur entirely within the interior of the reservoir structure. The project would add interior concrete buttresses coinciding with the existing exterior buttresses. A reinforced concrete lining would be added to the inside faces of the walls. The footing would be extended on the inside of the reservoir and the existing concrete divider wall would be removed. In addition, the project would reinforce the roof with a lateral bracing system consisting of a steel rod bracing across the entire roof.

Construction activities at Cold Springs Reservoir would require approximately six to nine months to complete. Approximately 100 cy of soil would be excavated and exported from the site for piping retrofits. Demolition of the interior concrete divider wall would be required.

Construction staging would occur in the area to the south and southwest of the existing reservoir, on private land which may require a temporary construction easement. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

Site access is from East Mountain Drive along an approximately 0.25-mile asphalt and dirt road.

Figure 7 shows the construction footprint, construction staging area, and parking area associated with Cold Springs Reservoir.

Figure 6 Park Lane Reservoir Construction, Staging, and Parking Areas

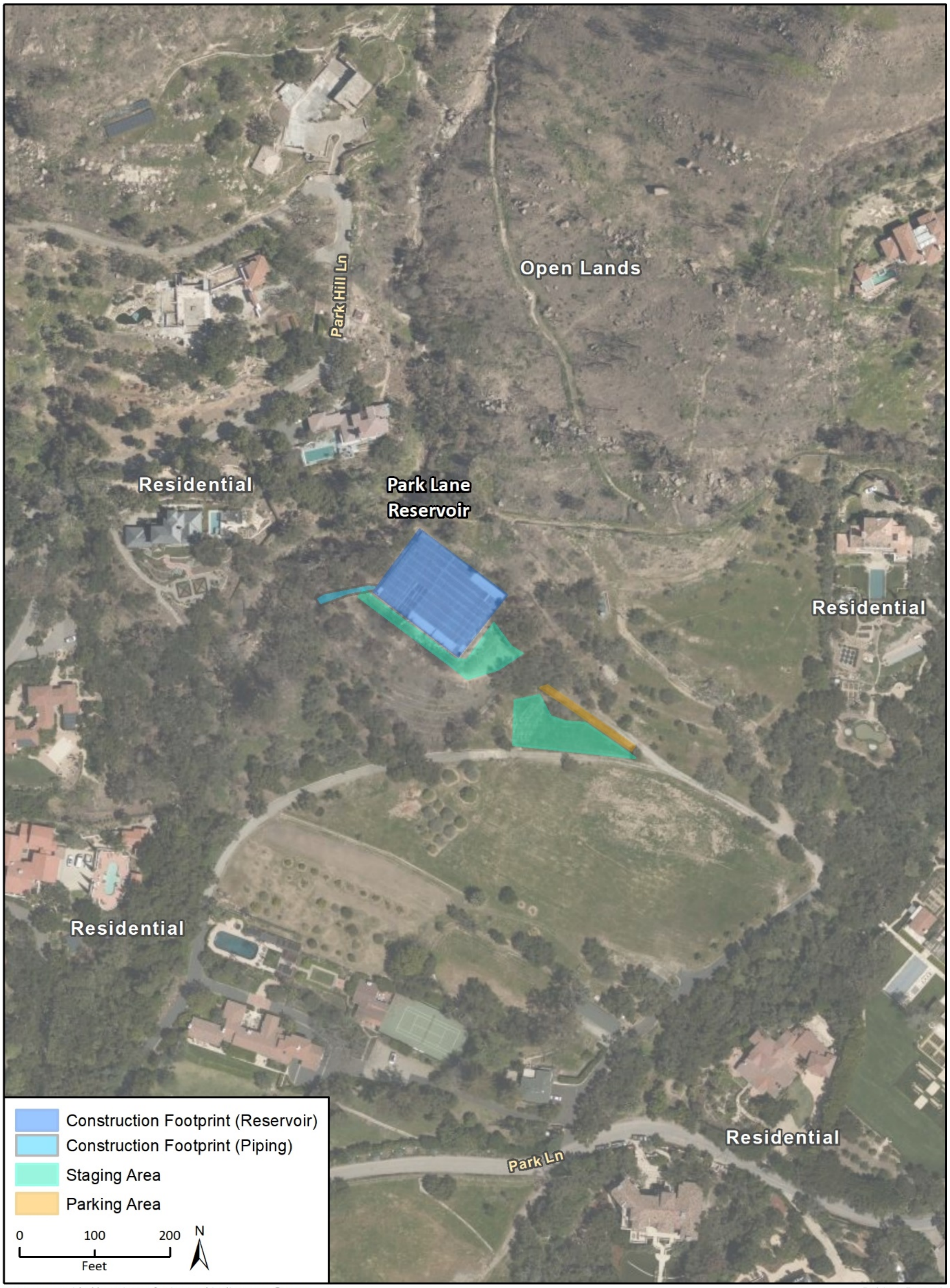

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Figure 7 Cold Springs Reservoir Construction, Staging, and Parking Areas

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Hot Springs Reservoir

Hot Springs Reservoir was constructed in 1939 using the same structural standard drawings as the Buena Vista Reservoir. It is 0.83 MG in capacity and 80 feet in diameter with a six-inch thick floor slab. The reservoir is located on District-owned property (APN 011-030-024) near the intersection of Hot Springs Road and Hot Springs Lane in Montecito, California. Hot Springs Reservoir is reinforced with welded wire mesh and equipped with 23-foot high reinforced concrete walls supported on a three-foot wide by one-foot thick continuous reinforced concrete footing. The existing concrete walls vary in thickness from 15 inches at the base to nine inches at the top, and is reinforced with vertical and circumferential steel bars.

Hot Springs Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would add reinforcing steel and sprayed concrete to the outside wall shell, coat the entire exterior surface with crystalline waterproofing, widen the existing wall footing, and replace the roof with a new roof made of either steel or concrete. If the new roof is steel, the structure would need to be five to six feet higher than the existing roof with the new roof painted a natural tone to complement the surroundings. If the new roof is concrete, it would be the same height as the existing reservoir roof and the surface would be non-reflective.

The project would excavate up to approximately three feet in depth around the entire reservoir to allow for additional reinforcement and concrete to be added to the foundation. The existing concrete swale would be replaced in kind after the foundation work.

Construction activities at Park Lane Reservoir would require approximately seven to 11 months to complete. Approximately 700 cy of soil would be excavated and exported from the site. Approximately 15 cy of concrete would be demolished.

Construction staging would occur on-site in the areas surrounding the existing reservoir. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

Construction personnel and equipment would access the site from East Mountain Drive, at the end of an approximately 0.5-mile private road on Hot Springs Road.

Figure 8 shows the construction footprint, construction staging area, and parking area associated with Hot Springs Reservoir.

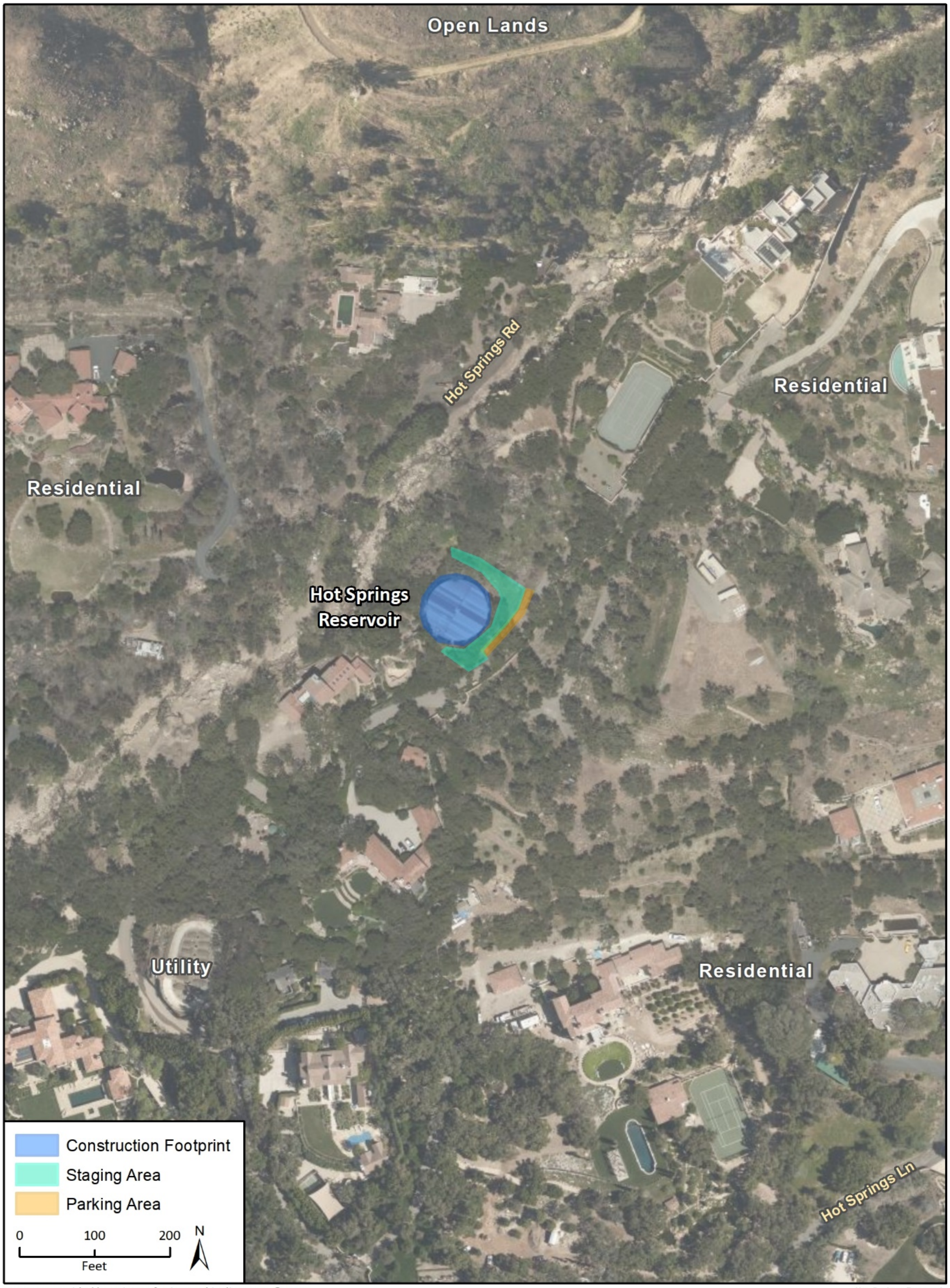
Buena Vista Reservoir

Buena Vista Reservoir was constructed in 1939 using the same structural standard drawings as the Hot Springs Reservoir. It is 0.83-MG in capacity and 80 feet in diameter with a six-inch thick floor slab. The reservoir is located on District-owned property (APN 007-020-018) near 905 Park Lane in Montecito, California. Buena Vista Reservoir is reinforced with welded wire mesh and equipped with 23-foot high reinforced concrete walls supported on a three-foot wide by one-foot thick continuous reinforced concrete footing. The existing concrete walls vary in thickness from 15 inches at the base to nine inches at the top, and is reinforced with vertical and circumferential steel bars.

Buena Vista Reservoir stores water supplies from Jameson Lake and Cater Treatment Plant before distribution to District customers.

The proposed project would add reinforcing steel and sprayed concrete to the outside wall shell, coat the entire exterior surface with crystalline waterproofing, widen the existing wall footing, and replace the roof with a new roof made of either steel or concrete. If the new roof is steel, the

Figure 8 Hot Springs Reservoir Construction, Staging, and Parking Areas



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structure would need to be five to six feet higher than the existing roof with the new roof painted a natural tone to complement the surroundings. If the new roof is concrete, it would be the same height as the existing reservoir roof and the surface would be non-reflective.

The project would excavate up to approximately three feet in depth around the entire reservoir to allow for additional reinforcement and concrete to be added to the foundation. The existing concrete swale would be replaced in kind after the foundation work.

Construction activities at Buena Vista Reservoir would require approximately seven to 11 months to complete. Approximately 700 cy of soil would be excavated and exported from the site. Approximately 15 cy of concrete would be demolished.

Construction staging would occur on-site in the asphalt parking area to the south and north of the existing reservoir. Additional off-site staging would occur at the District office located at 583 San Ysidro Road in Montecito.

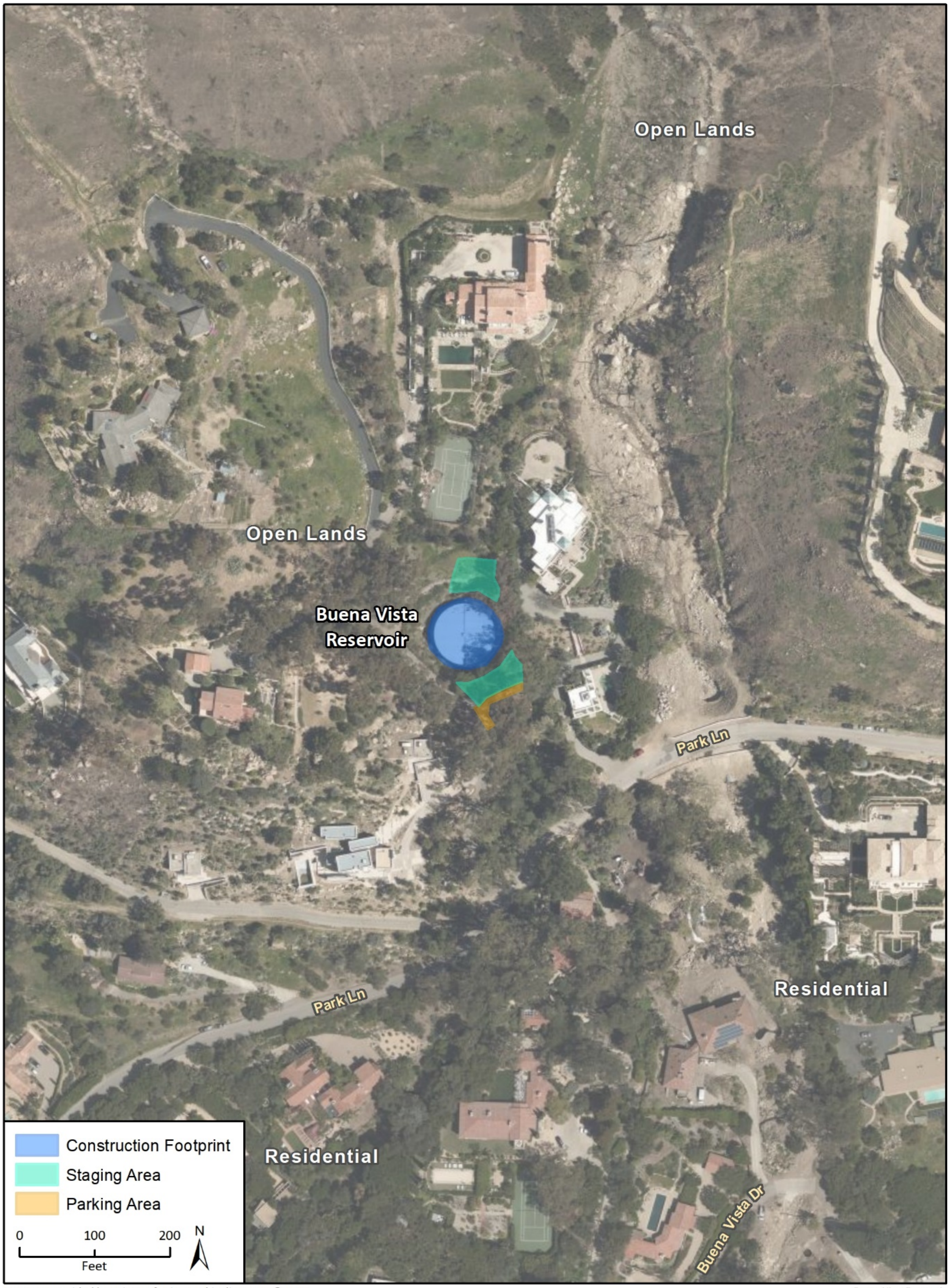
Construction personnel and equipment would access the site from Park Lane, to the end of a 500-foot private driveway.

Figure 9 shows the construction footprint, construction staging area, and parking area associated with Buena Vista Reservoir.

Rincon Personnel

This study was managed by Senior Architectural Historian Steven Treffers, M.H.P. Architectural Historian. James Williams, M.A., completed archival research and served as contributing author of this report. Archaeologist Mary Pfeiffer, B.A., conducted the pedestrian field survey and served as a contributing author of this report. Senior Principal Investigator Ken Victorino, M.A., Registered Professional Archaeologist (R.P.A.) provided senior-level oversight for archaeological resources. GIS Analyst Allysen Valencia prepared the figures included in this report. Rincon Principal Shannon Carmack reviewed the report for quality assurance and quality control. Mr. Treffers, Mr. Williams, Mr. Victorino and Ms. Carmack meet the Secretary of the Interior's *Professional Qualification Standards* in their respective fields (36 CFR Part 61).

Figure 9 Buena Vista Reservoir Construction, Staging, and Parking Areas



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Regulatory Framework

California Environmental Quality Act

California Public Resources Code (PRC) Section 21804.1 requires lead agencies determine if a project could have a significant impact on historical resources. As defined in PRC Section 21804.1 and Section 15064.5(a) of the CEQA Guidelines, a historical resource is a resource listed in, or determined eligible for listing in the California Register of Historical Resources (CRHR), included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant. Resources listed in the National Register of Historic Places (NRHP) are automatically listed in the CRHR and are therefore historical resources under CEQA. Historical resources may include eligible built environment resources and archaeological resources of historic or prehistoric age.

Section 15064.5(c) provides further guidance on the consideration of archaeological resources. If an archaeological resource does not qualify for historical resources eligibility, it may meet the definition of a “unique archaeological resource” as identified in PRC Section 21083.2. This section of the PRC also includes provisions for the treatment of unique archaeological resources. If an archaeological resources does not qualify as a unique archaeological resource or a historical resource, the effects of a project on those resources will be less than significant (Section 15064.5[c][4] of the CEQA Guidelines). Section 15064.5 also provides guidance for addressing the existence of or likelihood of Native American human remains, as well as the unanticipated discovery of any human remains during the implementation of a project.

According to CEQA, impacts that adversely alter the significance of a historical resource are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines §15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR or a local register (CEQA Guidelines §15064.5[b][2][A]).

National Register of Historic Places

Although the project does not have a federal nexus, properties which are listed in or have been formally determined eligible for listing in the NRHP are automatically listed in the CRHR. The following is therefore presented to provide applicable regulatory context. The NRHP was authorized by Section 101 of the National Historic Preservation Act and is the nation’s official list of cultural resources worthy of preservation. The NRHP recognizes the quality of significance in American, state, and local history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects. Per 36 CFR Part 60.4, a property is eligible for listing in the NRHP if it meets one or more of the following criteria:

Criterion A Are associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B Are associated with the lives of persons significant in our past.

Criterion C Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

Criterion D Have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting at least one of the above designation criteria, resources must also retain integrity. The National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, defined in the following manner:

Location The place where the historic property was constructed or the place where the historic event occurred.

Design The combination of elements that create the form, plan, space, structure, and style of a property.

Setting The physical environment of a historic property.

Materials The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling A property's expression of the aesthetic or historic sense of a particular period of time.

Association The direct link between an important historic event or person and a historic property.

California Register of Historical Resources

The CRHR was created by Assembly Bill 2881, which was established in 1992. The CRHR is an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change (Public Resources Code, 5024.1(a)). The criteria for eligibility for the CRHR are consistent with the National Register criteria but have been modified for state use in order to include a range of historical resources that better reflect the history of California (Public Resources Code, 5024.1(b)). Certain properties are determined by the statute to be automatically included in the CRHR by operation of law, including California properties formally determined eligible for, or listed in, the NRHP.

Properties are eligible for listing in the CRHR if they meet one of more of the following criteria:

Criterion 1: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

Criterion 2: Is associated with the lives of persons important to our past

Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history

Unique Archaeological Resource

If it can be demonstrated that a project will cause damage to a *unique archaeological resource*, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC §21083.2[a], [b]).

PRC Section 21083.2(g) defines a *unique archaeological resource* as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

Criterion 1: Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information

Criterion 2: Has a special and particular quality such as being the oldest of its type or the best available example of its type

Criterion 3: Is directly associated with a scientifically recognized important prehistoric or historic event or person

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Natural and Cultural Setting

Environmental Setting

The project area is located along the southern boundary of the Los Padres National Forest, approximately 1.5 to 2.6 miles north of the Pacific Ocean. The project area is situated at an elevation that ranges from approximately 245 to 1,800 feet above mean sea level. The nearest water sources include Romero Creek (approximately 0.58 miles west of Bella Vista Reservoir and 0.46 miles to the east of Romero Reservoir), San Ysidro Creek (approximately 0.59 miles west of Buena Vista Reservoir, 0.28 miles west of Park Lane Reservoir, and 0.81 miles northeast of the off-site staging area at the District office), West Fork Cold Springs Creek (approximately 0.35 miles to the northwest of Cold Springs Reservoir, 0.83 miles northwest of Hot Springs Reservoir, and 0.47 miles to the northeast of Terminal Reservoir), and Toro Canyon Creek (approximately 415 feet to the northwest of Doulton Reservoir). The soils within the project sites include a Maymen stony fine sandy loam (Terminal Reservoir, Buena Vista Reservoir and Doulton Reservoir), Milpitas stony fine sandy loam (Cold Springs Reservoir and Park Lane Reservoir), Maymen-Rock outcrop complex (Hot Springs Reservoir and Bella Vista Reservoir), Todos clay loam (Romero Reservoir) and Milpitas-Positas fine sandy loam (off-site staging area) (California Soils Resource Lab 2021).

Cultural Setting

Prehistoric Setting

The project area is located in one of the eight organizational divisions of the state defined as the Northern California Bight (Northern Bight) archaeological region (Moratto 1984 and Glassow et al. 2007). The Northern Bight archaeological region encompasses the area from Vandenberg Air Force Base on the coast, south to Point Conception, including the Channel Islands, south along the coast to Rancho Palos Verdes, into the Los Angeles Basin, and north to the “northern margins of Ventura and Santa Barbara Counties” (Glassow et al. 2007:191). Following Glassow et al. (2007), the prehistoric cultural chronology for the Northern Bight is generally divided into six periods: Paleo-Indian (ca. 10,000 – 7000 BCE), Millingstone Horizon (7000 – 5000 BCE), Early Period (5000 BCE – 2000 BCE), Middle Period (2,000 BCE – CE 1), Middle-Late Transition Period (CE 1 – 1000), and Late (CE 1000 – Historic Contact). These periods are discussed in further detail below.

Paleo-Indian (ca. 10,000 – 7000 BCE)

The Paleo-Indian Period, also referred to as the Paleo-Coastal Tradition, defines the earliest human occupation of the Northern Bight and describes the cultural trends and subsistence strategies of prehistoric populations from approximately 10,000 to 7000 BCE (Glassow et al. 2007). The Paleo-Indian Period in North America is largely recognized by projectile points associated with extinct large mammal remains, such as mammoth, bison, and dire wolves, particularly in the Southwest and Plains regions (Reed 1992; Slaughter et al. 1992; Huckell 1996; Erlandson et al. 2007). These projectile points, which exhibit a lanceolate shape with a flute initiated from the base that extends as far as the midline, have been classified as the Clovis style (Justice 2002; Hollenshead 2007).

The earliest accepted dates for human occupation in California are from archaeological sites on two of the Northern Channel Islands, located off the southern coast of Santa Barbara County. The earliest radiocarbon dates known for the region, calibrated to approximately 11,000 years before present, were derived from human remains and rodent bones recovered from the same deposits on Santa Rosa Island (Johnson et al. 2002; Erlandson et al. 2007; Glassow et al. 2007). Archaeological deposits from the Daisy Cave site on San Miguel Island establish the presence of people in this area approximately 10,000 years ago (Erlandson 1991; Erlandson et al. 2007). In San Luis Obispo County, archaeological sites CA-SLO-1764 (Lebow et al. 2001), Cross Creek (CA-SLO-1797; Fitzgerald 2000), and CA-SLO-832 (Jones et al. 2001) yielded radiocarbon dates from approximately 9,000 years ago (Jones and Ferneau 2002).

Recent data from Paleo-Indian sites in southern California indicate the economy was a diverse mix of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones and Ferneau 2002; Erlandson et al. 2007). Archaeological deposits at the Daisy Cave site yielded an assemblage of “the oldest known fishhooks in the Americas” (Erlandson et al. 2007:57). Shell middens discovered on the mainland of California have also yielded dates from 8000 to 7000 BCE (Erlandson et al. 2007).

A fluted projectile point fragment was recovered from site CA-SBA-1951 on the Santa Barbara Channel coastal plain (Erlandson et al. 1987; Erlandson 1994). Another fluted projectile point was reportedly found on the surface in Nipomo, San Luis Obispo County (Mills et al. 2005). Large side-notched projectile points of the Central Coast Stemmed series in this area date to as early as 8,000 years ago (Justice 2002) suggesting some overlap with the Clovis type. Central Coast Stemmed projectile points have been recovered along the Central Coast, which is located immediately north of the Northern Bight region. These sites include Diablo Canyon (CA-SLO-2; Greenwood 1972), Cross Creek (CA-SLO-1797; Fitzgerald 2000) and Little Pico Creek (CA-SLO-175; Jones and Waugh 1995), among others. At the Metcalf site (CA-SCL-178), in southern Santa Clara Valley, Hildebrandt (1983) recovered two large side-notched points associated with charcoal dates ranging from 9,960 – 8,500 years ago.

Millingstone Horizon (ca. 7000 – 5000 BCE)

It is generally accepted human occupation of California originated from small, dispersed occupations during the Paleo-Indian period. Populations increased from the Paleo-Indian Period to the Millingstone Horizon, possibly as a result of an ecological adaptation to collecting plant resources. Rogers (1929) originally identified the Millingstone Horizon along the Santa Barbara Channel. Wallace (1955, 1978) further defined the period, noting the appearance and abundance of milling implements in archaeological sites from this period. The milling implements, including milling stones (e.g., metates, milling slabs) and hand stones (e.g., manos, mullers), are associated with the horizontal motion of grinding small seeds and nuts, and lend to the name Millingstone Horizon (Desautels and Leach 1978; Glassow et al. 2007).

These milling implements are particularly noted in archaeological sites along the coast of California and become even more prevalent near the end of the horizon (Wallace 1955, 1978; Warren 1968). Excavations at the Tank Site (CA-LAN-1) in Topanga Canyon from 1947 to 1948 confirmed the presence of a significant number of milling implements that correspond with the Millingstone Horizon (Treganza and Bierman 1958). Although the milling implements suggest an emphasis on seed and nut gathering, Millingstone populations likely employed a mixed food procurement strategy, which included hunting. Flaked stone assemblages, which include crude core and cobble-core tools, flake tools, large side-notched projectile points, and pitted stones (Desautels and Leach 1978; Glassow et al. 2007; Jones et al. 2007), shell middens, and faunal remains in coastal Millingstone Period sites point to broad-spectrum hunting and gathering of shellfish, fish, birds, and mammals. This mixed food procurement strategy demonstrates adaptation to regional and local environments, lending to population increase.

Early Period (ca. 5000 – 2000 BCE)

The Early Period of the Northern Bight is marked by a lower frequency of radiocarbon dated archaeological sites as well as changes in artifact forms. Differences in artifact forms, particularly in ground stone implements, likely represent changes in subsistence (Glassow et al. 2007). The material culture recovered from Early Period sites in the Northern Bight region provides evidence for continued exploitation of inland plant and coastal marine resource as well as the incorporation of "newly important food resources" found in specific habitats (Glassow et al. 2007:197). In addition to the use of metates and manos, prehistoric populations began to use mortars and pestles, such as those recovered from the Sweetwater Mesa (CA-LAN-267) and Aerophysics (CA-SBA-53) sites (Glassow et al. 2007).

Artifact assemblages recovered from Early Period sites also include bipointed bone gorge hooks used for fishing, *Olivella* beads, bone tools, and pendants made from soapstone. The frequency of projectile points in Early Period assemblages also increased, while the style began to change from lanceolate forms to side-notched forms (Glassow et al. 2007). This projectile point style trend, first identified by David Banks Rogers in 1929, was confirmed by Greenwood (1972) at Diablo Canyon. The projectile point trend was apparent at numerous sites along the California coast as well as a few inland sites (e.g., CA-SBA-210 and CA-SBA-530). In many cases, manifestations of this trend are associated with the establishment of new and larger settlements, such as at the Aerophysics site (Glassow et al. 2007; Jones et al. 2007).

Middle Period (ca. 2000 BCE – CE 1)

The Middle Period describes a pronounced trend toward greater adaptation to regional or local resources as well as the development of socioeconomic and political complexity in prehistoric populations (Glassow et al. 2007). The remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in archaeological deposits along the coast.

Coastal populations developed shell fishhooks, and projectile points changed from side-notched dart points to contracting stem styles. Flaked stone tools used for hunting and processing—such as large side-notched, stemmed, lanceolate or leaf-shaped projectile points, large knives, edge modified flakes, and drill-like implements—occurred in archaeological deposits in higher frequencies and are more morphologically diversified during the Middle Period. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive became common. Circular fish hooks which date from between 1000 and 500 BCE, compound bone fish hooks which date between CE 300 and 900, notched stone sinkers, and the tule reed or balsa raft, indicative of complex maritime technology, became part of the toolkit during this period (Kennett 1998; King 1990; Arnold 1995; Jones and Klar 2005; Glassow et al. 2007).

Populations continued to follow a seasonal settlement pattern until the end of the Middle Period; large, permanently occupied settlements with formal architecture, particularly in coastal areas, appear to have been the norm by the end of the Middle Period (Kennett 1998; Glassow et al. 2007). Prehistoric populations began to bury the deceased in formal cemeteries with artifacts that may represent changes in ideology and the development of ritual practices (Glassow et al. 2007).

Middle-Late Transition Period (ca. CE 1 – 1000)

The Middle-Late Transition period is marked by major changes in settlement patterns, diet, and interregional exchange. Prehistoric populations continued to occupy more permanent settlements, with the continued use of formal, although crowded, cemeteries and the burial of goods with the deceased. Burials are normally flexed, placed face down and oriented toward the north or west (Warren 1968). The interments are typically marked by vertical pieces of whalebone and have abundant grave goods, such as ornaments, effigies, and utensils.

After CE 500, a wealth of ornaments, and ceremonial and artistic items characterize the Northern Bight "Chumash Tradition" along the central coast and offshore islands (Warren 1968). Ground stone items include bowls, mortars and pestles, stone beads, pendants, pipes, tubes, and mammal effigies. Projectile points, both large and small, were typically non-stemmed and leaf-shaped, with convex or concave bases. Chipped stone implements also included drills and scrapers. Utilitarian objects were made from bone (e.g., awls, fishhooks, whistles, and tubes) and shell (e.g., fishhooks and abalone shell dishes). Shell beads and ornaments were abundant, and bowls, pestles, pipes, and stone tubes were inlaid with shell beads and engraved. Bowls, pipes, and ornaments were commonly manufactured from steatite.

The manufacture of the plank canoe, called tomol, allowed coastal prehistoric populations to catch larger fish that occupied deeper sea waters (Glassow et al. 2007). Following the introduction of the tomol, which was lined with naturally occurring asphaltum, populations began to use harpoons, hooks and lines, and nets to catch deep sea fish and mammals. The plank canoe appears to have influenced "commerce between the mainland coast and the Channel Islands," and fish remains indicate "a noticeable increase in the acquisition of large deep-sea fish such as tuna and swordfish" (Glassow et al. 2007:204).

Projectile points diagnostic of both the Middle and Late periods are found in Northern Bight archaeological sites (Glassow et al. 2007). These projectile points include large, contracting-stemmed types typical of the Middle Period, as well as small, leaf-shaped Late Period projectile points, which likely reflect the introduction of the bow and arrow. Middle-Late Transition Period sites indicate populations replaced atlatl (dart) technologies with the bow and arrow, which required smaller projectile points.

Late Period (ca. CE 1000 – Historic Contact)

Late Period archaeological sites indicate sociopolitical and economic complexity among populations in the Northern Bight. Glassow et al. (2007:205) notes that between 1200 and 1300 social stratification becomes evident in the archaeological record. Climatic change may have stimulated the development of specialized crafts, regional trade, and changes in food procurement. Unlike the large Middle period shell middens, Late Period sites are more frequently single-component deposits. There are also more inland sites, with fewer and less visible sites along the Pacific shore during the Late Period. The settlement pattern and dietary reconstructions indicate a lesser reliance on marine resources than observed for the Middle and Middle-Late Transition periods, as well as an increased preference for deer and rabbit (Jones and Waugh 1995). An increase in the number of sites with bedrock mortar features that date to the Late Period suggests nuts and seeds began to take on a more significant dietary role in Late Period populations.

Late Period sites are distinguished by small, finely-worked projectile points and temporally diagnostic shell beads. These shell beads were used as monetary currency to trade with inland populations. Trade brought many maritime goods, such as fish, shellfish, and steatite bowls to inland locations, such as CA-SBA-3404, CA-SBA-485, and CA-SBA-2358, particularly during the latter part of the Late Period. Small, finely-worked projectile points are typically associated with bow and arrow technology, which is believed to have been introduced to the area by the Takic migration from the deserts into southern California.

Ethnographic Overview

The project area lies in Chumash ethnographic territory, which extends from the current city of Malibu to the south, north to beyond San Luis Obispo, and inland past the Santa Ynez Valley. The Chumash also inhabited the Northern Channel Islands of San Miguel, Santa Rosa, and Santa Cruz. The Chumash language is considered to be an isolated stock and is not associated with any earlier language family. Three branches of the language are recognized: Obsipeño, or Northern Chumash, consisting of two dialects, Central Chumash, consisting of four unique languages of Purisimeño, Ineseño, Barbareño, and Ventureño, and Island Chumash, spoken by the inhabitants of the Northern Channel Islands (Golla 2007).

Chumash villages along the mainland coast of the Santa Barbara Channel from Carpinteria to Goleta were of the highest population density, ranging from 500 to 800 individuals, although some claim population counts were into the thousands (Dartt-Newton and Erlandson 2006). Interior villages were substantially smaller, with populations varying anywhere from 15 to 250 people (Glassow et al. 2007). The Chumash lived in large hemispherical dwellings made of poles placed in a circle and gathered at the top with the sides covered with grasses or reeds. Houses were typically arranged in clusters, although sometimes in rows (Gamble 1995). The Chumash also constructed sweatlodges which were semi-subterranean dome shaped structures that functioned to “purify and cleanse the spirit and body” (Gamble 1995:57).

The Chumash are well-known for their plank canoes, or tomols. Tomols facilitated the procurement of marine resources, such as nearshore fish caught with nets, lines and hooks, and deep-sea marine mammals hunted with harpoons (Arnold 1995). Tomols additionally moved people and goods across the Santa Barbara Channel in what was considered a highly sophisticated trade network. Bulk items including acorns, a staple of the Chumash diet, were imported to the Islands, while shell beads, the Chumash form of currency, were exported to the mainland (Arnold 1995). In addition to marine resources and acorns, Chumash subsistence consisted of piñon pine nuts, berries, mushrooms, chia seeds and other plant resources, and land animals, such as mule deer, coyote, and fox (Grant 1978).

Characteristic mortuary practices among the Chumash included flexed burials placed face down and facing west (Grant 1978). The Chumash buried their dead in crowded cemeteries with abundant grave goods including shell, functional tools, such as mortars and pestles, bone, and formal stone artifacts (Erlandson 1999:107). Status differentiation is noted among burials such as those recovered at Rincon (CA-SBA-1) and on Santa Rosa Island (CA-SRI-41A), with high status individuals displaying more elaborate grave goods. Among the Barbareño Chumash, status differentiation is postulated to signal an increase in cultural complexity stimulated by population increase and its ratio to available territory and resources (Erlandson 1999).

Spanish explorers first arrived in the Santa Barbara Channel region in 1542. Contact had much more of an impact starting in 1770 with the establishment of the missions. Mission life led to severe population decline and culture loss (Johnson 1987). Although the Chumash languages are no longer commonly spoken (Timbrook 1990), many descendants of the Chumash still live in the region and a cultural revitalization has been ongoing since the 20th century (Glassow et al. 2007). Today, the

Santa Ynez Band of Chumash Indians, whose reservation is approximately 43 kilometers (27 miles) northwest of the project area, is the only federally recognized Chumash tribe.

Historic Overview

Post-European contact history for California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present).

Spanish Period (1769–1822)

Spanish explorers made sailing expeditions along the coast of what was then known as Alta (upper) California between the mid-1500s and mid-1700s. In 1542, while in search of the legendary Northwest Passage, Juan Rodríquez Cabríllo recorded a visit to the Santa Barbara area. Sebastian Vizcaíno also conducted exploration of the coast in 1602 and named the Santa Barbara Channel when his ship entered it on the feast day of Saint Barbara (Kyle et al. 2002). By the 18th century, Spain developed an approach to secure its hold on the territory and counter against other foreign explorers. The Spanish established military forts known as presidios, as well as missions and pueblos (towns) throughout Alta California. The 1769 overland expedition by Captain Gaspár de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. Portolá established the presidio of San Diego as the first Spanish settlement in Alta California in 1769. Franciscan Father Junípero Serra also founded Mission San Diego de Alcalá that same year, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823. The Santa Barbara presidio was established in 1782, and the Santa Barbara Mission was founded four years later (Graffy 2010). The Santa Barbara Mission is located approximately 3 miles (5 kilometers) west of the nearest project site.

The mission and presidio relied on Chumash labor, and eventually the majority of the native population lived at the mission complex (Cole 1999). A major emphasis during the Spanish Period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Spain began making land grants in 1784, typically to retiring soldiers, although the grantees were only permitted to inhabit and work the land. The land titles technically remained property of the Spanish king (Livingston 1914). The increases in local populations and contact with diseases brought by Europeans greatly reduced the Native American population (McCawley 1996).

The history of water infrastructure in the Santa Barbara area for the historic period (post-European contact) can be traced back to that developed by Spanish soldiers, padres and settlers, which included an aqueduct to convey water from Mission Creek to the presidio built in approximately 1790, and the Mission Creek Dam, reservoir and an aqueduct which were begun in 1806 (Southworth 1920; City of Santa Barbara 2018; Redmon 2017).

Mexican Period (1822–1848)

Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain won independence from Spain in 1821. In

1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos. Commonly, former soldiers and well-connected Mexican families were the recipients of these land grants, which now included the title to the land. Forty-one ranchos were granted between 1835 and 1846 in what would become Santa Barbara County (Graffy 2010).

During the supremacy of the ranchos (1834-1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no counteractive immunities.

American Period (1848–Present)

The United States went to war with Mexico in 1846. During the first year of the war, John C. Fremont traveled from Monterey to Los Angeles with reinforcements, and evaded Californian soldiers in Santa Barbara's Gaviota Pass by taking the route over the San Marcos Pass instead (Kyle et al. 2002). The war ended in 1848 with the Treaty of Guadalupe Hidalgo, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. territories (Waugh 2003). Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through the 1850s. The discovery of gold in the northern part of the state led to the Gold Rush beginning in 1848, and with the influx of people seeking gold, cattle were desired not only for their hides but also their source as meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed the region's burgeoning mining and commercial boom.

A severe drought in the 1860s decimated cattle herds and drastically affected rancheros' source of income. In addition, property boundaries that were loosely established during the Mexican era led to lawsuits and disputes with new incoming settlers and caused problems with squatters. Rancheros often were encumbered by debt and the cost of legal fees to defend their property. As a result, much of the rancho lands were sold or otherwise acquired by Americans. Most of these ranchos were subdivided into agricultural parcels or towns (Dumke 1944).

The mission dam and reservoir were insufficient to meet Santa Barbara's needs, and additional water supplies were developed, such as the digging of deep wells. In 1872, Mission authorities conveyed their rights to the waters of Mission Creek to the Mission Water Company, a private water company that was to supply the city with water. The company laid pipes into the city, supplanting wells as the main domestic water supply (Southworth 1920).

In 1888, the city engineer made the first of many surveys and concluded water from the Santa Ynez River was going to waste (Stubchaer, n.d.). By 1896, the municipal water supply became an urgent issue and funds were set aside to bore the Cold Spring Tunnel, extending 5,000 feet into the Santa

Ynez Mountains. In 1912, following a 9-year effort, the Mission Tunnel which bore 19,560 feet through the Santa Ynez Mountains was completed (Southworth 1920; Stubchaer, n.d.; Bastian 2019). The Gibraltar Dam was constructed between 1918 and 1920, and the reservoir it formed was the first reservoir created in the Santa Ynez River (Stubchaer, n.d.; Loaiciga 2001). In conjunction with the Gibraltar Dam and reservoir, the Mission Tunnel brought water via gravity flow from the Santa Ynez River to the city. At the time of its construction, Mission Tunnel was the longest water tunnel in the world (Bastian 2019).

Montecito

Located just east of the City of Santa Barbara, Montecito is located in an unincorporated portion of Santa Barbara County. Montecito's first residential settlement consisted primarily of retired soldiers from the Santa Barbara Presidio, but by the mid-1800s, Anglo settlers began acquiring land there. Montecito's soil and climate were found to be excellent for growing fruit and vegetable crops, including grapes, citrus, almond and ornamental trees, and flowers (Myrick 1988; Mason 1883). The success of the Crocker-Sperry Ranch and the San Ysidro Ranch brought recognition to the Montecito Valley as a citrus producer. A small business area also developed near East Valley and San Ysidro roads consisting of a general store, blacksmith, butcher shop, and later a post office, library, and community hall (Montecito Association 2011).

Tourists were lured to Montecito's attractions, which included an oversized grapevine known as "La Parra Grande" and hot springs alleged to have the ability to cure health ailments (Myrick 1988). The area's rustic beauty enticed wealthy industrialists to return and build large winter estates. By the 1920s, Montecito had become known for its wealthy socialites and their parties, country clubs, polo, and tennis matches (Montecito Association 2011). However, working class residents also made their homes in Montecito; modest cottages were rented by domestic workers, chauffeurs and other employees of the nearby Miramar Hotel between the 1910s and 1930s (Scott 1992). The growing population led to an increased need for a reliable water source, resulting in the formation of the Montecito County Water District (MCWD), whose history is described in more detail below.

Building dramatically slowed in the Montecito community during the 1930s as a result of the Great Depression. After World War II, building resumed and older, large estates were subdivided to provide smaller residential lots adjacent to the highway (Scott 1992). Commercial development and other infrastructure developed in Montecito during the post-war years reflect the community's growth; its population tripled from 3,000 in 1928 to 9,500 by 1978 (Gibbs 2008). The rapid growth of Montecito, however, eventually led to concerns about the community's character and its water, sewer, and infrastructure capacities. Subsequently, local government took legislative action to limit permitted projects and slow growth through a Growth Management Plan (County of Santa Barbara and Envicom 1992). Most recently, development has spread to the southeast and north into the mountains (Montecito Association 2011).

Montecito was in the path of the Thomas Fire which began on December 4, 2017 in central Ventura County and affected various communities in Ventura and Santa Barbara counties. The fire burned 281,893 acres and at the time was the largest fire in California's modern recorded history. In addition to damaging or destroying over 1,300 structures, it damaged the watershed in Ventura and Santa Barbara counties. On January 9, 2018, a heavy rain event triggered debris flows and flash floods which destroyed 166 structures and damaged 395 more in Santa Barbara County and killed 21 people in the community of Montecito (Lehenbauer et. al. 2018). Since the disaster, hundreds of emergency rescue, cleanup, and rehabilitation crews have worked around the clock to remove the millions of pounds of mud and debris and restore and rebuild the community (Schmidt 2018).

Montecito Water District

In Montecito, as early as the 1890s, the Cinquefiol Water Company had constructed a tunnel in the Montecito Valley. Known as the Whitehead Tunnel, it was controlled by several Montecito property owners who made up one of over a dozen private group-owned water companies in the Montecito area (Churchhill, N.D.). According to several newspaper items from the 1910s, many private property owners secured water supplies by constructing reservoirs or other water conveyance and storage features on their Montecito properties (*Santa Barbara Daily News and The Independent* 7/2/1913; 7/21/1914; 10/31/1916; 4/17/1917; 6/21/1917). By the early 1920s, Montecito had grown into a community consisting of a number of large estates. Small, private water companies tapped into springs, creeks, and water wells to provide water to residents. However, those sources were sometimes unreliable due to inadequate seasonal rainfall. Thus, in 1921, local citizens voted to form the Montecito County Water District (MCWD). Established as a County Water District in accordance with the California Water Code, the District's purpose was to furnish potable water to properties in its boundaries.

In the 1920s, an area of land was selected to construct a dam (Juncal Dam) and form Jameson Lake, in order to provide water to Montecito. Development of a water system, which included reservoir storage and a distribution system, began shortly after the District's formation. By 1923, the District hired the Los Angeles-based engineering firm Leeds & Barnard to design elements of the distribution system, including the construction of 60,000 feet of pipelines and Cold Spring (formerly Bothin) Reservoir, plus modifications to the existing Park Lane (formerly Carpenter) Reservoir (MCWD 1924a; 1924b; *Building and Engineering News* 1923). In addition, construction soon began on the 2.2-mile long Doulton Tunnel to convey water from the planned Jameson Lake through the Santa Ynez Mountains. Between 1924 and 1927, the District's water needs were met entirely by the Doulton Tunnel. At the time, the tunnel supplied water solely from groundwater infiltration which flowed through the tunnel before it was holed through to meet the reservoir (Jameson Lake) (District 2020). Juncal Dam was constructed between 1924 and 1930, forming Jameson Lake, and Doulton Tunnel was holed through to meet the reservoir in 1928. Permits were acquired in 1928 from the Forest Service for the development of a camp, railroad, a sand and gravel borrow with a crusher, and a distribution line. In 1930, the District was granted a special use permit for the property that would hold their reservoir, a water transmission line, a diversion dam and conduit in the area of Alder Creek (Lopez 1995).

The District's water system was fully functional by 1930, including the Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines (District 2015; Adams 1929). Jameson Lake and Doulton Tunnel were the primary water supply for the District over the following decades (District 2020). The District also formed an agreement with the city of Santa Barbara for the City to acquire 370,000 cubic meters of water every year from the Juncal Dam (Loaiciga 2001). The District primarily distributed water for "municipal and domestic" needs but also provided irrigation for 800 to 900 acres of lemon orchards. As of 1930 the District comprised at least 7,790 acres, as compared with an area of 5,330 acres at its founding in 1921 (Adams 1929).

In 1949, the District executed its first contract with the Santa Barbara County Water Agency who was the designated local government agency and signature to the Cachuma Project with the United States Bureau of Reclamation. The United States Bureau of Reclamation held the federal water rights to the Santa Ynez River and owned, built, and operated the Bradbury Dam (Lake Cachuma) as a regional water supply serving five water agencies in Santa Barbara County including the MCWD (District 2015). In 1979, the agency's name was changed to Montecito Water District (District, N.D.).

In the 1990s, the District continued to expand both its infrastructural footprint and geographical boundaries. Perhaps the most notable additions to District facilities were the Doulton and Bella Vista water treatment plants, both completed in 1993 (District 2021). The size of the District also increased due to annexations and a merger with the former Summerland County Water District in 1995. The District's service area is approximately 9,909 acres and includes the unincorporated communities of Montecito and Summerland, Toro Canyon, and small portions of the western Carpinteria Valley and eastern area of the city of Santa Barbara. However, not all properties in Montecito area are served by the District; numerous properties rely on water provided by private wells, creeks, streams, and small, private water companies. The District extends approximately 5 miles east of the city of Santa Barbara and from the Pacific Ocean to the south to the Santa Ynez coastal mountains to the north. Of its 9,225-acre service area, approximately 6,421 acres are developed (98 percent residential and 2 percent commercial), and approximately 849 acres are used for agriculture. The population of the District's service area has increased gradually since the District's formation and was estimated at approximately 11,300 people in 2010 (District 2015). In 2004, Jameson Lake supplied approximately 40 percent of Montecito's water with the remainder coming from Lake Cachuma and state water sources (Yatchisin 2004).

Background Research

Cultural Resources Records Searches

A California Historical Resources Information System records search was completed in support of this study on March 31, 2021, by staff at the Central Coastal Information Center (CCIC) at the University of California, Santa Barbara. The purpose of the records search was to identify previously conducted cultural resource studies and previously recorded cultural resources in a 0.5-mile radius of the project sites. As part of the background research for this project, Rincon also reviewed the State Built Environment Resources Directory, NRHP, CRHR, California Historical Landmarks, California Points of Historic Interest, and the California Office of Historic Preservation Archaeological Determinations of Eligibility. ***Portions of the CCIC records search results have been redacted due to the confidentiality of archaeological site locations***.

Previous Studies

The CCIC records search identified 45 cultural resource studies previously conducted in a 0.5-mile radius of the project sites (Table 1). Seven studies were conducted adjacent to (within 0.125 mile) one or more project locations (SR-00681, SR-00682, SR-01202, SR-01451, SR-02053, SR-02185, and SR-04224). Four of the studies were conducted within or potentially within at least one of the project locations (SR-00102, SR-01655, SR-02521, and SR-02624). Studies containing portions of one or more of the project sites are summarized below.

Table 1 Previous Cultural Resource Studies within a 0.5-Mile Radius of the Project Sites

Report No.	Author	Year	Study	Relationship to Project Sites
SR-00102	Brandoff, J.	1974	*Archaeological Reconnaissance for Camino Cielo Lateral Fuelbreak Routes Santa Barbara District*	**Within Hot Springs Reservoir**
SR-00394	Berry, S.	1986	*Phase I Archaeological Assessment APN 11-100-04*	Outside
SR-00435	Perez, M.	1976	*Archaeological Reconnaissance of Six Areas to be Affected by Installation of Water Mains in the Montecito County Water District*	Outside
SR-00446	Stone, D.	1984	*Phase I Archaeological Assessment, APN 11-100-23*	Outside
SR-00454	Wilcoxon, L.	1977	*An Archaeological Reconnaissance of Land Parcel No. 11-100-5 (The Stuart Whitman Property)*	Outside
SR-00496	Brooks, S.	1987	*Letter Report: Report of Phase I Archaeological Investigation of Property at 1590 East Mountain Drive, Montecito, CA*	Outside
SR-00506	Stone, D.	1983	*Phase I Archaeological Assessment, APN 7-100-01*	Outside
SR-00681	Brooks, S.	1987	*Oak Creek Canyon Ranch Archaeological Survey*	**Adjacent to Hot Springs Reservoir**
SR-00682	Berry, S.	1987	*Letter Report, County of Santa Barbara Resource Management Department: 350 East Mountain Drive Surface Survey*	**Adjacent to Terminal Reservoir**

Report No.	Author	Year	Study	Relationship to Project Sites
SR-00704	Wilcoxon, L., B. Haley, M. Imwalle, and J. Harmon	1989	*A Phase I Archaeological Resource Evaluation Westmont College Faculty Housing Project Montecito, California*	Outside
SR-00829	PHR Associates	1990	*Phase II Historic Resource Investigation, 1505 East Valley Road, Montecito, CA*	Outside
SR-00867	Cultural Resource Management Services	1990	*Phase I Cultural Resources Investigation, 690 El Bosque Road, APN 7-120-29*	Outside
SR-01202	Santa Barbara County Flood Control and Water Conservation District and Resource Management Division	1991	*Draft: Negative Declaration Sycamore Creek Flood Control Maintenance (91-ND-32)*	**Adjacent to Romero Reservoir**
SR-01345	Gibson, R.	1992	*Results of Phase One Archaeological Surface Survey for Two Parcels on the San Ysidro Ranch, Santa Barbara County, CA*	Outside
SR-01424	Stellmacher, A.	1993	*Cultural Resource Report for Negative Finding (Short Form) San Ysidro Trail*	Outside
SR-01451	Wilcoxon, L. and C. Locke	1993	*A Phase I Archaeological Resource Evaluation for the Proposed Montecito Cellular Telephone Relay Station in Santa Barbara County, California*	**Adjacent to Buena Vista Reservoir**
SR-01655	Wilcoxon, L.	1993	*A Phase I Prehistoric/Native American Archaeological Resource Evaluation for Twelve Proposed Residential Lots and Access Roads on the Shirley C. Burden Property Montecito, California*	**Within Terminal Reservoir and Cold Springs Reservoir**
SR-01778	Anderson, K.	1995	*Archaeological Reconnaissance Report: Santa Barbara Front Country Trails, Maintenance and Continuing Use: Cold Springs Trail*	Outside
SR-01783	Dahl, D.	1995	*Archaeological Reconnaissance Report: Santa Barbara Front Country Trails: Maintenance and Continuing Use: Cold Springs Trail, Tunnel Trail, Jesusita Trail, Rattlesnake Trail*	Outside
SR-01796	Santoro, L.	1995	*Phase 1.5 Archaeological Investigation of APN 11-140-34 Santa Barbara, California*	Outside
SR-01890	Science Applications International Corp.	1996	*Phase I Cultural Resources Investigation Juarez-Hosmer Adobe Site*	Outside
SR-01909	Kay, D.	1996	*Phase I Cultural Resources Investigation, 244 Camino Del Rosario, APN 155-05-049, Summerland, California*	Outside
SR-02053	Stone, D.	1997	*Phase I Cultural Resource Investigation for the Tentative Parcel Map 811 Romero Canyon Road, Montecito, CA*	**Adjacent to Romero Reservoir**

Report No.	Author	Year	Study	Relationship to Project Sites
SR-02176	Stone, D.	1998	*Supplemental Extended Phase I Testing of CA-SBA-3490, APN 007-080-035 Baring-Gould Lot Split, Santa Barbara County, California*	Outside
SR-02185	Anderson, K. and D. Stone	1998	*Extended Phase I Testing of CA-SBA-3490 APN 007-080-035 Baring Gould Lot Split, Santa Barbara, California*	**Adjacent to Romero Reservoir**
SR-02243	Pfeiffer, L.	1998	*Phase I Cultural Resource Investigation Westmont College Master Plan Improvements*	Outside
SR-02521	Duke, C.	2000	*Cultural Resource Assessment for Pacific Bell Mobile Services Facility LA 457-11 County of Santa Barbara, CA*	**Potentially Within Bella Vista Reservoir**
SR-02578	Stone, D.	2000	*Phase I Archaeological Resources Report, Tentative Map Lot Line Adjustment 98-LA-013, 960, and 1000 East Mountain Drive, Montecito, CA*	Outside
SR-02624	Schmidt, J.	2000	*Sheffield 16kV Distribution Pole Replacement Project, Santa Barbara County*	**Potentially Within Bella Vista Reservoir**
SR-02676	Khachaturian, T.	2000	*Archaeological Reconnaissance Report for ERFO FY2000: East Camino Cielo*	Outside
SR-03611	Carbone, L.	2006	*Phase I Archaeological Resources Evaluation for Proposed Phase IV Development at the San Ysidro Ranch Property, Montecito Area, County of Santa Barbara, California*	Outside
SR-04224	Romani, G.	2008	*Phase I Archaeological Investigation: 40 Acres Parcel Located at 1017 Hot Springs Road (APN 011-010-008) Montecito, Santa Barbara County, California*	**Adjacent to Hot Springs Reservoir**
SR-04321	Toren, A.	2008	*DWO 6049-4800; A.I. No 8-4812: Sheffield 16kV Deteriorated Pole Replacement Project, Montecito, Santa Barbara County, California*	Outside
SR-04435	Gonzalez, M. and K. Garcia	2009	*Results of Archaeological Survey and Monitoring for Pole Replacement and Access Road Improvements Associated with Southern California Edison's Emergency Response to the Tea Fire; Santa Barbara County, California*	Outside
SR-04438	Schmidt, J.	2008	*Tea Fire: Emergency Transmission Road Grading, Montecito Area, Santa Barbara County*	Outside
SR-04534	Schmidt, J.	2009	*Archaeological Letter Report: WO 6049—4800; 9-4887; TD 402292; Stanwood 16 kV Deteriorated Pole Replacement Project, Santa Barbara County, California*	Outside
SR-04574	Wee, S. and B. Larson	2006	*Historical Resources Evaluation Report: Masonry features within State Right-of-Way Along State Route 192, Santa Barbara County, California*	Outside

Report No.	Author	Year	Study	Relationship to Project Sites
SR-04586	Orfila, R.	2010	*Archaeological Survey for the Southern California Edison Company: Replacement of Twenty-One Deteriorated Power Poles on the Crowder 12KV, Lucerne 12KV, Maybell 12KV, Muroc 12KV, Museum 12KV, Oban 12KV, Queensland 12KV, Roosevelt 12KV, Santa Clara-Wakefield #2 66KV, and Sheffield 16KV Circuits near Carpinteria (Santa Barbara County), Santa Paula (Ventura County), Covina and Lancaster (Los Angeles County), California (WO 4605-2395,6026-4800, J4884, 6036-4800 0-4869, and 6049-4800 9- 4898)*	Outside
SR-04669	Schmidt, J.	2011	*Sheffield 16 kV Deteriorated Pole Replacement Project (WO 6049-4800; 0-4880; TD492215), Upper Toro Canyon Road Area, Santa Barbara County, California.*	Outside
SR-04907	Stone, D.	2010	*Phase 1 Archaeological Resources Investigation, Tentative Parcel Map 14,765, APN 013-050-035, 1050 Coyote Road, Montecito Area, Santa Barbara County, California*	Outside
SR-05011	Perez, D.	2013	*Cultural Resources Survey - Montecito ReloAlt 2/ Ensite #14732 (255706) 512 Santa Angela Lane, Montecito, Santa Barbara County, CA, 93108 Unsectioned Portion of T4N R25W*	Outside
SR-05011a	Roland-Nawi, C.	2013	*Reply in Reference to FCC_2013-0820_002 from SHPO*	Outside
SR-05038	Loftus, S.	2012	*AT&T Site VN0065 (85376) Verizon Switch 521 Santa Angela Lane, Santa Barbara, Santa Barbara County, California 93108*	Outside
SR-05266	Stone, D.	2014	*Phase I Cultural Resources Investigation 2850 Hidden alley Lane APN 155-080-052*	Outside
SR-05266a	Akmenkains, J.	2014	*Appendix A: CCIC Records Search*	Outside

Source: Central Coastal Information Center 2021

SR-00102

In 1974, Joan Brandoff completed an Archaeological Reconnaissance for Camino Cielo Lateral Fuelbreak Routes in the Santa Barbara District, which included background research and a pedestrian field survey of five lateral fuelbreak routes. The survey included the current project's Hot Springs Reservoir. The background research identified two previously recorded archaeological sites within close proximity to the proposed routes (CA-SBA-507 and CA-SBA-508). A previously unrecorded archaeological site was observed during the survey within the Haney fuelbreak route along a loose shale slope. The site consisted of two groundstone artifacts, one mano and one core, which were collected at the time of the survey and curated in the UC Santa Barbara Department of Anthropology laboratory. The other four routes were negative for archaeological resources. The study notes that the nearby area of San Marcos Pass is known to contain rich archaeological resources. No archaeological resources identified in this study are located within the current project site.

SR-01655

In 1993, Larry R. Wilcoxon conducted a Phase I Prehistoric/Native American Archaeological Resources Evaluation for Twelve Proposed Residential Lots and Access Roads on the Shirley C.

Burden Property, Montecito, California. The evaluation entailed a records search and intensive archaeological field survey for a 50-acre portion of East Mountain Drive. The survey included the current project's Terminal Reservoir and Cold Springs Reservoir. The records search identified three previously recorded archaeological resources in the area. The results of the field survey were negative for previously unrecorded archaeological resources. None of the previously recorded archaeological resources noted within the study are within the current project site.

SR-02521

In 2000, C. Duke conducted a study for the Cultural Resource Assessment for Pacific Bell Mobile Services Facility LA 457-11 in Santa Barbara County. Because the CCIC records search results showed that the study was not conducted within the project area, a copy of the report was not provided with the results. However, inspection of the GIS shapefiles provided by the CCIC indicates the study area may have included a portion of the Bella Vista Reservoir and Treatment Plant project site. No further details regarding the study are available.

SR-02624

In 2000, J. Schmidt of Compass Rose Archaeological, Inc. conducted a study for the Sheffield 16kV Distribution Pole Replacement Project in Santa Barbara. Because the CCIC records search results showed that the study was not conducted within the project area, a copy of the report was not provided with the results. However, inspection of the GIS shapefiles provided by the CCIC indicates the study area may have included a portion of the Bella Vista Reservoir and Treatment Plant project site. No further details regarding the study are available.

Previously Recorded Resources

The CCIC records search identified 14 previously recorded cultural resources within the 0.5-mile search radius of the project sites; two of these resources are located adjacent to project sites. None of the previously recorded resources are located within a project site. ***Information regarding previously recorded cultural resources within 0.5-mile of the project site has been redacted due to the confidentiality of archaeological site locations***.

Archival Research Methods

Archival research for this study was completed in April 2021. Research methodology focused on the review of primary and secondary source materials relating to the history and development of the APE and surrounding area. Sources included, but were not limited to, historical maps, aerial photographs, newspaper articles, written histories of the area, and construction plans and other technical drawings provided by the District. A list of repositories and materials consulted to identify pertinent information is included below. The results of this archival research are presented in the Findings Section below.

- Historical aerial photographs accessed via the University of California, Santa Barbara (UCSB) Map and Imagery Lab and Nationwide Environmental Title Research Online (NETRonline)
- Historical topographic maps accessed via United States Geological Survey Topoviewer
- *The Daily News and The Independent*, *Santa Ynez Valley News*, *The Lompoc Record*, and *Santa Maria Daily Times* accessed via Newspapers.com
- Engineering drawings of reservoirs and other facilities provided by the District

- The District's Urban Water Management Plan 2015 Update (adopted May 16, 2017)
- "History of Water in Santa Barbara County" by Jim Stubchaer, retired Santa Barbara County Flood Control Agency Engineering Manager (Stubchaer, no date)
- *Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures* (JRP Historical Consulting Services and Caltrans 2000)
- *Historic Resources Inventory and Evaluation Report: Cachuma Project* (JRP Historical Consulting 2010)
- Other sources as noted in the references list

Native American Heritage Commission

As part of the process of identifying cultural resources for this project, Rincon contacted the NAHC on April 9, 2021, and requested a Sacred Lands File (SLF) search. On March 30, 2021, Rincon received a response from the NAHC stating the SLF search results were "positive" for site-specific information and provided a list of Native American tribal organizations and individuals who may have knowledge of sensitive cultural resources in or near the project sites. The District has initiated AB 52 consultation with tribal contacts that have requested formal notification of proposed projects in the geographic area within which the tribe is traditional and culturally affiliated. Appendix B provides the results of the SLF.

Field Survey

Methods

On April 7, 2021, Rincon archaeologist Mary Pfeiffer, BA, conducted a pedestrian field survey of the project sites and a 25-foot survey buffer using 5-meter transect intervals. The project sites consist of eight reservoir locations, their associated staging and parking areas, and an off-site staging area. Exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, and historic-period debris (e.g., metal, glass, ceramics). Ground disturbances such as rodent burrows and drainages were also visually inspected. Survey accuracy was maintained using a handheld Global Positioning Satellite unit and a georeferenced map of the project sites. Site characteristics and survey conditions were documented using field records and a digital camera. Under the direction of Senior Architectural Historian Steven Treffers, MHP, Ms. Pfeiffer visually inspected all of the built-environment features at each reservoir to assess overall condition and integrity, and to identify and document any potential character-defining features. All buildings were photographed and recorded by Ms. Pfeiffer and later inspected by Architectural Historian, James Williams, for notable architectural elements and alterations. The off-site staging area at the District office at 583 San Ysidro Road in Montecito was excluded from the field survey and further assessment. The ground surface within the off-site staging area, although unpaved, has most likely been disturbed by development of the District office facilities and the temporary storage of construction equipment and/or materials has a low potential to impact intact surficial soils. Copies of the survey notes and digital photographs are maintained at the Rincon Santa Barbara office.

Results

Archaeological Resources

Bella Vista Reservoir and Treatment Plant

The Bella Vista Reservoir and Treatment Plant consists of a pumped or gravity fed in-ground rectangular concrete reservoir, treatment plant, blower room, pump station and reclaimed basins. Given the paved setting, overall ground visibility was poor (less than 10 percent). The subterranean reservoir had a concrete perimeter and was covered almost entirely with manicured grass. Exposed soils within the grass and survey buffer were a light brown/yellow fine-grained silty sand. The staging and parking areas were entirely paved. Mulch, gravel, and leaf litter also covered portions of the project site and survey buffer, obscuring ground surface visibility. Vegetation consisted of non-native annual grassland dominated by wild oats (*Avena sp*.) and other non-native grasses. No archaeological resources were observed as a result of the field survey.

Buena Vista Reservoir

The Buena Vista Reservoir is a gravity fed circular above-ground concrete reservoir covered in wooden planks and situated on a concrete pad with recessions for overflow. Two underground utility vaults with pressure valves and regulators were also observed adjacent to the reservoir. Overall ground visibility was poor (less than 5 percent), obscured by pavement, vegetation, and leaf litter. Exposed soil is a light brown fine-grained silty sand. The staging and parking areas were entirely paved. Vegetation on the site consists of non-native trees, shrubs and grasses. Eucalyptus woodland surrounds the project site with an understory of landscaped shrubs. No archaeological resources were observed as a result of the field survey.

Cold Springs Reservoir

The Cold Springs Reservoir is a gravity fed, partially buried rectangular concrete reservoir. A second reservoir and an associated stone-lined channel were identified adjacent to the existing reservoir. Overall ground visibility was less than 15 percent and obscured by vegetation, gravel and leaf litter. Exposed soil is a light brown fine-grained silt. Vegetation consisted of coast live oak woodland and annual, non-native grassland. Some coastal sage scrub exists as understory below the oak woodland, with black sage, hummingbird sage and laurel sumac subdominant. No archaeological resources were observed as a result of the field survey.

Doulton Reservoir

The Doulton Reservoir is a gravity fed or pumped above-ground circular steel reservoir and a small water treatment plant. The staging area to the north of the reservoir is partially covered in gravel and currently used for storage and the parking area is entirely paved. The staging area to the south of the reservoir is partially paved with asphalt. Overall ground visibility was approximately 20 percent. Exposed soil is a light brown silt. Vegetation consisted of non-native landscaping and the open areas were disturbed ruderal. A few coast live oaks are scattered among the non-native landscaping. No archaeological resources were observed as a result of the field survey.

Hot Springs Reservoir

The Hot Springs Reservoir is a gravity fed above-ground circular concrete reservoir situated on a concrete pad with recessions for overflow. Ground visibility was approximately 10 percent and obscured by vegetation and leaf litter. Exposed soil is a medium brown fine-grained silt. Vegetation consisted of coast live oak and non-native annual grassland (*Avena sp., Bromus sp*.). Some coastal sage scrub exists and understory below the oaks with California sagebrush (*Artemesia californica*) and brush sunflower (*Encelia californica*). No archaeological resources were observed as a result of the field survey.

Park Lane Reservoir

The Park Lane Reservoir is a gravity fed in-ground rectangular concrete reservoir with a concrete overflow that goes to an adjacent creek. Overall ground visibility was approximately 20 percent and obscured by gravel, vegetation and asphalt. Exposed soil is a light brown/yellow fine-grained silt. Vegetation consisted of mountain mahogany chaparral, coast live oak woodland and annual grassland. No archaeological resources were observed as a result of the field survey.

Romero Reservoir

The Romero Reservoir is a gravity fed or pumped rectangular in-ground concrete reservoir with two overflows to the east and west and an associated pump station. Overall ground visibility was poor (less than 10 percent) obscured by pavement, leaf litter and vegetation. The parking area is entirely paved, and the staging areas are approximately 35-50 percent paved. Exposed soil is a light brown fine-grained silty sand. Vegetation consisted of annual grassland, eucalyptus woodland, ornamental landscaping and toyon chaparral. No archaeological resources were observed as a result of the field survey.

Terminal Reservoir

The Terminal Reservoir is a gravity fed or pumped in-ground rectangular concrete reservoir and associated pump station. Overall ground visibility was poor (approximately 15-20 percent) and obscured by vegetation, gravel, asphalt and leaf litter. The staging area to the north has a gravel overlay. Exposed soil is a compacted light to medium brown silt. Vegetation consisted of coast live oak woodland and annual grassland. No archaeological resources were observed as a result of the field survey.

Built Environment Resources

The field surveys and background research confirmed that all eight project locations contained structures that were older than 45 years of age and required significance evaluation. Located in the Santa Ynez Foothills above the town of Montecito, the sites contain eight of the District's nine distribution reservoirs, in addition to associated facilities located as some sites. Generally, the reservoirs store water transported from Jameson Lake via the Doulton Tunnel and Lake Cachuma via the South Coast Conduit pipeline. Most of the reservoirs store water treated at both the District's Bella Vista Treatment Plant and the City of Santa Barbara's William B. Cater Water Treatment Plant. Water treated at the District's Doulton Water Treatment Plant is stored in Doulton Reservoir and is not distributed to other reservoirs. Water is generally distributed from the reservoirs to end-users via a gravity-fed system of pipelines. However, in some cases pumps are necessary to deliver water to properties at higher elevations. The facilities at each site were recorded on California Department of Parks and Recreation (DPR) 523 series forms, which are included in Appendix C of this report.

Rincon reviewed a variety of guidance documents and studies to provide additional guidance and historical and architectural context to support the historical resource evaluations as part of this cultural resources assessment. Most notably this included *Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures* (JRP Historical Consulting Services and Caltrans 2000). This document provides a consistent framework for evaluating water conveyance-related resources in California. It presents a broad historical context relating to the history of these systems in California and guidance and recommended methods for evaluating the resources which comprise them. In addition, Rincon reviewed *Historic Resources Inventory and Evaluation Report: Cachuma Project*, which was prepared on behalf of the U.S. Bureau of Reclamation to identify and evaluate potentially significant resources associated with the Cachuma Project in Santa Barbara County (JRP Historical Consulting 2010). As the Montecito Water District is one of the many districts receiving water from the Cachuma Project, this document provides contextual overlap and also further understanding in evaluating components of water conveyance systems in Santa Barbara County.

Per the guidance and methods presented in these documents, water conveyance features may be evaluated individually or as part of the larger system to which they contribute. Although consideration of the larger system is generally preferred, this may not always be feasible due to various project constraints. Regardless of whether an entire system or individual segment or feature is evaluated, consideration must be given to all areas of potential significance and examined in relation to applicable contextual themes (JRP Historical Consulting Services and Caltrans 2000:92). An examination of the District's larger system was outside the scope of the current study and the current historical resource evaluations focused on the eligibility of the reservoirs as individual features. However, as discussed further in the historical resource evaluations below, the reservoirs were found to be common water storage facilities lacking historical or architectural significance. As such they would not contribute to any potential significance of the larger system may as a whole.

As discussed in the Regulatory Framework section above, a historical resource may be eligible for listing in the NRHP or CRHR if it is significant with historic events (NRHP Criterion A/CRHR Criterion 1), important persons (NRHP Criterion B/CRHR Criterion 2), engineering or architectural value (NRHP Criterion C/CRHR Criterion 3), or potential to yield information (NRHP Criterion D/CRHR Criterion 4). The majority of eligible water systems have been found eligible for their association with historic events (NRHP Criterion A/CRHR Criterion 1) or notable engineering achievements or design value (NRHP Criterion C/CRHR Criterion 3) (JRP Historical Consulting Services and Caltrans 2000:92).

In considering the potential eligibility of a water conveyance-related resource under NRHP Criterion A/CRHR Criterion 1, an eligible resource must possess more significant associations than purely its role in the early development of a given community. Major infrastructural elements are inherently important to the constituents they serve and it would be an overreach to conclude these elements would be eligible simply for their association with the growth of this community; this association is arguably is tangential and an expected response to any growing population (JRP Historical Consulting 2010:6). Rather for an infrastructural element such as a water conveyance feature to be found eligible under NRHP Criterion A/CRHR Criterion 1 the resource “must be found to be associated with specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming)” (JRP Historical Consulting Services and Caltrans 2000:93).

Water conveyance systems-related resources are also often found eligible under NRHP Criterion C/CRHR Criterion 3 for their engineering or design values. Generally, eligible properties which are the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Water conveyance systems can also be eligible under NRHP Criterion C/CRHR Criterion 3 as the work of a master, or a figure of demonstrated esteem in their given design field. Not all works by a master will be eligible however and the resource must be a good example of the designer’s work (JRP Historical Consulting Services and Caltrans 2000:94).

Physical descriptions, developmental histories, and historical resource evaluations are presented below for each of the eight reservoirs recorded as part of this assessment. A summary of these reservoirs, their construction dates, and historical resources eligibility is included in Table 2.

Table 2 Built-Environment Resources

Resource Name	Construction Date(s)	Historical Resources Eligibility
Bella Vista Reservoir and Treatment Plant	1975; 1993; ca. 1993; ca. 2018	Recommended ineligible
Buena Vista Reservoir	1939	Recommended ineligible
Cold Springs Reservoir	1925	Recommended ineligible
Doulton Reservoir and Treatment Plant	ca. 1920s; ca. 1940; ca. 1965; 1975	Recommended ineligible
Hot Springs Reservoir	1939	Recommended ineligible
Park Lane Reservoir	1917	Recommended ineligible
Romero Reservoir	1933	Recommended ineligible
Terminal Reservoir	1952; 1999	Recommended ineligible

Bella Vista Reservoir and Treatment Plant

Physical Description

Located at 2750 Bella Vista Drive, the Bella Vista Reservoir and Treatment Plant consists of a distribution reservoir (constructed in 1975), control building (circa 1975), water treatment plant (1993), settling basins (1993), pumping station (1993), tank (ca. 1993) and blower (circa 2018). Bella Vista Reservoir is a 2.25-MG-capacity reinforced concrete water distribution reservoir (Figure 10). Built on a steeply sloping hillside, the reservoir is rectangular in plan measures approximately 132 feet long, 94 feet wide, and 24 feet deep. Original construction plans show that the reservoir's basin is trapezoidal in cross-section. At the north end, the walls are embedded entirely in the ground and the roof is essentially flush with the adjacent terrain. The remaining sides of the reservoir were not accessible during the field survey, but construction plans suggest that other walls are increasingly exposed as the hill slopes downward to the south. The reservoir's reinforced concrete roof consists of panels supported by metal columns on the interior of the structure. The top of the roof is planted with a lawn. Notable alterations since the initial development of the facility include the construction of the pump station and blower on the reservoir's northeast and northwest corners, respectively.

Located at the northeast corner of the reservoir is the pump station building, a one-story building exhibiting elements of Mediterranean Revival-style architecture (Figure 11). It is rectangular in plan, sits on a concrete foundation, and culminates in a side-gabled roof with clay-barrel-tile cladding and exposed rafter tails. Its concrete-block structural system is sheathed in rough stucco with detailing suggesting arches on the east and west elevations. The entrance is located on the south elevation and features glazed double doors, one of which also includes a louvered vent. Aside from the door glazing, there are no windows. A metal pipeline from the pumping equipment inside the building emanates from the south elevation before immediately curving downward into the ground. The building is in good condition and shows no evidence of alteration.

The blower is located at the southeast corner of the reservoir and consists of water treatment equipment housed in a one-story building designed in a style similar to that of the pump station (Figure 12). It has a rectangular plan, concrete foundation, and a gabled roof with clay-barrel-tile cladding and exposed rafter tails. Exterior cladding is rough stucco. A single entrance is located on the east elevation and features solid wood or metal double doors. A louvered vent penetrates the opposing elevation, and a large metal pipeline emanates from the south elevation before immediately curving downward into reservoir. The building is in good condition and shows no evidence of alteration.

Located north of the reservoir, across the parking lot and internal roadway, the Bella Vista Water Treatment Plant building is one-story in height and exhibits Mediterranean Revival-style architectural elements (Figure 13). The building is roughly rectangular in plan, rises from a concrete foundation, and is capped with a flat rood with rolled composition sheeting. Its exterior is entirely stuccoed. On the south elevation, three front entrances featuring glazed double doors of various configurations are located behind an arcade capped in clay barrel tiles. Secondary entrances, including a loading bay, are located on the east and west elevations, with a smaller arcade marking the east entrances. Windows include two square, fixed, multi-pane windows immediately west of the main entrance and a large, arched, metal framed, multi-pane focal window at the west end of the south elevation. The facility is in good condition and exhibits no notable alterations.

Located immediately west of the building are the settling basins (Figure 14). Consisting of two parallel concrete troughs built into the ground, the feature measures approximately 40 feet wide and 140 feet long. The troughs are characterized by straight concrete walls on all but the southwest end, where concrete ramps descend from ground level toward the interior of the feature. The structure is instrumental in the cleaning of the treatment plant's water filters. Pumping equipment installed at the north end of the feature passes water between the basins and the treatment plant. Water is stored temporarily in the basins to clear sediment from the water by allowing it settle on the basin floor. The water in the basin is then reintroduced to the treatment plant for treatment prior to going to the distribution system.

Situated on a hilltop immediately north of the treatment plant building, is a water tank (Figure 15). Constructed of riveted steel, the cylindrical structure measures approximately 20 feet in height and 25 feet in diameter. It is situated on a concrete slab foundation and capped with a low-pitched conical top, on which a stovepipe shaped ventilator installed at the center point. On the southwest side, a ladder accesses the roof, which is encircled with a metal railing. The structure is in good condition and shows no evidence of notable alteration.

The control building is located downhill and to the south the reservoir, near the facility's entrance on Bella Vista Drive (Figure 16). It is a one-story building of generally utilitarian design. It is roughly rectangular in plan but rounded at the corners. The hipped roof is clad in clay-barrel tiles, suggestive of the Mediterranean Revival-influenced details found elsewhere on the property. The exterior consists of structural board-formed concrete, in addition to a band of sheet metal, which is just below the roof. Located on the west elevation, the sole entrance includes a solid wood or metal door. The building is in good condition and does not appear to be altered.

The facility occupies terrain that is generally hilly and covered with scrub vegetation. Artificial landscaping includes mature trees, shrubs, and, as mentioned above, the lawn planted on the reservoir roof. Hardscaping consists of an asphalt-paved internal roadways and parking areas. Development in the surrounding area is characterized by large residential properties.

Figure 10 Bella Vista Reservoir Viewed from the Roof, with the Blower (Left) and Pump Station (Right) in Background, View to the Northwest

Figure 11 Pump Station, South and East Elevations, View to the Northwest

Figure 12 Blower, North and West Elevations, View to the Southeast

Figure 13 Treatment Plant Building, South and West Elevations, View to the Northeast

Figure 14 Settling Basins, View to the Northwest

Figure 15 Water Tank, West Elevation, View to East

Figure 16 Control Building, North and West Elevations, View to the Southeast

Property History

Historical aerial photographs suggest the site of Bella Vista Reservoir and Treatment Plant remained undeveloped until the reservoir was constructed in 1975 (UCSB 1975; NETROnline 1967) (Figure 17). Charles E. Watson and Jerry D. Smith of the Santa Barbara-based engineering firm Penfield & Smith designed the reservoir and presumably, the extant control station, which also appears on site plans drawn in 1974. MCWD's chief engineer, H.O. (Harold Orman) Mendenall, signed off on the plans (Penfield & Smith Engineering 1974). In 1993, the facility was substantially expanded to include the Bella Vista Treatment Plant and the pump station (District 2021; SPH Associates 1992). The expansion project likely also included construction of the water tank and settling basins, which are depicted for the first time in available historical aerial photos in 1995 (Figure 18) (UCSB 1995). With its completion, Bella Vista Treatment Plant became the District's principal treatment facility for water sourced from Jameson Lake. Circa 2018, the facility was expanded further with the construction of the blower (Tetra Tech 2018).

Research for this study found no information suggesting the facility's original designers, Charles C. Watson or Jerry D. Smith of the firm Penfield and Smith Engineering, were significant in the field of engineering. The firm was founded in Santa Barbara in 1946 by William C. Penfield and Delbert D. Smith. Among the firm's notable contributions were plans for the Santa Barbara Marina and an airport master plan (Hager 2015; Construction Star 2021). Newspaper articles dating from around the time of the reservoir and control center's completion suggest many of the firm's engineering commissions pertained to water system engineering and the design of residential, among other types of projects, in Santa Barbara County (*Santa Maria* Times 9/24/1969; 8/31/1974; *Santa Ynez Valley News* 4/11/1968; 3/1/1973; 11/29/1973). No information of consequence regarding Charles C. Watson or Jerry D. Smith was uncovered as a result of research for this study.

Figure 17 Aerial Photograph of Bella Vista Reservoir Under Construction, 1975

Source: UCSB 1975

Figure 18 Aerial Photograph of Buena Vista Reservoir and Treatment Plant, 1995

Source: UCSB 1995

Historical Resources Evaluation

The Bella Vista Reservoir and Treatment Plant is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the Bella Vista Reservoir was one of at least three reservoirs the District constructed in the Post-World War II era. The facility was augmented in 1993 with the construction of the Bella Vista Water Treatment Plant and related buildings and structures. The development of the Bella Vista facility was part of the gradual expansion of the of the District's system since its inception in the 1920s. However, this expansion was due to what could be considered an expected response to the growth of the surrounding community, the increasing need for a reliable water system, and the need to meet higher water quality treatment standards. The Bella Vista Reservoir and Treatment Plant therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Bella Vista Reservoir and Treatment Plant which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Initially developed in 1975, the Bella Vista Reservoir is a 2.25 MG-capacity, reinforced concrete reservoir with a flat, reinforced concrete roof supported by a system of metal columns. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Water storage and distribution reservoirs are of common design, and there is no evidence suggesting the Bella Vista Reservoir represented any particular engineering achievement at the time it was constructed. There is also no evidence indicating the associated engineers Watson or Smith can be considered masters, and regardless, as a simple concrete-lined structure, the Bella Vista Reservoir would not be considered an example of a master's work. The facility's remaining built environment features, including the control center, pump station, blower, water treatment plant, settling basins, and water tank, likewise exhibit no architectural or engineering distinction. Although the buildings on the property represent a shared Mediterranean Revival-style theme, they each embody relatively restrained examples of the style and are not individually or collectively distinguished by their design. The settling basins and water tower are utilitarian structures and no evidence suggests they are notable for their design. Although the designers of these buildings and structures were not in all cases identified, there is nothing apparent in their designs to suggest any of these would be considered an exemplary work of any master. Therefore, the Bella Vista Reservoir and Treatment Plant is Recommended ineligible under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Bella Vista Reservoir and Treatment Plant has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Buena Vista Reservoir

Physical Description

Constructed in 1939, Buena Vista Reservoir is located approximately 0.4 miles northwest of the intersection of Park lane and Mariposa Lane. The property consists of a 0.83-MG-capacity reinforced concrete distribution reservoir, which is circular in plan and measures approximately 80 feet in diameter and 23 in height, not including the roof Figure 19). Exterior walls are constructed of vertically oriented board-formed concrete, while the flat roof is clad in non-original standing-seam metal sheeting with a box-shaped ventilator. Original plans for the reservoir indicate the roof structure consists of steel-truss stringers supporting tensile steel purlins, which in turn to support 1-by-6 wood slats covered with “90 lb. mineral covered roof paper,” that has since been replaced with the existing standing-seam metal surface (Figure 20) (MCWD 1938a). Additional support for the roof frame is provided inside the reservoir by several steel-pole columns anchored to the floor of the structure. Vertical open space between the top of the concrete wall and roofline is filled with mesh. A shallow concrete-lined drainage swale encircles the reservoir and flows to a concrete outlet ditch extending east of the structure. The reservoir is enclosed with a chain-link fence.

The reservoir is situated on a level, excavated hillside site on the north side of Park Lane. Its immediate surroundings characterized by sloping terrain with grasses, oaks, eucalyptus, shrubs, and other planted and wild-growing vegetation. Hardscaping includes an asphalt-paved lot and private roadway immediately south and southeast of the reservoir. Properties in the immediate vicinity are generally developed with large residential estates.

Figure 19 Buena Vista Reservoir, North Elevation, View to the South

Figure 20 Roof of Buena Vista Reservoir, View to the East

Property History

A historical aerial photograph taken in 1928, depicts the site of Buena Vista Reservoir as an undeveloped property on the edge of an area sparsely developed with residences and farms (UCSB 1928). The District constructed the reservoir in 1939, using a design adapted from plans drawn by J.V. Spielman of the San Ysidro Reservoir. In his capacity as the District's Chief Engineer, Carl Wyant approved the plans (MCWD 1938a). The reservoir may have been constructed as part of a planned expansion by the District, as suggested by the fact that the subject reservoir and District's Hot Springs facility were constructed the same year and based on essentially identical plans (MCWD 1938a; 1938b). Historical aerial photographs indicate there have been no substantial changes to the site since its construction, but reveal that between 1967 and 1994, most of the surrounding residential properties were developed (NETROnline 1967; 1994; 2016).

Research for this study identified two individuals with known associations with the reservoir, Spielman and Wyant. Available sources contained no information of consequence regarding Spielman. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004).

Historical Resources Evaluation

The Buena Vista Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Buena Vista Reservoir was constructed in 1939 in conjunction with the Hot Springs Reservoir as part of the larger expansion of the District's system following the development of Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines in the 1920s. The construction of this element therefore was part of what could be considered an expected response to the continued growth of the surrounding community and the increasing need for a modern and reliable water system. The Buena Vista Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Buena Vista Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Buena Vista Reservoir is an above-ground 0.83 MG-capacity, distribution reservoir exhibiting a circular plan, board-formed concrete walls, and allow-pitched conical roof. As such it appears to be of common design and there is no information to suggest it is a notable engineering achievement. It was designed by engineers J.V. Spielman and Carly Wyant, the latter of which was the chief engineer of the District's Doulton Tunnel and Juncal Dam. Although the Doulton Tunnel and Juncal Dam may be considered to be notable engineering achievements pending further study; however, the Buena Vista Reservoir is comparatively not a good example of Wyant's work. As such the Buena Vista Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Cold Springs Reservoir

Physical Description

Constructed circa 1925, Cold Springs Reservoir is located approximately 900 feet west of the intersection of Cold Springs Road and East Mountain Drive. The property consists of a 0.99 MG-capacity reinforced concrete distribution reservoir built into the hillside (Figure 21 and Figure 22). It is rectangular in plan and measures approximately 60 feet wide, 100 feet long, and 22 feet deep, with 2 to 10 vertical feet of the walls visible above ground. Exterior walls are constructed of board-formed concrete, with concrete buttresses visible on downslope (south) elevation. Clad in non-original standing-seam metal, the gabled roof is supported along the perimeter by metal framing, with mesh enclosing the vertical space between the concrete walls and the roofline. Evenly spaced ridge caps are likewise enclosed on the sides with mesh. Roof cladding is non-original standing-seam metal. A chain-link fence encircles the reservoir.

Figure 21 Cold Springs Reservoir, South Elevation, View to the Northeast

Figure 22 Cold Springs Reservoir, North and East Elevations, View to the Southwest

The facility is situated on hilly terrain and its surroundings characterized by grasses, oaks, eucalyptus, palms, and other varieties of planted and wild-growing vegetation. A dirt road passes through the north end of the subject parcel. Located nearby on separate parcels to the north and south are two abandoned concrete reservoirs, in addition to various features of stone construction that are historically associated with the Ellen and H.E. Bothin's Mar Y Cel property.

Property History

Prior to the development of Cold Springs Reservoir circa 1925, the parcel on which the reservoir is located was likely part of a large estate owned by San Francisco-based real estate developer Henry E. Bothin and his wife Ellen. During the previous decade, the Bothins developed the adjacent hillside as Mar Y Cel, an expansive property featuring elaborate gardens and waterworks, at least three reservoirs, and a hilltop tea house (Barnes 2018). By 1924, the MCWD identified the property as a site for reservoir development. That year, plans were drawn for the subject reservoir basin, under the original name Bothin Reservoir. The plans credited Carl Wyant, resident engineer of the MCWD, and Charles Leeds, of the Los Angeles-based engineering firm Leeds & Barnard, which served as a consulting engineer during to the District's during its initial development (MCWD 1924a). In 1925, C.D. Reily Machine Works completed plans for the reservoir's original roof, the top of which included wood planks sheathed in 1-ply roofing paper with a layer asphalt and gravel added to the exterior surface (C.D. Reily Machine Works 1925). The roof cladding detailed in the 1925 plans eventually replaced or covered with the existing standing-seam metal roof. Research for the current study did not determine the date of installation of the extant roof cladding. While the subject reservoir's setting has changed somewhat due to nearby development and the abandonment of the older Bothin reservoirs, historical aerial photographs and information via the District obtained via suggest that, other than the replacement of the roof, to the subject reservoir has been subject to no notable alterations (NETROnline 1967; 2016; UCSB 1947).

As discussed above, research for the current study identified individuals and firms associated with the construction and alteration of the reservoir. The District's consulting engineers, Leeds & Barnard, designed the reservoir. The Los Angeles-based firm consisted of partners Charles T. Leeds and Archer F. Barnard and completed a number of public works contracts, including the harbor at Redondo Beach, and military facilities at Port Hueneme, Seal Beach, and Vandenberg Air Base (Manuscripts Division 1999; United States Congress 1939). Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004). Research for this study uncovered no information of consequence regarding the designer of the reservoir's roof, the C.D. Reilly Machine Works.

The reservoir is located near features associated with the Bothin family's Mar Y Cel property, including two reservoirs, a drainage canal, and a winding roadway supported by sandstone retaining walls that leads to the location of the property's Tea House. However, the Cold Springs Reservoir is currently located on its own parcel and research for this study found no evidence it was ever directly associated with the Bothin property.

Historical Resources Evaluation

The Cold Springs Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the construction of the Cold Springs Reservoir by the District in 1925 was part of the initial development of the district's system. However, this acquisition was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a modern and reliable water system. The Cold Springs Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Cold Springs Reservoir was constructed by the MCWD on property that was likely once part of the estate of Ellen and H.E. Bothin. The Bothins may be significant for their contributions in industry and real estate development. However, although they previously owned the land on which Cold Springs Reservoir was constructed, there is no evidence they were directly involved in the reservoir's construction or operation. As such, associations with the Bothins would not qualify the reservoir for listing under NRHP Criterion B/CRHR Criterion 2. Archival research failed to identify any individuals associated with the Buena Vista Reservoir which can be considered important within the history of the county, region, state, or nation.

The Cold Springs Reservoir is a 0.99 MG-capacity reinforced concrete distribution reservoir with a gabled roof sheathed in standing-seam metal and supported by a wood-frame structural system. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Cold Springs Reservoir was one of many such concrete reservoirs constructed in this area during the early twentieth century and there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated designers Leeds and Barnard, Wyant, or C.D. Reily Machine Works can be considered masters, and regardless, as a simple concrete-lined structure with a metal-framed roof structure, the Cold Springs Reservoir would not be considered an example of a master's work.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Doulton Reservoir and Treatment Plant

Physical Description

Located at 1075 Toro Canyon Road, Doulton Reservoir and Treatment Plant consists of a distribution reservoir (constructed in 1975), caretaker's residence (circa 1940), water treatment plant (circa 1920s with alterations made circa 1975 and 1993), and ancillary building (circa 1965). Doulton Reservoir a 0.25-MG welded steel tank reservoir that stores treated water from Jameson Lake (Figure 23). Measuring 36 feet in height and 36 feet in diameter, the structure is situated on a circular concrete foundation and as suggested by original construction plans, is capped with a steel roof with a mushroom cap vent. A metal ladder is affixed to and ascends the south side of the reservoir, while pipelines emerge from various locations on the exterior. Located near the foot of the reservoir's south side, the manway entrance is accessed via a circular riveted steel door. The structure is in good condition and exhibits no notable alterations.

Situated immediately north of the reservoir is the water treatment plant building (Figure 24). Utilitarian in design, the highly altered one-story building has a rectangular plan, concrete foundation, and front gabled roof with standing-seam-metal cladding. Exterior walls include a lower band of structural concrete-block construction and upper section clad in sheet metal panels. Entrances are located on the east and west elevations and are accessed via a large metal double door on the west and a standard-size glazed metal door on the east. Windows with non-original vinyl sashes penetrate the east and south elevations. A shed roof extension supported by a metal-pole frame extends from the north elevation. The building is in fair condition and has been subject to substantial modification. Circa 1975, the west end of the building was removed and the west elevation reconstructed. In addition, visual inspection suggests the existing concrete-block walls are a non-original feature constructed to augment the building's height. This may have been completed in 1993, when the building was converted for use as a water treatment plant. Finally, all window sashes have been replaced and a likely non-original door was installed on the west elevation.

The caretaker's residence is located approximately 50 feet northeast of the water treatment plant (Figure 25 and Figure 26). The one-story, Minimal Traditional-style building has an L-plan, sits on a concrete foundation, and culminates in a cross-gabled roof with asphalt shingles. Its exterior consists principally of structural concrete, but also includes smaller horizontal wood plank and stucco cladding in the gable ends and plywood wall cladding on a small addition. Facing southwest, the front entrance is situated beneath a gabled porch roof with wood knee-brace supports. The secondary entrance features a non-original glazed wood-panel door. Windows are generally multi-pane steel casements, though aluminum horizontally sliding aluminum sashes, likely non-original, appear at the rear of the building. A large, east-elevation addition approximately doubled the building's original size.

South of the treatment plant building is the ancillary building (Figure 27). Built on a steep hillside, the one-story utilitarian structure is rectangular in plan, sits on a concrete-block foundation, and is capped with a corrugated-metal-clad gabled roof. Corrugated metal sheathes the building's wood-frame structure. The building's north-facing elevation features a wood-panel door. Windows include fixed, single-pane wood sashes. The building is in moderate condition.

The property occupies generally hilly terrain covered with scrub vegetation. Artificial landscaping is confined to the area around the caretaker's residence and includes a front and rear lawn, mature trees, and ornamental plants. Hardscaping consists of an asphalt-paved internal roadway and parking areas and concrete footpaths. The surrounding area is largely undeveloped, with sparse residential development south and east of the reservoir and mountainous wilderness to the north and west.

Figure 23 Doulton Reservoir, Soutwest Side, View to the Northeast

Figure 24 Treatment Plant, South and West Elevations, View to the North

Figure 25 Caretaker's Residence, West Elevation, View to the Northeast

Figure 26 Caretaker's Residence, South and East Elevations, View to the West

Figure 27 Ancillary Building, North and West Elevations, View to the East

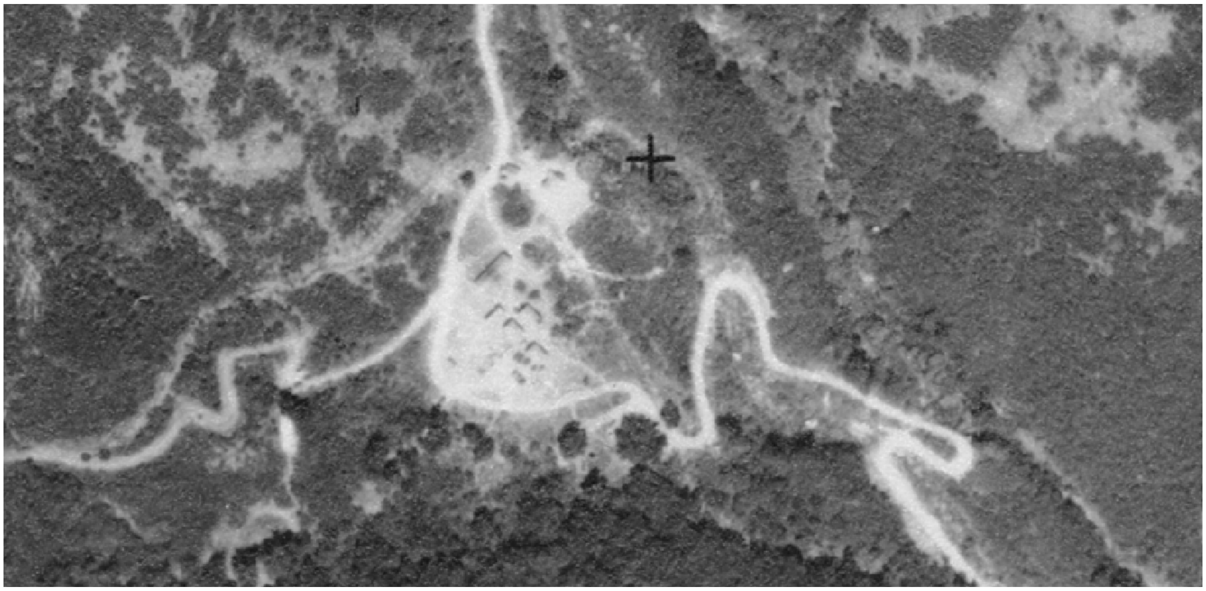
Property History

Historical aerial photographs suggest the site of Doulton Reservoir was developed by 1928 (UCSB 1928). A photograph taken that year depicts at least six buildings clustered near the present location of the treatment plant (Figure 28). Of the buildings depicted in the 1928 photograph, only one is extant, a former shop building that was converted into the water treatment plant building in 1993. The facility is located approximately 800 feet south of the south portal of the Doulton Tunnel and may have been associated with tunnel's construction, which was supervised by MCWD chief engineer Carl Wyant between 1924 and 1928. Research for the current study, however, did not definitively confirm any such association. As suggested by its building materials, the caretaker's residence was likely added to the property in the 1930s or 1940s. An aerial photograph taken in 1961 shows that, except for the treatment plant/shop building, all the buildings depicted in 1928 were removed from the property, and the caretaker's residence had been constructed (UCSB 1961) (Figure 29). Taken in 1968, the next available aerial photograph of the site depicts what may be ancillary building, which, as a subsequent site plan suggests, housed a weir (UCSB 1968; MCWD 1971) (Figure 30).

By 1971, the site consisted of a shop building, caretaker's residence, the ancillary building, and a storage building (not extant). Additionally, an 8-inch pipeline, presumably a distribution pipeline from Doulton Tunnel, traversed the site with connections to the ancillary building (MCWD 1971). In 1975, Charles C. Watson of the engineering firm Penfield & Smith drew plans to augment and reorganize the facility. The work was completed that year and included the removal of the west end the building now housing the water treatment plant, construction of the reservoir adjacent to the water treatment plant, and abandonment of the weir (Penfield & Smith 1975; Hanson 2021). Trico—Superior, Inc. provided plans for the reservoir, which were based on the American Water Works Association's D100-73 standards for steel water tank design and construction (Trico—Superior 1975; AWWA 2021). In 1993, the water treatment plant was completed inside the former shop building. Based on visual inspection of the building's construction materials, it is likely that the building's concrete base was constructed to accommodate its conversion. With completion of the water treatment plant, the Doulton facility began distributing treated water directly to District subscribers (Hanson 2021). Historical aerial photographs of the site suggest no notable alterations have been made to the facility since (NETROnline 1993-2016).

Research for this study found no information suggesting any firms, engineers, or other individuals associated with the design of the facility were significant in their fields. Charles C. Watson worked for the firm Penfield & Smith Engineering, which was founded in Santa Barbara in 1946 by William C. Penfield and Delbert D. Smith. Among the firm's notable contributions were plans for the Santa Barbara Marina (Hager 2015; Construction Star 2021). Newspaper articles dating from around the time of the reservoir and control center's completion suggest many of the firm's engineering commissions pertained to water systems engineering and the design of residential subdivisions, among other types of projects (*Santa Maria* Times 9/24/1969; 8/31/1974; *Santa Ynez Valley News* 4/11/1968; 3/1/1973; 11/29/1973). No information of consequence regarding Charles C. Watson. Research likewise uncovered no pertinent information regarding the reservoir's designer, the firm Trico—Superior was uncovered as a result of research for this study.

Figure 28 Aerial Photograph of Doulton Reservoir and Treatment Plant Site, 1928



Source: UCSB 1928

Figure 29 Aerial Photograph of Doulton Reservoir and Treatment Plant Site, 1961

Source: UCSB 1961

Figure 30 Aerial Photograph of Doulton Reservoir and Treatment Plant Site, 1975

Source: UCSB 1975

Historical Resources Evaluation

The Doulton Reservoir and Treatment Plant is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the District's development of the site may have begun as early as the 1920s and in conjunction with the construction of the Doulton Tunnel. However, a review of aerial photographs and construction plans suggests the only extant feature at the site potentially dating from this period is the water treatment plant building, which was substantially altered in the latter half of the twentieth century and, thus, would not retain sufficient integrity to convey any association with the development of Doulton Tunnel. Moreover, whatever the integrity of the water treatment plant, all other buildings dating from the period of the tunnel's construction were removed from the property by 1961. The removal of these buildings undermined the overall integrity of the property such that it has lost its ability to convey any associations it may have acquired during the tunnel's construction. Subsequent development of the site, including the construction of the caretaker's residence, ancillary building, and reservoir, in addition to the alteration and conversion of the treatment plant building, was associated with the gradual expansion of the District's distribution system that has taken place since its establishment. Archival research did not find that the Doulton Reservoir and Treatment Plant is noteworthy or unique within this context. Rather, this expansion was due to what could be considered an expected response to the growth of the surrounding community, the increasing need for reliable water system, and the need to meet higher water quality standards. The Doulton Reservoir and Treatment Plant therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research identified one individual directly associated with the Doulton Reservoir and Treatment Plant, Charles C. Watson. However, because Watson's associations with the site pertain to the redesign carried out in 1975, his potential for significance is addressed under Criteria C/3 below. In addition, despite the property's potential association with the development of Doulton Tunnel, no evidence suggests the site is strongly associated with the contributions of project's supervising engineer, Carl Wyant. Therefore, Doulton Tunnel and Treatment Plant is not associated with any individual whose contributions would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Doulton Reservoir and Treatment Plant consists of a water distribution reservoir, treatment plant, caretaker's residence, and ancillary building. The reservoir is a 0.25-MG welded steel tank reservoir. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). That the Doulton Reservoir was constructed according to standardized plans would suggest that the structure was one of many such reservoirs constructed in the same period. Furthermore, there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated engineers Carl C. Watson or the firm Trico—Superior can be considered masters, and regardless, as a simple steel structure of standardized design, the Doulton Reservoir would not be considered an example of a master's work.

The design and construction of the three buildings located on the property also lack distinction of design and construction. The treatment plant and ancillary building are utilitarian buildings of undistinguished design. They are of simple of form, and there is no evidence suggesting they are notable for their materials or methods of construction. In addition, the treatment plant has been subject to considerable alteration, most notably, the removal of its original west end and the raising of the remaining portion of the building onto a non-original concrete block base. The caretaker's residence was designed in the Minimal Traditional style and possesses the style's characteristic restrained architectural detailing. Although its structural concrete construction is atypical, this method of residential construction was adopted widely in the United States in the early decades of the twentieth century and there is no evidence suggesting the residence is significant for its construction (Jackson 2015; ETHW 2021). As such, none of the buildings embody the distinctive characteristics of a type, period, or method of construction, or possess high artistic values. Although their respective designers are unknown, none of the buildings would represent the work of a master. Finally, the site was developed gradually between the 1920s and 1993, and the built environment elements of the property do not represent a cohesive unit significant for its overall plan. Therefore, the Doulton Reservoir and Treatment Plant is recommended ineligible for listing under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting Doulton Reservoir and Treatment Plant has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Hot Springs Reservoir

Physical Description

Constructed in 1939, Hot Springs Reservoir is located approximately 900 feet north of the intersection of Hot Springs Road and Hot Springs Lane. The property consists of a 0.83-MG-capacity reinforced concrete distribution reservoir (Figure 31). It is circular in plan and measures approximately 80 feet in diameter and 23 feet in height, not including the roof, which adds another

8 inches to its height at its peak. Exterior walls are constructed of vertically oriented board-formed concrete, while the low-pitched conical roof consists of steel framing, pyramidal ventilator, and metal cladding, as suggested by satellite imagery. Original construction plans indicate the roof frame is supported on the interior of the reservoir by several steel-pole columns, which are anchored to the floor of the structure. A shallow concrete-lined drainage swale encircles the reservoir and flows to a concrete outlet ditch extending west of the structure (Figure 32). The outlet ditch may have been altered; although original plans for the facility call for a trapezoidal outlet structure, the extant ditch has straight walls (MCWD 1938b).

The reservoir is situated on the west side of Hot Springs Lane, its immediate surroundings characterized by sloping terrain with wild-growing grasses, oaks, and shrubs. Hot Springs Canyon is located immediately to the west, while several surrounding properties are developed with large residential estates.

Figure 31 Hot Springs Reservoir, West Elevation, View to the East

Figure 32 Outlet Ditch, North and East Elevation, View to the Southwest

Property History

Historical aerial photographs taken in 1930 and 1935 show that, prior to the construction of Hot Springs Reservoir in 1939, the reservoir site was vacant and the surrounding area only sparsely developed with large estates and orchards (UCSB 1930; 1935). The reservoir's design was adapted from plans drawn by J.V. Spielman of the San Ysidro Reservoir and approved by Carl Wyant, in his capacity as the MCWD's Chief Engineer (MCWD 1938b). The reservoir may represent part of a planned expansion by MCWD, as suggested by the fact that District's Buena Vista reservoir was constructed the same year and on the basis on essentially identical plans (MCWD 1938a; 1938b). Historical aerial photographs suggest there have been no substantial changes to the site since its construction, but reveal that between 1967 and 1994, most of the surrounding residential properties were developed (NETROnline 1967; 1994; 2016).

Research for this study identified two individuals with known associations with the reservoir, Spielman and Wyant. Available sources contained no information of consequence regarding Spielman. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004).

Historical Resources Evaluation

The Hot Springs Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Hot Springs Reservoir was constructed in 1939 in conjunction with the Buena Vista Reservoir as part of the larger expansion of the District's system following the development of Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines in the 1920s. The construction of this element therefore was part of what could be considered an expected response to the continued growth of the surrounding community and the increasing need for a modern and reliable water system. The Hot Springs Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Hot Springs Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Hot Springs Reservoir is an above-ground 0.83 MG-capacity, distribution reservoir exhibiting a circular plan, board-formed concrete walls, and allow-pitched conical roof. As such it appears to be of common design and there is no information to suggest it is of particular engineering achievement. It was designed by engineers J.V. Spielman and Carly Wyant, the latter of which was the chief engineer of the District's Doulton Tunnel and Juncal Dam. Although the Doulton Tunnel and Juncal Dam may be considered to be notable engineering achievements pending further study; however, the Hot Springs Reservoir is comparatively not a good example of Wyant's work. As such the Hot Springs Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Park Lane Reservoir

Physical Description

Constructed in 1917, Park Lane Reservoir is located approximately 900 feet north of the intersection of the intersection of Park Lane and East Mountain Drive. The property consists of a 1.25 MG-capacity concrete distribution reservoir (Figure 33). The reservoir is rectangular in plan and measures approximately 101' wide and 138 long. The reservoir is completely buried, except for a concrete perimeter that emanates slightly above ground level. Plans obtained via the District indicate the basin is of reinforced concrete construction. The flat roof is supported by a wood-frame structural system and clad in non-original corrugated metal. Plans for the reservoir completed in 1924 indicate additional support for the roof frame is provided inside the reservoir by several galvanized-iron-pole columns anchored to the floor of the structure. Vertical open space between the top of the concrete wall and roofline is secured with screens. The interior of the reservoir is accessed via a wood hatch at the structure's southwest corner. A shallow concrete-lined outlet channel extends to the west of the reservoir. A chain-link fence encloses the area immediately surrounding the reservoir. The structure is situated atop a moderately sloping hill, with a series of seven dry-stacked sandstone retaining walls forming terraces on the hillside just south of the reservoir (Figure 34). Due to the presence of heavy overgrowth, further details regarding the design of the retaining walls were not available.

Figure 33 Southeast Corner of Park Lane Reservoir, View to the North

Figure 34 Retaining Wall, Southwest Elevation, View to the North

Except for grasses, the area immediately surrounding the reservoir is free from vegetation. Oaks and a variety of shrubs grow elsewhere on the property. A private dirt road enters the property from the east, terminating near the east side of the reservoir. Properties in the immediate vicinity are generally developed with large residential estates.

Property History

Research for the current study indicates Park Lane Reservoir, originally called Carpenter Reservoir, was constructed in 1917 and the extant roof added circa 1924. The *Santa Barbara Daily News and the Independent* reported in February 1917 that the firm Snook and Henyon of Santa Barbara signed a contract to construct a "million and a quarter gallon reservoir on the F.I. [Frank Ives] Carpenter place in Montecito" (*Santa Barbara Daily News and the Independent* 2/24/1917). In June of that same year, it was reported that excavation for Carpenter's reservoir was underway, only under a contract with engineer Frank F. Flournoy (*Santa Barbara Daily News and the Independent* 6/21/1917). Sometime prior to 1924, it came into the use of the San Ysidro Creek Water Association. In 1924, just three years after its founding, the MCWD negotiated the purchase of the reservoir from Carpenter and his wife, Emma, for $10.00. Through this agreement the MCWD secured ownership of the parcel containing the reservoir and a right-of-way for a pipeline, in addition to rights to divert "one filling of [the] reservoir each year" from San Ysidro Creek, which per the agreement, was equal to what was recorded in the terms of the agreement as the basin's 1.6 MG capacity.[1] Under the agreement, the MWDC was required to "maintain and preserve the retaining banks of said reservoir and the shrubbery and planting screening the same" (MCWD 1924c). This term of the agreement likely refers to the terraced series of retaining walls immediately downhill from the reservoir, suggesting the sandstone feature was completed sometime between the original construction of the reservoir in 1917 and the property's sale to the MCWD in 1924.

Construction plans on file with the District show that in December 1924, District resident engineer Carl Wyant and consulting engineers Leeds & Barnard designed a wood roof and supporting structure for the reservoir. The extant roof framing is consistent with the 1924 design, though the extant metal cladding is certainly non-original (MCDW1924b). Historical aerial photographs and construction plans indicate that, other than the construction of the roof and supporting structure and replacement of the roof cladding, there have been no substantial changes to the property since the 1920s. Historical aerial photographs suggest the surrounding area was essentially rural at the time of the reservoir's construction, but that residential development has occurred steadily since the 1940s (UCSB 1943; NETROnline 1967-2016). Aside from the replacement of the reservoir's roof cladding, the structure has not been subject to any notable alterations.

As discussed above, research for the current study identified several individuals associated with the construction and alteration of the reservoir. Available sources contained no information of consequence regarding the Carpenters, who commissioned the reservoir's construction, or Flournoy, the contractor who built the structure. The District's consulting engineers, Leeds & Barnard, designed the reservoir's roof. The Los Angeles-based firm consisted of partners Charles T. Leeds and Archer F. Barnard and completed a number of public works contracts, including the harbor at Redondo Beach, and military facilities at Port Hueneme, Seal Beach, and Vandenberg Air Base (Manuscripts Division 1999; United States Congress 1939). Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and

[1] The source of the discrepancy between reports of the reservoir's capacity—1.25 MG and 1.6, depending on the source—is not clear; however, the current figure provided by the District is consistent with the number cited in early newspaper reports, suggesting the figure of 1.6 MG may have been erroneous.

district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004).

Historical Resources Evaluation

The Park Lane Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the Park Lane Reservoir was one of many reservoirs to be constructed on behalf of a property owner in the Montecito area during the early twentieth century. Prior to the development of larger water districts in the region, this was a common practice and there is no information to suggest the Park Land Reservoir is noteworthy or unique within this context. Archival research also did not indicate the Carpenter property is significant within any other historical context. The acquisition of the Park Lane Reservoir by MCWD in 1924 was part of the initial development of the district's system. However, this acquisition was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a modern and reliable water system. The Park Lane Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Park Lane Reservoir was initially constructed on behalf of Frank Ives Carpenter. Archival research identified very limited information on Carpenter and there is no evidence to suggest he, or any other individuals associated with the Park Lane Reservoir would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

The Park Lane Reservoir is a 1.25 MG-capacity, reinforced concrete reservoir with a flat roof sheathed in corrugated metal and supported by a wood-frame structural system. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Park Lane Reservoir was one of many such concrete reservoirs constructed in this area during the early twentieth century and there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated engineers Snook and Henyon or Leeds & Barnard's can be considered masters, and regardless, as a simple concrete-lined structure with a wood-frame roof, the Park Lane Reservoir would not be considered an example of a master's work.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Romero Reservoir

Physical Description

Constructed in 1933, Romero Reservoir is located approximately 0.25 miles northeast of the intersection of Romero Canyon Road and Lilac Drive. The property consists of a 0.94-MG capacity reinforced concrete distribution reservoir and a pump station building added to the property in 2000. The reservoir is roughly rectangular in plan with canted corners and measures approximately

240 feet long, 63 feet wide, and on average, about 12 feet deep (Figure 35 and Figure 36). The reservoir's basin is trapezoidal in cross-section. The reinforced concrete walls are almost entirely buried, and most of the visible portions of the structure consists of the non-original, corrugated metal roof assembly. Construction plans show the roof framework consists of metal trusses and steel Z purlins, with additional support provided by the original metal pole columns. Non-original structural tube extensions were added to the columns to accommodate the increased height of the replacement roof. The sloping roof is clad with corrugated aluminum on the sides and top. Horizontally oriented apertures in the aluminum-clad walls are secured with screen. A shallow, concrete-lined outlet channel traces the north and east sides of the reservoir before extending downhill to the southwest of the structure. The replacement of the roof is the only notable alteration to the structure.

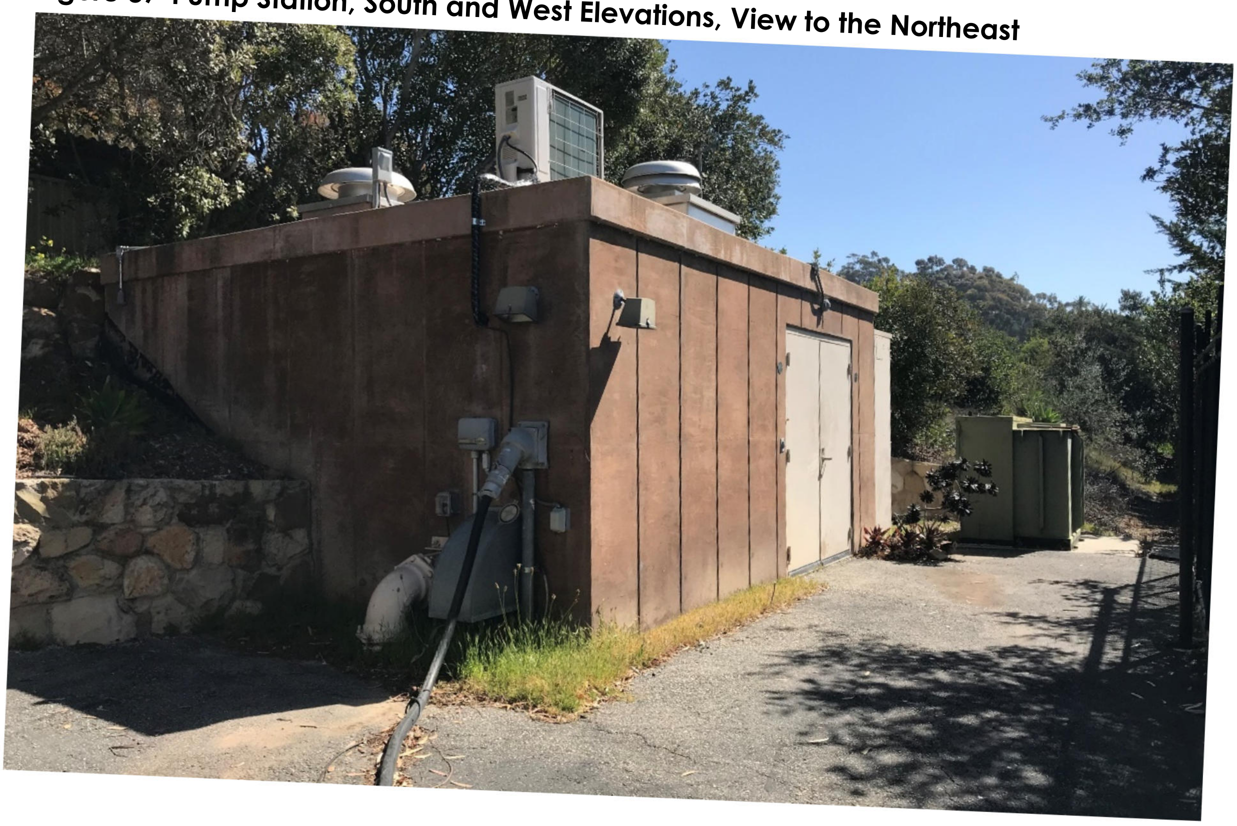
The utilitarian pump station building is located immediately downhill and south of the reservoir's southwest corner (Figure 37). One story in height, the building has a rectangular plan and a flat roof, possibly of concrete-slab construction, with a slight overhang. Its concrete exterior is either deeply scored or consists of multiple full-height panels. A single entrance is located on the south elevation and features solid metal double doors. Metal cabinets located on the east elevation and immediately southeast of the building are presumed to contain transformers or other electrical utility equipment. Two vents with mushroom caps and other mechanical appurtenances of undetermined function are installed on the roof. The north end of the building is built partially into the hillside. Fieldstone-veneer-clad retaining walls flank the building, which is in good condition and exhibits no apparent alterations.

The facility occupies a grassy hillside. Mature trees and shrubs line the areas south of the facility and immediately west and south of the reservoir proper. Hardscaping consists of an asphalt-paved footpath and parking area. The surrounding area is developed with large residential properties.

Figure 35 Romero Reservoir, North and West Elevations, View to the Southeast

Figure 36 East End of Romero Reservoir, Including the Outlet Channel, View to the South

Figure 37 Pump Station, South and West Elevations, View to the Northeast



Property History

Taken in 1928, the earliest available historical aerial photograph of the site of Romero Reservoir, formerly Baring Reservoir, depicts the property as a vacant property on the edge of an area developed sparsely with residences and farms (UCSB 1928). In his capacity as the MCWD's Chief Engineer, Carl Wyant drew and approved the original plans for the reservoir in 1933. The plans suggest MCWD acquired the reservoir parcel and an easement for what is likely the existing access road from Louise Thorn Baring, whose property bounded the reservoir parcel on all but the west side (MCWD 1933). By 1956, historical aerial photographs show, a few large estates were developed in the vicinity of the reservoir, but the properties to the immediate south and southeast were occupied by orchards (UCSB 1956).

Circa 1977, the extant replacement roof structure was constructed as designed by MCWD engineer M. Akavian and approved by General Manager and District Engineer H.O. (Harold Orman) Neil Mendenall (MCWD 1976). Research for this Historical aerial photographs suggest there have been no substantial changes to the reservoir proper since the existing roof was completed; however, the pumping station building was completed in 2000 (Hanson 2021). Residential development in the surrounding area has gradually expanded since the mid-twentieth century, though the former orchard to the immediate south of the reservoir remains vacant (NETROnline 1967-2016).

As discussed above, research for the current study identified several individuals associated with the construction and alteration of the reservoir. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yachtisin 2004). Sources consulted for this study contained no information of consequence pertaining to Baring, Akavian, and Mendenall.

Historical Resources Evaluation

The Romero Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the MCWD developed the Romero Reservoir in 1933. As such, the reservoir was completed as a gradual expansion of the District's reservoir system carried out between 1924 and 1975. The Romero Reservoir was one of at least eight such structures the MCWD built or acquired during this period, and there is no evidence to suggest the reservoir is noteworthy or unique within this context. Archival research did not identify any other context in which the reservoir might be considered historically significant. The Romero Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Romero Reservoir was constructed on land that the MCWD may have acquired from Louise Thorn Baring. However, archival research uncovered no evidence indicating Baring made significant historical contributions to history or that she had any direct association with the property following the reservoir's construction. Archival research found no evidence to suggest any other individuals associated with the Romero Reservoir would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

The Romero Reservoir is a 0.94-MG capacity, reinforced concrete distribution reservoir with a sloping replacement roof sheathed in corrugated aluminum and supported by a metal-frame structural system. As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Concrete distribution reservoirs are of common design, and there is no evidence the Romero Reservoir represented any notable engineering achievement at the time it was constructed. There is also no evidence indicating the associated engineers Akavian and Mendenall can be considered masters, and regardless, as a simple concrete-lined structure with a wood-frame roof, the Romero Reservoir would not be considered an example of a master's work. In addition, the utilitarian pump house building is likewise of undistinguished design and does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic values. Therefore, the Romero Reservoir facility is recommended ineligible under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Terminal Reservoir

Physical Description

Located approximately 800 feet west of the intersection of Cold Spring Road and East Mountain Drive, the Terminal Reservoir facility consists of Terminal Reservoir and a pump station building. Constructed from 1951 to 1952, Terminal Reservoir is a distribution reservoir consisting chiefly of reinforced concrete walls and floor (Figure 38). The rectangular-plan reservoir is built into the hillside and measures 155' wide by 200' long, with at most two vertical feet of the walls visible above ground. Original plans indicate the standing-seam-metal-clad gabled roof is supported a wood structural system and 88 steel-pipe columns anchored to the floor of the reservoir. A vent with standing-seam metal cladding runs the length of the roof ridge. On the gable ends, additional standing-seam metal cladding fills the vertical space between the roofline and the top of the concrete wall. A chain-link fence encircles the reservoir.

Constructed circa 2000, the pump station building is located approximately 200 feet to the south. It is one story in height, sits on a concrete foundation, and is capped with a gable-on-hip roof with asphalt shingles (Figure 39). Walls are of structural rusticated concrete block construction. The entrance is located on the west elevation and features wood-plank double doors. The building is generally functional in design but includes such details as slightly flared eaves, wood gable-end shingles, and exposed rafter tails. Immediately south and southwest of the building, the paved work area is enclosed with a chain-link fence. The building is in good condition and exhibits no apparent alterations.

The facility is situated on hilly terrain characterized by grasses, oaks, eucalyptus, and other varieties of wild-growing vegetation. Asphalt, gravel, and dirt roadways wind along the hillside, connecting the East Mountain Drive entrance to the reservoir and building.

Figure 38 Terminal Reservoir, South and East Elevations, View to the West

Figure 39 Pump Station Building, West Elevation, View to the Northeast

Property History

Historical aerial photographs and USGS topographical maps show that the site of the facility remained undeveloped at least as late as 1947 (NETROnline 1944; UCSB 1947). In 1951, the MCWD completed plans for the reinforced concrete basin, and the following year, drew plans for the roof and supporting columns (MCWD 1951; 1952a; 1952b). Plans for the reservoir were credited to the MCWD and did not identify any individual responsible for the reservoir's design. The reservoir was completed in 1952 to increase the District's storage capacity, possibly in response to the region's Post World War II-era population growth. A review of historical aerial photographs suggests there were no notable changes to the property until 2000, when the pump station building was constructed (NETROnline 1994; 2002; Hanson 2021). The property has remained essentially unchanged since the building was completed (NETROnline 2016). Research for this study uncovered no further information of consequence regarding the property.

Historical Resources Evaluation

The Terminal Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. As described above, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Terminal Reservoir was constructed in 1951 as part of the general expansion of the District's system after World War II. There is no information the reservoir is particularly unique, and the construction of this element is part what could be considered an expected response to the continued growth of the surrounding community in the period following World War II. The Terminal Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Terminal Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

As described above, water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best-preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Terminal Reservoir is a largely subterranean concrete distribution reservoir from 1951 with an associated pump station building completed circa 2000. As such it appears to be of common design and there is no information to suggest it is of particular engineering achievement. A review of original building plans and supplemental research failed to identify the reservoir's designer. As such the Terminal Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

Findings and Conclusions

The CHRIS search identified 14 previously recorded cultural resources within a 0.5-mile radius of the project sites; two of the resources are located **(*the remainder of this sentence has been redacted due to the confidentiality of archaeological site locations*)**. The SLF search conducted by the NAHC returned positive results. The District has initiated AB 52 consultation with tribal contacts that have requested formal notification of proposed projects in the geographic area within which the tribe is traditional and culturally affiliated

Results of the pedestrian field survey indicate that the majority of the project sites have undergone previous ground disturbances associated with the construction and maintenance of the reservoir systems and associated buildings and no archaeological resources were identified during the field survey. No evidence of cultural materials associated with a previously recorded prehistoric archaeological site identified during the records search were observed during the field survey. Given the **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** proximity to a known prehistoric cultural resource the project vicinity is considered sensitive for the presence of archaeological resources; however, the site is located over **(*the remainder of this sentence has been redacted due to the confidentiality of archaeological site locations*).** Proposed ground disturbance at the **(*a portion of this sentence has been redacted due to the confidentiality of archaeological site locations*)** will occur mostly within previously disturbed soils and the potential to encounter intact archaeological resources is low. The project is required to adhere to state health and safety codes regarding the unanticipated discovery of human remains, detailed below. Based on the results of the cultural study, Rincon recommends a standard unanticipated discovery measure, presented below as Mitigation Measure CUL-1, in the event of a discovery of cultural resources during the execution of the current project. Additionally, input from local Native American representatives during the AB 52 consultation process resulted in the inclusion of Mitigation Measures TCR-1 and TCR-2, which are detailed below.

Eight built environment resources were identified in the project area: Bella Vista Reservoir and Treatment Plant, Buena Vista Reservoir, Cold Springs Reservoir, Doulton Reservoir and Treatment Plant, Hot Springs Reservoir, Park Lane Reservoir, Romero Reservoir, and Terminal Reservoir. Each of these facilities contains a water distribution reservoir, and some sites are augmented with associated buildings and structures, including but not limited to pumping stations and water treatment plants. Each facility was recorded and evaluated for inclusion in the NRHP and the CRHR. As a result of the analysis, all of the facilities were found to lack sufficient historical or architectural significance to qualify for inclusion in the NRHP or CRHR. Therefore, none are considered a historical resource for the purposes of CEQA and their replacement or retrofit would not result in a significant impact to historical resources pursuant to Section 15064.5(b) of the CEQA Guidelines.

Based on the information summarized above, Rincon recommends a finding for the proposed project of ***no impact to historical resources*** and ***less than significant impact to archaeological resources with mitigation incorporated under CEQA.***

Regulatory Compliance Measure

Unanticipated Discovery of Human Remains

If human remains are unexpectedly encountered, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the unlikely event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

Mitigation Measures

CUL-1 Unanticipated Discovery of Cultural Resources

In the event cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be eligible for listing in the National Register of Historic Places or the California Register of Historical Resources, additional work such as data recovery excavation and/or Native American consultation to treat the find may be warranted.

TCR-1 Cultural Resources Sensitivity Training

Prior to the start of ground-disturbing activities, an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall conduct cultural and tribal cultural resources sensitivity training for all construction workers involved in ground-disturbing activities. A local Native American representative shall participate in the sensitivity training and have the opportunity to distribute information regarding cultural resources and/or protection of cultural resources.

TCR-2 Native American Monitoring

The District shall retain a local Native American representative to observe ground-disturbing activities up to five feet below the ground surface. Ground disturbing activities include, but are not limited to, clearing/grubbing, excavation, grading, and trenching. If cultural resources are encountered, the local Native American representative shall have the authority to request ground disturbing activities cease within 50 feet of the discovery. An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to document and evaluate the find. Impacts to the find shall be avoided to the extent feasible; methods of avoidance may include, but shall not be limited to, capping or fencing, or project redesign. If necessary, the archaeologist may be required to prepare a treatment plan for archaeological testing in consultation with the local Native American representative. If the discovery proves to be eligible for the CRHR and cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

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Appendix A

This appendix has been redacted due to the confidentiality of archaeological site locations

Appendix B

Native American Heritage Commission

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
Sacramento, CA 95814
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Montecito Water District Reservoir Retrofits Project

County: Santa Barbara

USGS Quadrangle Name: Santa Barbara and Carpenteria

Township: 04N Range: 26W and 27W Section(s): 1-3, 5-12

Company/Firm/Agency: Rincon Consultants, Inc.

Contact Person: Elaine Foster

Street Address: 449 15th Street, Suite 303

City: Oakland Zip: 94612

Phone: 510-834-4455

Email: efoster@rinconconsultants.com

Project Description:

The project involves seismic retrofits, repairs, and some replacements at eight existing water reservoirs within the Montecito Water Districts service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include excavation activities, as well as demolition of concrete and steel, wood formwork, steel welding, concrete pouring, minor pipe excavation, and electrical repairs. Concrete pouring would require dozens of vendor truck trips per site.

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 13, 2021

Elaine Foster, Archaeologist
Rincon Consultants, Inc.

Via Email to: efoster@rinconconsultants.com

Re: Montecito Water District Reservoir Retrofits Project, Santa Barbara County

Dear Ms. Foster:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the tribes on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Sarah.Fonseca@nahc.ca.gov.

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Santa Barbara County
4/13/2021

Barbareno/Ventureno Band of Mission Indians
Julie Tumamait-Stenslie, Chairperson
365 North Poli Ave — Chumash
Ojai, CA, 93023
Phone: (805) 646 - 6214
jtumamait@hotmail.com

Barbareno/ Ventureno Band of Mission Indians
Patrick Tumamait,
992 El Camino Corto — Chumash
Ojai, CA, 93023
Phone: (805) 216 - 1253

Barbareno/ Ventureno Band of Mission Indians
Brenda Guzman,
58 N. Ann Street, #8 — Chumash
Ventura, CA, 93001
Phone: (209) 601 - 4676
brendamguzman@gmail.com

Barbareno/ Ventureno Band of Mission Indians
Annette Ayala,
188 S. Santa Rosa Street — Chumash
Ventura, CA, 93001
Phone: (805) 515 - 9844
annetteayala78@yahoo.com

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street — Chumash
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net

Coastal Band of the Chumash Nation
Mariza Sullivan, Chairperson
P. O. Box 4464 — Chumash
Santa Barbara, CA, 93140
Phone: (805) 665 - 0486
cbcntribalchair@gmail.com

Northern Chumash Tribal Council
Fred Collins, Spokesperson
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Mark Vigil, Chief
1030 Ritchie Road — Chumash
Grover Beach, CA, 93433
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Fax: (805) 474-4729

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Kenneth Kahn, Chairperson
P.O. Box 517 — Chumash
Santa Ynez, CA, 93460
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Fax: (805) 686-9578
kkahn@santaynezchumash.org

Barbareno Band of Chumash Indians
Eleanor Fishburn (nee Arellanes), Chairperson
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eleanor@spiritinhewind.net

Barbareno Band of Chumash Indians
Barbara Lopez,
PO Box 61041 — Chumash
Santa Barbara, CA, 93160
Phone: (805) 689 - 9528
chumashangels@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Montecito Water District Reservoir Retrofits Project, Santa Barbara County.

Appendix C

California Department of Parks and Recreation (DPR) 523 series forms

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code Reviewer Date

Page 1 [illegible] 5 ***Resource Name or #:** Bella Vista Reservoir and Treatment Plant

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 04N, Range 26W, Sections 2 and 11 S.B.**B.M.**

[illegible] 2750 Bella Vista Drive [illegible] Montecito [illegible] 93108

[illegible]

[illegible] APN: 155-030-042

***P3a. Description:**

Located at 2750 Bella Vista Drive, the Bella Vista Reservoir and Treatment Plant consists of a distribution reservoir (constructed in 1975), control building (circa 1975), water treatment plant (1993), settling basins (1993), pumping station (1993), tank (ca. 1993) and blower (circa 2018). Bella Vista Reservoir is a 2.25-MG-capacity reinforced concrete water distribution reservoir. Built on a steeply sloping hillside, the reservoir is rectangular in plan measures approximately 132 feet long, 94 feet wide, and 24 feet deep. Original construction plans show that, the reservoir's basin is trapezoidal in cross-section. At the north end, the walls are embedded entirely in the ground and the roof is essentially flush with the adjacent terrain. The remaining sides of the reservoir were not accessible during the field survey, but construction plans suggest that other walls are increasingly exposed as the hill slopes downward to the south. The reservoir's reinforced concrete roof consists of panels supported by metal columns on the interior of the structure. The top of the roof is planted with a lawn. Notable alterations since the initial development of the facility include the construction of the pump station and blower on the reservoir's northeast and northwest corners, respectively.

Located at the northeast corner of the reservoir is the pump station building, a one-story building exhibiting elements of Mediterranean Revival-style architecture. It is rectangular in plan, sits on a concrete foundation, and culminates if a side-gabled roof with clay-barrel-tile cladding and exposed rafter tails. Its concrete-block structural system is sheathed in rough stucco with detailing suggesting arches on the east and west elevations. The entrance is located on the south elevation and features glazed double doors, one of which also includes a louvered vent. Aside from the door glazing, there are no windows. A metal pipeline from the pumping equipment inside the building emanates from the south elevation before immediately curving downward into the ground. The building is in good condition and shows no evidence of alteration.

See continuation sheet, p. 4.

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir; water tank); HP9. Public utility building; HP4. Ancillary building

***P4. Resources Present:** ■ [illegible] ■ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible]

[illegible]

[illegible] Top of Bella Vista Reservoir with blower (R) and pump station (L) in background, view to the northwest.

***P6. Date Constructed/Age and Sources:**
■ [illegible] ☐ [illegible] ☐ [illegible]

See B6. Construction History.

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

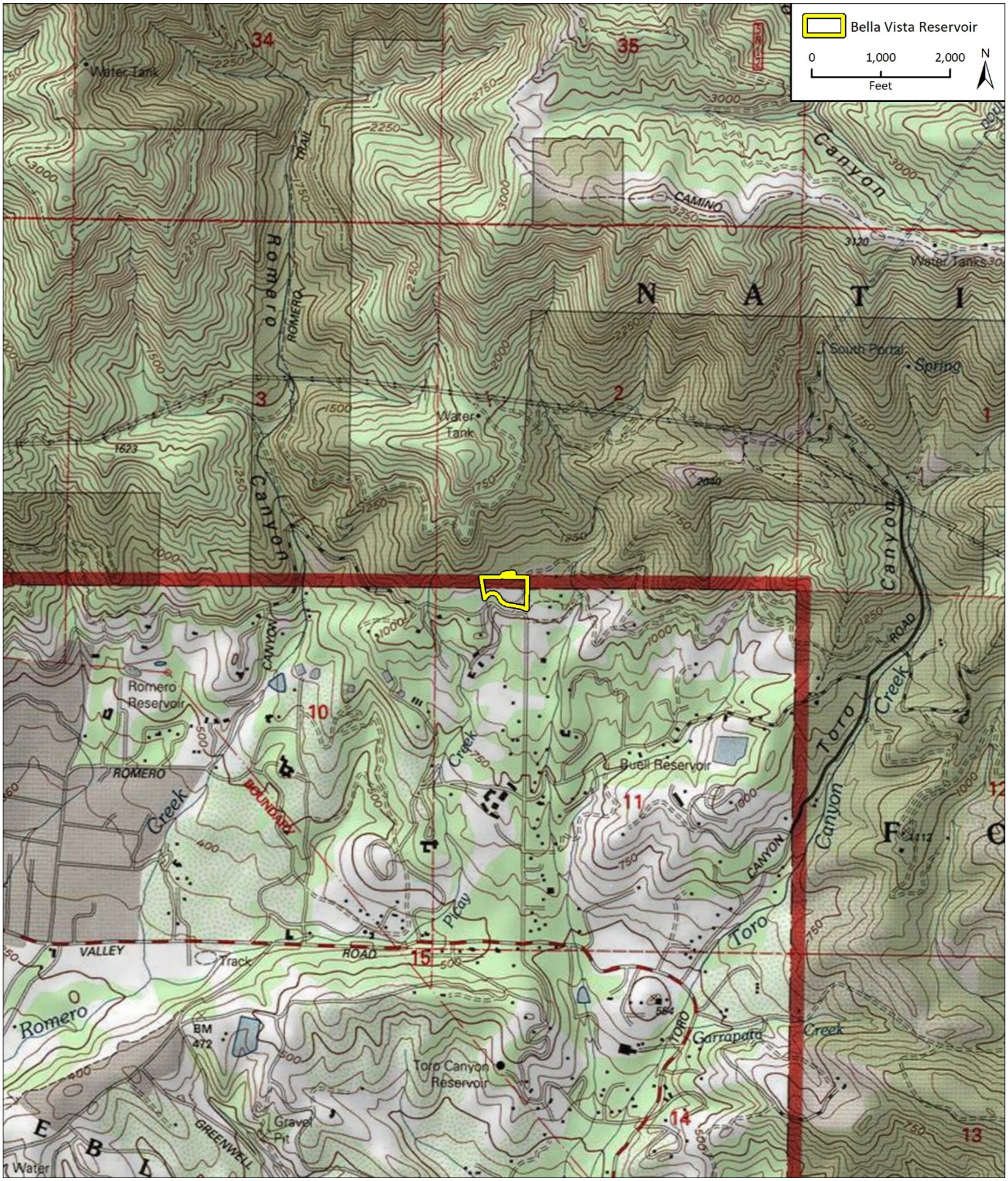
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ [illegible] ■ [illegible] ☐ [illegible] ■ [illegible] ■ [illegible]
☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible]
☐ [illegible] ☐ [illegible] ☐ [illegible]

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 5 ***Resource Name or #** Bella Vista Reservoir and Treatment Plant
***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1952



State of California X The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Bella Vista Reservoir and Treatment Plant ***NRHP Status Code** **6Z**

B1. Historic Name: Bella Vista Reservoir
B2. Common Name: N/A
B3. Original Use: Municipal water treatment and distribution B4. Present Use: Municipal water treatment and distribution
***B5. Architectural Style:** Mediterranean Revival
***B6. Construction History:**

Bella Vista Reservoir was constructed in 1975, the control center circa 1975, the pump station and treatment plant building in 1993; the water tank and settling basins circa 1993, the blower circa 2018 (UCSB 1975; District 2021; SPH Associates 1994; NETROnline 1994; Tetra Tech 2018).

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

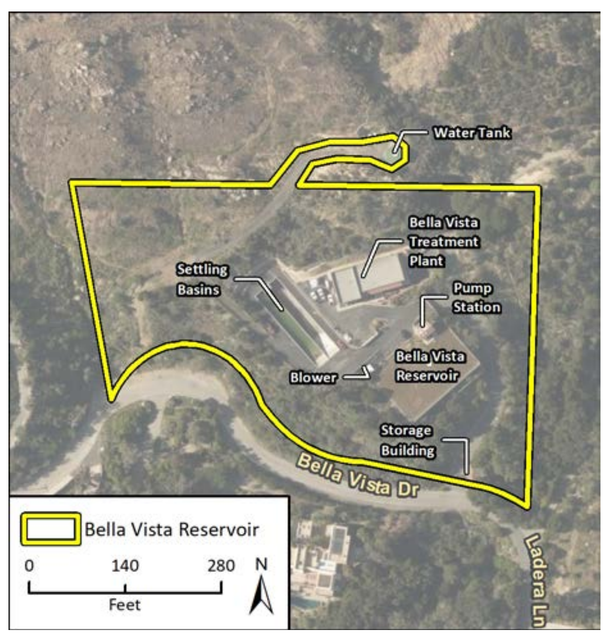
Historical aerial photographs suggest the site of Bella Vista Reservoir and Treatment Plant remained undeveloped until the reservoir was constructed in 1975 (UCSB 1975; NETROnline 1967). Charles E. Watson and Jerry D. Smith of the Santa Barbara-based engineering firm Penfield & Smith designed the reservoir and presumably, the extant control station, which also appears on site plans drawn in 1974. Montecito County Water District (MCWD) chief engineer, H.O. (Harold Orman) Mendenall, signed off on the plans (Penfield & Smith Engineering 1974). In 1993, the facility was substantially expanded to include the Bella Vista Treatment Plant and the pump station (District 2021; SPH Associates 1992). The expansion project likely also included construction of the water tank and settling basins, which are depicted for the first time in available historical aerial photos in 1995 (UCSB 1995). With its completion, Bella Vista Treatment Plant became the District's principal treatment facility for water sourced from Jameson Lake. Circa 2018, the facility was expanded further with the construction of the blower (Tetra Tech 2018).

Research for this study found no information suggesting the facility's original designers, Charles C. Watson or Jerry D. Smith of the firm Penfield and Smith Engineering, were significant in the field of engineering. The firm was founded in Santa Barbara in 1946 by William C. Penfield and Delbert D. Smith. Among the firm's notable contributions were plans for the Santa Barbara Marina and an airport master plan (Hager 2015; Construction Star 2021). Newspaper articles dating from around the time of the reservoir and control center's completion suggest many of the firm's engineering commissions pertained to water system engineering and the design of residential, among other types of projects, in Santa Barbara County (Santa Maria Times 9/24/1969; 8/31/1974; Santa Ynez Valley News 4/11/1968; 3/1/1973; 11/29/1973). No information of consequence regarding Charles C. Watson or Jerry D. Smith was uncovered as a result of research for this study.

See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**
See continuation sheet, p. 5.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021



(This space reserved for official comments.)

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

P3a. Description (continued):

The blower is located at the southeast corner of the reservoir and consists of water treatment equipment housed in a one-story building designed in a style similar to that of the pump station. It has a rectangular plan, concrete foundation, and a gabled roof with clay-barrel-tile cladding and exposed rafter tails. Exterior cladding is rough stucco. A single entrance is located on the east elevation and features solid wood or metal double doors. A louvered vent penetrates the opposing elevation, and a large metal pipeline emanates from the south elevation before immediately curving downward into reservoir. The building is in good condition and shows no evidence of alteration.

Located north of the reservoir, across the parking lot and internal roadway, the Bella Vista Water Treatment Plant building is one-story in height and exhibits Mediterranean Revival-style architectural elements. The building is roughly rectangular in plan, rises from a concrete foundation, and is capped with a flat rood with rolled composition sheeting. Its exterior is entirely stuccoed. On the south elevation, three front entrances featuring glazed double doors of various configurations are located behind an arcade capped in clay barrel tiles. Secondary entrances, including a loading bay, are located on the east and west elevations, with a smaller arcade marking the east entrances. Windows include two square, fixed, multi-pane windows immediately west of the main entrance and a large, arched, metal framed, multi-pane focal window at the west end of the south elevation. The facility is in good condition and exhibits no notable alterations.

Located immediately west of the building are the settling basins. Consisting of two parallel concrete troughs built into the ground, the feature measures approximately 40 feet wide and 140 feet long. The troughs are characterized by straight concrete walls on all but the southwest end, where concrete ramps descend from ground level toward the interior of the feature. The structure is instrumental in the cleaning of the treatment plant's water filters. Pumping equipment installed at the north end of the feature passes water between the basins and the treatment plant. Water is stored temporarily in the basins to clear sediment from the water by allowing it settle on the basin floor. The water in the basin is then reintroduced to the distribution system.

Situated on a hilltop immediately north of the treatment plant building, is a water tank. Constructed of riveted steel, the cylindrical structure measures approximately 20 feet in height and 25 feet in diameter. It is situated on a concrete slab foundation and capped with a low-pitched conical top, on which a stovepipe shaped ventilator installed at the center point. On the southwest side, a ladder accesses the roof, which is encircled with a metal railing. The structure is in good condition and shows no evidence of notable alteration.

The control building is located downhill and to the south the reservoir, near the facility's entrance on Bella Vista Drive. It is a one-story building of generally utilitarian design. It is roughly rectangular in plan but rounded at the corners. The hipped roof is clad in clay-barrel tiles, suggestive of the Mediterranean Revival-influenced details found elsewhere on the property. The exterior consists of structural board-formed concrete, in addition to a band of sheet metal, which is just below the roof. Located on the west elevation, the sole entrance includes a solid wood or metal door. The building is in good condition and does not appear to be altered.

The facility occupies terrain that is generally hilly and covered with scrub vegetation. Artificial landscaping includes mature trees, shrubs, and, as mentioned above, the lawn planted on the reservoir roof. Hardscaping consists of an asphalt-paved internal roadways and parking areas. Development in the surrounding area is characterized by large residential properties.

B10. Significance (continued):
Historical Resources Evaluation

The Bella Vista Reservoir and Treatment Plant is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the Bella Vista Reservoir was one of at least three reservoirs the District constructed in the Post-World War II era. The facility was augmented in 1993 with the construction of the Bella Vista Water Treatment Plant and related buildings and structures. The development of the Bella Vista facility was part of the gradual expansion of the of the District's system since its inception in the 1920s. However, this expansion was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a reliable water system. The Bella Vista Reservoir and Treatment Plant therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research failed to identify any individuals associated with the Terminal Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Initially developed in 1975, the Bella Vista Reservoir is a 2.25 MG-capacity, reinforced concrete reservoir with a flat, reinforced concrete roof supported by a system of metal columns. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Water storage and distribution reservoirs are of common design, and there is no evidence suggesting the Bella Vista Reservoir represented any particular engineering achievement at the time it was constructed. There is also no evidence indicating the associated engineers Watson or Smith can be considered masters, and regardless, as a simple concrete-lined structure, the Bella Vista Reservoir would not be considered an example of a master's work. The facility's remaining built environment features, including the control center, pump station, blower, water treatment plant, settling basins, and water tank, likewise exhibit no architectural or engineering distinction. Although the buildings on the property represent a shared Mediterranean Revival-style theme, they each embody relatively restrained examples of the style and are not individually or collectively distinguished by their design. The settling basins and water tower are utilitarian structures and no evidence suggests they are notable for their design. Although the designers of these buildings and structures were not in all cases identified, there is nothing apparent in their designs to suggest any of these would be considered an exemplary work of any master. Therefore, the Bella Vista Reservoir and Treatment Plant is Recommended ineligible under NRHP Criterion C/CRHR Criterion 3. *See continuation sheet, p. 5.*

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

B10. Significance (continued):
Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Bella Vista Reservoir and Treatment Plant has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):

Construction Star
2021 Construction Star [web site]. https://www.constar1.com/wbf_aec_yellow-pages_listings.asp?cid=%7B19D5F65F-6C81-4643-A47D-49E4B63FFB26%7D&num_per_page=10&start=399. Accessed April 27, 2021.

Hager, Willi
2015 Hydraulicians in the USA 1800-2000: A Biographical Dictionary of Leaders in Hydraulic Engineering and Fluid Mechanics. Google Books [web site]. https://www.google.com/books/edition/Hydraulicians_in_the_USA_1800_2000/EAVCCwAAQBAJ?hl=en&gbpv=0. Accessed April 26, 2021.

JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

Montecito Water District (District)
2021 “Water Treatment,” MWD web site. https://www.montecitowater.com/our-water/water-treatment/. Accessed April 28, 2021.

National Environmental Title Research (NETRonline)
Var. “Historic Aerials.” [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed February 27, 2020.

Penfield and Smith Engineering, Inc.
1974 Construction Plans for 2 M.G. Bella Vista Reservoir, Montecito County Water District. September. Document obtained via the Montecito Water District, Montecito, CA.

SPH Associates
1992 Bella Vista Site Backwash & Potable Water Supply Pumping Station Elevations. May. Document obtained via the Montecito Water District, Montecito, CA.

Santa Maria Times
1969 “County Refuse Workers Get Weird Days Off,” September 24. www.newspapers.com. Accessed April 16, 2021.
1974 “Subdivision Plan Gets Review,” August 31. www.newspapers.com. Accessed April 16, 2021.

Santa Ynez Valley News (Solvang, CA)
1968 “Planners OK Tract Map Extension,” April 11. www.newspapers.com. Accessed April 16, 2021.
1973 “Water Zone Study Due,” March 1. www.newspapers.com. Accessed April 16, 2021.
1973 “SMID Board to Survey Areas in Effort to Save on Energy,” November 29. www.newspapers.com. Accessed April 16, 2021.

Tetra Tech
2018 Improvements at Bella Vista Treatment Plant. Construction plans obtained via the Montecito District.

University of California, Santa Barbara (UCSB) Library
1975 Aerial photograph of the APE and vicinity. Flight HB ,Frame XQ-116 and Flight AMI_SBA_75, Frame 7729. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

***Resource Name or #:** Buena Vista Reservoir

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 04N, Range 26W, Section 09 S.B.**B.M.**

[illegible] ddre[illegible] N/A [illegible] Montecito [illegible] 93108

d[illegible] M[illegible] ne[illegible] [illegible]

e[illegible] er [illegible] n [illegible] D [illegible] APN: 155-030-042

***P3a. Description:**

Constructed in 1939, Buena Vista Reservoir is located approximately 0.4 miles northwest of the intersection of Park lane and Mariposa Lane. The property consists of a 0.83-MG-capacity reinforced concrete distribution reservoir, which is circular in plan and measures approximately 80 feet in diameter and 23 in height, not including the roof . Exterior walls are constructed of vertically oriented board-formed concrete, while the flat roof is clad in non-original standing-seam metal sheeting with a box-shaped ventilator. Original plans for the reservoir indicate the roof structure consists of steel-truss stringers supporting tensile steel purlins, which in turn to support 1-by-6 wood slats covered with “90 lb. mineral covered roof paper,” that has since been replaced with the existing standing-seam metal surface (MCWD 1938a). Additional support for the roof frame is provided inside the reservoir by several steel-pole columns anchored to the floor of the structure. Vertical open space between the top of the concrete wall and roofline is filled with mesh. A shallow concrete-lined drainage swale encircles the reservoir and flows to a concrete outlet ditch extending east of the structure. The reservoir is enclosed with a chain-link fence.

The reservoir is situated on a level, excavated hillside site on the north side of Park Lane. Its immediate surroundings characterized by sloping terrain with grasses, oaks, eucalyptus, shrubs, and other planted and wild-growing vegetation. Hardscaping includes an asphalt-paved lot and private roadway immediately south and southeast of the reservoir. Properties in the immediate vicinity are generally developed with large residential estates.

***P3b. Resource Attributes:** HP9. Public utility

***P4. Resources Present:** ☐ [illegible] ■ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible]

[illegible] r Dr [illegible] n [illegible]

[illegible] De [illegible] r [illegible] n [illegible]
Buena Vista Reservoir, view to the south

***P6. Date Constructed/Age and Sources:**
■ [illegible] ☐ [illegible] ☐ [illegible]

1938 (MCWD 1938a)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

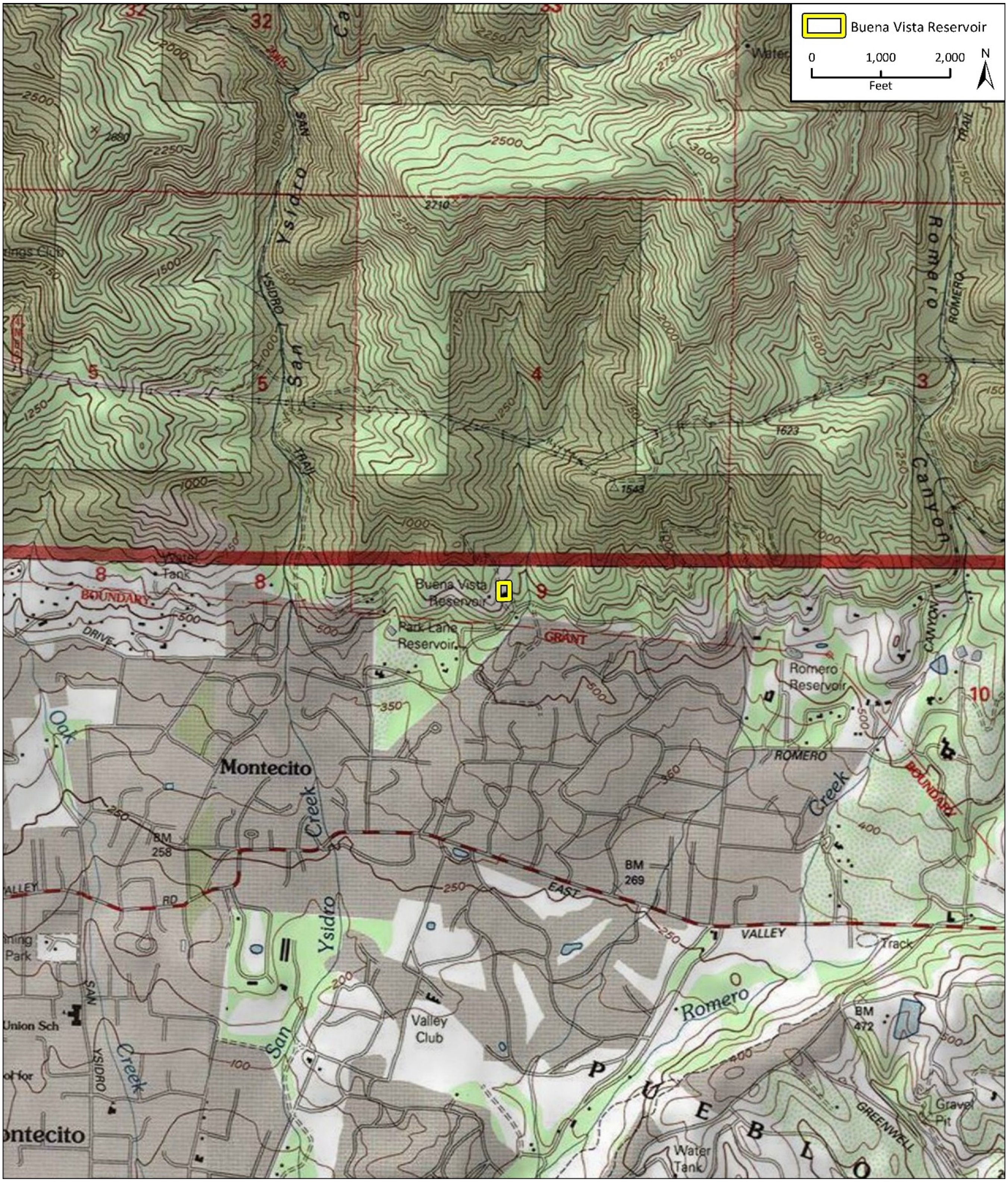
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ [illegible] ■ [illegible] ☐ [illegible] ■ [illegible] ■ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible]

State of California X Natural Resources Agency	Primary #
DEPARTMENT OF PARKS AND RECREATION	HRI#
LOCATION MAP	Trinomial

Page 2 **of** 4 ***Resource Name or #** Buena Vista Reservoir

***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1952



BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Buena Vista Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Buena Vista Reservoir
B2. Common Name: N/A
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

The reservoir was constructed in 1938 and has been subject to no notable alterations (MCWD 1938a).

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

A historical aerial photograph taken in 1928, depicts the site of Buena Vista Reservoir as an undeveloped property on the edge of an area sparsely developed with residences and farms (UCSB 1928). The District constructed the reservoir in 1939, using a design adapted from plans drawn by J.V. Spielman of the San Ysidro Reservoir. In his capacity as the Montecito County Water District's (MCWD) Chief Engineer, Carl Wyant approved the plans (MCWD 1938a). The reservoir may have been constructed as part of a planned expansion by the District, as suggested by the fact that the subject reservoir and district's Hot Springs facility were constructed the same year and based on essentially identical plans (MCWD 1938a; 1938b). Historical aerial photographs indicate there have been no substantial changes to the site since its construction, but reveal that between 1967 and 1994, most of the surrounding residential properties were developed (NETROnline 1967; 1994; 2016).

Research for this study identified two individuals with known associations with the reservoir, Spielman and Wyant. Available sources contained no information of consequence regarding Spielman. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004).

Historical Resource Evaluation

The Buena Vista Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Buena Vista Reservoir was constructed in 1939 in conjunction with the Hot Springs Reservoir as part of the larger expansion of the District's system following the development of Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines in the 1920s. The construction of this element therefore was part of what could be considered an expected response to the continued growth of the surrounding community and the increasing need for a modern and reliable water system. The Buena Vista Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

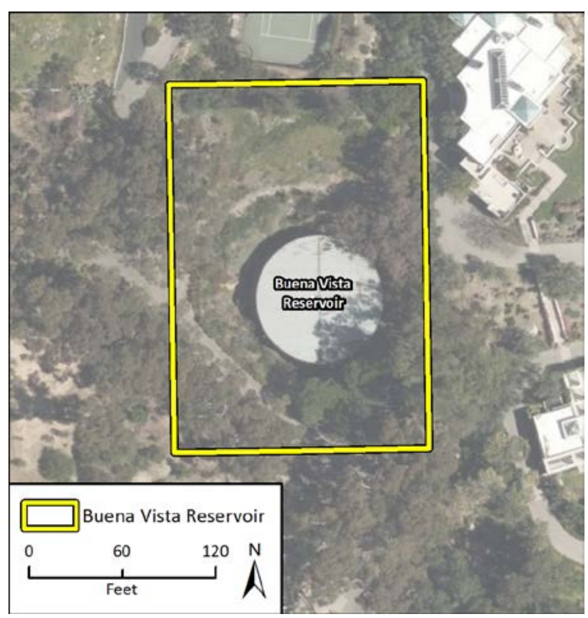
See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**

See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

B10. Significance (continued):
Archival research failed to identify any individuals associated with the Buena Vista Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Buena Vista Reservoir is an above-ground 0.83 MG-capacity, distribution reservoir exhibiting a circular plan, board-formed concrete walls, and allow-pitched conical roof. As such it appears to be of common design and there is no information to suggest it is a notable engineering achievement. It was designed by engineers J.V. Spielman and Carly Wyant, the latter of which was the chief engineer of the District's Doulton Tunnel and Juncal Dam. Although the Doulton Tunnel and Juncal Dam may be considered to be notable engineering achievements pending further study; however, the Buena Vista Reservoir is comparatively not a good example of Wyant's work. As such the Buena Vista Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
JRP Historical Consulting Services and Caltrans
    2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.
Montecito County Water District (MCWD)
    1938a Buena Vista Reservoir—Montecito County Water District. July. Document obtained via the Montecito Water District, Montecito, CA.
    1938b Hot Springs Reservoir—Montecito County Water District. May 2. Document obtained via the Montecito Water District, Montecito, CA.
National Environmental Title Research (NETROnline)
    Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed February 27, 2020.
University of California, Santa Barbara Library (UCSB)
    1928 Aerial photograph of the project area and vicinity. Flight C-311c, Frame C-14. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.
Yatchisin, George
    2004 "Keeping Montecito Green: Jameson Lake & Juncal Dam", Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum's Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

***Resource Name or #:** Cold Springs Reservoir

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Santa Barbara* **Date:** 1952 Township 04N, Range 27W, Section 01 S.B.**B.M.**

ddre N/A Montecito 93108

d M ne

e er n D APN: 013-040-005

***P3a. Description:**

Constructed circa 1925, Cold Springs Reservoir is located approximately 900 feet west of the intersection of Cold Springs Road and East Mountain Drive. The property consists of a 0.99 MG-capacity reinforced concrete distribution reservoir built into the hillside. It is rectangular in plan and measures approximately 60 feet wide, 100 feet long, and 22 feet deep, with 2 to 10 vertical feet of the walls visible above ground. Exterior walls are constructed of board-formed concrete, with concrete buttresses visible on downslope (south) elevation. Clad in non-original standing-seam metal, the gabled roof is supported along the perimeter by metal framing, with mesh enclosing the vertical space between the concrete walls and the roofline. Evenly spaced ridge caps are likewise enclosed on the sides with mesh. A chain-link fence encircles the reservoir.

The facility is situated on hilly terrain and its surroundings characterized by grasses, oaks, eucalyptus, palms, and other varieties of planted and wild-growing vegetation. A dirt road passes through the north end of the subject parcel. Located nearby on separate parcels to the north and south are two abandoned concrete reservoirs, in addition to various features of stone construction that are historically associated with the Ellen and H.E. Bothin's Mar Y Cel property

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir)

***P4. Resources Present:** ☐ u d n ■ ru ure ☐ e ☐ e ☐ D r ☐ e en D r ☐ er e , e

r Dr n

De r n
Cold Springs Reservoir, north and east elevations, view to the southwest

***P6. Date Constructed/Age and Sources:**
■ r ☐ re r ☐

Circa 1925 (MCWD 1924)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

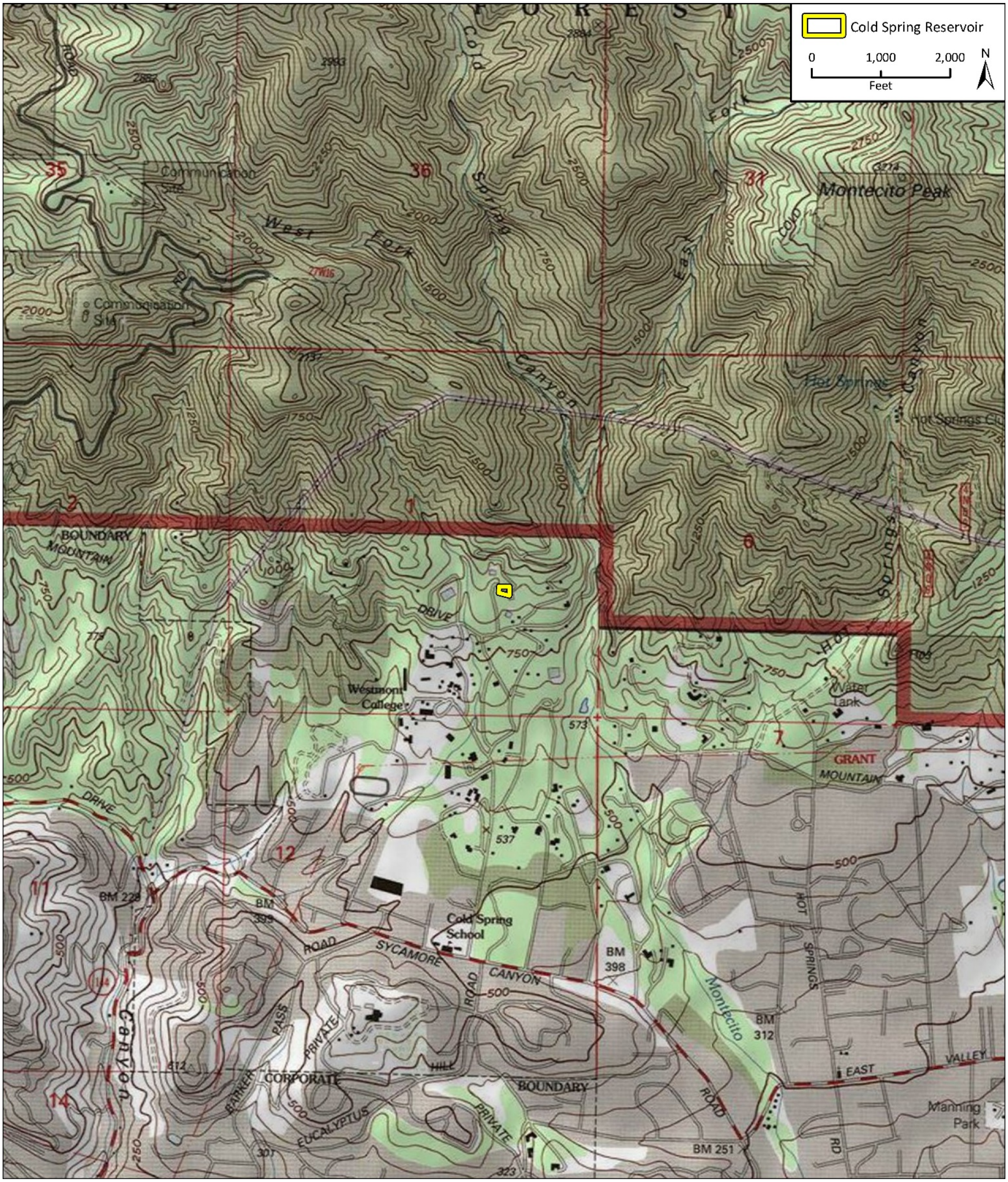
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ ■ n M ☐ e M ■ n nu n ee ■ u d n , ru ure, nd e Re rd
☐ r e Re rd ☐ D r Re rd ☐ ne r e ure Re rd ☐ M n n Re rd ☐ R r Re rd
☐ r Re rd ☐ r Re rd ☐ er :

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 4 ***Resource Name or #** Cold Springs Reservoir
***Map Name:** *Santa Barbara* ***Scale:** 1:24,000 ***Date of map:** 1952



State of California X The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#
BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Cold Springs Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Bothin Reservoir
B2. Common Name: Cold Springs Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

Original construction plans and information provided by the Montecito Water District suggest the reservoir was constructed circa 1925 (MCWD 1925; C.R. Reily Machine Works 1925). The roof cladding is non-original, but the date of this alteration could not be determined.

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Prior to the development of Cold Springs Reservoir circa 1925, the parcel on which the reservoir is located was likely part of a large estate owned by San Francisco-based real estate developer Henry E. Bothin and his wife Ellen. During the previous decade, the Bothins developed the adjacent hillside as Mar Y Cel, an expansive property featuring elaborate gardens and waterworks, at least three reservoirs, and a hilltop tea house (Barnes 2018). By 1924, the Montecito County Water District (MCWD) identified the property as a site for reservoir development. That year, plans were drawn for the subject reservoir basin, under the original name Bothin Reservoir. The plans credited Carl Wyant, resident engineer of the MCWD, and Charles Leeds, of the Los Angeles-based engineering firm Leeds & Barnard, which served as a consulting engineer during to the District's during its initial development (MCWD 1924). In 1925, C.D. Reily Machine Works completed plans for the reservoir's original roof, the top of which included wood planks sheathed in 1-ply roofing paper with a layer asphalt and gravel added to the exterior surface (C.D. Reily Machine Works 1925). The roof cladding detailed in the 1925 plans eventually replaced or covered with the existing standing-seam metal roof. Research for the current study did not determine the date of installation of the extant roof cladding. While the subject reservoir's setting has changed somewhat due to nearby development and the abandonment of the older Bothin reservoirs, historical aerial photographs and information via the District obtained via suggest that, other than the replacement of the roof, to the subject reservoir has been subject to no notable alterations (NETROnline 1967; 2016; UCSB 1947).

As discussed above, research for the current study identified individuals and firms associated with the construction and alteration of the reservoir. The District's consulting engineers, Leeds & Barnard, designed the reservoir. The Los Angeles-based firm consisted of partners Charles T. Leeds and Archer F. Barnard and completed a number of public works contracts, including the harbor at Redondo Beach, and military facilities at Port Hueneme, Seal Beach, and Vandenberg Air Base (Manuscripts Division 1999; United States Congress 1939). Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004). Research for this study uncovered no information of consequence regarding the designer of the reservoir's roof, the C.D. Reilly Machine Works. *See continuation sheet, p. 4.*

B11. Additional Resource Attributes: N/A
***B12. References:**
See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI#
Trinomial

***Resource Name or #** Cold Springs Reservoir

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

B10. Significance (continued):

The reservoir is located near features associated with the Bothin family's Mar Y Cel property, including two reservoirs, a drainage canal, and a winding roadway supported by sandstone retaining walls that leads to the location of the property's Tea House. However, the Cold Springs Reservoir is currently located on its own parcel and research for this study found no evidence it was ever directly associated with the Bothin property.

Historical Resources Evaluation

The Cold Springs Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the construction of the Cold Springs Reservoir by the District in 1925 was part of the initial development of the district's system. However, this acquisition was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a modern and reliable water system. The Cold Springs Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Park Lane Reservoir was constructed by the MCWD on property that was likely once part of the estate of Ellen and H.E. Bothin. The Bothins may be significant for their contributions in industry and real estate development. However, although they previously owned the land on which Cold Springs Reservoir was constructed, there is no evidence they were directly involved in the reservoir's construction or operation. As such, associations with the Bothins would not qualify the reservoir for listing under NRHP Criterion B/CRHR Criterion 2. Archival research failed to identify any individuals associated with the Buena Vista Reservoir which can be considered important within the history of the county, region, state, or nation.

The Cold Springs Reservoir is a 0.99 MG-capacity reinforced concrete distribution reservoir with a gabled roof sheathed in standing-seam metal and supported by a wood-frame structural system. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Cold Springs Reservoir was one of many such concrete reservoirs constructed in this area during the early twentieth century and there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated designers Leeds and Barnard, Wyant, or C.D. Reily Machine Works can be considered masters, and regardless, as a simple concrete-lined structure with a metal-framed roof structure, the Cold Springs Reservoir would not be considered an example of a master's work.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):

Barnes, Kathryn
2018 "Tea Parties, Skateboarders and Wildfires: The Story of Montecito's Mar y Cel," KCRW [web site]. August 24. https://www.kcrw.com/culture/shows/curious-coast/tea-parties-skateboarders-and-wildfires-the-story-of-montecitos-mar-y-cel. Accessed April 26, 2021.

C.D. Reily Machine Works
1925 Bothin Reservoir—Montecito County Water District. May 13. Document obtained via the Montecito Water District, Montecito, CA.

JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

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1999 "Finding Aid for the Charles Tileston Leeds Papers, 1904-1960." Online Archive of California [website]. https://oac.cdlib.org/findaid/ark:/13030/tf4v19n9b1/dsc/. Accesssed April 16, 2021.

Montecito County Water District (MCWD)
1924 Bothin Reservoir—Montecito County Water District. May 13. Document obtained via the Montecito Water District, Montecito, CA.

National Environmental Title Research (NETRonline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed February 27, 2020.

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University of California, Santa Barbara (UCSB) Library
1947 Aerial photograph of the project area and vicinity. Flight GS_EM, Frame 4-94. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

Yatchisin, George
2004 "Keeping Montecito Green: Jameson Lake & Juncal Dam", Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum's Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Doulton Reservoir and Treatment Plant

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 4N, Range 26W, Section 01 S.B.**B.M.**

[illegible] Address: 1075 Toro Canyon Road [illegible] Montecito [illegible] 93108

d. [illegible]

e. [illegible] APN: Portion of APN 155-020-007

***P3a. Description:**

Located at 1075 Toro Canyon Road, Doulton Reservoir and Treatment Plant consists of a distribution reservoir (constructed in 1975), caretaker's residence (circa 1940), water treatment plant (circa 1920s with alterations made circa 1975 and 1993), and ancillary building (circa 1965). Doulton Reservoir a 0.25-MG welded steel tank reservoir that stores treated water from Jameson Lake. Measuring 36 feet in height and 36 feet in diameter, the structure is situated on a circular concrete foundation and as suggested by original construction plans, is capped with a steel roof with a mushroom cap vent. A metal ladder is affixed to and ascends the south side of the reservoir, while pipelines emerge from various locations on the exterior. Located near the foot of the reservoir's south side, the manway entrance is accessed via a circular riveted steel door. The structure is in good condition and exhibits no notable alterations.

Situated immediately north of the reservoir is the water treatment plant building. Utilitarian in design, the highly altered one-story building has a rectangular plan, concrete foundation, and front gabled roof with standing-seam-metal cladding. Exterior walls include a lower band of structural concrete-block construction and upper section clad in sheet metal panels. Entrances are located on the east and west elevations and are accessed via a large metal double door on the west and a standard-size glazed metal door on the east. Windows with non-original vinyl sashes penetrate the east and south elevations. A shed roof extension supported by a metal-pole frame extends from the north elevation. The building is in fair condition and has been subject to substantial modification. Circa 1975, the west end of the building was removed and the west elevation reconstructed. In addition, visual inspection suggests the existing concrete-block walls are a non-original feature constructed to augment the building's height. This may have been completed in 1993, when the building was converted for use as a water treatment plant. Finally, all window sashes have been replaced and a likely non-original door was installed on the west elevation.

See continuation sheet, p. 4.

***P3b. Resource Attributes:** HP9. Public utility; HP4. Ancillary building; HP2. Single family property

***P4. Resources Present:** ■ [illegible] ■ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible]

[illegible]

[illegible] Description [illegible]
Doulton Reservoir with treatment plant to the right, , view to the northeast

***P6. Date Constructed/Age and Sources:**
■ [illegible] ☐ [illegible] ☐ [illegible]

See B6. Construction History, p. 3.

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

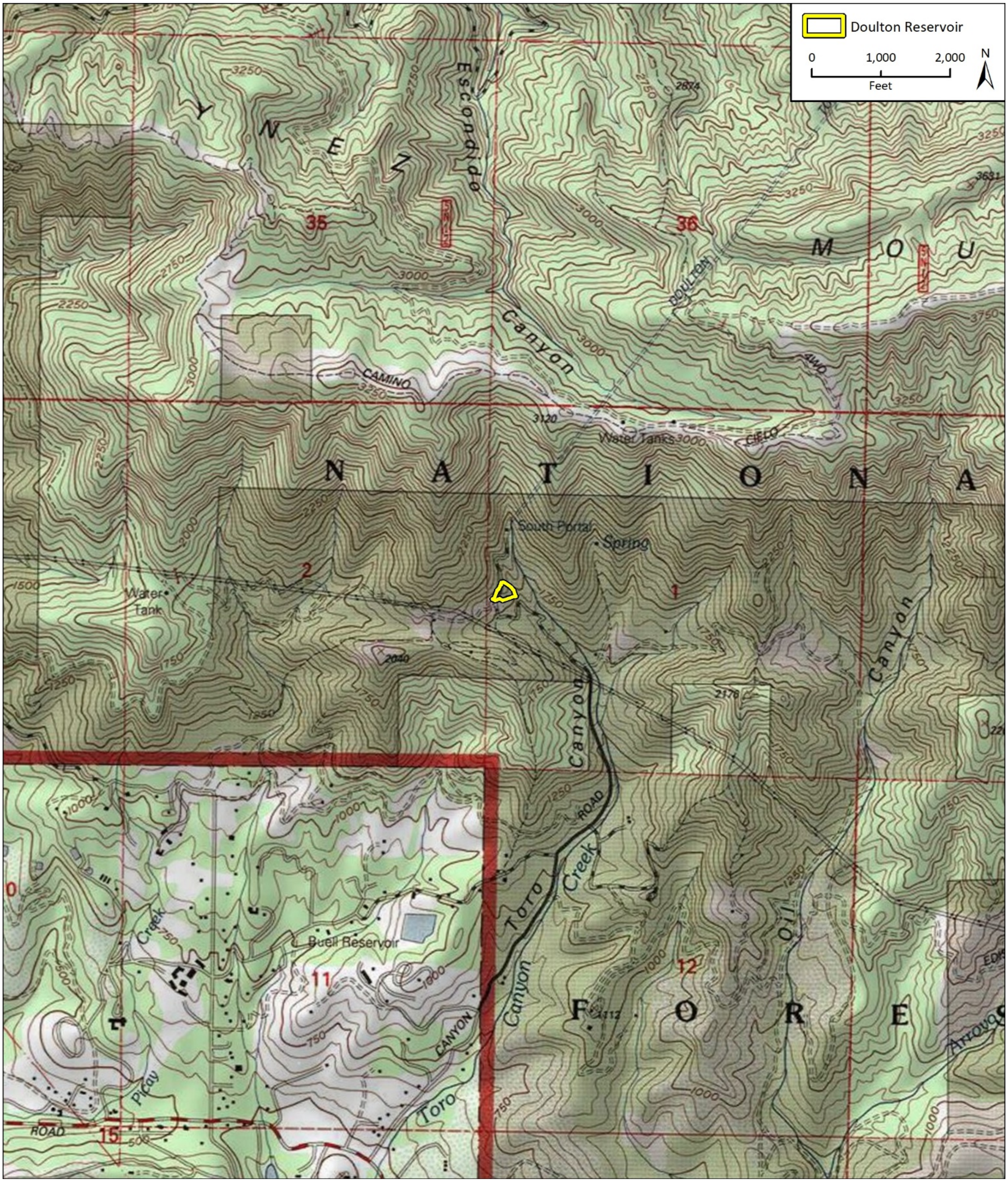
***Attachments:** ☐ [illegible] ■ [illegible] ☐ [illegible] ■ [illegible] ■ [illegible] Record
☐ [illegible] Record ☐ [illegible] Record ☐ [illegible] Record ☐ [illegible] Record ☐ [illegible] Record
☐ [illegible] Record ☐ [illegible] Record ☐ [illegible]

LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 6 ***Resource Name or #** Doulton Reservoir and Treatment Plant

***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1953



BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Doulton Reservoir and Treatment Plant ***NRHP Status Code** **6Z**

B1. Historic Name: Doulton Reservoir
B2. Common Name: N/A
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

Historical aerial photographs, construction plans, and information provided by the Montecito Water District suggest the treatment plant building was constructed ca. 1928, truncated circa 1975, and raised in 1993 (UCSB 1928; 1968; MCWD 1975). Per visual inspection, the caretaker's residence appears to have been built circa 1940. Historical aerial photographs indicate the ancillary building was constructed circa 1965 (UCSB 1961; 1968). Building plans and information provided by the Montecito Water District indicate Doulton Reservoir was constructed in 1975 (Trico—Superior 1975).

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Trico—Superior (reservoir design) b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A

Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Historical aerial photographs suggest the site of Doulton Reservoir was developed by 1928 (UCSB 1928). A photograph taken that year depicts at least six buildings clustered near the present location of the treatment plant. Of the buildings depicted in the 1928 photograph, only one is extant, a former shop building that was converted into the water treatment plant building in 1993. The facility is located approximately 800 feet south of the south portal of the Doulton Tunnel and may have been associated with tunnel's construction, which was supervised by Montecito County Water District (MCWD) chief engineer Carl Wyant between 1924 and 1928. Research for the current study, however, did not definitively confirm any such association. As suggested by its building materials, the caretaker's residence was likely added to the property in the 1930s or 1940s. An aerial photograph taken in 1961 shows that, except for the treatment plant/shop building, all the buildings depicted in 1928 were removed from the property, and the caretaker's residence had been constructed (UCSB 1961). Taken in 1968, the next available aerial photograph of the site depicts what may be ancillary building, which, as a subsequent site plan suggests, housed a weir (UCSB 1968; MCWD 1971).

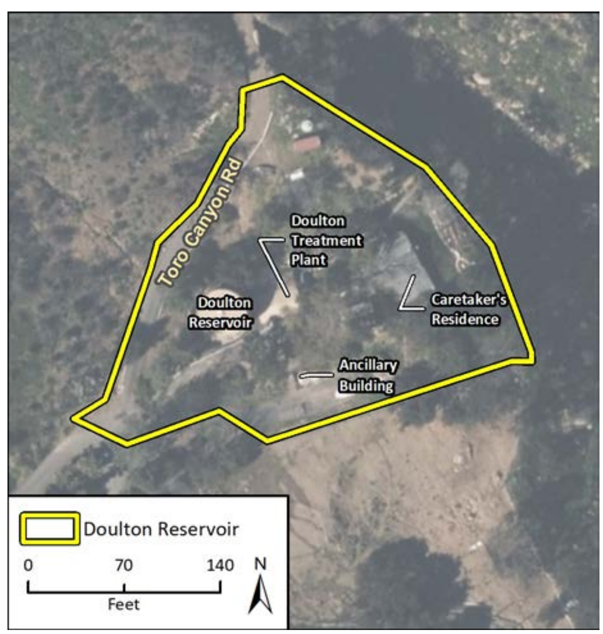
By 1971, the site consisted of a shop building, caretaker's residence, the ancillary building, and a storage building (not extant). Additionally, an 8-inch pipeline, presumably a distribution pipeline from Doulton Tunnel, traversed the site with connections to the ancillary building (MCWD 1971). In 1975, Charles C. Watson of the engineering firm Penfield & Smith drew plans to augment and reorganize the facility. The work was completed that year and included the removal of the west end the building now housing the water treatment plant, construction of the reservoir adjacent to the water treatment plant, and abandonment of the weir (Penfield & Smith 1975; Hanson 2021). Trico—Superior, Inc. provided plans for the reservoir, which were based on the American Water Works Association's D100-73 standards for steel water tank design and construction (Trico—Superior 1975; AWWA 2021). In 1993, the water treatment plant was completed inside the former shop building. Based on visual inspection of the building's construction materials, it is likely that the building's concrete base was constructed to accommodate its conversion. With completion of the water treatment plant, the Doulton facility began distributing treated water directly to District subscribers (Hanson 2021). Historical aerial photographs of the site suggest no notable alterations have been made to the facility since (NETROnline 1993-2016).

See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**
See continuation sheet, p. 5.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



***Resource Name or #** Doulton Reservoir and Treatment Plant

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

P3a. Description (continued):
The caretaker's residence is located approximately 50 feet northeast of the water treatment plant. The one-story, Minimal Traditional-style building has an L-plan, sits on a concrete foundation, and culminates in a cross-gabled roof with asphalt shingles. Its exterior consists principally of structural concrete, but also includes smaller horizontal wood plank and stucco cladding in the gable ends and plywood wall cladding on a small addition. Facing southwest, the front entrance is situated beneath a gabled porch roof with wood knee-brace supports. The secondary entrance features a non-original glazed wood-panel door. Windows are generally multi-pane steel casements, though aluminum horizontally sliding aluminum sashes, likely non-original, appear at the rear of the building. A large, east-elevation addition approximately doubled the building's original size.

South of the treatment plant building is the ancillary building. Built on a steep hillside, the one-story utilitarian structure is rectangular in plan, sits on a concrete-block foundation, and is capped with a corrugated-metal-clad gabled roof. Corrugated metal sheathes the building's wood-frame structure. The building's north-facing elevation features a wood-panel door. Windows include fixed, single-pane wood sashes. The building is in moderate condition.

The property occupies generally hilly terrain covered with scrub vegetation. Artificial landscaping is confined to the area around the caretaker's residence and includes a front and rear lawn, mature trees, and ornamental plants. Hardscaping consists of an asphalt-paved internal roadway and parking areas and concrete footpaths. The surrounding area is largely undeveloped, with sparse residential development south and east of the reservoir and mountainous wilderness to the north and west.

B10. Significance (continued):
Research for this study found no information suggesting any firms, engineers, or other individuals associated with the design of the facility were significant in their fields. Charles C. Watson worked for the firm Penfield & Smith Engineering, which was founded in Santa Barbara in 1946 by William C. Penfield and Delbert D. Smith. Among the firm's notable contributions were plans for the Santa Barbara Marina (Hager 2015; Construction Star 2021). Newspaper articles dating from around the time of the reservoir and control center's completion suggest many of the firm's engineering commissions pertained to water systems engineering and the design of residential subdivisions, among other types of projects (Santa Maria Times 9/24/1969; 8/31/1974; Santa Ynez Valley News 4/11/1968; 3/1/1973; 11/29/1973). No information of consequence regarding Charles C. Watson. Research likewise uncovered no pertinent information regarding the reservoir's designer, the firm Trico—Superior was uncovered as a result of research for this study.

Historical Resources Evaluation

The Doulton Reservoir and Treatment Plant is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the District's development of the site may have begun as early as the 1920s and in conjunction with the construction of the Doulton Tunnel. However, a review of aerial photographs and construction plans suggests the only extant feature at the site potentially dating from this period is the water treatment plant building, which was substantially altered in the latter half of the twentieth century and, thus, would not retain sufficient integrity to convey any association with the development of Doulton Tunnel. Moreover, whatever the integrity of the water treatment plant, all other buildings dating from the period of the tunnel's construction were removed from the property by 1961. The removal of these buildings undermined the overall integrity of the property such that it has lost its ability to convey any associations it may have acquired during the tunnel's construction. Subsequent development of the site, including the construction of the caretaker's residence, ancillary building, and reservoir, in addition to the alteration and conversion of the treatment plant building, was associated with the gradual expansion of the District's distribution system that has taken place since its establishment. Archival research did not find that the Doulton Reservoir and Treatment Plant is noteworthy or unique within this context. Rather, this expansion was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for reliable water system. The Doulton Reservoir and Treatment Plant therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

Archival research identified one individual directly associated with the Doulton Reservoir and Treatment Plant, Charles C. Watson. However, because Watson's associations with the site pertain to the redesign carried out in 1975, his potential for significance is addressed under Criteria C/3 below. In addition, despite the property's potential association with the development of Doulton Tunnel, no evidence suggests the site is strongly associated with the contributions of project's supervising engineer, Carl Wyant. Therefore, Doulton Tunnel and Treatment Plant is not associated with any individual whose contributions would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Doulton Reservoir and Treatment Plant consists of a water distribution reservoir, treatment plant, caretaker's residence, and ancillary building. The reservoir is a 0.25-MG welded steel tank reservoir. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). That the Doulton Reservoir was constructed according to standardized plans would suggest that the structure was one of many such reservoirs constructed in the same period. Furthermore, there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated engineers Carl C. Watson or the firm Trico—Superior can be considered masters, and regardless, as a simple steel structure of standardized design, the Doulton Reservoir would not be considered an example of a master's work.
See continuation sheet, p. 5.

B10. Significance (continued):

The design and construction of the three buildings located on the property also lack distinction of design and construction. The treatment plant and ancillary building are utilitarian buildings of undistinguished design. They are of simple of form, and there is no evidence suggesting they are notable for their materials or methods of construction. In addition, the treatment plant has been subject to considerable alteration, most notably, the removal of its original west end and the raising of the remaining portion of the building onto a non-original concrete block base. The caretaker's residence was designed in the Minimal Traditional style and possesses the style's characteristic restrained architectural detailing. Although its structural concrete construction is atypical, this method of residential construction was adopted widely in the United States in the early decades of the twentieth century and there is no evidence suggesting the residence is significant for its construction (Jackson 2015; ETHW 2021). As such, none of the buildings embody the distinctive characteristics of a type, period, or method of construction, or possess high artistic values. Although their respective designers are unknown, none of the buildings would represent the work of a master. Finally, the site was developed gradually between the 1920s and 1993, and the built environment elements of the property are do not represent a cohesive unit significant for its overall plan. Therefore, the Doulton Reservoir and Treatment Plant is recommended ineligible for listing under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting Doulton Reservoir and Treatment Plant has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):

American Water Works Association (AWWA)
2021 "Product Detail: D100-73: AWWA Standard for Welded Steel Elevated Tanks, Standpipes, and Reservoirs for Water Storage." AWWA web site. https://www.awwa.org/Store/D100-73-AWWA-Standard-for-Welded-Steel-Elevated-Tanks-Standpipes-and-Reservoirs-for-Water-Storage-/ProductDetail/29309. Accessed April 27, 2021.

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2021 Email Correspondence with Dennis Hansen, Engineering Assistant, Montecito Water District. April 21.

JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

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Montecito County Water District (MCWD)
1971 Doulton Tunnel Plan Showing Ties of Right of Ways & 2 Acre Parcel. May. Document obtained via the Montecito Water District, Montecito, CA.

National Environmental Title Research (NETROnline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed April 26, 2021.

Penfield and Smith Engineering, Inc.
1975 Construction Plans for 0.25 M Gallon Doulton Reservoir, Montecito County Water District. May. Document obtained via the Montecito Water District, Montecito, CA.

Santa Maria Times
1969 "County Refuse Workers Get Weird Days Off," September 24. www.newspapers.com. Accessed April 16, 2021.
1974 "Subdivision Plan Gets Review," August 31. www.newspapers.com. Accessed April 16, 2021.

Santa Ynez Valley News (Solvang, CA)
1968 "Planners OK Tract Map Extension," April 11. www.newspapers.com. Accessed April 16, 2021.
1973 "Water Zone Study Due," March 1. www.newspapers.com. Accessed April 16, 2021.
1973 "SMID Board to Survey Areas in Effort to Save on Energy," November 29. www.newspapers.com. Accessed April 16, 2021.

Trico—Superior, Inc.
1975 36' Dia. x 36' High Doulton Reservoir—A.W.W.A. Tank. Engineering plans obtained via the Montecito Water District.

Continued on next page.

***Resource Name or #** Doulton Reservoir and Treatment Plant

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

B12. References (continued):

University of California, Santa Barbara Library (UCSB)

1928 Aerial photograph of the project area and vicinity. Flight C-311c, Frames B-142; C-14; and C-18 . http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

1961 Aerial photograph of the project area and vicinity. Flight BTM-1961, Frame 7BB-30. H ttp://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

1968 Aerial photograph of the project area and vicinity. Flight HB-IU, Frame 47. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Hot Springs Reservoir

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Santa Barbara* **Date:** 1952 Township 04N, Range 26W, Section 06 S.B.**B.M.**

[illegible] ddre[illegible] N/A [illegible] Montecito [illegible] 93108

d[illegible] M[illegible] ne[illegible]

e[illegible] er [illegible] n D[illegible] APN: 011-030-024

***P3a. Description:**

Constructed in 1939, Hot Springs Reservoir is located approximately 900 feet north of the intersection of Hot Springs Road and Hot Springs Lane. The property consists of a 0.83-MG-capacity reinforced concrete distribution reservoir. It is circular in plan and measures approximately 80 feet in diameter and 23 feet in height, not including the roof, which adds another 8 inches to its height at its peak. Exterior walls are constructed of vertically oriented board-formed concrete, while the low-pitched conical roof consists of steel framing, pyramidal ventilator, and metal cladding, as suggested by satellite imagery. Original construction plans indicate the roof frame is supported on the interior of the reservoir by several steel-pole columns, which are anchored to the floor of the structure. A shallow concrete-lined drainage swale encircles the reservoir and flows to a concrete outlet ditch extending west of the structure. The outlet ditch may have been altered; although original plans for the facility call for a trapezoidal outlet structure, the extant ditch has straight walls (MCWD 1938a).

The reservoir is situated on the west side of Hot Springs Lane, its immediate surroundings characterized by sloping terrain with wild-growing grasses, oaks, and shrubs. Hot Springs Canyon is located immediately to the west, while several surrounding properties are developed with large residential estates.

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir)

***P4. Resources Present:** ☐ [illegible] ■ [illegible]ructure ☐ [illegible] ☐ [illegible] ☐ D[illegible] ☐ [illegible] ☐ [illegible]er [illegible]

[illegible] r Dr[illegible] n[illegible]

[illegible] De[illegible] r[illegible] n [illegible]
Hot Springs Reservoir, west elevation, view to the east

***P6. Date Constructed/Age and Sources:**
■ [illegible] ☐ [illegible] ☐ [illegible]

1939 (Montecito Water District)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

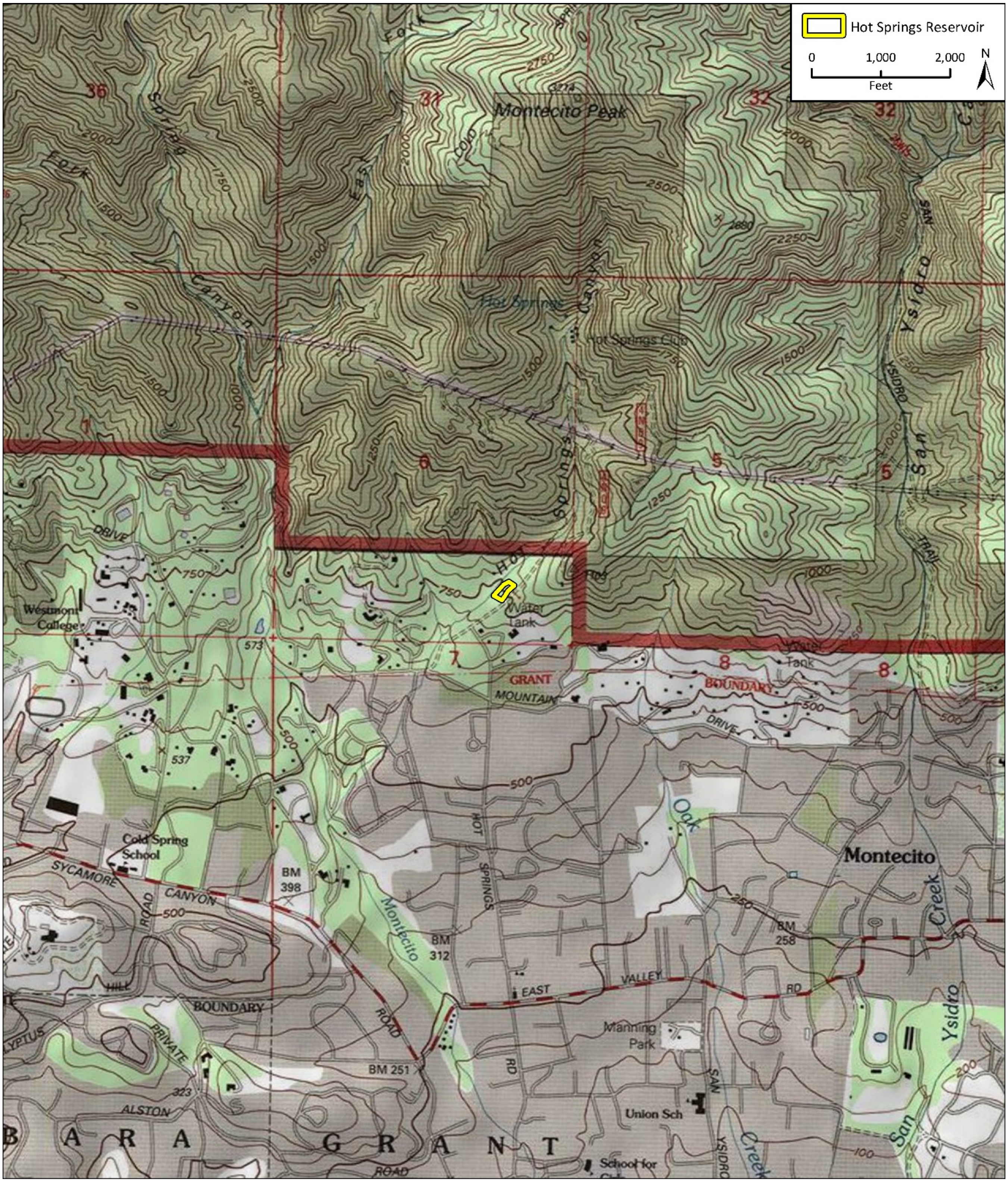
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ [illegible] ■ [illegible] ☐ [illegible] ■ [illegible] ■ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible]

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 4
***Resource Name or #** Hot Springs Reservoir
***Map Name:** *Santa Barbara* ***Scale:** 1:24,000 ***Date of map:** 1952



BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Hot Springs Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: N/A
B2. Common Name: Hot Springs Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

Original construction plans for the reservoir were drafted in 1938 (MCWD 1938a). According to information on file with the Montecito Water District, the reservoir was constructed in 1939.

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: J.V. Spielman b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Historical aerial photographs taken in 1930 and 1935 show that, prior to the construction of Hot Springs Reservoir in 1939, reservoir site was vacant and the surrounding area only sparsely developed with large estates and orchards (UCSB 1930; 1935). The reservoir's design was adapted from plans drawn by J.V. Spielman of the San Ysidro Reservoir and approved by Carl Wyant, in his capacity as the Montecito County Water District's (MCWD) Chief Engineer (MCWD 1938a). The reservoir may represent part of a planned expansion by MCWD, as suggested by the fact that District's Buena Vista reservoir was constructed the same year and on the basis on essentially identical plans (MCWD 1938a; 1938b). Historical aerial photographs suggest there have been no substantial changes to the site since its construction, but reveal that between 1967 and 1994, most of the surrounding residential properties were developed (NETROnline 1967; 1994; 2016).

Research for this study identified two individuals with known associations with the reservoir, Spielman and Wyant. Available sources contained no information of consequence regarding Spielman. Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004).

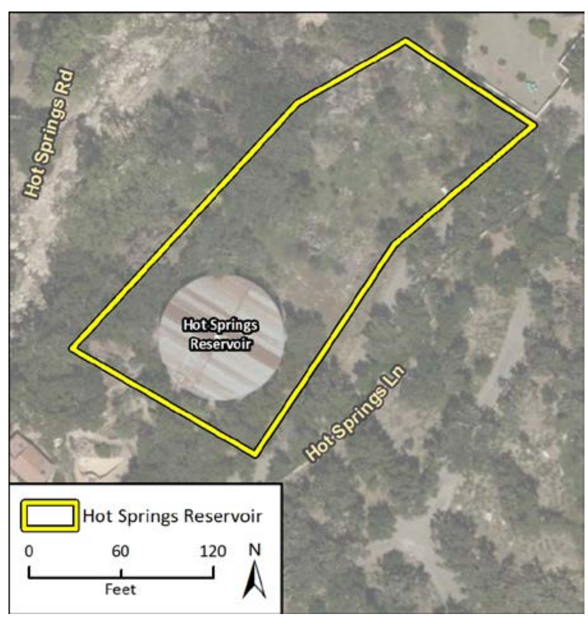
Historical Resources Evaluation

The Hot Springs Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Hot Springs Reservoir was constructed in 1939 in conjunction with the Buena Vista Reservoir as part of the larger expansion of the District's system following the development of Juncal Dam, Jameson Lake, Doulton Tunnel, Buell Reservoir, and 50 miles of distribution pipelines in the 1920s. The construction of this element therefore was part of what could be considered an expected response to the continued growth of the surrounding community and the increasing need for a modern and reliable water system. The Hot Springs Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1). *See continuation sheet, p. 4.*

B11. Additional Resource Attributes: N/A
***B12. References:**
See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



***Resource Name or #** Hot Springs Reservoir

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

B10. Significance (continued):
Archival research failed to identify any individuals associated with the Hot Springs Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Hot Springs Reservoir is an above-ground 0.83 MG-capacity, distribution reservoir exhibiting a circular plan, board-formed concrete walls, and allow-pitched conical roof. As such it appears to be of common design and there is no information to suggest it is of particular engineering achievement. It was designed by engineers J.V. Spielman and Carly Wyant, the latter of which was the chief engineer of the District's Doulton Tunnel and Juncal Dam. Although the Doulton Tunnel and Juncal Dam may be considered to be notable engineering achievements pending further study; however, the Hot Springs Reservoir is comparatively not a good example of Wyant's work. As such the Hot Springs Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

Montecito County Water District (MCWD)
1938a Hot Springs Reservoir—Montecito County Water District. May 2. Document obtained via the Montecito Water District, Montecito, CA.
1938b Buena Vista Reservoir—Montecito County Water District. July. Document obtained via the Montecito Water District, Montecito, CA.

National Environmental Title Research (NETRonline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed April 26, 2021.

University of California, Santa Barbara (UCSB) Library
1930 Aerial photograph of the project area and vicinity. Flight C_816, Frame 33. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.
1935 Aerial photograph of the project area and vicinity. Flight C-3348, Frame 1. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

Yatchisin, George
2004 "Keeping Montecito Green: Jameson Lake & Juncal Dam", Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum's Gledhill Library.

State of California – The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**	Primary # HRI # Trinomial NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Park Lane Reservoir

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ■ Unrestricted ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 04N, Range 26W, Section 09 S.B.**B.M.**

c. Address: 809 Park Lane City: Montecito Zip: 93108

d. UTM: Zone

e. Other Locational Data: APN: 007-050-013

***P3a. Description:**

Constructed in 1917, Park Lane Reservoir is located approximately 900 feet north of the intersection of the intersection of Park Lane and East Mountain Drive. The property consists of a 1.25 MG-capacity concrete distribution reservoir. The reservoir is rectangular in plan and measures approximately 101' wide and 138 long. The reservoir is completely buried, except for a concrete perimeter that emanates slightly above ground level. Plans obtained via District indicate the basin is of reinforced concrete construction. The flat roof is supported by a wood-frame structural system and clad in non-original corrugated metal. Plans for the reservoir completed in 1924 indicate additional support for the roof frame is provided inside the reservoir by several galvanized-iron-pole columns anchored to the floor of the structure. Vertical open space between the top of the concrete wall and roofline is secured with screens. The interior of the reservoir is accessed via a wood hatch at the structure's southwest corner. A shallow concrete-lined outlet channel extends to the west of the reservoir. A chain-link fence encloses the area immediately surrounding the reservoir. The structure is situated atop a moderately sloping hill, with a series of seven dry-stacked sandstone retaining walls forming terraces on the hillside just south of the reservoir. Due to the presence of heavy overgrowth, further details regarding the design of the retaining walls were not available.

Except for grasses, the area immediately surrounding the reservoir is free from vegetation. Oaks and a variety of shrubs grow elsewhere on the property. A private dirt road enters the property from the east, terminating near the east side of the reservoir. Properties in the immediate vicinity are generally developed with large residential estates.

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir)

***P4. Resources Present:** ☐ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other

P5a. Photo or Drawing

P5b. Description of Photo:
Southeast corner of Park Lane Reservoir, view to the north

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

1917 (*Santa Barbara Daily News and the Independent* 6/21/1917)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**

***P11. Report Citation:**

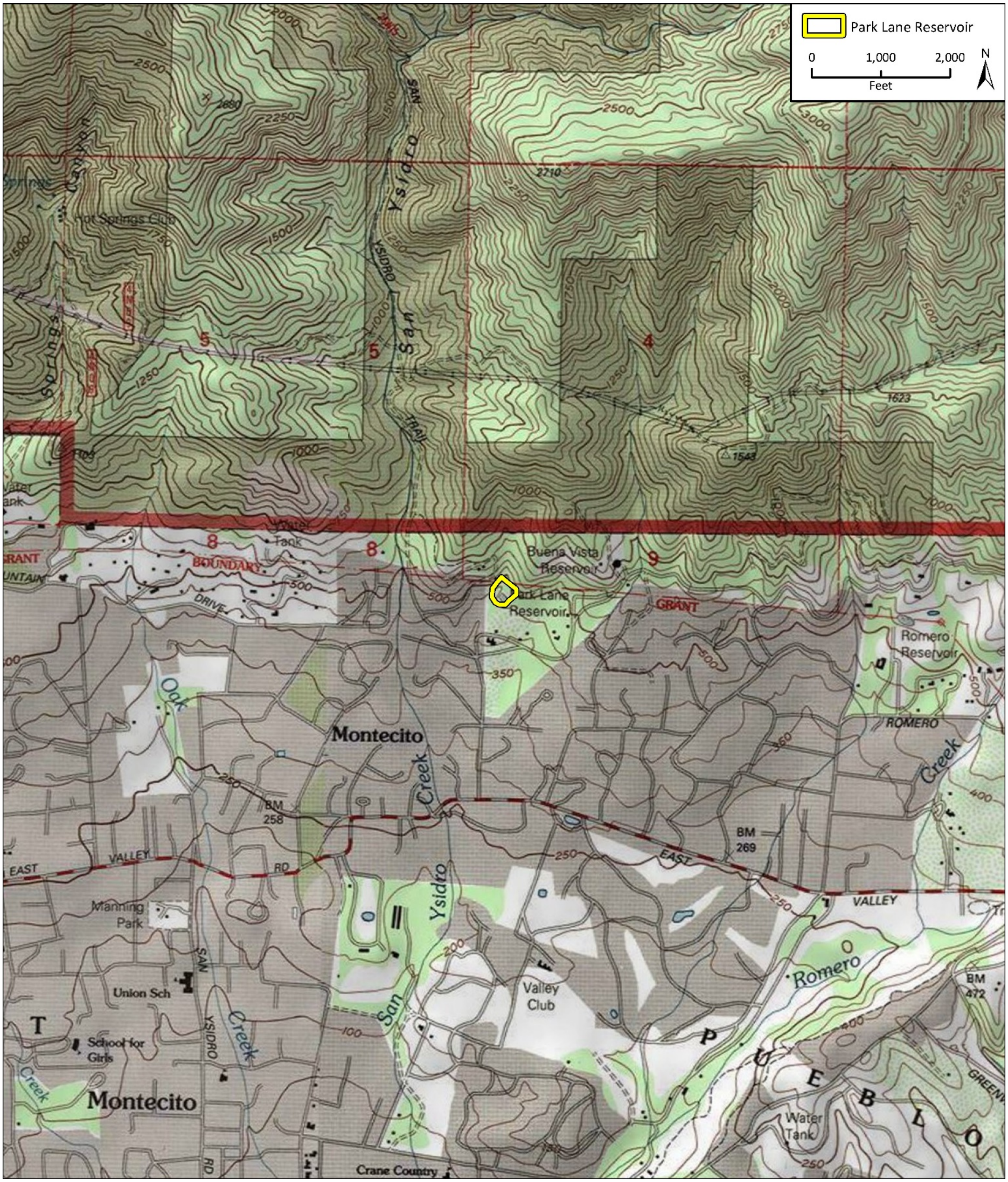
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other

LOCATION MAP

Page 2 **of** 5 ***Resource Name or #** Park Lane Reservoir

***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1952



State of California X The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Park Lane Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Carpenter Reservoir
B2. Common Name: Park Lane Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

According to an article published in the *Santa Barbara Daily News and the Independent*, the reservoir was completed in 1917 (6/21/1917). The retaining walls may date from the same period. Plans for the roof were drafted in 1924, and the feature is presumed to have been constructed around the same time (MCWD 1924a).

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Frank F. Flournoy (1917); Leeds and Barnard (1924) b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A

Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Research for the current study indicates Park Lane Reservoir, originally called Carpenter Reservoir, was constructed in 1917 and the extant roof added circa 1924. The Santa Barbara Daily News and the Independent reported in February 1917 that the firm Snook and Henyon of Santa Barbara signed a contract to construct a "million and a quarter gallon reservoir on the F.I. [Frank Ives] Carpenter place in Montecito" (*Santa Barbara Daily News and the Independent* 2/24/1917). In June of that same year, it was reported that excavation for Carpenter's reservoir was underway, only under a contract with engineer Frank F. Flournoy (*Santa Barbara Daily News and the Independent* 6/21/1917). Sometime prior to 1924, it came into the use of the San Ysidro Creek Water Association. In 1924, just three year after its founding, the Montecito County Water District (MCWD) negotiated the purchase of the reservoir from Carpenter and his wife, Emma, for $10.00. Through this agreement the MCWD secured ownership of the parcel containing the reservoir and a right-of-way for a pipeline, in addition to rights to divert "one filling of [the] reservoir each year" from San Ysidro Creek, which per the agreement, was equal to what was recorded in the terms of the agreement as the basin's 1.6 MG capacity. Under the agreement, the MWDC was required to "maintain and preserve the retaining banks of said reservoir and the shrubbery and planting screening the same" (MCWD 1924b). This term of the agreement likely refers to the terraced series of retaining walls immediately downhill from the reservoir, suggesting the sandstone feature was completed sometime between the original construction of the reservoir in 1917 and the property's sale to the MCWD in 1924.

Construction plans on file with the District show that in December 1924, district resident engineer Carl Wyant and consulting engineers Leeds & Barnard designed a wood roof and supporting structure for the reservoir. The extant roof framing is consistent with the 1924 design, though the extant metal cladding is certainly non-original (MCDW1924a). Historical aerial photographs and construction plans indicate that, other than the construction of the roof and supporting structure and replacement of the roof cladding, there have been no substantial changes to the property since the 1920s. Historical aerial photographs suggest the surrounding area was essentially rural at the time of the reservoir's construction, but that residential development has occurred steadily since the 1940s (UCSB 1943; NETROnline 1967-2016). Aside from the replacement of the reservoir's roof cladding, the structure has not been subject to any notable alterations.

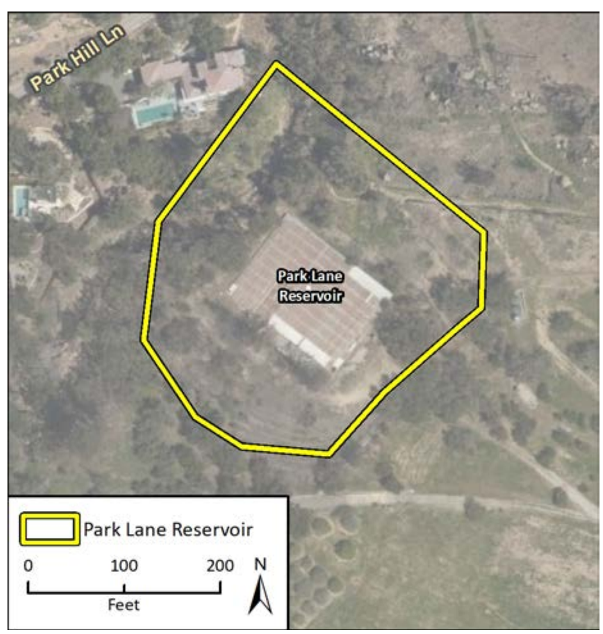
See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**

See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



State of California -- The Resources Agency | **Primary #**
DEPARTMENT OF PARKS AND RECREATION | **HRI#**
CONTINUATION SHEET
Trinomial

 ***Resource Name or #** Park Lane Reservoir

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

B10. Significance (continued):
As discussed above, research for the current study identified several individuals associated with the construction and alteration of the reservoir. Available sources contained no information of consequence regarding the Carpenters, who commissioned the reservoir's construction, or Flournoy, the contractor who built the structure. The District's consulting engineers, Leeds & Barnard, designed the reservoir's roof. The Los Angeles-based firm consisted of partners Charles T. Leeds and Archer F. Barnard and completed a number of public works contracts, including the harbor at Redondo Beach, and military facilities at Port Hueneme, Seal Beach, and Vandenberg Air Base (Manuscripts Division 1999; United States Congress 1939). Wyant, a Stanford University-educated civil engineer, worked for the District from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004).

Historical Resources Evaluation

The Park Lane Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the Park Lane Reservoir was one of many reservoirs to be constructed on behalf of a property owner in the Montecito area during the early twentieth century. Prior to the development of larger water districts in the region, this was a common practice and there is no information to suggest the Park Land Reservoir is noteworthy or unique within this context. Archival research also did not indicate the Carpenter property is significant within any other historical context. The acquisition of the Park Lane Reservoir by MCWD in 1924 was part of the initial development of the district's system. However, this acquisition was due to what could be considered an expected response to the growth of the surrounding community and the increasing need for a modern and reliable water system. The Park Lane Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Park Lane Reservoir was initially constructed on behalf of Frank Ives Carpenter. Archival research identified very limited information on Carpenter and there is no evidence to suggest he, or any other individuals associated with the Park Lane Reservoir would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

The Park Lane Reservoir is a 1.25 MG-capacity, reinforced concrete reservoir with a flat roof sheathed in corrugated metal and supported by a wood-frame structural system. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Park Lane Reservoir was one of many such concrete reservoirs constructed in this area during the early twentieth century and there is no information to suggest it meets any of the above criteria. There is also no evidence indicating the associated engineers Snook and Henyon or Leeds & Barnard's can be considered masters, and regardless, as a simple concrete-lined structure with a wood-frame roof, the Park Lane Reservoir would not be considered an example of a master's work.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.
Manuscripts Division, UCLA Library, Department of Special Collections (Manuscripts Division)
1999 "Finding Aid for the Charles Tileston Leeds Papers, 1904-1960." Online Archive of California [website]. https://oac.cdlib.org/findaid/ark:/13030/tf4v19n9b1/dsc/. Accessed April 16, 2021.
Montecito County Water District (MCWD)
1924a Carpenter Reservoir—Montecito County Water District. December 4. Document obtained via the Montecito Water District, Montecito, CA.
1924b Minutes of Regular Monthly Meeting of March 11, 1924. Document obtained via the Montecito Water District, Montecito, CA.
National Environmental Title Research (NETROnline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the project area and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed April 26, 2021.
Santa Barbara Daily News and the Independent, The
1917 "In Brief: To Build Large Reservoir," February 24. www.newspapers.com. Accessed April 22, 2021.
1917 "Pouring Concrete for Montecito Reservoir," June 21. www.newspapers.com. Accessed April 22, 2021.

See continuation sheet, p. 5.

***Resource Name or #** Park Lane Reservoir

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation ☐ Update

B12. References (continued):

United States Congress

1939 Military Establishment Appropriation Bill for 1940: Hearings Before the Subcommittee of the Committee on Appropriations, House of Representatives, Seventy-sixth Congress, First Session, on the Military Establishment Appropriation Bill for 1940. Obtained via Google Books. https://www.google.com/books/edition/Military_Establishment_Appropriation_Bil/24E0AAAAIAAJ?hl=en&gbpv=0. Accessed April 27, 2021.

University of California, Santa Barbara (UCSB) Library

1943 Aerial photograph of the project area and vicinity. Flight BTM-1943, Frame 4B-8. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

Yatchisin, George

2004 “Keeping Montecito Green: Jameson Lake & Juncal Dam”, Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum’s Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Romero Reservoir

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles

***b. USGS 7.5' Quad:** *Carpinteria* **Date:** 1952 Township 04N, Range 26W, Section 10 S.B.**B.M.**

[illegible] N/A [illegible] Montecito [illegible] 93108

d[illegible]

e[illegible] APN: 007-080-006

***P3a. Description:**

Constructed in 1933, Romero Reservoir is located approximately 0.25 miles northeast of the intersection of Romero Canyon Road and Lilac Drive. The property consists of a 0.94-MG capacity reinforced concrete distribution reservoir and a pump station building added to the property in 2000. The reservoir is roughly rectangular in plan with canted corners and measures approximately 240 feet long, 63 feet wide, and on average, about 12 feet deep. The reservoir's basin is trapezoidal in cross-section. The reinforced concrete walls are almost entirely buried, and most of the visible portions of the structure consists of the non-original, corrugated metal roof assembly. Construction plans show the roof framework consists of metal trusses and steel Z purlins, with additional support provided by the original metal pole columns. Non-original structural tube extensions were added to the columns to accommodate the increased height of the replacement roof. The sloping roof is clad with corrugated aluminum on the sides and top. Horizontally oriented apertures in the aluminum-clad walls are secured with screen. A shallow, concrete-lined outlet channel traces the north and east sides of the reservoir before extending downhill to the southwest of the structure. The replacement of the roof is the only notable alteration to the structure.

The utilitarian pump station building is located immediately downhill and south of the reservoir's southwest corner. One story in height, the building has a rectangular plan and a flat roof, possibly of concrete-slab construction, with a slight overhang. Its concrete exterior is either deeply scored or consists of multiple full-height panels. A single entrance is located on the south elevation and features solid metal double doors. Metal cabinets located on the east elevation and immediately southeast of the building are presumed to contain transformers or other electrical utility equipment. Two vents with mushroom caps and other mechanical appurtenances of undetermined function are installed on the roof. The north end of the building is built partially into the hillside. Fieldstone-veneer-clad retaining walls flank the building, which is in good condition and exhibits no apparent alterations. *See continuation sheet, p. 4.*

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir); HP4. Ancillary building

***P4. Resources Present:** ☐ [illegible] ■ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible]

[illegible]
Romero Reservoir, north and west elevations, view to the southeast

***P6. Date Constructed/Age and Sources:**
■ [illegible] ☐ [illegible] ☐ [illegible]

1933 (Montecito Water District)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:**
Intensive

***P11. Report Citation:**

Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

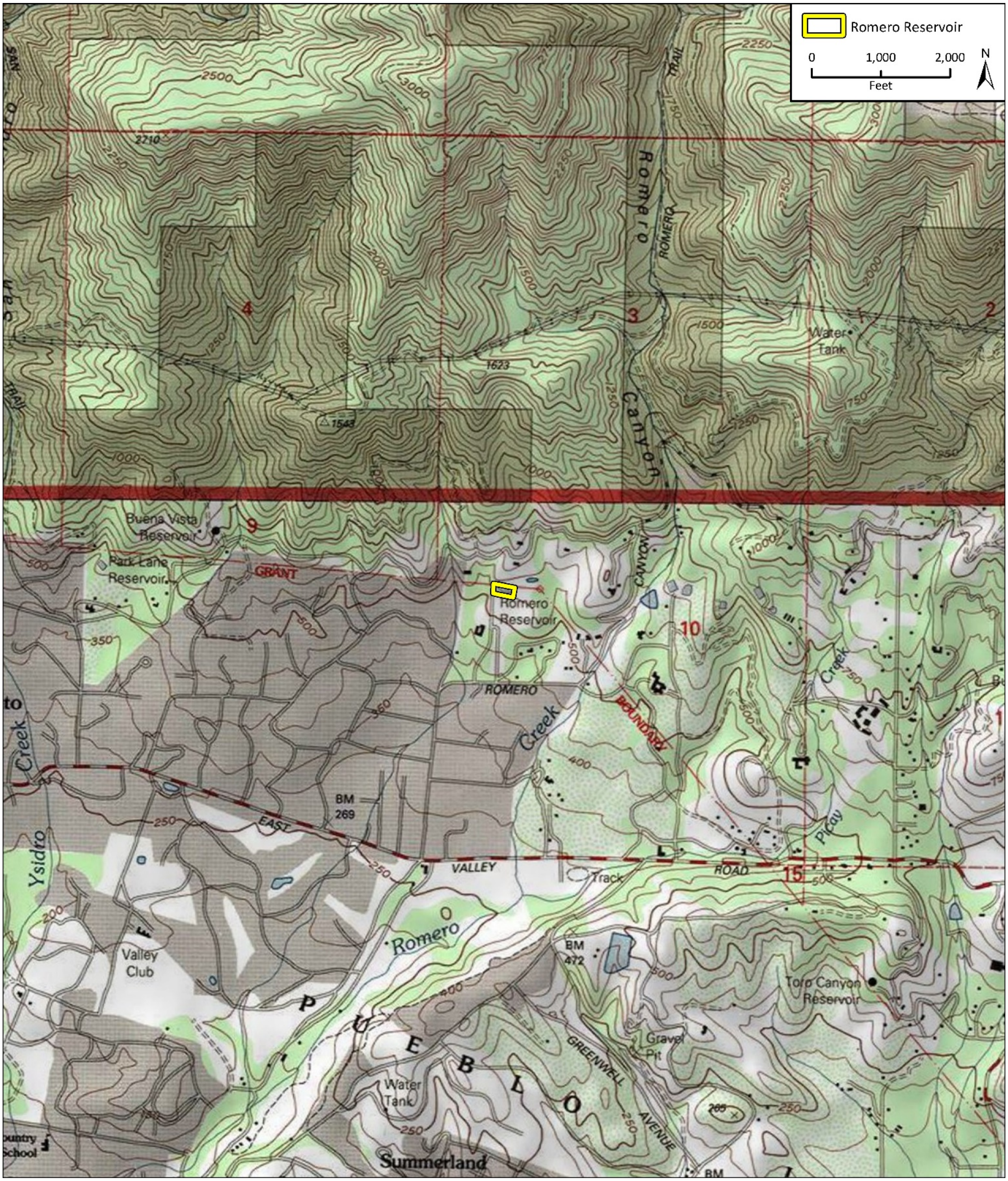
***Attachments:** ☐ [illegible] ■ [illegible] ☐ [illegible] ■ [illegible] ■ [illegible]
☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible] ☐ [illegible]
☐ [illegible] ☐ [illegible] ☐ [illegible]

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 4 ***Resource Name or #** Romero Reservoir

***Map Name:** *Carpinteria* ***Scale:** 1:24,000 ***Date of map:** 1952



State of California X The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#
BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Romero Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Baring Reservoir
B2. Common Name: Romero Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

According to construction plans and information provided by the Montecito Water District, Romero Reservoir was constructed in 1933 and the roof replaced circa 1977 (MCWD 1933; 1977). The pump station was constructed in 2000.

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Taken in 1928, the earliest available historical aerial photograph of the site of Romero Reservoir, formerly Baring Reservoir, depicts the property as a vacant property on the edge of an area developed sparsely with residences and farms (UCSB 1928). In his capacity as the Montecito County Water District's (MCWD) Chief Engineer, Carl Wyant drew and approved the original plans for the reservoir in 1933. The plans suggest MCWD acquired the reservoir parcel and an easement for what is likely the existing access road from Louise Thorn Baring, whose property bounded the reservoir parcel on all but the west side (MCWD 1933). By 1956, historical aerial photographs show, a few large estates were developed in the vicinity of the reservoir, but the properties to the immediate south and southeast were occupied by orchards (UCSB 1956).

Circa 1977, the extant replacement roof structure was constructed as designed by MCWD engineer M. Akavian and approved by General Manager and District Engineer H.O. (Harold Orman) Neil Mendenall (MCWD 1976). Research for this Historical aerial photographs suggest there have been no substantial changes to the reservoir proper since the existing roof was completed; however, the pumping station building was completed in 2000 (Hanson 2021). Residential development in the surrounding area has gradually expanded since the mid-twentieth century, though the former orchard to the immediate south of the reservoir remains vacant (NETROnline 1967-2016).

As discussed above, research for the current study identified several individuals associated with the construction and alteration of the reservoir. Wyant, a Stanford University-educated civil engineer, worked for the MCWD from 1922 to 1944, serving as chief engineer and district manager. His efforts as chief engineer of the District's Doulton Tunnel and Juncal Dam projects are likely the most notable accomplishments of his career with the District (Yatchisin 2004). Sources consulted for this study contained no information of consequence pertaining to Baring, Akavian, and Mendenall.

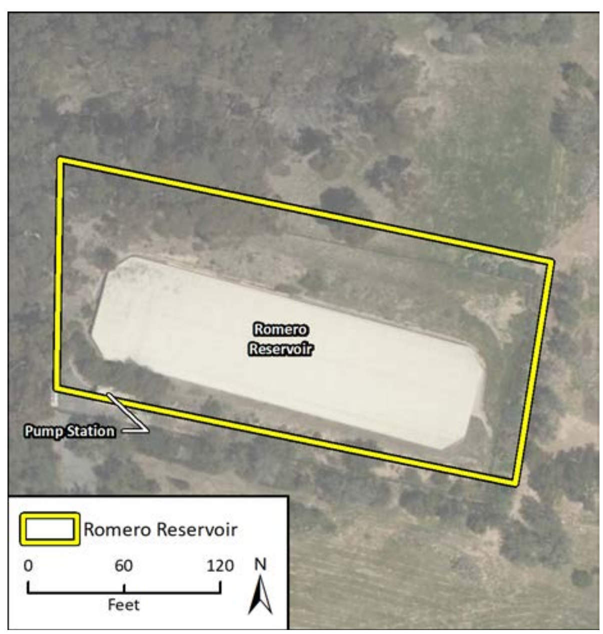
See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**

See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI#
Trinomial

 ***Resource Name or #** Romero Reservoir

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation □ Update

P3a. Description (continued):
The facility occupies a grassy hillside. Mature trees and shrubs line the areas south of the facility and immediately west and south of the reservoir proper. Hardscaping consists of an asphalt-paved footpath and parking area. The surrounding area is developed with large residential properties.

B10. Significance (continued):
Historical Resources Evaluation
The Romero Lane Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). Archival research indicates the MCWD developed the Romero Reservoir in 1933. As such, the reservoir was completed as a gradual expansion of the district's reservoir system carried out between 1924 and 1975. The Romero Reservoir was one of at least eight such structures the MCWD built or acquired during this period, and there is no evidence to suggest the reservoir is noteworthy or unique within this context. Archival research did not identify any other context in which the reservoir might be considered historically significant. The Park Lane Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

The Romero Reservoir was constructed on land that the MCWD may have acquired from Louise Thorn Baring. However, archival research uncovered no evidence indicating Baring made significant historical contributions to history or that she had any direct association with the property following the reservoir's construction. Archival research found no evidence to suggest any other individuals associated with the Romero Reservoir would be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

The Romero Reservoir is a 0.94-MG capacity, reinforced concrete distribution reservoir with a sloping replacement roof sheathed in corrugated aluminum and supported by a metal-frame structural system. Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). Concrete distribution reservoirs are of common design, and there is no evidence the Romero Reservoir represented any notable engineering achievement at the time it was constructed. There is also no evidence indicating the associated engineers Akavian and Mendenall can be considered masters, and regardless, as a simple concrete-lined structure with a wood-frame roof, the Romero Reservoir would not be considered an example of a master's work. In addition, the utilitarian pump house building is likewise of undistinguished design and does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic values. Therefore, the Romero Reservoir facility is recommended ineligible under NRHP Criterion C/CRHR Criterion 3.

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
Hanson, Dennis
2021 Email Correspondence with Dennis Hansen, Engineering Assistant, Montecito Water District. April 21.

JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

Montecito County Water District (MCWD)
1933 Baring Reservoir. July 6. Document obtained via the Montecito Water District, Montecito, CA. Montecito Water District, Montecito, CA.
1976 Romero Reservoir Roof. September. Document obtained via the Montecito Water District, Montecito, CA.

University of California, Santa Barbara Library (UCSB)
1928 Aerial photograph of the project area and vicinity. Flight C-311c, Frames B-142; C-14; and C-18 . http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.
1956 Aerial photograph of the project area and vicinity. Flight HA-AN, Frame 1-192. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

Yatchisin, George
2004 "Keeping Montecito Green: Jameson Lake & Juncal Dam", Montecito Magazine, Spring 2004. On file at the Santa Barbara Historical Museum's Gledhill Library.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Terminal Reservoir

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ■ Unrestricted ***a. County:** Los Angeles
***b. USGS 7.5' Quad:** *Santa Barbara* **Date:** 1952 Township T04N, Range R27W, Section 1 S.B.**B.M.**
c. Address: N/A City: Montecito Zip: 93108
d. UTM: Zone: , mE/ mN
e. Other Locational Data: APN: 013-040-002

***P3a. Description:**

Located approximately 800 feet west of the intersection of Cold Spring Road and East Mountain Drive, the Terminal Reservoir facility consists of Terminal Reservoir and a pump station building. Constructed from 1951 to 1952, Terminal Reservoir is a distribution reservoir consisting chiefly of reinforced concrete walls and floor. The rectangular-plan reservoir is built into the hillside and measures 155' wide by 200' long, with at most two vertical feet of the walls visible above ground. Original plans indicate the standing-seam-metal-clad gabled roof is supported a wood structural system and 88 steel-pipe columns anchored to the floor of the reservoir. An aerator with standing-seam metal cladding runs the length of the roof ridge. On the gable ends, additional standing-seam metal cladding fills the vertical space between the roofline and the top of the concrete wall. A chain-link fence encircles the reservoir.

Constructed circa 2000, the pump station building is located approximately 200 feet to the south. It is one story in height, sits on a concrete foundation, and is capped with a gable-on-hip roof with asphalt shingles. Walls are of structural rusticated concrete block construction. The entrance is located on the west elevation and features wood-plank double doors. The building is generally functional in design but includes such details as slightly flared eaves, wood gable-end shingles, and exposed rafter tails. Immediately south and southwest of the building, the paved work area is enclosed with a chain-link fence. The building is in good condition and exhibits no apparent alterations.

The facility is situated on hilly terrain characterized by grasses, oaks, eucalyptus, and other varieties of wild-growing vegetation. Asphalt, gravel, and dirt roadways wind along the hillside, connecting the East Mountain Drive entrance to the reservoir and building.

***P3b. Resource Attributes:** HP39. Other (Distribution reservoir); HP4. Ancillary building

***P4. Resources Present:** ■ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing

P5b. Description of Photo:
Terminal Reservoir, South and East Elevations, View to the West

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both

Reservoir: 1951-1952; Pump Station: ca. 2000 (MCWD 1951; 1952; NETROnline 1994; 2002)

***P7. Owner and Address:**
N/A

***P8. Recorded by:**
Mary Pfeiffer
Rincon Consultants
209 E Victoria Street, Suite B
Santa Barbara, CA 93101

***P9. Date Recorded:**
April 7, 2021

***P10. Survey Type:** Intensive

***P11. Report Citation:**

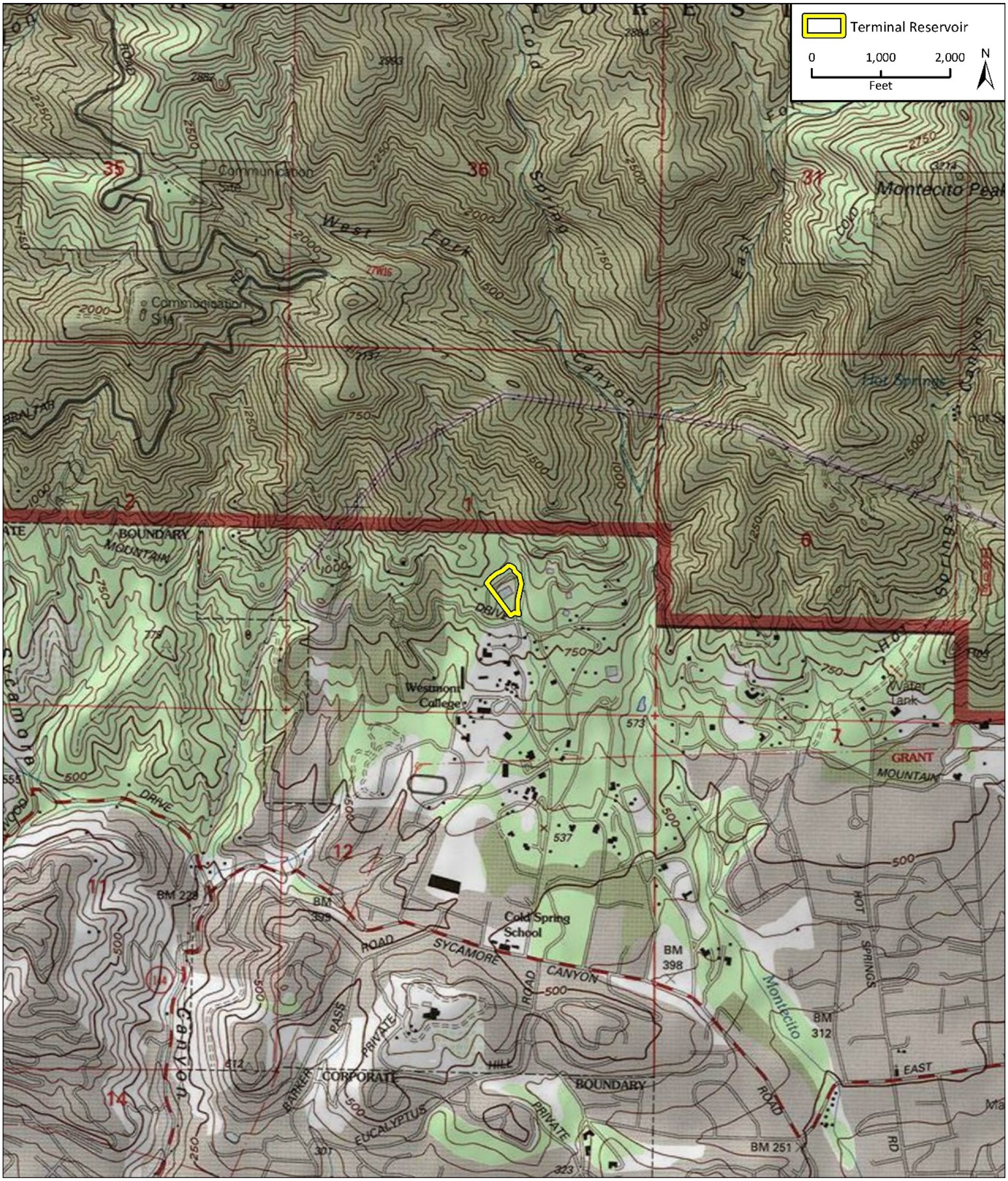
Williams, James, Mary Pfeiffer, Steven Treffers, Ken Victorino and Shannon Carmack. 2021. *Montecito Water District Reservoir Retrofits and Replacement Project Cultural Resource Assessment*. Rincon Consultants, Inc., Project No. 21-11054.

***Attachments:** ☐ NONE ■ Location Map ☐ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California X Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 4 ***Resource Name or #** Terminal Reservoir
***Map Name:** ***Scale:** 1:24,000 ***Date of map:** 1952



State of California X The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Terminal Reservoir ***NRHP Status Code** 6Z

B1. Historic Name: Terminal Reservoir
B2. Common Name: Terminal Reservoir
B3. Original Use: Municipal water distribution B4. Present Use: Municipal water distribution
***B5. Architectural Style:** N/A
***B6. Construction History:**

Terminal Reservoir was completed in 1952 and the pump building circa 2000.

***B7. Moved?** ■ **No** □ **Yes** □ **Unknown** **Date:** N/A **Original Location:** N/A
***B8. Related Features:** None
B9a. Architect: Montecito County Water District b. Builder: Unknown
***B10. Significance: Theme** N/A **Area** N/A
Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

Historical aerial photographs and USGS topographical maps show that the site of the facility remained undeveloped at least as late as 1947 (NETROnline 1944; UCSB 1947). In 1951, the Montecito County Water District (MCWD) completed plans for the reinforced concrete basin, and the following year, drew plans for the roof and supporting columns (MCWD 1951; 1952a; 1952b). Plans for the reservoir were credited to the MCWD and did not identify any individual responsible for the reservoir's design. The reservoir was completed in 1952 to increase the District's storage capacity, possibly in response to the region's Post World War II-era population growth. A review of historical aerial photographs suggests there were no notable changes to the property until 2000, when the pump station building was constructed (NETROnline 1994; 2002; Hanson 2021). The property has remained essentially unchanged since the building was completed (NETROnline 2016). Research for this study uncovered no further information of consequence regarding the property.

Historical Resources Evaluation

The Terminal Reservoir is recommended ineligible for listing in the NRHP or CRHR under any applicable criteria. Generally, water conveyance-related properties are generally eligible under NRHP Criterion A/CRHR Criterion 1 if they are associated specific important events (e.g., first long-distance transmission of hydroelectric power) or important patterns of events (e.g., development of irrigated farming) (JRP Historical Consulting Services and Caltrans 2000:93). The Terminal Reservoir was constructed in 1951 as part of the general expansion of the District's system after World War II. There is no information the reservoir is particularly unique, and the construction of this element is part what could be considered an expected response to the continued growth of the surrounding community in the period following World War II. The Terminal Reservoir therefore does not appear to be significant within the context of water conveyance systems, or any other event or pattern of events in the history of the county, region, state, or nation (NRHP Criterion A/CRHR Criterion 1).

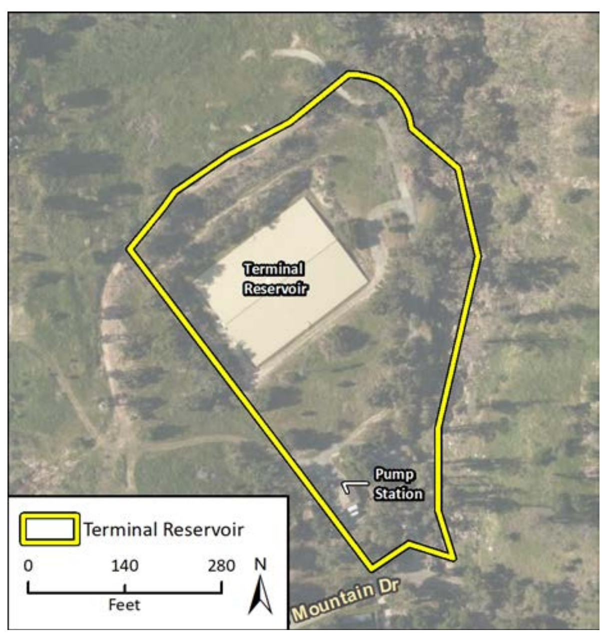
See continuation sheet, p. 4.

B11. Additional Resource Attributes: N/A
***B12. References:**

See continuation sheet, p. 4.

B13. Remarks:
***B14. Evaluator:** James Williams, Rincon Consultants
***Date of Evaluation:** April 30, 2021

(This space reserved for official comments.)



***Resource Name or #** Terminal Reservoir

***Recorded by:** James Williams, Rincon Consultants ***Date:** April 7, 2021 ■ Continuation ☐ Update

B10. Significance (continued):
Archival research failed to identify any individuals associated with the Terminal Reservoir which can be considered important within the history of the county, region, state, or nation (NRHP Criterion B/CRHR Criterion 2).

Water conveyance-features are generally found eligible under NRHP Criterion C/CRHR Criterion 3 as the earliest, sole surviving, largest, or best preserved example of a particular type of water conveyance system or a property which introduced a design innovation or evolutionary trend in engineering (JRP Historical Consulting Services and Caltrans 2000:94). The Terminal Reservoir is a largely subterranean concrete distribution reservoir from 1951 with an associated pump station building completed circa 2000. As such it appears to be of common design and there is no information to suggest it is of particular engineering achievement. A review of original building plans and supplemental research failed to identify the reservoir's designer. As such the Terminal Reservoir is not considered to embody the distinctive characteristics of a type, period, or method or construction or represent the work of a master (NRHP Criterion C/CRHR Criterion 3).

Lastly, the results of the cultural resources records search or research conducted as part of this evaluation suggesting the Park Lane Reservoir has the potential to yield important information (NRHP Criterion D/CRHR Criterion 4).

B12. References (continued):
Hanson, Dennis
2021 Email Correspondence with Dennis Hansen, Engineering Assistant, Montecito Water District. April 21.
JRP Historical Consulting Services and Caltrans
2000 Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.
Montecito County Water District (MCWD)
1951 Terminal Reservoir, Montecito County Water District. November 6. Document obtained via the Montecito Water District, Montecito, CA.
1952a Terminal Reservoir Roof Plans. February 26. Document obtained via the Montecito Water District, Montecito, CA.
1952b Column Data—Terminal Reservoir. March 5. Document obtained via the Montecito Water District, Montecito, CA.
National Environmental Title Research (NETROnline)
Var. "Historic Aerials." [digital photograph database]. Aerial images and topographical maps of the Tract 6164 and vicinity viewed online. https://www.historicaerials.com/viewer. Accessed February 27, 2020.
University of California, Santa Barbara (UCSB) Library
1947 Aerial photograph of the project area and vicinity. Flight GS_EM, Frame 4-94. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed April 26, 2021.

Appendix C

Energy Calculation Worksheets

Bella Vista Reservoir

Last Updated: 4/29/2021

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Excavators	1	8	158	0.38	Site Preparation	533.17
Generator Sets	1	8	84	0.74	Site Preparation	613.67
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	648.97
Air Compressors	1	8	78	0.48	Site Preparation	369.62
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	354.32
Concrete/Industrial Saws	1	8	81	0.73	Reservoir Construction	2,807.58
Plate Compactors	1	4	8	0.43	Reservoir Construction	2,807.58
Air Compressors	1	6	78	0.48	Reservoir Construction	1,333.28
Cranes	1	4	231	0.29	Reservoir Construction	1,430.57
Excavators	1	8	158	0.38	Reservoir Construction	2,564.31
Generator Sets	1	8	84	0.74	Reservoir Construction	2,951.45
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	3,121.25
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	1,704.11
Welders	1	8	46	0.45	Reservoir Construction	982.87
					Total Fuel Used	**22,222.76**
						(Gallons)

Construction Phase	Days of Operation
Site Preparation	21
Reservoir Construction	101
Total Days	122

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Site Preparation	24.4	13	8.3	92.86
Reservoir Construction	24.4	6	8.3	206.14
			Total	**299.00**

VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
VENDOR TRIPS				
Site Preparation	7.5	0	6.4	0.00
Reservoir Construction	7.5	2	6.4	172.37
			Total	**172.37**

Total Gasoline Consumption (gallons)	**299.00**
Total Diesel Consumption (gallons)	**22,395.14**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Buena Vista Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	264.02
Concrete/Industrial Saws	1	8	81	0.73	Demolition	416.97
Cranes	1	8	231	0.29	Demolition	424.92
Excavators	1	8	158	0.38	Demolition	380.84
Generator Sets	1	8	84	0.74	Demolition	438.33
Rough Terrain Forklifts	1	8	100	0.4	Demolition	282.07
Rubber Tired Loaders	1	8	203	0.36	Demolition	463.55
Tractors/Loaders/Backhoes	1	8	97	0.37	Demolition	253.09
Air Compressors	1	8	78	0.48	Site Preparation	352.02
Excavators	1	8	158	0.38	Site Preparation	507.78
Generator Sets	1	8	84	0.74	Site Preparation	584.45
Graders	1	8	187	0.41	Site Preparation	648.43
Plate Compactors	1	8	8	0.43	Site Preparation	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	618.07
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	337.45
Air Compressors	1	8	78	0.48	Grading	352.02
Excavators	1	8	158	0.38	Grading	507.78
Generator Sets	1	8	84	0.74	Grading	584.45
Graders	1	8	187	0.41	Grading	648.43
Plate Compactors	1	8	8	0.43	Grading	32.34
Rubber Tired Loaders	1	8	203	0.36	Grading	618.07
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	253.09
Air Compressors	1	8	78	0.48	Reservoir Construction	1,232.07
Cranes	1	4	231	0.29	Reservoir Construction	991.49
Excavators	1	8	158	0.38	Reservoir Construction	1,777.25
Generator Sets	1	8	84	0.74	Reservoir Construction	2,045.56
Plate Compactors	1	8	8	0.43	Reservoir Construction	113.20
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	1,316.32
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	2,163.24
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	1,181.07
Welders	1	8	46	0.45	Reservoir Construction	681.19
Air Compressors	1	8	78	0.48	Site Restoration	352.02
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	555.96
Excavators	1	8	158	0.38	Site Restoration	507.78
Generator Sets	1	8	84	0.74	Site Restoration	584.45
Graders	1	8	187	0.41	Site Restoration	648.43
Pavers	1	7	130	0.42	Site Restoration	404.05
Paving Equipment	1	8	132	0.36	Site Restoration	401.90
Plate Compactors	1	8	8	0.43	Site Restoration	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	618.07
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	295.27
					Total Fuel Used	**24,902.18**
						(Gallons)

Construction Phase	Days of Operation
Demolition	15
Site Preparation	20
Grading	20
Reservoir Construction	70
Site Restoration	20
Total Days	145

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	20	8.3	102.05
Site Preparation	24.4	18	8.3	122.46
Grading	24.4	18	8.3	122.46
Reservoir Construction	24.4	7	8.3	166.68
Site Restoration	24.4	25	8.3	170.08
			Total	**683.73**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.5	1	20.0	2.67
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	88	20.0	234.67
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Total	**237.33**
VENDOR TRIPS				
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	2	6.4	119.47
Site Restoration	7.5	0	6.4	0.00
			Total	**119.47**

Total Gasoline Consumption (gallons)	**683.73**
Total Diesel Consumption (gallons)	**25,258.98**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Cold Springs Reservoir

Last Updated: 4/29/2021

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	704.04
Concrete/Industrial Saws	1	8	81	0.73	Demolition	1,111.91
Cranes	1	8	231	0.29	Demolition	1,133.13
Excavators	1	8	158	0.38	Demolition	1,015.57
Generator Sets	1	8	84	0.74	Demolition	1,168.89
Rough Terrain Forklifts	1	8	100	0.4	Demolition	752.18
Rubber Tired Loaders	1	8	203	0.36	Demolition	1,236.14
Welders	1	8	46	0.45	Demolition	389.25
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	506.17
Air Compressors	1	6	78	0.48	Reservoir Construction	3,379.40
Concrete/Industrial Saws	1	8	81	0.73	Reservoir Construction	7,116.24
Cranes	1	8	231	0.29	Reservoir Construction	7,252.02
Generator Sets	1	8	84	0.74	Reservoir Construction	7,480.90
Graders	1	8	187	0.41	Reservoir Construction	8,299.93
Plate Compactors	1	4	8	0.43	Reservoir Construction	207.00
Rough Terrain Forklifts	1	6	100	0.4	Reservoir Construction	3,610.47
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	7,911.29
Tractors/Loaders/Backhoes	1	6	97	0.37	Reservoir Construction	3,239.50
Welders	2	8	46	0.45	Reservoir Construction	4,982.45
					Total Fuel Used	**61,496.50**
						(Gallons)

Construction Phase	Days of Operation
Demolition	40
Reservoir Construction	256
Total Days	296

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	23	8.3	312.95
Reservoir Construction	24.4	28	8.3	2438.30
			Total	**2,751.25**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.5	1	20.0	2.67
Reservoir Construction	7.5	13	20.0	34.67
			Total	**37.33**
VENDOR TRIPS				
Demolition	7.5	0	6.4	0.00
Reservoir Construction	7.5	2	6.4	436.91
			Total	**436.91**

Total Gasoline Consumption (gallons)	**2,751.25**
Total Diesel Consumption (gallons)	**61,970.74**

Sources:
[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.
[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Doulton Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	1,408.08
Concrete/Industrial Saws	1	8	81	0.73	Demolition	2,223.83
Cranes	1	8	231	0.29	Demolition	2,266.26
Excavators	1	8	158	0.38	Demolition	2,031.14
Generator Sets	1	8	84	0.74	Demolition	2,337.78
Graders	1	8	187	0.41	Demolition	2,593.73
Welders	2	8	46	0.45	Demolition	1,557.02
Rubber Tired Loaders	1	8	203	0.36	Demolition	2,472.28
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	1,012.34
Air Compressors	1	8	78	0.48	Site Preparation	176.01
Excavators	1	8	158	0.38	Site Preparation	253.89
Generator Sets	1	8	84	0.74	Site Preparation	292.22
Graders	1	8	187	0.41	Site Preparation	324.22
Plate Compactors	1	8	8	0.43	Site Preparation	16.17
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	309.03
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	168.72
Air Compressors	1	8	78	0.48	Grading	176.01
Bore/Drill Rigs	1	8	221	0.5	Grading	467.27
Excavators	1	8	158	0.38	Grading	253.89
Generator Sets	1	8	84	0.74	Grading	292.22
Graders	1	8	187	0.41	Grading	324.22
Plate Compactors	1	8	8	0.43	Grading	16.17
Rubber Tired Loaders	1	8	203	0.36	Grading	309.03
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	126.54
Air Compressors	1	8	78	0.48	Reservoir Construction	2,112.13
Cranes	1	4	231	0.29	Reservoir Construction	1,699.69
Excavators	1	8	158	0.38	Reservoir Construction	3,046.71
Generator Sets	1	8	84	0.74	Reservoir Construction	3,506.67
Plate Compactors	1	8	8	0.43	Reservoir Construction	194.06
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	2,256.55
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	3,708.42
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	2,024.69
Welders	2	8	46	0.45	Reservoir Construction	2,335.53
Air Compressors	1	8	78	0.48	Site Restoration	352.02
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	555.96
Excavators	1	8	158	0.38	Site Restoration	507.78
Generator Sets	1	8	84	0.74	Site Restoration	584.45
Graders	1	8	187	0.41	Site Restoration	648.43
Pavers	1	7	130	0.42	Site Restoration	404.05
Paving Equipment	1	8	132	0.36	Site Restoration	401.90
Plate Compactors	1	8	8	0.43	Site Restoration	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	618.07
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	295.27
					Total Fuel Used	**46,692.80**
						(Gallons)

Construction Phase	Days of Operation
Demolition	80
Site Preparation	10
Grading	10
Reservoir Construction	120
Site Restoration	20
Total Days	240

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	25	8.3	680.33
Site Preparation	24.4	18	8.3	61.23
Grading	24.4	20	8.3	68.03
Reservoir Construction	24.4	3	8.3	122.46
Site Restoration	24.4	25	8.3	170.08
			Total	**1,102.13**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		HAULING TRIPS		
Demolition	7.5	24	20.0	64.00
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	77	20.0	205.33
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Total	**269.33**
		VENDOR TRIPS		
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	2	6.4	204.80
Site Restoration	7.5	0	6.4	0.00
			Total	**204.80**

Total Gasoline Consumption (gallons)	**1,102.13**
Total Diesel Consumption (gallons)	**47,166.93**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Hot Springs Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	704.04
Concrete/Industrial Saws	1	8	81	0.73	Demolition	1,111.91
Cranes	1	8	231	0.29	Demolition	1,133.13
Excavators	1	8	158	0.38	Demolition	1,015.57
Generator Sets	1	8	84	0.74	Demolition	1,168.89
Rough Terrain Forklifts	1	8	100	0.4	Demolition	752.18
Rubber Tired Loaders	1	8	203	0.36	Demolition	1,236.14
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	506.17
Air Compressors	1	8	78	0.48	Site Preparation	352.02
Excavators	1	8	158	0.38	Site Preparation	507.78
Generator Sets	1	8	84	0.74	Site Preparation	584.45
Graders	1	8	187	0.41	Site Preparation	648.43
Plate Compactors	1	8	8	0.43	Site Preparation	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	618.07
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	337.45
Air Compressors	1	8	78	0.48	Grading	352.02
Excavators	1	8	158	0.38	Grading	507.78
Generator Sets	1	8	84	0.74	Grading	584.45
Graders	1	8	187	0.41	Grading	648.43
Plate Compactors	1	8	8	0.43	Grading	32.34
Rubber Tired Loaders	1	8	203	0.36	Grading	618.07
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	253.09
Air Compressors	1	8	78	0.48	Reservoir Construction	1,760.11
Cranes	1	4	231	0.29	Reservoir Construction	1,416.41
Excavators	1	8	158	0.38	Reservoir Construction	2,538.92
Generator Sets	1	8	84	0.74	Reservoir Construction	2,922.23
Plate Compactors	1	8	8	0.43	Reservoir Construction	161.72
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	1,880.46
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	3,090.35
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	1,687.24
Welders	2	8	46	0.45	Reservoir Construction	1,946.27
Air Compressors	1	8	78	0.48	Site Restoration	721.64
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	1,139.71
Excavators	1	8	158	0.38	Site Restoration	1,040.96
Generator Sets	1	8	84	0.74	Site Restoration	1,198.11
Graders	1	8	187	0.41	Site Restoration	1,329.29
Pavers	1	7	130	0.42	Site Restoration	828.31
Paving Equipment	1	8	132	0.36	Site Restoration	823.89
Plate Compactors	1	8	8	0.43	Site Restoration	66.30
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	1,267.04
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	605.30
					Total Fuel Used	**40,129.02**
						(Gallons)

Construction Phase	Days of Operation
Demolition	40
Site Preparation	20
Grading	20
Reservoir Construction	100
Site Restoration	41
Total Days	221

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	20	8.3	272.13
Site Preparation	24.4	18	8.3	122.46
Grading	24.4	18	8.3	122.46
Reservoir Construction	24.4	5	8.3	170.08
Site Restoration	24.4	25	8.3	348.67
			Total	**1,035.80**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.5	1	20.0	2.67
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	88	20.0	234.67
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Total	**237.33**
VENDOR TRIPS				
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	2	6.4	170.67
Site Restoration	7.5	0	6.4	0.00
			Total	**170.67**

Total Gasoline Consumption (gallons)	**1,035.80**
Total Diesel Consumption (gallons)	**40,537.02**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Park Lane Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT						
Construction Equipment	**#**	**Hours per Day**	**Horsepower**	**Load Factor**	**Construction Phase**	**Fuel Used (gallons)**
Air Compressors	1	8	78	0.48	Demolition	1,584.10
Concrete/Industrial Saws	1	8	81	0.73	Demolition	2,501.80
Cranes	1	8	231	0.29	Demolition	2,549.54
Excavators	1	8	158	0.38	Demolition	2,285.03
Generator Sets	1	8	84	0.74	Demolition	2,630.00
Rough Terrain Forklifts	1	8	100	0.4	Demolition	1,692.41
Rubber Tired Loaders	1	8	203	0.36	Demolition	2,781.31
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	1,138.89
Air Compressors	1	8	78	0.48	Site Preparation	704.04
Excavators	1	8	158	0.38	Site Preparation	1,015.57
Generator Sets	1	8	84	0.74	Site Preparation	1,168.89
Graders	1	8	187	0.41	Site Preparation	1,296.86
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	1,236.14
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	674.90
Air Compressors	1	8	78	0.48	Grading	704.04
Excavators	1	8	158	0.38	Grading	1,015.57
Generator Sets	1	8	84	0.74	Grading	1,168.89
Graders	1	8	187	0.41	Grading	1,296.86
Plate Compactors	1	8	8	0.43	Grading	64.69
Rubber Tired Loaders	1	8	203	0.36	Grading	1,236.14
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	506.17
Air Compressors	1	8	78	0.48	Reservoir Construction	2,464.15
Cranes	1	4	231	0.29	Reservoir Construction	1,982.97
Excavators	1	8	158	0.38	Reservoir Construction	3,554.49
Generator Sets	1	8	84	0.74	Reservoir Construction	4,091.12
Plate Compactors	1	8	8	0.43	Reservoir Construction	226.41
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	2,632.64
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	4,326.49
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	2,362.13
Welders	1	8	46	0.45	Reservoir Construction	1,362.39
Air Compressors	1	8	78	0.48	Site Restoration	528.03
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	833.93
Excavators	1	8	158	0.38	Site Restoration	761.68
Generator Sets	1	8	84	0.74	Site Restoration	876.67
Graders	1	8	187	0.41	Site Restoration	972.65
Pavers	1	7	130	0.42	Site Restoration	606.08
Paving Equipment	1	8	132	0.36	Site Restoration	602.85
Plate Compactors	1	8	8	0.43	Site Restoration	48.52
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	927.10
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	442.90
					Total Fuel Used	**58,855.04**
						(Gallons)

Construction Phase	Days of Operation
Demolition	90
Site Preparation	40
Grading	40
Reservoir Construction	140
Site Restoration	30
Total Days	340

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	25	8.3	765.37
Site Preparation	24.4	15	8.3	204.10
Grading	24.4	18	8.3	244.92
Reservoir Construction	24.4	9	8.3	428.61
Site Restoration	24.4	25	8.3	255.12
			Total	**1,898.11**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.5	48	20.0	128.00
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	90	20.0	240.00
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Total	**368.00**
VENDOR TRIPS				
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	3	6.4	358.40
Site Restoration	7.5	0	6.4	0.00
			Total	**358.40**

Total Gasoline Consumption (gallons)	**1,898.11**
Total Diesel Consumption (gallons)	**59,581.44**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Romero Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	528.03
Concrete/Industrial Saws	1	8	81	0.73	Demolition	833.93
Excavators	1	8	158	0.38	Demolition	761.68
Generator Sets	1	8	84	0.74	Demolition	876.67
Rubber Tired Loaders	1	8	203	0.36	Demolition	927.10
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	379.63
Air Compressors	1	8	78	0.48	Site Preparation	264.02
Excavators	1	8	158	0.38	Site Preparation	380.84
Generator Sets	1	8	84	0.74	Site Preparation	438.33
Graders	1	8	187	0.41	Site Preparation	486.32
Plate Compactors	1	8	8	0.43	Site Preparation	24.26
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	463.55
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	253.09
Air Compressors	1	8	78	0.48	Grading	352.02
Excavators	1	8	158	0.38	Grading	507.78
Generator Sets	1	8	84	0.74	Grading	584.45
Graders	1	8	187	0.41	Grading	648.43
Plate Compactors	1	8	8	0.43	Grading	32.34
Rubber Tired Loaders	1	8	203	0.36	Grading	618.07
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	253.09
Air Compressors	1	8	78	0.48	Reservoir Construction	2,816.17
Excavators	1	8	158	0.38	Reservoir Construction	4,062.28
Generator Sets	1	8	84	0.74	Reservoir Construction	4,675.56
Plate Compactors	1	8	8	0.43	Reservoir Construction	258.75
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	3,008.73
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	4,944.56
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	2,699.58
Welders	2	8	46	0.45	Reservoir Construction	3,114.03
Air Compressors	1	8	78	0.48	Site Restoration	352.02
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	555.96
Excavators	1	8	158	0.38	Site Restoration	507.78
Generator Sets	1	8	84	0.74	Site Restoration	584.45
Graders	1	8	187	0.41	Site Restoration	648.43
Pavers	1	7	130	0.42	Site Restoration	404.05
Paving Equipment	1	8	132	0.36	Site Restoration	401.90
Plate Compactors	1	8	8	0.43	Site Restoration	32.34
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	618.07
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	295.27
					Total Fuel Used	**39,593.57**
						(Gallons)

Construction Phase	Days of Operation
Demolition	30
Site Preparation	15
Grading	20
Reservoir Construction	160
Site Restoration	20
Total Days	245

WORKER TRIPS				
Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	15	8.3	153.07
Site Preparation	24.4	18	8.3	91.84
Grading	24.4	18	8.3	122.46
Reservoir Construction	24.4	13	8.3	707.54
Site Restoration	24.4	25	8.3	170.08
			Total	**1,245.00**

HAULING AND VENDOR TRIPS				
Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.5	4	20.0	10.67
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	145	20.0	386.67
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Total	**397.33**
VENDOR TRIPS				
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	5	6.4	682.67
Site Restoration	7.5	0	6.4	0.00
			Total	**682.67**

Total Gasoline Consumption (gallons)	**1,245.00**
Total Diesel Consumption (gallons)	**40,673.57**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Terminal Reservoir

Last Updated: 4/29/21

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Demolition	704.04
Concrete/Industrial Saws	1	8	81	0.73	Demolition	1,111.91
Cranes	1	8	231	0.29	Demolition	1,133.13
Excavators	1	8	158	0.38	Demolition	1,015.57
Generator Sets	1	8	84	0.74	Demolition	1,168.89
Rough Terrain Forklifts	1	8	100	0.4	Demolition	752.18
Rubber Tired Loaders	1	8	203	0.36	Demolition	1,236.14
Tractors/Loaders/Backhoes	1	6	97	0.37	Demolition	506.17
Air Compressors	1	8	78	0.48	Site Preparation	264.02
Excavators	1	8	158	0.38	Site Preparation	380.84
Generator Sets	1	8	84	0.74	Site Preparation	438.33
Graders	1	8	187	0.41	Site Preparation	486.32
Plate Compactors	1	8	8	0.43	Site Preparation	24.26
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	463.55
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	253.09
Air Compressors	1	8	78	0.48	Grading	264.02
Excavators	1	8	158	0.38	Grading	380.84
Generator Sets	1	8	84	0.74	Grading	438.33
Graders	1	8	187	0.41	Grading	486.32
Plate Compactors	1	8	8	0.43	Grading	24.26
Rubber Tired Loaders	1	8	203	0.36	Grading	463.55
Tractors/Loaders/Backhoes	1	6	97	0.37	Grading	189.81
Air Compressors	1	8	78	0.48	Reservoir Construction	4,576.28
Cranes	1	4	231	0.29	Reservoir Construction	3,682.67
Excavators	1	8	158	0.38	Reservoir Construction	6,601.20
Generator Sets	1	8	84	0.74	Reservoir Construction	7,597.79
Plate Compactors	1	8	8	0.43	Reservoir Construction	420.47
Rough Terrain Forklifts	1	8	100	0.4	Reservoir Construction	4,889.18
Rubber Tired Loaders	1	8	203	0.36	Reservoir Construction	8,034.91
Tractors/Loaders/Backhoes	1	8	97	0.37	Reservoir Construction	4,386.82
Welders	2	8	46	0.45	Reservoir Construction	5,060.30
Air Compressors	1	8	78	0.48	Site Restoration	704.04
Concrete/Industrial Saws	1	8	81	0.73	Site Restoration	1,111.91
Excavators	1	8	158	0.38	Site Restoration	1,015.57
Generator Sets	1	8	84	0.74	Site Restoration	1,168.89
Graders	1	8	187	0.41	Site Restoration	1,296.86
Pavers	1	7	130	0.42	Site Restoration	808.11
Paving Equipment	1	8	132	0.36	Site Restoration	803.80
Plate Compactors	1	8	8	0.43	Site Restoration	64.69
Rubber Tired Loaders	1	8	203	0.36	Site Restoration	1,236.14
Tractors/Loaders/Backhoes	1	7	97	0.37	Site Restoration	590.53
					Total Fuel Used	**66,235.74**
						(Gallons)

Construction Phase	Days of Operation
Demolition	40
Site Preparation	15
Grading	15
Reservoir Construction	260
Site Restoration	40
Total Days	370

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.4	25	8.3	340.16
Site Preparation	24.4	18	8.3	91.84
Grading	24.4	18	8.3	91.84
Reservoir Construction	24.4	25	8.3	2211.07
Site Restoration	24.4	25	8.3	340.16
			Total	**3,075.08**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.5	3	20.0	8.00
Site Preparation	7.5	0	20.0	0.00
Grading	7.5	965	20.0	2573.33
Reservoir Construction	7.5	0	20.0	0.00
Site Restoration	7.5	0	20.0	0.00
			Total	**2,581.33**
VENDOR TRIPS				
Demolition	7.5	0	6.4	0.00
Site Preparation	7.5	0	6.4	0.00
Grading	7.5	0	6.4	0.00
Reservoir Construction	7.5	10	6.4	2218.67
Site Restoration	7.5	0	6.4	0.00
			Total	**2,218.67**

Total Gasoline Consumption (gallons)	**3,075.08**
Total Diesel Consumption (gallons)	**71,035.74**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2019. *National Transportation Statistics 2019* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Appendix D

Noise Data and Analyses

Noise Measurement 1 - Doulton Reservoir

Data Logger 2		
Duration (seconds)		3
Weighting	A	
Response	SLOW	
Range	30-90	
L05		45.9
L10		44.9
L50		36.0
L90		29.3
L95		28.6
Lmax		57.7
Time		4/2/2021 9:30
SEL		70.2
Leq		**40.6**

No.s		Date Time	Time	dB	Sound Energy
	1	4/2/2021 9:26	9:26 AM	35.6	10892.34164
	2	4/2/2021 9:26	9:26 AM	45.2	99339.33644
	3	4/2/2021 9:26	9:26 AM	37.2	15744.22381
	4	4/2/2021 9:27	9:27 AM	35.8	11405.68189
	5	4/2/2021 9:27	9:27 AM	38.7	22239.30724
	6	4/2/2021 9:27	9:27 AM	34.8	9059.855161
	7	4/2/2021 9:27	9:27 AM	33.9	7364.126747
	8	4/2/2021 9:27	9:27 AM	34.6	8652.094509
	9	4/2/2021 9:27	9:27 AM	33.8	7196.498757
	10	4/2/2021 9:27	9:27 AM	34.5	8455.148794
	11	4/2/2021 9:27	9:27 AM	38.8	22757.32725
	12	4/2/2021 9:27	9:27 AM	36.9	14693.36458
	13	4/2/2021 9:27	9:27 AM	30.4	3289.434588
	14	4/2/2021 9:27	9:27 AM	30.2	3141.385644
	15	4/2/2021 9:27	9:27 AM	29.6	2736.032518
	16	4/2/2021 9:27	9:27 AM	31.6	4336.319312
	17	4/2/2021 9:27	9:27 AM	29.7	2799.762902
	18	4/2/2021 9:27	9:27 AM	29.4	2612.89077
	19	4/2/2021 9:27	9:27 AM	28.9	2328.74135
	20	4/2/2021 9:27	9:27 AM	30.8	3606.793304
	21	4/2/2021 9:27	9:27 AM	30.6	3444.460864
	22	4/2/2021 9:27	9:27 AM	29.7	2799.762902
	23	4/2/2021 9:27	9:27 AM	34.2	7890.803976
	24	4/2/2021 9:28	9:28 AM	29.6	2736.032518
	25	4/2/2021 9:28	9:28 AM	42.7	55862.6141
	26	4/2/2021 9:28	9:28 AM	46.6	137126.4569
	27	4/2/2021 9:28	9:28 AM	35.4	10402.10551
	28	4/2/2021 9:28	9:28 AM	30.9	3690.806312

29	4/2/2021 9:28	9:28 AM	33.1	6125.213834
30	4/2/2021 9:28	9:28 AM	36.8	14358.90277
31	4/2/2021 9:28	9:28 AM	30.8	3606.793304
32	4/2/2021 9:28	9:28 AM	36.4	13095.47497
33	4/2/2021 9:28	9:28 AM	37.6	17263.19812
34	4/2/2021 9:28	9:28 AM	32	4754.679577
35	4/2/2021 9:28	9:28 AM	38	18928.72033
36	4/2/2021 9:28	9:28 AM	32.1	4865.430292
37	4/2/2021 9:28	9:28 AM	31.9	4646.449857
38	4/2/2021 9:28	9:28 AM	32.7	5586.26141
39	4/2/2021 9:28	9:28 AM	35	9486.832981
40	4/2/2021 9:28	9:28 AM	45.1	97078.09708
41	4/2/2021 9:28	9:28 AM	37.9	18497.85006
42	4/2/2021 9:28	9:28 AM	41.6	43363.19312
43	4/2/2021 9:28	9:28 AM	35.5	10644.40168
44	4/2/2021 9:29	9:29 AM	35	9486.832981
45	4/2/2021 9:29	9:29 AM	36.8	14358.90277
46	4/2/2021 9:29	9:29 AM	37.2	15744.22381
47	4/2/2021 9:29	9:29 AM	37.3	16110.95389
48	4/2/2021 9:29	9:29 AM	36.8	14358.90277
49	4/2/2021 9:29	9:29 AM	36.4	13095.47497
50	4/2/2021 9:29	9:29 AM	37.7	17665.30966
51	4/2/2021 9:29	9:29 AM	38.8	22757.32725
52	4/2/2021 9:29	9:29 AM	41.6	43363.19312
53	4/2/2021 9:29	9:29 AM	41.3	40468.88648
54	4/2/2021 9:29	9:29 AM	41.5	42376.12634
55	4/2/2021 9:29	9:29 AM	42.5	53348.3823
56	4/2/2021 9:29	9:29 AM	42.7	55862.6141
57	4/2/2021 9:29	9:29 AM	42.7	55862.6141
58	4/2/2021 9:29	9:29 AM	40.5	33660.55363
59	4/2/2021 9:29	9:29 AM	40.7	35246.92665
60	4/2/2021 9:29	9:29 AM	40.5	33660.55363
61	4/2/2021 9:29	9:29 AM	41.7	44373.25165
62	4/2/2021 9:29	9:29 AM	38.3	20282.48926
63	4/2/2021 9:29	9:29 AM	37.1	15385.84152
64	4/2/2021 9:30	9:30 AM	36.8	14358.90277
65	4/2/2021 9:30	9:30 AM	34.5	8455.148794
66	4/2/2021 9:30	9:30 AM	32.4	5213.402486
67	4/2/2021 9:30	9:30 AM	38	18928.72033
68	4/2/2021 9:30	9:30 AM	32.6	5459.102576
69	4/2/2021 9:30	9:30 AM	31.9	4646.449857
70	4/2/2021 9:30	9:30 AM	33.5	6716.163416
71	4/2/2021 9:30	9:30 AM	32.2	4978.760722
72	4/2/2021 9:30	9:30 AM	33.2	6267.888393
73	4/2/2021 9:30	9:30 AM	34.2	7890.803976
74	4/2/2021 9:30	9:30 AM	32.9	5849.533799
75	4/2/2021 9:30	9:30 AM	32	4754.679577

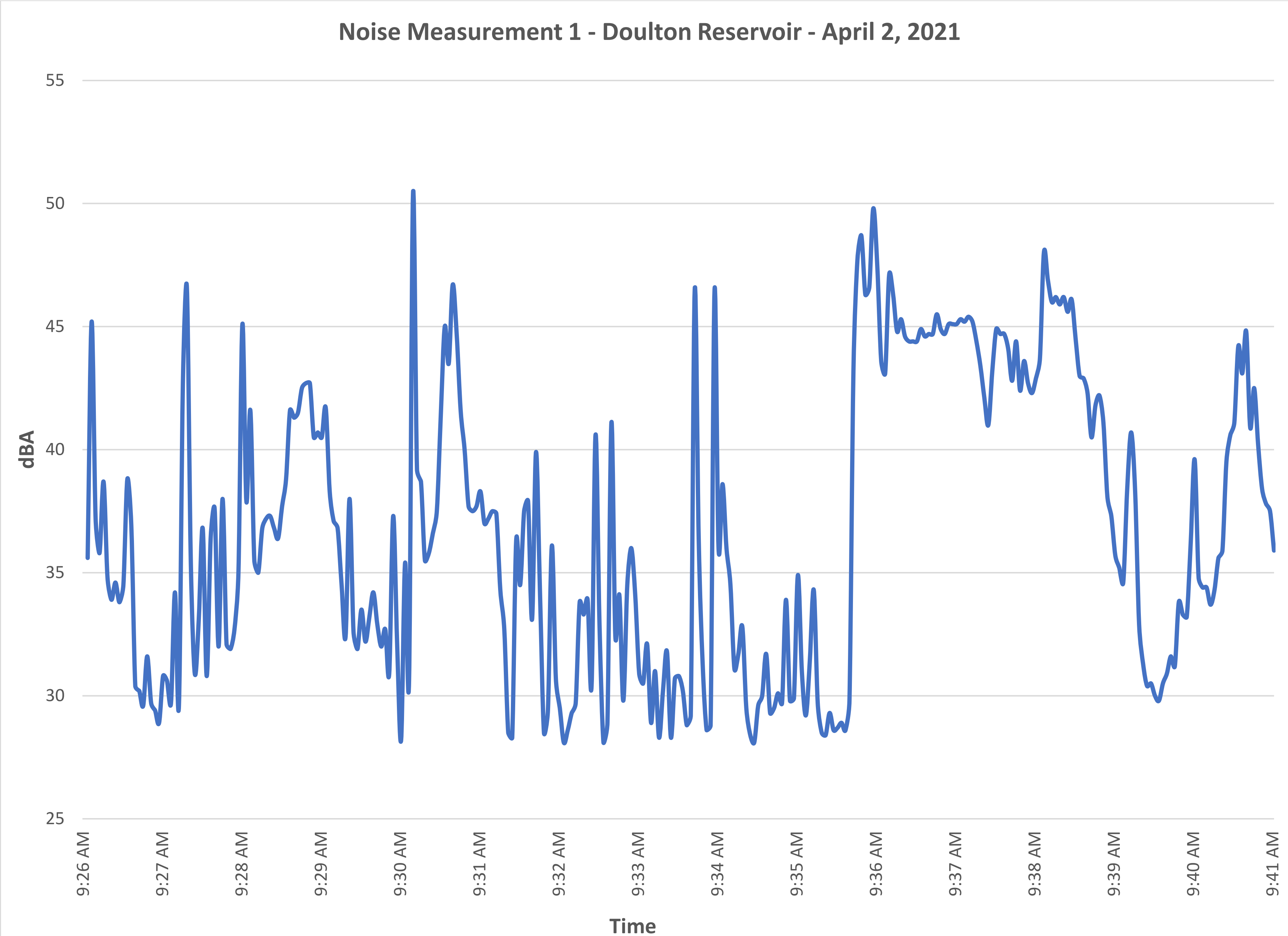
76	4/2/2021 9:30	9:30 AM	32.7	5586.26141
77	4/2/2021 9:30	9:30 AM	30.9	3690.806312
78	4/2/2021 9:30	9:30 AM	37.3	16110.95389
79	4/2/2021 9:30	9:30 AM	32.1	4865.430292
80	4/2/2021 9:30	9:30 AM	28.2	1982.080344
81	4/2/2021 9:30	9:30 AM	35.4	10402.10551
82	4/2/2021 9:30	9:30 AM	30.6	3444.460864
83	4/2/2021 9:30	9:30 AM	50.4	328943.4588
84	4/2/2021 9:31	9:31 AM	39.2	24952.91313
85	4/2/2021 9:31	9:31 AM	38.7	22239.30724
86	4/2/2021 9:31	9:31 AM	35.5	10644.40168
87	4/2/2021 9:31	9:31 AM	35.8	11405.68189
88	4/2/2021 9:31	9:31 AM	36.6	13712.64569
89	4/2/2021 9:31	9:31 AM	37.5	16870.23976
90	4/2/2021 9:31	9:31 AM	41.4	41411.52794
91	4/2/2021 9:31	9:31 AM	45	94868.32981
92	4/2/2021 9:31	9:31 AM	43.5	67161.63416
93	4/2/2021 9:31	9:31 AM	46.7	140320.5424
94	4/2/2021 9:31	9:31 AM	44.7	88536.2768
95	4/2/2021 9:31	9:31 AM	41.6	43363.19312
96	4/2/2021 9:31	9:31 AM	40	30000
97	4/2/2021 9:31	9:31 AM	37.7	17665.30966
98	4/2/2021 9:31	9:31 AM	37.5	16870.23976
99	4/2/2021 9:31	9:31 AM	37.7	17665.30966
100	4/2/2021 9:31	9:31 AM	38.3	20282.48926
101	4/2/2021 9:31	9:31 AM	37	15035.61701
102	4/2/2021 9:31	9:31 AM	37.2	15744.22381
103	4/2/2021 9:31	9:31 AM	37.5	16870.23976
104	4/2/2021 9:32	9:32 AM	37.4	16486.22622
105	4/2/2021 9:32	9:32 AM	34.3	8074.604412
106	4/2/2021 9:32	9:32 AM	32.7	5586.26141
107	4/2/2021 9:32	9:32 AM	28.5	2123.837353
108	4/2/2021 9:32	9:32 AM	28.3	2028.248926
109	4/2/2021 9:32	9:32 AM	36.3	12797.38556
110	4/2/2021 9:32	9:32 AM	34.5	8455.148794
111	4/2/2021 9:32	9:32 AM	37.5	16870.23976
112	4/2/2021 9:32	9:32 AM	37.9	18497.85006
113	4/2/2021 9:32	9:32 AM	33.1	6125.213834
114	4/2/2021 9:32	9:32 AM	39.9	29317.11663
115	4/2/2021 9:32	9:32 AM	34.2	7890.803976
116	4/2/2021 9:32	9:32 AM	28.5	2123.837353
117	4/2/2021 9:32	9:32 AM	29.4	2612.89077
118	4/2/2021 9:32	9:32 AM	36.1	12221.40833
119	4/2/2021 9:32	9:32 AM	30.7	3524.692665
120	4/2/2021 9:32	9:32 AM	29.5	2673.752814
121	4/2/2021 9:32	9:32 AM	28.1	1936.962687
122	4/2/2021 9:32	9:32 AM	28.6	2173.30788

123	4/2/2021 9:32	9:32 AM	29.3	2553.414115
124	4/2/2021 9:33	9:33 AM	29.7	2799.762902
125	4/2/2021 9:33	9:33 AM	33.8	7196.498757
126	4/2/2021 9:33	9:33 AM	33.3	6413.886269
127	4/2/2021 9:33	9:33 AM	33.9	7364.126747
128	4/2/2021 9:33	9:33 AM	30.4	3289.434588
129	4/2/2021 9:33	9:33 AM	40.6	34444.60864
130	4/2/2021 9:33	9:33 AM	32.9	5849.533799
131	4/2/2021 9:33	9:33 AM	28.1	1936.962687
132	4/2/2021 9:33	9:33 AM	28.9	2328.74135
133	4/2/2021 9:33	9:33 AM	41.1	38647.48655
134	4/2/2021 9:33	9:33 AM	32.4	5213.402486
135	4/2/2021 9:33	9:33 AM	34.1	7711.187348
136	4/2/2021 9:33	9:33 AM	29.8	2864.977758
137	4/2/2021 9:33	9:33 AM	34.5	8455.148794
138	4/2/2021 9:33	9:33 AM	36	11943.21512
139	4/2/2021 9:33	9:33 AM	34.1	7711.187348
140	4/2/2021 9:33	9:33 AM	30.9	3690.806312
141	4/2/2021 9:33	9:33 AM	30.5	3366.055363
142	4/2/2021 9:33	9:33 AM	32.1	4865.430292
143	4/2/2021 9:33	9:33 AM	28.9	2328.74135
144	4/2/2021 9:34	9:34 AM	31	3776.776235
145	4/2/2021 9:34	9:34 AM	28.3	2028.248926
146	4/2/2021 9:34	9:34 AM	30.2	3141.385644
147	4/2/2021 9:34	9:34 AM	31.8	4540.683745
148	4/2/2021 9:34	9:34 AM	28.3	2028.248926
149	4/2/2021 9:34	9:34 AM	30.7	3524.692665
150	4/2/2021 9:34	9:34 AM	30.8	3606.793304
151	4/2/2021 9:34	9:34 AM	30.2	3141.385644
152	4/2/2021 9:34	9:34 AM	28.8	2275.732725
153	4/2/2021 9:34	9:34 AM	29.2	2495.291313
154	4/2/2021 9:34	9:34 AM	46.5	134005.0776
155	4/2/2021 9:34	9:34 AM	36.4	13095.47497
156	4/2/2021 9:34	9:34 AM	31.3	4046.888648
157	4/2/2021 9:34	9:34 AM	28.6	2173.30788
158	4/2/2021 9:34	9:34 AM	28.8	2275.732725
159	4/2/2021 9:34	9:34 AM	46.5	134005.0776
160	4/2/2021 9:34	9:34 AM	36	11943.21512
161	4/2/2021 9:34	9:34 AM	38.6	21733.0788
162	4/2/2021 9:34	9:34 AM	36	11943.21512
163	4/2/2021 9:34	9:34 AM	34.5	8455.148794
164	4/2/2021 9:35	9:35 AM	31.1	3864.748655
165	4/2/2021 9:35	9:35 AM	31.7	4437.325165
166	4/2/2021 9:35	9:35 AM	32.8	5716.382154
167	4/2/2021 9:35	9:35 AM	29.5	2673.752814
168	4/2/2021 9:35	9:35 AM	28.4	2075.492913
169	4/2/2021 9:35	9:35 AM	28.1	1936.962687

170	4/2/2021 9:35	9:35 AM	29.6	2736.032518
171	4/2/2021 9:35	9:35 AM	30	3000
172	4/2/2021 9:35	9:35 AM	31.7	4437.325165
173	4/2/2021 9:35	9:35 AM	29.3	2553.414115
174	4/2/2021 9:35	9:35 AM	29.5	2673.752814
175	4/2/2021 9:35	9:35 AM	30.1	3069.878977
176	4/2/2021 9:35	9:35 AM	29.7	2799.762902
177	4/2/2021 9:35	9:35 AM	33.9	7364.126747
178	4/2/2021 9:35	9:35 AM	29.8	2864.977758
179	4/2/2021 9:35	9:35 AM	29.9	2931.711663
180	4/2/2021 9:35	9:35 AM	34.9	9270.886298
181	4/2/2021 9:35	9:35 AM	31	3776.776235
182	4/2/2021 9:35	9:35 AM	29.2	2495.291313
183	4/2/2021 9:35	9:35 AM	31.4	4141.152794
184	4/2/2021 9:36	9:36 AM	34.3	8074.604412
185	4/2/2021 9:36	9:36 AM	29.7	2799.762902
186	4/2/2021 9:36	9:36 AM	28.5	2123.837353
187	4/2/2021 9:36	9:36 AM	28.4	2075.492913
188	4/2/2021 9:36	9:36 AM	29.3	2553.414115
189	4/2/2021 9:36	9:36 AM	28.6	2173.30788
190	4/2/2021 9:36	9:36 AM	28.7	2223.930724
191	4/2/2021 9:36	9:36 AM	28.9	2328.74135
192	4/2/2021 9:36	9:36 AM	28.6	2173.30788
193	4/2/2021 9:36	9:36 AM	29.8	2864.977758
194	4/2/2021 9:36	9:36 AM	43.2	62678.88393
195	4/2/2021 9:36	9:36 AM	47.7	176653.0966
196	4/2/2021 9:36	9:36 AM	48.7	222393.0724
197	4/2/2021 9:36	9:36 AM	46.3	127973.8556
198	4/2/2021 9:36	9:36 AM	46.6	137126.4569
199	4/2/2021 9:36	9:36 AM	49.8	286497.7758
200	4/2/2021 9:36	9:36 AM	47.5	168702.3976
201	4/2/2021 9:36	9:36 AM	43.6	68726.02958
202	4/2/2021 9:36	9:36 AM	43.1	61252.13834
203	4/2/2021 9:36	9:36 AM	47.1	153858.4152
204	4/2/2021 9:37	9:37 AM	46.3	127973.8556
205	4/2/2021 9:37	9:37 AM	44.8	90598.55161
206	4/2/2021 9:37	9:37 AM	45.3	101653.2468
207	4/2/2021 9:37	9:37 AM	44.6	86520.94509
208	4/2/2021 9:37	9:37 AM	44.4	82626.8611
209	4/2/2021 9:37	9:37 AM	44.4	82626.8611
210	4/2/2021 9:37	9:37 AM	44.4	82626.8611
211	4/2/2021 9:37	9:37 AM	44.9	92708.86298
212	4/2/2021 9:37	9:37 AM	44.6	86520.94509
213	4/2/2021 9:37	9:37 AM	44.7	88536.2768
214	4/2/2021 9:37	9:37 AM	44.7	88536.2768
215	4/2/2021 9:37	9:37 AM	45.5	106444.0168
216	4/2/2021 9:37	9:37 AM	44.9	92708.86298

217	4/2/2021 9:37	9:37 AM	44.7	88536.2768
218	4/2/2021 9:37	9:37 AM	45.1	97078.09708
219	4/2/2021 9:37	9:37 AM	45.1	97078.09708
220	4/2/2021 9:37	9:37 AM	45.1	97078.09708
221	4/2/2021 9:37	9:37 AM	45.3	101653.2468
222	4/2/2021 9:37	9:37 AM	45.2	99339.33644
223	4/2/2021 9:37	9:37 AM	45.4	104021.0551
224	4/2/2021 9:38	9:38 AM	45.2	99339.33644
225	4/2/2021 9:38	9:38 AM	44.4	82626.8611
226	4/2/2021 9:38	9:38 AM	43.4	65632.84872
227	4/2/2021 9:38	9:38 AM	42.1	48654.30292
228	4/2/2021 9:38	9:38 AM	41	37767.76235
229	4/2/2021 9:38	9:38 AM	43.2	62678.88393
230	4/2/2021 9:38	9:38 AM	44.9	92708.86298
231	4/2/2021 9:38	9:38 AM	44.7	88536.2768
232	4/2/2021 9:38	9:38 AM	44.7	88536.2768
233	4/2/2021 9:38	9:38 AM	44.1	77111.87348
234	4/2/2021 9:38	9:38 AM	42.8	57163.82154
235	4/2/2021 9:38	9:38 AM	44.4	82626.8611
236	4/2/2021 9:38	9:38 AM	42.4	52134.02486
237	4/2/2021 9:38	9:38 AM	43.6	68726.02958
238	4/2/2021 9:38	9:38 AM	42.7	55862.6141
239	4/2/2021 9:38	9:38 AM	42.3	50947.30957
240	4/2/2021 9:38	9:38 AM	42.9	58495.33799
241	4/2/2021 9:38	9:38 AM	43.7	70326.86446
242	4/2/2021 9:38	9:38 AM	48	189287.2033
243	4/2/2021 9:38	9:38 AM	46.9	146933.6458
244	4/2/2021 9:39	9:39 AM	46	119432.1512
245	4/2/2021 9:39	9:39 AM	46.2	125060.815
246	4/2/2021 9:39	9:39 AM	45.9	116713.5435
247	4/2/2021 9:39	9:39 AM	46.2	125060.815
248	4/2/2021 9:39	9:39 AM	45.6	108923.4164
249	4/2/2021 9:39	9:39 AM	46.1	122214.0833
250	4/2/2021 9:39	9:39 AM	44.5	84551.48794
251	4/2/2021 9:39	9:39 AM	43	59857.86945
252	4/2/2021 9:39	9:39 AM	42.9	58495.33799
253	4/2/2021 9:39	9:39 AM	42.3	50947.30957
254	4/2/2021 9:39	9:39 AM	40.5	33660.55363
255	4/2/2021 9:39	9:39 AM	41.8	45406.83745
256	4/2/2021 9:39	9:39 AM	42.2	49787.60722
257	4/2/2021 9:39	9:39 AM	41.1	38647.48655
258	4/2/2021 9:39	9:39 AM	38.1	19369.62687
259	4/2/2021 9:39	9:39 AM	37.3	16110.95389
260	4/2/2021 9:39	9:39 AM	35.7	11146.05687
261	4/2/2021 9:39	9:39 AM	35.2	9933.933644
262	4/2/2021 9:39	9:39 AM	34.6	8652.094509
263	4/2/2021 9:39	9:39 AM	38.4	20754.92913

264	4/2/2021 9:40	9:40 AM	40.7	35246.92665
265	4/2/2021 9:40	9:40 AM	38.3	20282.48926
266	4/2/2021 9:40	9:40 AM	32.9	5849.533799
267	4/2/2021 9:40	9:40 AM	31.3	4046.888648
268	4/2/2021 9:40	9:40 AM	30.4	3289.434588
269	4/2/2021 9:40	9:40 AM	30.5	3366.055363
270	4/2/2021 9:40	9:40 AM	30	3000
271	4/2/2021 9:40	9:40 AM	29.8	2864.977758
272	4/2/2021 9:40	9:40 AM	30.5	3366.055363
273	4/2/2021 9:40	9:40 AM	30.9	3690.806312
274	4/2/2021 9:40	9:40 AM	31.6	4336.319312
275	4/2/2021 9:40	9:40 AM	31.2	3954.770216
276	4/2/2021 9:40	9:40 AM	33.8	7196.498757
277	4/2/2021 9:40	9:40 AM	33.3	6413.886269
278	4/2/2021 9:40	9:40 AM	33.2	6267.888393
279	4/2/2021 9:40	9:40 AM	36.2	12506.0815
280	4/2/2021 9:40	9:40 AM	39.6	27360.32518
281	4/2/2021 9:40	9:40 AM	34.8	9059.855161
282	4/2/2021 9:40	9:40 AM	34.4	8262.68611
283	4/2/2021 9:40	9:40 AM	34.4	8262.68611
284	4/2/2021 9:41	9:41 AM	33.7	7032.686446
285	4/2/2021 9:41	9:41 AM	34.3	8074.604412
286	4/2/2021 9:41	9:41 AM	35.6	10892.34164
287	4/2/2021 9:41	9:41 AM	35.9	11671.35435
288	4/2/2021 9:41	9:41 AM	39.5	26737.52814
289	4/2/2021 9:41	9:41 AM	40.6	34444.60864
290	4/2/2021 9:41	9:41 AM	41.1	38647.48655
291	4/2/2021 9:41	9:41 AM	44.2	78908.03976
292	4/2/2021 9:41	9:41 AM	43.1	61252.13834
293	4/2/2021 9:41	9:41 AM	44.8	90598.55161
294	4/2/2021 9:41	9:41 AM	40.9	36908.06312
295	4/2/2021 9:41	9:41 AM	42.5	53348.3823
296	4/2/2021 9:41	9:41 AM	40.2	31413.85644
297	4/2/2021 9:41	9:41 AM	38.4	20754.92913
298	4/2/2021 9:41	9:41 AM	37.8	18076.78758
299	4/2/2021 9:41	9:41 AM	37.5	16870.23976
300	4/2/2021 9:41	9:41 AM	35.9	11671.35435


Noise Measurement 1 - Doulton Reservoir - April 2, 2021
dBA
55
50
45
40
35
30
25
9:26 AM
9:27 AM
9:28 AM
9:29 AM
9:30 AM
9:31 AM
9:32 AM
9:33 AM
9:34 AM
9:35 AM
9:36 AM
9:37 AM
9:38 AM
9:39 AM
9:40 AM
9:41 AM
Time

Noise Measurement 2 - Bella Vista Reservoir

Data Logger 2	
Duration (seconds)	3
Weighting	A
Response	SLOW
Range	30-90
L05	40.5
L10	38.0
L50	32.1
L90	28.9
L95	28.3
Lmax	56.7
Time	4/2/2021 10:23
SEL	65.5
Leq	**37.0**

No.s	Date Time	Time	dB	Sound Energy
1	4/2/2021 10:10	10:10 AM	38.6	21733.0788
2	4/2/2021 10:10	10:10 AM	36.6	13712.64569
3	4/2/2021 10:10	10:10 AM	33	5985.786945
4	4/2/2021 10:10	10:10 AM	29.5	2673.752814
5	4/2/2021 10:10	10:10 AM	29.5	2673.752814
6	4/2/2021 10:10	10:10 AM	29.1	2438.491548
7	4/2/2021 10:10	10:10 AM	29.3	2553.414115
8	4/2/2021 10:10	10:10 AM	29.2	2495.291313
9	4/2/2021 10:11	10:11 AM	35.5	10644.40168
10	4/2/2021 10:11	10:11 AM	29.5	2673.752814
11	4/2/2021 10:11	10:11 AM	30	3000
12	4/2/2021 10:11	10:11 AM	30	3000
13	4/2/2021 10:11	10:11 AM	30.5	3366.055363
14	4/2/2021 10:11	10:11 AM	34.3	8074.604412
15	4/2/2021 10:11	10:11 AM	32.3	5094.730957
16	4/2/2021 10:11	10:11 AM	34.4	8262.68611
17	4/2/2021 10:11	10:11 AM	35.9	11671.35435
18	4/2/2021 10:11	10:11 AM	30.8	3606.793304
19	4/2/2021 10:11	10:11 AM	28.7	2223.930724
20	4/2/2021 10:11	10:11 AM	30.8	3606.793304
21	4/2/2021 10:11	10:11 AM	29	2382.984704
22	4/2/2021 10:11	10:11 AM	31	3776.776235
23	4/2/2021 10:11	10:11 AM	32.6	5459.102576
24	4/2/2021 10:11	10:11 AM	37.5	16870.23976
25	4/2/2021 10:11	10:11 AM	35.4	10402.10551
26	4/2/2021 10:11	10:11 AM	36.8	14358.90277
27	4/2/2021 10:11	10:11 AM	37.9	18497.85006
28	4/2/2021 10:11	10:11 AM	35.4	10402.10551

29	4/2/2021 10:12	10:12 AM	36	11943.21512
30	4/2/2021 10:12	10:12 AM	31	3776.776235
31	4/2/2021 10:12	10:12 AM	34.5	8455.148794
32	4/2/2021 10:12	10:12 AM	29	2382.984704
33	4/2/2021 10:12	10:12 AM	36.6	13712.64569
34	4/2/2021 10:12	10:12 AM	35.5	10644.40168
35	4/2/2021 10:12	10:12 AM	32.1	4865.430292
36	4/2/2021 10:12	10:12 AM	33.6	6872.602958
37	4/2/2021 10:12	10:12 AM	47	150356.1701
38	4/2/2021 10:12	10:12 AM	41.5	42376.12634
39	4/2/2021 10:12	10:12 AM	44	75356.59295
40	4/2/2021 10:12	10:12 AM	39.8	28649.77758
41	4/2/2021 10:12	10:12 AM	33	5985.786945
42	4/2/2021 10:12	10:12 AM	46.2	125060.815
43	4/2/2021 10:12	10:12 AM	37.3	16110.95389
44	4/2/2021 10:12	10:12 AM	31.9	4646.449857
45	4/2/2021 10:12	10:12 AM	30.6	3444.460864
46	4/2/2021 10:12	10:12 AM	34.5	8455.148794
47	4/2/2021 10:12	10:12 AM	29.6	2736.032518
48	4/2/2021 10:12	10:12 AM	34.6	8652.094509
49	4/2/2021 10:13	10:13 AM	40.4	32894.34588
50	4/2/2021 10:13	10:13 AM	38.2	19820.80344
51	4/2/2021 10:13	10:13 AM	33.4	6563.284872
52	4/2/2021 10:13	10:13 AM	34.7	8853.62768
53	4/2/2021 10:13	10:13 AM	32.6	5459.102576
54	4/2/2021 10:13	10:13 AM	35.3	10165.32468
55	4/2/2021 10:13	10:13 AM	32	4754.679577
56	4/2/2021 10:13	10:13 AM	36.9	14693.36458
57	4/2/2021 10:13	10:13 AM	36.8	14358.90277
58	4/2/2021 10:13	10:13 AM	33.6	6872.602958
59	4/2/2021 10:13	10:13 AM	35.2	9933.933644
60	4/2/2021 10:13	10:13 AM	31.3	4046.888648
61	4/2/2021 10:13	10:13 AM	37.6	17263.19812
62	4/2/2021 10:13	10:13 AM	36	11943.21512
63	4/2/2021 10:13	10:13 AM	33.9	7364.126747
64	4/2/2021 10:13	10:13 AM	33	5985.786945
65	4/2/2021 10:13	10:13 AM	37.5	16870.23976
66	4/2/2021 10:13	10:13 AM	38.4	20754.92913
67	4/2/2021 10:13	10:13 AM	37.4	16486.22622
68	4/2/2021 10:13	10:13 AM	34.9	9270.886298
69	4/2/2021 10:14	10:14 AM	35.2	9933.933644
70	4/2/2021 10:14	10:14 AM	45.2	99339.33644
71	4/2/2021 10:14	10:14 AM	34.4	8262.68611
72	4/2/2021 10:14	10:14 AM	29.7	2799.762902
73	4/2/2021 10:14	10:14 AM	30.4	3289.434588
74	4/2/2021 10:14	10:14 AM	30.6	3444.460864
75	4/2/2021 10:14	10:14 AM	30.2	3141.385644

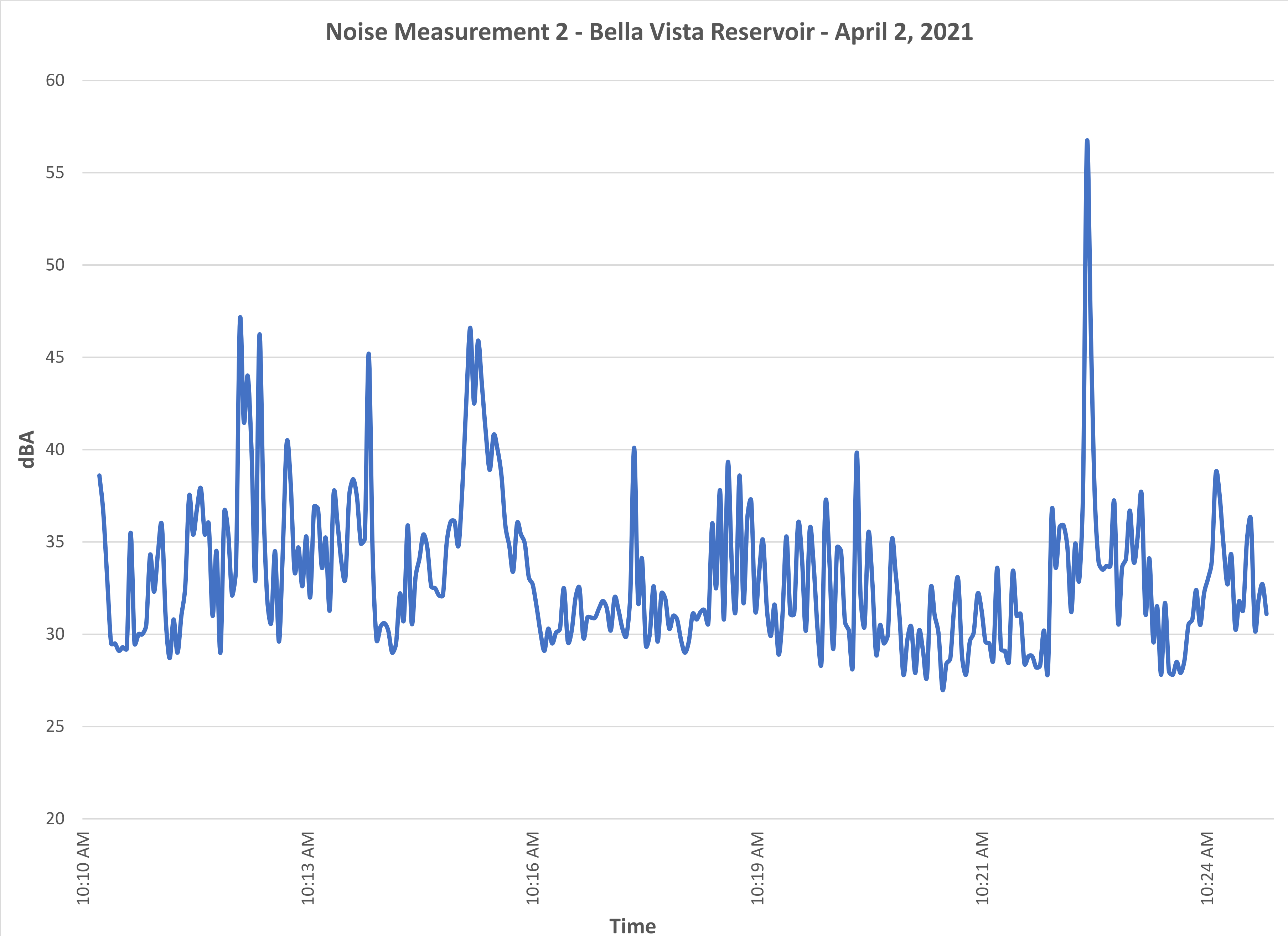
76	4/2/2021 10:14	10:14 AM	29	2382.984704
77	4/2/2021 10:14	10:14 AM	29.5	2673.752814
78	4/2/2021 10:14	10:14 AM	32.2	4978.760722
79	4/2/2021 10:14	10:14 AM	30.8	3606.793304
80	4/2/2021 10:14	10:14 AM	35.9	11671.35435
81	4/2/2021 10:14	10:14 AM	30.6	3444.460864
82	4/2/2021 10:14	10:14 AM	33.1	6125.213834
83	4/2/2021 10:14	10:14 AM	34.1	7711.187348
84	4/2/2021 10:14	10:14 AM	35.4	10402.10551
85	4/2/2021 10:14	10:14 AM	34.7	8853.62768
86	4/2/2021 10:14	10:14 AM	32.6	5459.102576
87	4/2/2021 10:14	10:14 AM	32.5	5334.83823
88	4/2/2021 10:14	10:14 AM	32.1	4865.430292
89	4/2/2021 10:15	10:15 AM	32.1	4865.430292
90	4/2/2021 10:15	10:15 AM	35	9486.832981
91	4/2/2021 10:15	10:15 AM	36.1	12221.40833
92	4/2/2021 10:15	10:15 AM	36.1	12221.40833
93	4/2/2021 10:15	10:15 AM	34.8	9059.855161
94	4/2/2021 10:15	10:15 AM	38	18928.72033
95	4/2/2021 10:15	10:15 AM	42.6	54591.02576
96	4/2/2021 10:15	10:15 AM	46.6	137126.4569
97	4/2/2021 10:15	10:15 AM	42.5	53348.3823
98	4/2/2021 10:15	10:15 AM	45.9	116713.5435
99	4/2/2021 10:15	10:15 AM	43.5	67161.63416
100	4/2/2021 10:15	10:15 AM	40.9	36908.06312
101	4/2/2021 10:15	10:15 AM	38.9	23287.4135
102	4/2/2021 10:15	10:15 AM	40.8	36067.93304
103	4/2/2021 10:15	10:15 AM	40	30000
104	4/2/2021 10:15	10:15 AM	38.6	21733.0788
105	4/2/2021 10:15	10:15 AM	35.9	11671.35435
106	4/2/2021 10:15	10:15 AM	34.8	9059.855161
107	4/2/2021 10:15	10:15 AM	33.4	6563.284872
108	4/2/2021 10:15	10:15 AM	36	11943.21512
109	4/2/2021 10:16	10:16 AM	35.4	10402.10551
110	4/2/2021 10:16	10:16 AM	34.9	9270.886298
111	4/2/2021 10:16	10:16 AM	33.1	6125.213834
112	4/2/2021 10:16	10:16 AM	32.7	5586.26141
113	4/2/2021 10:16	10:16 AM	31.5	4237.612634
114	4/2/2021 10:16	10:16 AM	30.1	3069.878977
115	4/2/2021 10:16	10:16 AM	29.1	2438.491548
116	4/2/2021 10:16	10:16 AM	30.3	3214.557916
117	4/2/2021 10:16	10:16 AM	29.5	2673.752814
118	4/2/2021 10:16	10:16 AM	30.1	3069.878977
119	4/2/2021 10:16	10:16 AM	30.3	3214.557916
120	4/2/2021 10:16	10:16 AM	32.5	5334.83823
121	4/2/2021 10:16	10:16 AM	29.6	2736.032518
122	4/2/2021 10:16	10:16 AM	30.2	3141.385644

123	4/2/2021 10:16	10:16 AM	32	4754.679577
124	4/2/2021 10:16	10:16 AM	32.5	5334.83823
125	4/2/2021 10:16	10:16 AM	29.8	2864.977758
126	4/2/2021 10:16	10:16 AM	30.9	3690.806312
127	4/2/2021 10:16	10:16 AM	30.9	3690.806312
128	4/2/2021 10:16	10:16 AM	30.9	3690.806312
129	4/2/2021 10:17	10:17 AM	31.4	4141.152794
130	4/2/2021 10:17	10:17 AM	31.8	4540.683745
131	4/2/2021 10:17	10:17 AM	31.4	4141.152794
132	4/2/2021 10:17	10:17 AM	30.2	3141.385644
133	4/2/2021 10:17	10:17 AM	32	4754.679577
134	4/2/2021 10:17	10:17 AM	31.3	4046.888648
135	4/2/2021 10:17	10:17 AM	30.3	3214.557916
136	4/2/2021 10:17	10:17 AM	29.9	2931.711663
137	4/2/2021 10:17	10:17 AM	32.1	4865.430292
138	4/2/2021 10:17	10:17 AM	40.1	30698.78977
139	4/2/2021 10:17	10:17 AM	31.8	4540.683745
140	4/2/2021 10:17	10:17 AM	34.1	7711.187348
141	4/2/2021 10:17	10:17 AM	29.4	2612.89077
142	4/2/2021 10:17	10:17 AM	30	3000
143	4/2/2021 10:17	10:17 AM	32.6	5459.102576
144	4/2/2021 10:17	10:17 AM	29.6	2736.032518
145	4/2/2021 10:17	10:17 AM	32.2	4978.760722
146	4/2/2021 10:17	10:17 AM	31.9	4646.449857
147	4/2/2021 10:17	10:17 AM	30.3	3214.557916
148	4/2/2021 10:17	10:17 AM	31	3776.776235
149	4/2/2021 10:18	10:18 AM	30.8	3606.793304
150	4/2/2021 10:18	10:18 AM	29.7	2799.762902
151	4/2/2021 10:18	10:18 AM	29	2382.984704
152	4/2/2021 10:18	10:18 AM	29.6	2736.032518
153	4/2/2021 10:18	10:18 AM	31.1	3864.748655
154	4/2/2021 10:18	10:18 AM	30.8	3606.793304
155	4/2/2021 10:18	10:18 AM	31.2	3954.770216
156	4/2/2021 10:18	10:18 AM	31.3	4046.888648
157	4/2/2021 10:18	10:18 AM	30.6	3444.460864
158	4/2/2021 10:18	10:18 AM	36	11943.21512
159	4/2/2021 10:18	10:18 AM	32.5	5334.83823
160	4/2/2021 10:18	10:18 AM	37.8	18076.78758
161	4/2/2021 10:18	10:18 AM	30.8	3606.793304
162	4/2/2021 10:18	10:18 AM	39.3	25534.14115
163	4/2/2021 10:18	10:18 AM	33.9	7364.126747
164	4/2/2021 10:18	10:18 AM	31.3	4046.888648
165	4/2/2021 10:18	10:18 AM	38.6	21733.0788
166	4/2/2021 10:18	10:18 AM	31.7	4437.325165
167	4/2/2021 10:18	10:18 AM	36.3	12797.38556
168	4/2/2021 10:18	10:18 AM	37.2	15744.22381
169	4/2/2021 10:19	10:19 AM	31.3	4046.888648

170	4/2/2021 10:19	10:19 AM	33.3	6413.886269
171	4/2/2021 10:19	10:19 AM	35.1	9707.809708
172	4/2/2021 10:19	10:19 AM	31.4	4141.152794
173	4/2/2021 10:19	10:19 AM	29.9	2931.711663
174	4/2/2021 10:19	10:19 AM	31.6	4336.319312
175	4/2/2021 10:19	10:19 AM	28.9	2328.74135
176	4/2/2021 10:19	10:19 AM	31	3776.776235
177	4/2/2021 10:19	10:19 AM	35.3	10165.32468
178	4/2/2021 10:19	10:19 AM	31.1	3864.748655
179	4/2/2021 10:19	10:19 AM	31.1	3864.748655
180	4/2/2021 10:19	10:19 AM	36	11943.21512
181	4/2/2021 10:19	10:19 AM	34.1	7711.187348
182	4/2/2021 10:19	10:19 AM	30.2	3141.385644
183	4/2/2021 10:19	10:19 AM	35.7	11146.05687
184	4/2/2021 10:19	10:19 AM	33.7	7032.686446
185	4/2/2021 10:19	10:19 AM	30.2	3141.385644
186	4/2/2021 10:19	10:19 AM	28.5	2123.837353
187	4/2/2021 10:19	10:19 AM	37.1	15385.84152
188	4/2/2021 10:19	10:19 AM	34.1	7711.187348
189	4/2/2021 10:20	10:20 AM	29.2	2495.291313
190	4/2/2021 10:20	10:20 AM	34.7	8853.62768
191	4/2/2021 10:20	10:20 AM	34.5	8455.148794
192	4/2/2021 10:20	10:20 AM	30.7	3524.692665
193	4/2/2021 10:20	10:20 AM	30.2	3141.385644
194	4/2/2021 10:20	10:20 AM	28.3	2028.248926
195	4/2/2021 10:20	10:20 AM	39.8	28649.77758
196	4/2/2021 10:20	10:20 AM	32.1	4865.430292
197	4/2/2021 10:20	10:20 AM	30.4	3289.434588
198	4/2/2021 10:20	10:20 AM	35.5	10644.40168
199	4/2/2021 10:20	10:20 AM	32.9	5849.533799
200	4/2/2021 10:20	10:20 AM	28.9	2328.74135
201	4/2/2021 10:20	10:20 AM	30.5	3366.055363
202	4/2/2021 10:20	10:20 AM	29.5	2673.752814
203	4/2/2021 10:20	10:20 AM	30	3000
204	4/2/2021 10:20	10:20 AM	35.1	9707.809708
205	4/2/2021 10:20	10:20 AM	33.3	6413.886269
206	4/2/2021 10:20	10:20 AM	30.9	3690.806312
207	4/2/2021 10:20	10:20 AM	27.8	1807.678758
208	4/2/2021 10:20	10:20 AM	29.7	2799.762902
209	4/2/2021 10:21	10:21 AM	30.4	3289.434588
210	4/2/2021 10:21	10:21 AM	27.9	1849.785006
211	4/2/2021 10:21	10:21 AM	30.2	3141.385644
212	4/2/2021 10:21	10:21 AM	29.1	2438.491548
213	4/2/2021 10:21	10:21 AM	27.7	1766.530966
214	4/2/2021 10:21	10:21 AM	32.5	5334.83823
215	4/2/2021 10:21	10:21 AM	31	3776.776235
216	4/2/2021 10:21	10:21 AM	30	3000

217	4/2/2021 10:21	10:21 AM	27	1503.561701
218	4/2/2021 10:21	10:21 AM	28.4	2075.492913
219	4/2/2021 10:21	10:21 AM	28.7	2223.930724
220	4/2/2021 10:21	10:21 AM	31.5	4237.612634
221	4/2/2021 10:21	10:21 AM	33	5985.786945
222	4/2/2021 10:21	10:21 AM	28.8	2275.732725
223	4/2/2021 10:21	10:21 AM	27.8	1807.678758
224	4/2/2021 10:21	10:21 AM	29.6	2736.032518
225	4/2/2021 10:21	10:21 AM	30.1	3069.878977
226	4/2/2021 10:21	10:21 AM	32.2	4978.760722
227	4/2/2021 10:21	10:21 AM	31.3	4046.888648
228	4/2/2021 10:21	10:21 AM	29.6	2736.032518
229	4/2/2021 10:22	10:22 AM	29.5	2673.752814
230	4/2/2021 10:22	10:22 AM	28.6	2173.30788
231	4/2/2021 10:22	10:22 AM	33.6	6872.602958
232	4/2/2021 10:22	10:22 AM	29.2	2495.291313
233	4/2/2021 10:22	10:22 AM	29.1	2438.491548
234	4/2/2021 10:22	10:22 AM	28.5	2123.837353
235	4/2/2021 10:22	10:22 AM	33.4	6563.284872
236	4/2/2021 10:22	10:22 AM	31	3776.776235
237	4/2/2021 10:22	10:22 AM	31.1	3864.748655
238	4/2/2021 10:22	10:22 AM	28.4	2075.492913
239	4/2/2021 10:22	10:22 AM	28.8	2275.732725
240	4/2/2021 10:22	10:22 AM	28.8	2275.732725
241	4/2/2021 10:22	10:22 AM	28.2	1982.080344
242	4/2/2021 10:22	10:22 AM	28.3	2028.248926
243	4/2/2021 10:22	10:22 AM	30.2	3141.385644
244	4/2/2021 10:22	10:22 AM	28	1892.872033
245	4/2/2021 10:22	10:22 AM	36.7	14032.05424
246	4/2/2021 10:22	10:22 AM	33.6	6872.602958
247	4/2/2021 10:22	10:22 AM	35.8	11405.68189
248	4/2/2021 10:22	10:22 AM	35.9	11671.35435
249	4/2/2021 10:23	10:23 AM	34.7	8853.62768
250	4/2/2021 10:23	10:23 AM	31.2	3954.770216
251	4/2/2021 10:23	10:23 AM	34.9	9270.886298
252	4/2/2021 10:23	10:23 AM	32.9	5849.533799
253	4/2/2021 10:23	10:23 AM	37.8	18076.78758
254	4/2/2021 10:23	10:23 AM	56.6	1371264.569
255	4/2/2021 10:23	10:23 AM	46.4	130954.7497
256	4/2/2021 10:23	10:23 AM	37.5	16870.23976
257	4/2/2021 10:23	10:23 AM	33.9	7364.126747
258	4/2/2021 10:23	10:23 AM	33.5	6716.163416
259	4/2/2021 10:23	10:23 AM	33.7	7032.686446
260	4/2/2021 10:23	10:23 AM	33.7	7032.686446
261	4/2/2021 10:23	10:23 AM	37.2	15744.22381
262	4/2/2021 10:23	10:23 AM	30.6	3444.460864
263	4/2/2021 10:23	10:23 AM	33.6	6872.602958

264	4/2/2021 10:23	10:23 AM	34.1	7711.187348
265	4/2/2021 10:23	10:23 AM	36.7	14032.05424
266	4/2/2021 10:23	10:23 AM	33.9	7364.126747
267	4/2/2021 10:23	10:23 AM	35.3	10165.32468
268	4/2/2021 10:23	10:23 AM	37.6	17263.19812
269	4/2/2021 10:24	10:24 AM	31.1	3864.748655
270	4/2/2021 10:24	10:24 AM	34.1	7711.187348
271	4/2/2021 10:24	10:24 AM	29.6	2736.032518
272	4/2/2021 10:24	10:24 AM	31.5	4237.612634
273	4/2/2021 10:24	10:24 AM	27.8	1807.678758
274	4/2/2021 10:24	10:24 AM	31.7	4437.325165
275	4/2/2021 10:24	10:24 AM	28	1892.872033
276	4/2/2021 10:24	10:24 AM	27.8	1807.678758
277	4/2/2021 10:24	10:24 AM	28.5	2123.837353
278	4/2/2021 10:24	10:24 AM	27.9	1849.785006
279	4/2/2021 10:24	10:24 AM	28.6	2173.30788
280	4/2/2021 10:24	10:24 AM	30.5	3366.055363
281	4/2/2021 10:24	10:24 AM	30.8	3606.793304
282	4/2/2021 10:24	10:24 AM	32.4	5213.402486
283	4/2/2021 10:24	10:24 AM	30.5	3366.055363
284	4/2/2021 10:24	10:24 AM	32.2	4978.760722
285	4/2/2021 10:24	10:24 AM	33	5985.786945
286	4/2/2021 10:24	10:24 AM	34	7535.659295
287	4/2/2021 10:24	10:24 AM	38.7	22239.30724
288	4/2/2021 10:24	10:24 AM	37.5	16870.23976
289	4/2/2021 10:25	10:25 AM	34.8	9059.855161
290	4/2/2021 10:25	10:25 AM	32.7	5586.26141
291	4/2/2021 10:25	10:25 AM	34.3	8074.604412
292	4/2/2021 10:25	10:25 AM	30.3	3214.557916
293	4/2/2021 10:25	10:25 AM	31.8	4540.683745
294	4/2/2021 10:25	10:25 AM	31.3	4046.888648
295	4/2/2021 10:25	10:25 AM	35.1	9707.809708
296	4/2/2021 10:25	10:25 AM	36.2	12506.0815
297	4/2/2021 10:25	10:25 AM	30.3	3214.557916
298	4/2/2021 10:25	10:25 AM	31.9	4646.449857
299	4/2/2021 10:25	10:25 AM	32.7	5586.26141
300	4/2/2021 10:25	10:25 AM	31.1	3864.748655



Noise Measurement 2 - Bella Vista Reservoir - April 2, 2021
60
55
50
45
40
35
30
25
20
dBA
10:10 AM
10:13 AM
10:16 AM
10:19 AM
10:21 AM
10:24 AM
Time

Noise Measurement 3 - Romero Reservoir

Data Logger 2		
Duration (seconds)		3
Weighting	A	
Response	SLOW	
Range	30-90	
L05		45.0
L10		43.2
L50		39.4
L90		36.3
L95		35.2
Lmax		57.5
Time		4/2/2021 11:11
SEL		70.6
Leq		**41.3**

No.s	Date Time	Time	dB	Sound Energy
1	4/2/2021 11:01	11:01 AM	39.7	27997.62902
2	4/2/2021 11:01	11:01 AM	38	18928.72033
3	4/2/2021 11:01	11:01 AM	38.7	22239.30724
4	4/2/2021 11:01	11:01 AM	44.5	84551.48794
5	4/2/2021 11:02	11:02 AM	46.7	140320.5424
6	4/2/2021 11:02	11:02 AM	46.8	143589.0277
7	4/2/2021 11:02	11:02 AM	42.4	52134.02486
8	4/2/2021 11:02	11:02 AM	43.5	67161.63416
9	4/2/2021 11:02	11:02 AM	45.9	116713.5435
10	4/2/2021 11:02	11:02 AM	47.7	176653.0966
11	4/2/2021 11:02	11:02 AM	51.7	443732.5165
12	4/2/2021 11:02	11:02 AM	48.9	232874.135
13	4/2/2021 11:02	11:02 AM	49.2	249529.1313
14	4/2/2021 11:02	11:02 AM	45.6	108923.4164
15	4/2/2021 11:02	11:02 AM	45	94868.32981
16	4/2/2021 11:02	11:02 AM	42.5	53348.3823
17	4/2/2021 11:02	11:02 AM	44	75356.59295
18	4/2/2021 11:02	11:02 AM	43.6	68726.02958
19	4/2/2021 11:02	11:02 AM	42	47546.79577
20	4/2/2021 11:02	11:02 AM	41.6	43363.19312
21	4/2/2021 11:02	11:02 AM	41.8	45406.83745
22	4/2/2021 11:02	11:02 AM	40.9	36908.06312
23	4/2/2021 11:02	11:02 AM	40.2	31413.85644
24	4/2/2021 11:02	11:02 AM	41.7	44373.25165
25	4/2/2021 11:03	11:03 AM	41.5	42376.12634
26	4/2/2021 11:03	11:03 AM	41.4	41411.52794
27	4/2/2021 11:03	11:03 AM	40.9	36908.06312
28	4/2/2021 11:03	11:03 AM	42.2	49787.60722

29	4/2/2021 11:03	11:03 AM	44.4	82626.8611
30	4/2/2021 11:03	11:03 AM	42.2	49787.60722
31	4/2/2021 11:03	11:03 AM	41.3	40468.88648
32	4/2/2021 11:03	11:03 AM	40.6	34444.60864
33	4/2/2021 11:03	11:03 AM	46.1	122214.0833
34	4/2/2021 11:03	11:03 AM	52.4	521340.2486
35	4/2/2021 11:03	11:03 AM	47.9	184978.5006
36	4/2/2021 11:03	11:03 AM	49.1	243849.1548
37	4/2/2021 11:03	11:03 AM	45.5	106444.0168
38	4/2/2021 11:03	11:03 AM	46.6	137126.4569
39	4/2/2021 11:03	11:03 AM	44.2	78908.03976
40	4/2/2021 11:03	11:03 AM	41.7	44373.25165
41	4/2/2021 11:03	11:03 AM	40	30000
42	4/2/2021 11:03	11:03 AM	39.3	25534.14115
43	4/2/2021 11:03	11:03 AM	39.3	25534.14115
44	4/2/2021 11:03	11:03 AM	37.9	18497.85006
45	4/2/2021 11:04	11:04 AM	35.3	10165.32468
46	4/2/2021 11:04	11:04 AM	36.3	12797.38556
47	4/2/2021 11:04	11:04 AM	41	37767.76235
48	4/2/2021 11:04	11:04 AM	40.5	33660.55363
49	4/2/2021 11:04	11:04 AM	40.4	32894.34588
50	4/2/2021 11:04	11:04 AM	40	30000
51	4/2/2021 11:04	11:04 AM	40.1	30698.78977
52	4/2/2021 11:04	11:04 AM	42	47546.79577
53	4/2/2021 11:04	11:04 AM	36.2	12506.0815
54	4/2/2021 11:04	11:04 AM	37.8	18076.78758
55	4/2/2021 11:04	11:04 AM	38.3	20282.48926
56	4/2/2021 11:04	11:04 AM	38.6	21733.0788
57	4/2/2021 11:04	11:04 AM	39.1	24384.91548
58	4/2/2021 11:04	11:04 AM	38.9	23287.4135
59	4/2/2021 11:04	11:04 AM	40.2	31413.85644
60	4/2/2021 11:04	11:04 AM	40.3	32145.57916
61	4/2/2021 11:04	11:04 AM	41.1	38647.48655
62	4/2/2021 11:04	11:04 AM	36.8	14358.90277
63	4/2/2021 11:04	11:04 AM	36.2	12506.0815
64	4/2/2021 11:04	11:04 AM	37.2	15744.22381
65	4/2/2021 11:05	11:05 AM	40.2	31413.85644
66	4/2/2021 11:05	11:05 AM	39.8	28649.77758
67	4/2/2021 11:05	11:05 AM	39.6	27360.32518
68	4/2/2021 11:05	11:05 AM	38.2	19820.80344
69	4/2/2021 11:05	11:05 AM	41	37767.76235
70	4/2/2021 11:05	11:05 AM	39.5	26737.52814
71	4/2/2021 11:05	11:05 AM	41.6	43363.19312
72	4/2/2021 11:05	11:05 AM	40.1	30698.78977
73	4/2/2021 11:05	11:05 AM	39	23829.84704
74	4/2/2021 11:05	11:05 AM	40.6	34444.60864
75	4/2/2021 11:05	11:05 AM	44	75356.59295

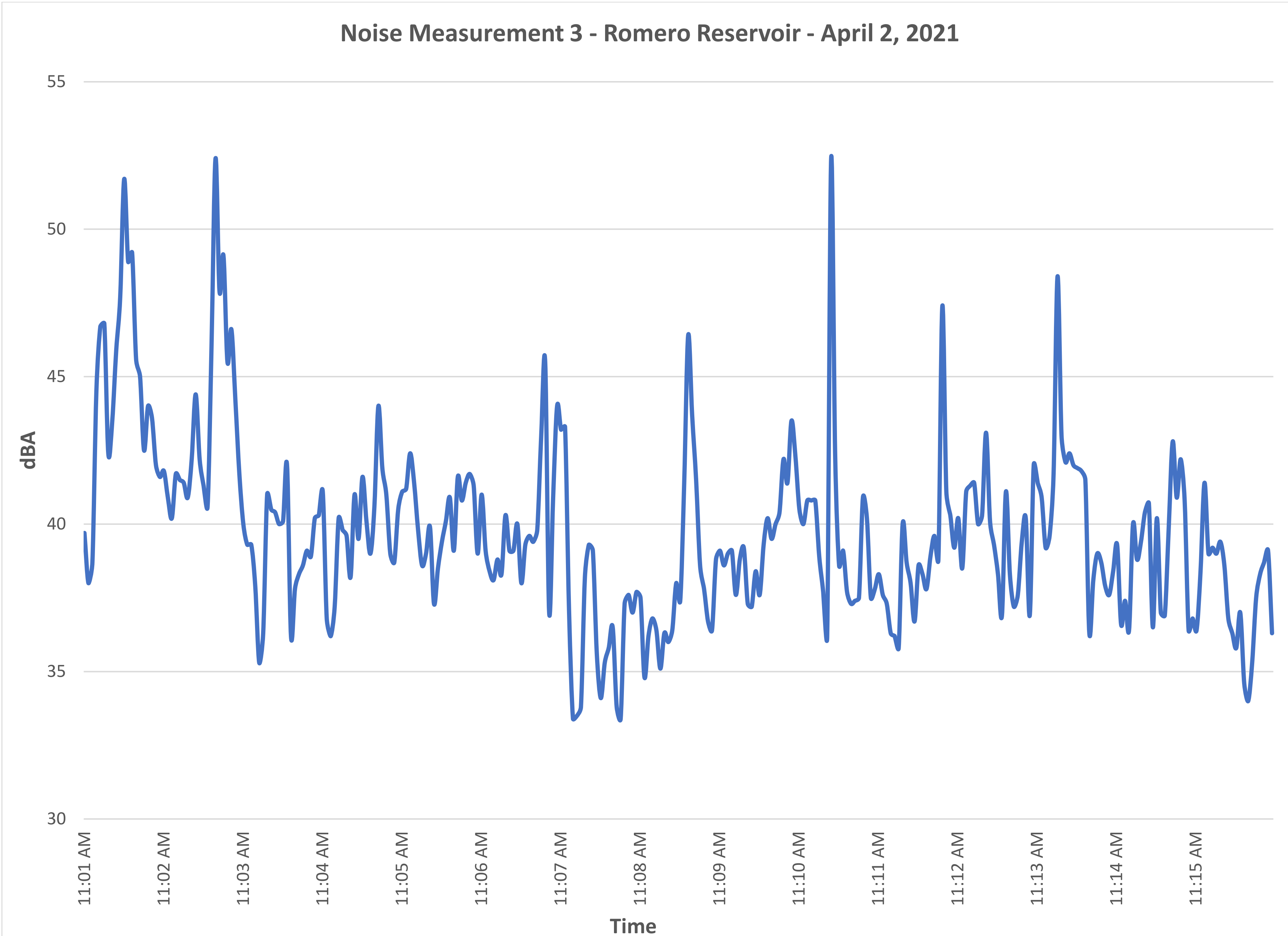
76	4/2/2021 11:05	11:05 AM	41.9	46464.49857
77	4/2/2021 11:05	11:05 AM	41	37767.76235
78	4/2/2021 11:05	11:05 AM	39	23829.84704
79	4/2/2021 11:05	11:05 AM	38.7	22239.30724
80	4/2/2021 11:05	11:05 AM	40.5	33660.55363
81	4/2/2021 11:05	11:05 AM	41.1	38647.48655
82	4/2/2021 11:05	11:05 AM	41.2	39547.70216
83	4/2/2021 11:05	11:05 AM	42.4	52134.02486
84	4/2/2021 11:05	11:05 AM	41.4	41411.52794
85	4/2/2021 11:06	11:06 AM	39.8	28649.77758
86	4/2/2021 11:06	11:06 AM	38.6	21733.0788
87	4/2/2021 11:06	11:06 AM	39	23829.84704
88	4/2/2021 11:06	11:06 AM	39.9	29317.11663
89	4/2/2021 11:06	11:06 AM	37.3	16110.95389
90	4/2/2021 11:06	11:06 AM	38.5	21238.37353
91	4/2/2021 11:06	11:06 AM	39.4	26128.9077
92	4/2/2021 11:06	11:06 AM	40.1	30698.78977
93	4/2/2021 11:06	11:06 AM	40.9	36908.06312
94	4/2/2021 11:06	11:06 AM	39.1	24384.91548
95	4/2/2021 11:06	11:06 AM	41.6	43363.19312
96	4/2/2021 11:06	11:06 AM	40.8	36067.93304
97	4/2/2021 11:06	11:06 AM	41.4	41411.52794
98	4/2/2021 11:06	11:06 AM	41.7	44373.25165
99	4/2/2021 11:06	11:06 AM	41.3	40468.88648
100	4/2/2021 11:06	11:06 AM	39	23829.84704
101	4/2/2021 11:06	11:06 AM	41	37767.76235
102	4/2/2021 11:06	11:06 AM	39.1	24384.91548
103	4/2/2021 11:06	11:06 AM	38.4	20754.92913
104	4/2/2021 11:06	11:06 AM	38.1	19369.62687
105	4/2/2021 11:07	11:07 AM	38.8	22757.32725
106	4/2/2021 11:07	11:07 AM	38.3	20282.48926
107	4/2/2021 11:07	11:07 AM	40.3	32145.57916
108	4/2/2021 11:07	11:07 AM	39.1	24384.91548
109	4/2/2021 11:07	11:07 AM	39.1	24384.91548
110	4/2/2021 11:07	11:07 AM	40	30000
111	4/2/2021 11:07	11:07 AM	38	18928.72033
112	4/2/2021 11:07	11:07 AM	39.3	25534.14115
113	4/2/2021 11:07	11:07 AM	39.6	27360.32518
114	4/2/2021 11:07	11:07 AM	39.4	26128.9077
115	4/2/2021 11:07	11:07 AM	39.8	28649.77758
116	4/2/2021 11:07	11:07 AM	43	59857.86945
117	4/2/2021 11:07	11:07 AM	45.5	106444.0168
118	4/2/2021 11:07	11:07 AM	37	15035.61701
119	4/2/2021 11:07	11:07 AM	40.9	36908.06312
120	4/2/2021 11:07	11:07 AM	44	75356.59295
121	4/2/2021 11:07	11:07 AM	43.2	62678.88393
122	4/2/2021 11:07	11:07 AM	43.3	64138.86269

123	4/2/2021 11:07	11:07 AM	37.1	15385.84152
124	4/2/2021 11:07	11:07 AM	33.4	6563.284872
125	4/2/2021 11:08	11:08 AM	33.5	6716.163416
126	4/2/2021 11:08	11:08 AM	33.8	7196.498757
127	4/2/2021 11:08	11:08 AM	38.2	19820.80344
128	4/2/2021 11:08	11:08 AM	39.3	25534.14115
129	4/2/2021 11:08	11:08 AM	39.1	24384.91548
130	4/2/2021 11:08	11:08 AM	35.6	10892.34164
131	4/2/2021 11:08	11:08 AM	34.1	7711.187348
132	4/2/2021 11:08	11:08 AM	35.3	10165.32468
133	4/2/2021 11:08	11:08 AM	35.8	11405.68189
134	4/2/2021 11:08	11:08 AM	36.5	13400.50776
135	4/2/2021 11:08	11:08 AM	33.8	7196.498757
136	4/2/2021 11:08	11:08 AM	33.4	6563.284872
137	4/2/2021 11:08	11:08 AM	37.3	16110.95389
138	4/2/2021 11:08	11:08 AM	37.6	17263.19812
139	4/2/2021 11:08	11:08 AM	37	15035.61701
140	4/2/2021 11:08	11:08 AM	37.7	17665.30966
141	4/2/2021 11:08	11:08 AM	37.5	16870.23976
142	4/2/2021 11:08	11:08 AM	34.8	9059.855161
143	4/2/2021 11:08	11:08 AM	36.2	12506.0815
144	4/2/2021 11:08	11:08 AM	36.8	14358.90277
145	4/2/2021 11:09	11:09 AM	36.4	13095.47497
146	4/2/2021 11:09	11:09 AM	35.1	9707.809708
147	4/2/2021 11:09	11:09 AM	36.3	12797.38556
148	4/2/2021 11:09	11:09 AM	36	11943.21512
149	4/2/2021 11:09	11:09 AM	36.4	13095.47497
150	4/2/2021 11:09	11:09 AM	38	18928.72033
151	4/2/2021 11:09	11:09 AM	37.4	16486.22622
152	4/2/2021 11:09	11:09 AM	41.4	41411.52794
153	4/2/2021 11:09	11:09 AM	46.4	130954.7497
154	4/2/2021 11:09	11:09 AM	43.7	70326.86446
155	4/2/2021 11:09	11:09 AM	41.5	42376.12634
156	4/2/2021 11:09	11:09 AM	38.6	21733.0788
157	4/2/2021 11:09	11:09 AM	37.8	18076.78758
158	4/2/2021 11:09	11:09 AM	36.7	14032.05424
159	4/2/2021 11:09	11:09 AM	36.4	13095.47497
160	4/2/2021 11:09	11:09 AM	38.8	22757.32725
161	4/2/2021 11:09	11:09 AM	39.1	24384.91548
162	4/2/2021 11:09	11:09 AM	38.6	21733.0788
163	4/2/2021 11:09	11:09 AM	39	23829.84704
164	4/2/2021 11:09	11:09 AM	39.1	24384.91548
165	4/2/2021 11:10	11:10 AM	37.6	17263.19812
166	4/2/2021 11:10	11:10 AM	38.8	22757.32725
167	4/2/2021 11:10	11:10 AM	39.2	24952.91313
168	4/2/2021 11:10	11:10 AM	37.3	16110.95389
169	4/2/2021 11:10	11:10 AM	37.2	15744.22381

170	4/2/2021 11:10	11:10 AM	38.4	20754.92913
171	4/2/2021 11:10	11:10 AM	37.6	17263.19812
172	4/2/2021 11:10	11:10 AM	39.3	25534.14115
173	4/2/2021 11:10	11:10 AM	40.2	31413.85644
174	4/2/2021 11:10	11:10 AM	39.5	26737.52814
175	4/2/2021 11:10	11:10 AM	40	30000
176	4/2/2021 11:10	11:10 AM	40.4	32894.34588
177	4/2/2021 11:10	11:10 AM	42.2	49787.60722
178	4/2/2021 11:10	11:10 AM	41.4	41411.52794
179	4/2/2021 11:10	11:10 AM	43.5	67161.63416
180	4/2/2021 11:10	11:10 AM	42.3	50947.30957
181	4/2/2021 11:10	11:10 AM	40.5	33660.55363
182	4/2/2021 11:10	11:10 AM	40	30000
183	4/2/2021 11:10	11:10 AM	40.8	36067.93304
184	4/2/2021 11:10	11:10 AM	40.8	36067.93304
185	4/2/2021 11:11	11:11 AM	40.8	36067.93304
186	4/2/2021 11:11	11:11 AM	38.9	23287.4135
187	4/2/2021 11:11	11:11 AM	37.7	17665.30966
188	4/2/2021 11:11	11:11 AM	36.2	12506.0815
189	4/2/2021 11:11	11:11 AM	52.4	521340.2486
190	4/2/2021 11:11	11:11 AM	42.4	52134.02486
191	4/2/2021 11:11	11:11 AM	38.6	21733.0788
192	4/2/2021 11:11	11:11 AM	39.1	24384.91548
193	4/2/2021 11:11	11:11 AM	37.7	17665.30966
194	4/2/2021 11:11	11:11 AM	37.3	16110.95389
195	4/2/2021 11:11	11:11 AM	37.4	16486.22622
196	4/2/2021 11:11	11:11 AM	37.5	16870.23976
197	4/2/2021 11:11	11:11 AM	40.9	36908.06312
198	4/2/2021 11:11	11:11 AM	40.2	31413.85644
199	4/2/2021 11:11	11:11 AM	37.5	16870.23976
200	4/2/2021 11:11	11:11 AM	37.8	18076.78758
201	4/2/2021 11:11	11:11 AM	38.3	20282.48926
202	4/2/2021 11:11	11:11 AM	37.6	17263.19812
203	4/2/2021 11:11	11:11 AM	37.3	16110.95389
204	4/2/2021 11:11	11:11 AM	36.3	12797.38556
205	4/2/2021 11:12	11:12 AM	36.2	12506.0815
206	4/2/2021 11:12	11:12 AM	35.8	11405.68189
207	4/2/2021 11:12	11:12 AM	40	30000
208	4/2/2021 11:12	11:12 AM	38.7	22239.30724
209	4/2/2021 11:12	11:12 AM	38	18928.72033
210	4/2/2021 11:12	11:12 AM	36.7	14032.05424
211	4/2/2021 11:12	11:12 AM	38.6	21733.0788
212	4/2/2021 11:12	11:12 AM	38.3	20282.48926
213	4/2/2021 11:12	11:12 AM	37.8	18076.78758
214	4/2/2021 11:12	11:12 AM	38.9	23287.4135
215	4/2/2021 11:12	11:12 AM	39.6	27360.32518
216	4/2/2021 11:12	11:12 AM	38.8	22757.32725

217	4/2/2021 11:12	11:12 AM	47.4	164862.2622
218	4/2/2021 11:12	11:12 AM	41.1	38647.48655
219	4/2/2021 11:12	11:12 AM	40.3	32145.57916
220	4/2/2021 11:12	11:12 AM	39.2	24952.91313
221	4/2/2021 11:12	11:12 AM	40.2	31413.85644
222	4/2/2021 11:12	11:12 AM	38.5	21238.37353
223	4/2/2021 11:12	11:12 AM	41.1	38647.48655
224	4/2/2021 11:12	11:12 AM	41.3	40468.88648
225	4/2/2021 11:13	11:13 AM	41.4	41411.52794
226	4/2/2021 11:13	11:13 AM	40	30000
227	4/2/2021 11:13	11:13 AM	40.3	32145.57916
228	4/2/2021 11:13	11:13 AM	43.1	61252.13834
229	4/2/2021 11:13	11:13 AM	40.1	30698.78977
230	4/2/2021 11:13	11:13 AM	39.3	25534.14115
231	4/2/2021 11:13	11:13 AM	38.3	20282.48926
232	4/2/2021 11:13	11:13 AM	36.9	14693.36458
233	4/2/2021 11:13	11:13 AM	41.1	38647.48655
234	4/2/2021 11:13	11:13 AM	38.3	20282.48926
235	4/2/2021 11:13	11:13 AM	37.2	15744.22381
236	4/2/2021 11:13	11:13 AM	37.6	17263.19812
237	4/2/2021 11:13	11:13 AM	39.4	26128.9077
238	4/2/2021 11:13	11:13 AM	40.2	31413.85644
239	4/2/2021 11:13	11:13 AM	36.9	14693.36458
240	4/2/2021 11:13	11:13 AM	42	47546.79577
241	4/2/2021 11:13	11:13 AM	41.4	41411.52794
242	4/2/2021 11:13	11:13 AM	40.9	36908.06312
243	4/2/2021 11:13	11:13 AM	39.2	24952.91313
244	4/2/2021 11:13	11:13 AM	39.6	27360.32518
245	4/2/2021 11:14	11:14 AM	41.7	44373.25165
246	4/2/2021 11:14	11:14 AM	48.4	207549.2913
247	4/2/2021 11:14	11:14 AM	43	59857.86945
248	4/2/2021 11:14	11:14 AM	42.1	48654.30292
249	4/2/2021 11:14	11:14 AM	42.4	52134.02486
250	4/2/2021 11:14	11:14 AM	42	47546.79577
251	4/2/2021 11:14	11:14 AM	41.9	46464.49857
252	4/2/2021 11:14	11:14 AM	41.8	45406.83745
253	4/2/2021 11:14	11:14 AM	41.5	42376.12634
254	4/2/2021 11:14	11:14 AM	36.3	12797.38556
255	4/2/2021 11:14	11:14 AM	38.1	19369.62687
256	4/2/2021 11:14	11:14 AM	39	23829.84704
257	4/2/2021 11:14	11:14 AM	38.7	22239.30724
258	4/2/2021 11:14	11:14 AM	37.9	18497.85006
259	4/2/2021 11:14	11:14 AM	37.6	17263.19812
260	4/2/2021 11:14	11:14 AM	38.4	20754.92913
261	4/2/2021 11:14	11:14 AM	39.3	25534.14115
262	4/2/2021 11:14	11:14 AM	36.6	13712.64569
263	4/2/2021 11:14	11:14 AM	37.4	16486.22622

264	4/2/2021 11:14	11:14 AM	36.4	13095.47497
265	4/2/2021 11:15	11:15 AM	40	30000
266	4/2/2021 11:15	11:15 AM	38.8	22757.32725
267	4/2/2021 11:15	11:15 AM	39.4	26128.9077
268	4/2/2021 11:15	11:15 AM	40.4	32894.34588
269	4/2/2021 11:15	11:15 AM	40.7	35246.92665
270	4/2/2021 11:15	11:15 AM	36.5	13400.50776
271	4/2/2021 11:15	11:15 AM	40.2	31413.85644
272	4/2/2021 11:15	11:15 AM	37	15035.61701
273	4/2/2021 11:15	11:15 AM	36.9	14693.36458
274	4/2/2021 11:15	11:15 AM	39.9	29317.11663
275	4/2/2021 11:15	11:15 AM	42.8	57163.82154
276	4/2/2021 11:15	11:15 AM	40.9	36908.06312
277	4/2/2021 11:15	11:15 AM	42.2	49787.60722
278	4/2/2021 11:15	11:15 AM	40.8	36067.93304
279	4/2/2021 11:15	11:15 AM	36.4	13095.47497
280	4/2/2021 11:15	11:15 AM	36.8	14358.90277
281	4/2/2021 11:15	11:15 AM	36.4	13095.47497
282	4/2/2021 11:15	11:15 AM	38.4	20754.92913
283	4/2/2021 11:15	11:15 AM	41.4	41411.52794
284	4/2/2021 11:15	11:15 AM	39	23829.84704
285	4/2/2021 11:16	11:16 AM	39.2	24952.91313
286	4/2/2021 11:16	11:16 AM	39	23829.84704
287	4/2/2021 11:16	11:16 AM	39.4	26128.9077
288	4/2/2021 11:16	11:16 AM	38.6	21733.0788
289	4/2/2021 11:16	11:16 AM	36.8	14358.90277
290	4/2/2021 11:16	11:16 AM	36.3	12797.38556
291	4/2/2021 11:16	11:16 AM	35.8	11405.68189
292	4/2/2021 11:16	11:16 AM	37	15035.61701
293	4/2/2021 11:16	11:16 AM	34.6	8652.094509
294	4/2/2021 11:16	11:16 AM	34	7535.659295
295	4/2/2021 11:16	11:16 AM	35.3	10165.32468
296	4/2/2021 11:16	11:16 AM	37.5	16870.23976
297	4/2/2021 11:16	11:16 AM	38.3	20282.48926
298	4/2/2021 11:16	11:16 AM	38.7	22239.30724
299	4/2/2021 11:16	11:16 AM	39.1	24384.91548
300	4/2/2021 11:16	11:16 AM	36.3	12797.38556


Noise Measurement 3 - Romero Reservoir - April 2, 2021
dBA
55
50
45
40
35
30
11:01 AM
11:02 AM
11:03 AM
11:04 AM
11:05 AM
11:06 AM
11:07 AM
11:08 AM
11:09 AM
11:10 AM
11:11 AM
11:12 AM
11:13 AM
11:14 AM
11:15 AM
Time

Noise Measurement 4 - Buena Vista Reservoir

Data Logger 2		
Duration (seconds)		3
Weighting	A	
Response	SLOW	
Range	30-90	
L05		52.3
L10		52.2
L50		51.9
L90		51.5
L95		51.3
Lmax		54.6
Time		4/2/2021 14:02
SEL		81.4
Leq		**51.9**

No.s	Date Time	Time	dB	Sound Energy
1	4/2/2021 13:48	1:48 PM	51.3	404688.8648
2	4/2/2021 13:48	1:48 PM	52.3	509473.0957
3	4/2/2021 13:48	1:48 PM	52.1	486543.0292
4	4/2/2021 13:48	1:48 PM	52.1	486543.0292
5	4/2/2021 13:48	1:48 PM	51.9	464644.9857
6	4/2/2021 13:48	1:48 PM	51.9	464644.9857
7	4/2/2021 13:48	1:48 PM	51.7	443732.5165
8	4/2/2021 13:48	1:48 PM	51.7	443732.5165
9	4/2/2021 13:48	1:48 PM	51.9	464644.9857
10	4/2/2021 13:48	1:48 PM	52	475467.9577
11	4/2/2021 13:48	1:48 PM	52	475467.9577
12	4/2/2021 13:48	1:48 PM	51.6	433631.9312
13	4/2/2021 13:48	1:48 PM	51.5	423761.2634
14	4/2/2021 13:48	1:48 PM	52.1	486543.0292
15	4/2/2021 13:49	1:49 PM	52.4	521340.2486
16	4/2/2021 13:49	1:49 PM	52.3	509473.0957
17	4/2/2021 13:49	1:49 PM	52	475467.9577
18	4/2/2021 13:49	1:49 PM	52.1	486543.0292
19	4/2/2021 13:49	1:49 PM	52.3	509473.0957
20	4/2/2021 13:49	1:49 PM	52.1	486543.0292
21	4/2/2021 13:49	1:49 PM	51.9	464644.9857
22	4/2/2021 13:49	1:49 PM	52	475467.9577
23	4/2/2021 13:49	1:49 PM	52.1	486543.0292
24	4/2/2021 13:49	1:49 PM	51.9	464644.9857
25	4/2/2021 13:49	1:49 PM	52.3	509473.0957
26	4/2/2021 13:49	1:49 PM	52.1	486543.0292
27	4/2/2021 13:49	1:49 PM	52	475467.9577
28	4/2/2021 13:49	1:49 PM	52	475467.9577

29	4/2/2021 13:49	1:49 PM	52.1	486543.0292
30	4/2/2021 13:49	1:49 PM	51.7	443732.5165
31	4/2/2021 13:49	1:49 PM	52	475467.9577
32	4/2/2021 13:49	1:49 PM	52	475467.9577
33	4/2/2021 13:49	1:49 PM	51.8	454068.3745
34	4/2/2021 13:49	1:49 PM	51.9	464644.9857
35	4/2/2021 13:50	1:50 PM	52.1	486543.0292
36	4/2/2021 13:50	1:50 PM	52.1	486543.0292
37	4/2/2021 13:50	1:50 PM	52.2	497876.0722
38	4/2/2021 13:50	1:50 PM	51.9	464644.9857
39	4/2/2021 13:50	1:50 PM	51.9	464644.9857
40	4/2/2021 13:50	1:50 PM	51.8	454068.3745
41	4/2/2021 13:50	1:50 PM	51.9	464644.9857
42	4/2/2021 13:50	1:50 PM	52	475467.9577
43	4/2/2021 13:50	1:50 PM	51.9	464644.9857
44	4/2/2021 13:50	1:50 PM	52	475467.9577
45	4/2/2021 13:50	1:50 PM	51.9	464644.9857
46	4/2/2021 13:50	1:50 PM	52	475467.9577
47	4/2/2021 13:50	1:50 PM	51.9	464644.9857
48	4/2/2021 13:50	1:50 PM	51.8	454068.3745
49	4/2/2021 13:50	1:50 PM	51.9	464644.9857
50	4/2/2021 13:50	1:50 PM	52.3	509473.0957
51	4/2/2021 13:50	1:50 PM	52.2	497876.0722
52	4/2/2021 13:50	1:50 PM	52.1	486543.0292
53	4/2/2021 13:50	1:50 PM	52	475467.9577
54	4/2/2021 13:50	1:50 PM	52	475467.9577
55	4/2/2021 13:51	1:51 PM	51.9	464644.9857
56	4/2/2021 13:51	1:51 PM	51.7	443732.5165
57	4/2/2021 13:51	1:51 PM	52	475467.9577
58	4/2/2021 13:51	1:51 PM	51.8	454068.3745
59	4/2/2021 13:51	1:51 PM	52	475467.9577
60	4/2/2021 13:51	1:51 PM	51.8	454068.3745
61	4/2/2021 13:51	1:51 PM	52	475467.9577
62	4/2/2021 13:51	1:51 PM	51.7	443732.5165
63	4/2/2021 13:51	1:51 PM	51.6	433631.9312
64	4/2/2021 13:51	1:51 PM	52	475467.9577
65	4/2/2021 13:51	1:51 PM	52	475467.9577
66	4/2/2021 13:51	1:51 PM	51.6	433631.9312
67	4/2/2021 13:51	1:51 PM	51.2	395477.0216
68	4/2/2021 13:51	1:51 PM	51.3	404688.8648
69	4/2/2021 13:51	1:51 PM	51.1	386474.8655
70	4/2/2021 13:51	1:51 PM	51.5	423761.2634
71	4/2/2021 13:51	1:51 PM	51.8	454068.3745
72	4/2/2021 13:51	1:51 PM	51.7	443732.5165
73	4/2/2021 13:51	1:51 PM	51.8	454068.3745
74	4/2/2021 13:51	1:51 PM	51.8	454068.3745
75	4/2/2021 13:52	1:52 PM	51.9	464644.9857

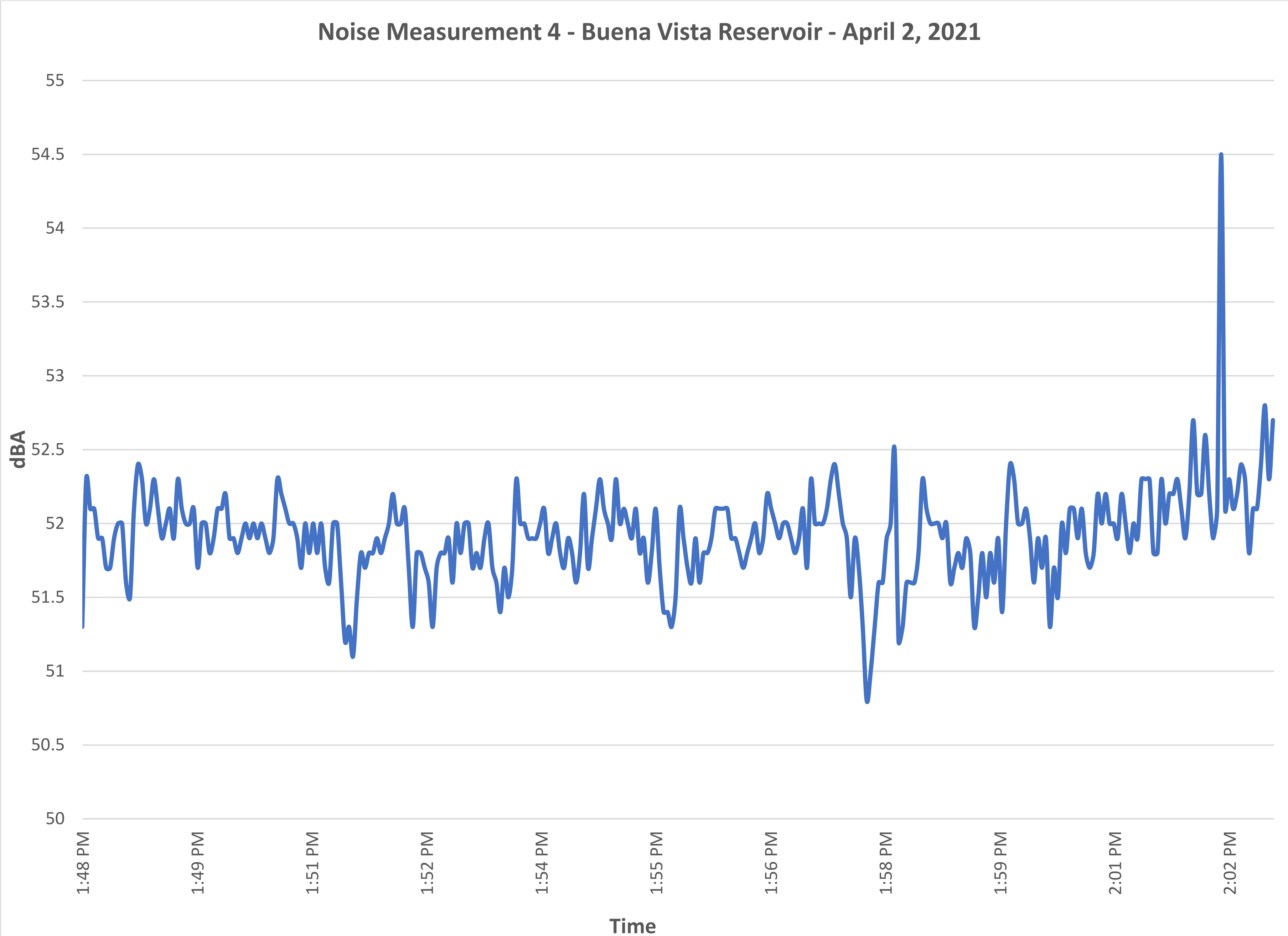
76	4/2/2021 13:52	1:52 PM	51.8	454068.3745
77	4/2/2021 13:52	1:52 PM	51.9	464644.9857
78	4/2/2021 13:52	1:52 PM	52	475467.9577
79	4/2/2021 13:52	1:52 PM	52.2	497876.0722
80	4/2/2021 13:52	1:52 PM	52	475467.9577
81	4/2/2021 13:52	1:52 PM	52	475467.9577
82	4/2/2021 13:52	1:52 PM	52.1	486543.0292
83	4/2/2021 13:52	1:52 PM	51.7	443732.5165
84	4/2/2021 13:52	1:52 PM	51.3	404688.8648
85	4/2/2021 13:52	1:52 PM	51.8	454068.3745
86	4/2/2021 13:52	1:52 PM	51.8	454068.3745
87	4/2/2021 13:52	1:52 PM	51.7	443732.5165
88	4/2/2021 13:52	1:52 PM	51.6	433631.9312
89	4/2/2021 13:52	1:52 PM	51.3	404688.8648
90	4/2/2021 13:52	1:52 PM	51.7	443732.5165
91	4/2/2021 13:52	1:52 PM	51.8	454068.3745
92	4/2/2021 13:52	1:52 PM	51.8	454068.3745
93	4/2/2021 13:52	1:52 PM	51.9	464644.9857
94	4/2/2021 13:52	1:52 PM	51.6	433631.9312
95	4/2/2021 13:53	1:53 PM	52	475467.9577
96	4/2/2021 13:53	1:53 PM	51.8	454068.3745
97	4/2/2021 13:53	1:53 PM	52	475467.9577
98	4/2/2021 13:53	1:53 PM	52	475467.9577
99	4/2/2021 13:53	1:53 PM	51.7	443732.5165
100	4/2/2021 13:53	1:53 PM	51.8	454068.3745
101	4/2/2021 13:53	1:53 PM	51.7	443732.5165
102	4/2/2021 13:53	1:53 PM	51.9	464644.9857
103	4/2/2021 13:53	1:53 PM	52	475467.9577
104	4/2/2021 13:53	1:53 PM	51.7	443732.5165
105	4/2/2021 13:53	1:53 PM	51.6	433631.9312
106	4/2/2021 13:53	1:53 PM	51.4	414115.2794
107	4/2/2021 13:53	1:53 PM	51.7	443732.5165
108	4/2/2021 13:53	1:53 PM	51.5	423761.2634
109	4/2/2021 13:53	1:53 PM	51.7	443732.5165
110	4/2/2021 13:53	1:53 PM	52.3	509473.0957
111	4/2/2021 13:53	1:53 PM	52	475467.9577
112	4/2/2021 13:53	1:53 PM	52	475467.9577
113	4/2/2021 13:53	1:53 PM	51.9	464644.9857
114	4/2/2021 13:53	1:53 PM	51.9	464644.9857
115	4/2/2021 13:54	1:54 PM	51.9	464644.9857
116	4/2/2021 13:54	1:54 PM	52	475467.9577
117	4/2/2021 13:54	1:54 PM	52.1	486543.0292
118	4/2/2021 13:54	1:54 PM	51.8	454068.3745
119	4/2/2021 13:54	1:54 PM	51.9	464644.9857
120	4/2/2021 13:54	1:54 PM	52	475467.9577
121	4/2/2021 13:54	1:54 PM	51.8	454068.3745
122	4/2/2021 13:54	1:54 PM	51.7	443732.5165

123	4/2/2021 13:54	1:54 PM	51.9	464644.9857
124	4/2/2021 13:54	1:54 PM	51.8	454068.3745
125	4/2/2021 13:54	1:54 PM	51.6	433631.9312
126	4/2/2021 13:54	1:54 PM	51.8	454068.3745
127	4/2/2021 13:54	1:54 PM	52.2	497876.0722
128	4/2/2021 13:54	1:54 PM	51.7	443732.5165
129	4/2/2021 13:54	1:54 PM	51.9	464644.9857
130	4/2/2021 13:54	1:54 PM	52.1	486543.0292
131	4/2/2021 13:54	1:54 PM	52.3	509473.0957
132	4/2/2021 13:54	1:54 PM	52.1	486543.0292
133	4/2/2021 13:54	1:54 PM	52	475467.9577
134	4/2/2021 13:54	1:54 PM	51.9	464644.9857
135	4/2/2021 13:55	1:55 PM	52.3	509473.0957
136	4/2/2021 13:55	1:55 PM	52	475467.9577
137	4/2/2021 13:55	1:55 PM	52.1	486543.0292
138	4/2/2021 13:55	1:55 PM	52	475467.9577
139	4/2/2021 13:55	1:55 PM	51.9	464644.9857
140	4/2/2021 13:55	1:55 PM	52.1	486543.0292
141	4/2/2021 13:55	1:55 PM	51.8	454068.3745
142	4/2/2021 13:55	1:55 PM	51.9	464644.9857
143	4/2/2021 13:55	1:55 PM	51.6	433631.9312
144	4/2/2021 13:55	1:55 PM	51.8	454068.3745
145	4/2/2021 13:55	1:55 PM	52.1	486543.0292
146	4/2/2021 13:55	1:55 PM	51.7	443732.5165
147	4/2/2021 13:55	1:55 PM	51.4	414115.2794
148	4/2/2021 13:55	1:55 PM	51.4	414115.2794
149	4/2/2021 13:55	1:55 PM	51.3	404688.8648
150	4/2/2021 13:55	1:55 PM	51.5	423761.2634
151	4/2/2021 13:55	1:55 PM	52.1	486543.0292
152	4/2/2021 13:55	1:55 PM	51.9	464644.9857
153	4/2/2021 13:55	1:55 PM	51.7	443732.5165
154	4/2/2021 13:55	1:55 PM	51.6	433631.9312
155	4/2/2021 13:56	1:56 PM	51.9	464644.9857
156	4/2/2021 13:56	1:56 PM	51.6	433631.9312
157	4/2/2021 13:56	1:56 PM	51.8	454068.3745
158	4/2/2021 13:56	1:56 PM	51.8	454068.3745
159	4/2/2021 13:56	1:56 PM	51.9	464644.9857
160	4/2/2021 13:56	1:56 PM	52.1	486543.0292
161	4/2/2021 13:56	1:56 PM	52.1	486543.0292
162	4/2/2021 13:56	1:56 PM	52.1	486543.0292
163	4/2/2021 13:56	1:56 PM	52.1	486543.0292
164	4/2/2021 13:56	1:56 PM	51.9	464644.9857
165	4/2/2021 13:56	1:56 PM	51.9	464644.9857
166	4/2/2021 13:56	1:56 PM	51.8	454068.3745
167	4/2/2021 13:56	1:56 PM	51.7	443732.5165
168	4/2/2021 13:56	1:56 PM	51.8	454068.3745
169	4/2/2021 13:56	1:56 PM	51.9	464644.9857

170	4/2/2021 13:56	1:56 PM	52	475467.9577
171	4/2/2021 13:56	1:56 PM	51.8	454068.3745
172	4/2/2021 13:56	1:56 PM	51.9	464644.9857
173	4/2/2021 13:56	1:56 PM	52.2	497876.0722
174	4/2/2021 13:56	1:56 PM	52.1	486543.0292
175	4/2/2021 13:57	1:57 PM	52	475467.9577
176	4/2/2021 13:57	1:57 PM	51.9	464644.9857
177	4/2/2021 13:57	1:57 PM	52	475467.9577
178	4/2/2021 13:57	1:57 PM	52	475467.9577
179	4/2/2021 13:57	1:57 PM	51.9	464644.9857
180	4/2/2021 13:57	1:57 PM	51.8	454068.3745
181	4/2/2021 13:57	1:57 PM	51.9	464644.9857
182	4/2/2021 13:57	1:57 PM	52.1	486543.0292
183	4/2/2021 13:57	1:57 PM	51.7	443732.5165
184	4/2/2021 13:57	1:57 PM	52.3	509473.0957
185	4/2/2021 13:57	1:57 PM	52	475467.9577
186	4/2/2021 13:57	1:57 PM	52	475467.9577
187	4/2/2021 13:57	1:57 PM	52	475467.9577
188	4/2/2021 13:57	1:57 PM	52.1	486543.0292
189	4/2/2021 13:57	1:57 PM	52.3	509473.0957
190	4/2/2021 13:57	1:57 PM	52.4	521340.2486
191	4/2/2021 13:57	1:57 PM	52.2	497876.0722
192	4/2/2021 13:57	1:57 PM	52	475467.9577
193	4/2/2021 13:57	1:57 PM	51.9	464644.9857
194	4/2/2021 13:57	1:57 PM	51.5	423761.2634
195	4/2/2021 13:58	1:58 PM	51.9	464644.9857
196	4/2/2021 13:58	1:58 PM	51.7	443732.5165
197	4/2/2021 13:58	1:58 PM	51.3	404688.8648
198	4/2/2021 13:58	1:58 PM	50.8	360679.3304
199	4/2/2021 13:58	1:58 PM	51	377677.6235
200	4/2/2021 13:58	1:58 PM	51.3	404688.8648
201	4/2/2021 13:58	1:58 PM	51.6	433631.9312
202	4/2/2021 13:58	1:58 PM	51.6	433631.9312
203	4/2/2021 13:58	1:58 PM	51.9	464644.9857
204	4/2/2021 13:58	1:58 PM	52	475467.9577
205	4/2/2021 13:58	1:58 PM	52.5	533483.823
206	4/2/2021 13:58	1:58 PM	51.2	395477.0216
207	4/2/2021 13:58	1:58 PM	51.3	404688.8648
208	4/2/2021 13:58	1:58 PM	51.6	433631.9312
209	4/2/2021 13:58	1:58 PM	51.6	433631.9312
210	4/2/2021 13:58	1:58 PM	51.6	433631.9312
211	4/2/2021 13:58	1:58 PM	51.8	454068.3745
212	4/2/2021 13:58	1:58 PM	52.3	509473.0957
213	4/2/2021 13:58	1:58 PM	52.1	486543.0292
214	4/2/2021 13:58	1:58 PM	52	475467.9577
215	4/2/2021 13:59	1:59 PM	52	475467.9577
216	4/2/2021 13:59	1:59 PM	52	475467.9577

217	4/2/2021 13:59	1:59 PM	51.9	464644.9857
218	4/2/2021 13:59	1:59 PM	52	475467.9577
219	4/2/2021 13:59	1:59 PM	51.6	433631.9312
220	4/2/2021 13:59	1:59 PM	51.7	443732.5165
221	4/2/2021 13:59	1:59 PM	51.8	454068.3745
222	4/2/2021 13:59	1:59 PM	51.7	443732.5165
223	4/2/2021 13:59	1:59 PM	51.9	464644.9857
224	4/2/2021 13:59	1:59 PM	51.8	454068.3745
225	4/2/2021 13:59	1:59 PM	51.3	404688.8648
226	4/2/2021 13:59	1:59 PM	51.5	423761.2634
227	4/2/2021 13:59	1:59 PM	51.8	454068.3745
228	4/2/2021 13:59	1:59 PM	51.5	423761.2634
229	4/2/2021 13:59	1:59 PM	51.8	454068.3745
230	4/2/2021 13:59	1:59 PM	51.6	433631.9312
231	4/2/2021 13:59	1:59 PM	51.9	464644.9857
232	4/2/2021 13:59	1:59 PM	51.4	414115.2794
233	4/2/2021 13:59	1:59 PM	52	475467.9577
234	4/2/2021 13:59	1:59 PM	52.4	521340.2486
235	4/2/2021 14:00	2:00 PM	52.3	509473.0957
236	4/2/2021 14:00	2:00 PM	52	475467.9577
237	4/2/2021 14:00	2:00 PM	52	475467.9577
238	4/2/2021 14:00	2:00 PM	52.1	486543.0292
239	4/2/2021 14:00	2:00 PM	51.9	464644.9857
240	4/2/2021 14:00	2:00 PM	51.6	433631.9312
241	4/2/2021 14:00	2:00 PM	51.9	464644.9857
242	4/2/2021 14:00	2:00 PM	51.7	443732.5165
243	4/2/2021 14:00	2:00 PM	51.9	464644.9857
244	4/2/2021 14:00	2:00 PM	51.3	404688.8648
245	4/2/2021 14:00	2:00 PM	51.7	443732.5165
246	4/2/2021 14:00	2:00 PM	51.5	423761.2634
247	4/2/2021 14:00	2:00 PM	52	475467.9577
248	4/2/2021 14:00	2:00 PM	51.8	454068.3745
249	4/2/2021 14:00	2:00 PM	52.1	486543.0292
250	4/2/2021 14:00	2:00 PM	52.1	486543.0292
251	4/2/2021 14:00	2:00 PM	51.9	464644.9857
252	4/2/2021 14:00	2:00 PM	52.1	486543.0292
253	4/2/2021 14:00	2:00 PM	51.8	454068.3745
254	4/2/2021 14:00	2:00 PM	51.7	443732.5165
255	4/2/2021 14:01	2:01 PM	51.8	454068.3745
256	4/2/2021 14:01	2:01 PM	52.2	497876.0722
257	4/2/2021 14:01	2:01 PM	52	475467.9577
258	4/2/2021 14:01	2:01 PM	52.2	497876.0722
259	4/2/2021 14:01	2:01 PM	52	475467.9577
260	4/2/2021 14:01	2:01 PM	52	475467.9577
261	4/2/2021 14:01	2:01 PM	51.9	464644.9857
262	4/2/2021 14:01	2:01 PM	52.2	497876.0722
263	4/2/2021 14:01	2:01 PM	52	475467.9577

264	4/2/2021 14:01	2:01 PM	51.8	454068.3745
265	4/2/2021 14:01	2:01 PM	52	475467.9577
266	4/2/2021 14:01	2:01 PM	51.9	464644.9857
267	4/2/2021 14:01	2:01 PM	52.3	509473.0957
268	4/2/2021 14:01	2:01 PM	52.3	509473.0957
269	4/2/2021 14:01	2:01 PM	52.3	509473.0957
270	4/2/2021 14:01	2:01 PM	51.8	454068.3745
271	4/2/2021 14:01	2:01 PM	51.8	454068.3745
272	4/2/2021 14:01	2:01 PM	52.3	509473.0957
273	4/2/2021 14:01	2:01 PM	52	475467.9577
274	4/2/2021 14:01	2:01 PM	52.2	497876.0722
275	4/2/2021 14:02	2:02 PM	52.2	497876.0722
276	4/2/2021 14:02	2:02 PM	52.3	509473.0957
277	4/2/2021 14:02	2:02 PM	52.1	486543.0292
278	4/2/2021 14:02	2:02 PM	51.9	464644.9857
279	4/2/2021 14:02	2:02 PM	52.2	497876.0722
280	4/2/2021 14:02	2:02 PM	52.7	558626.141
281	4/2/2021 14:02	2:02 PM	52.2	497876.0722
282	4/2/2021 14:02	2:02 PM	52.2	497876.0722
283	4/2/2021 14:02	2:02 PM	52.6	545910.2576
284	4/2/2021 14:02	2:02 PM	52.2	497876.0722
285	4/2/2021 14:02	2:02 PM	51.9	464644.9857
286	4/2/2021 14:02	2:02 PM	52.1	486543.0292
287	4/2/2021 14:02	2:02 PM	54.5	845514.8794
288	4/2/2021 14:02	2:02 PM	52.1	486543.0292
289	4/2/2021 14:02	2:02 PM	52.3	509473.0957
290	4/2/2021 14:02	2:02 PM	52.1	486543.0292
291	4/2/2021 14:02	2:02 PM	52.2	497876.0722
292	4/2/2021 14:02	2:02 PM	52.4	521340.2486
293	4/2/2021 14:02	2:02 PM	52.3	509473.0957
294	4/2/2021 14:02	2:02 PM	51.8	454068.3745
295	4/2/2021 14:03	2:03 PM	52.1	486543.0292
296	4/2/2021 14:03	2:03 PM	52.1	486543.0292
297	4/2/2021 14:03	2:03 PM	52.4	521340.2486
298	4/2/2021 14:03	2:03 PM	52.8	571638.2154
299	4/2/2021 14:03	2:03 PM	52.3	509473.0957
300	4/2/2021 14:03	2:03 PM	52.7	558626.141


Noise Measurement 4 - Buena Vista Reservoir - April 2, 2021
dBA
55
54.5
54
53.5
53
52.5
52
51.5
51
50.5
50
1:48 PM
1:49 PM
1:51 PM
1:52 PM
1:54 PM
1:55 PM
1:56 PM
1:58 PM
1:59 PM
2:01 PM
2:02 PM
Time

Noise Measurement 5 - Park Lane Reservoir

Data Logger 2	
Duration (seconds)	3
Weighting	A
Response	SLOW
Range	30-90
L05	40.7
L10	38.7
L50	34.3
L90	32.8
L95	32.5
Lmax	66.1
Time	4/2/2021 12:15
SEL	73.8
Leq	**44.0**

No.s	Date Time	Time	dB	Sound Energy
1	4/2/2021 12:05	12:05 PM	38.3	20282.48926
2	4/2/2021 12:05	12:05 PM	38.4	20754.92913
3	4/2/2021 12:05	12:05 PM	38.8	22757.32725
4	4/2/2021 12:05	12:05 PM	38.8	22757.32725
5	4/2/2021 12:05	12:05 PM	36.5	13400.50776
6	4/2/2021 12:05	12:05 PM	35.5	10644.40168
7	4/2/2021 12:05	12:05 PM	35	9486.832981
8	4/2/2021 12:05	12:05 PM	36	11943.21512
9	4/2/2021 12:05	12:05 PM	39.6	27360.32518
10	4/2/2021 12:05	12:05 PM	38.6	21733.0788
11	4/2/2021 12:05	12:05 PM	39	23829.84704
12	4/2/2021 12:05	12:05 PM	35.5	10644.40168
13	4/2/2021 12:05	12:05 PM	35.7	11146.05687
14	4/2/2021 12:05	12:05 PM	35.4	10402.10551
15	4/2/2021 12:05	12:05 PM	38.4	20754.92913
16	4/2/2021 12:05	12:05 PM	35.2	9933.933644
17	4/2/2021 12:05	12:05 PM	35.2	9933.933644
18	4/2/2021 12:05	12:05 PM	35.8	11405.68189
19	4/2/2021 12:05	12:05 PM	34.4	8262.68611
20	4/2/2021 12:05	12:05 PM	34.3	8074.604412
21	4/2/2021 12:06	12:06 PM	36.4	13095.47497
22	4/2/2021 12:06	12:06 PM	37.2	15744.22381
23	4/2/2021 12:06	12:06 PM	35.7	11146.05687
24	4/2/2021 12:06	12:06 PM	33.9	7364.126747
25	4/2/2021 12:06	12:06 PM	35.7	11146.05687
26	4/2/2021 12:06	12:06 PM	34.9	9270.886298
27	4/2/2021 12:06	12:06 PM	35.5	10644.40168
28	4/2/2021 12:06	12:06 PM	36	11943.21512

29	4/2/2021 12:06	12:06 PM	35.1	9707.809708
30	4/2/2021 12:06	12:06 PM	35.4	10402.10551
31	4/2/2021 12:06	12:06 PM	34.5	8455.148794
32	4/2/2021 12:06	12:06 PM	34.4	8262.68611
33	4/2/2021 12:06	12:06 PM	35.1	9707.809708
34	4/2/2021 12:06	12:06 PM	34.5	8455.148794
35	4/2/2021 12:06	12:06 PM	34.1	7711.187348
36	4/2/2021 12:06	12:06 PM	33.5	6716.163416
37	4/2/2021 12:06	12:06 PM	33.5	6716.163416
38	4/2/2021 12:06	12:06 PM	33.9	7364.126747
39	4/2/2021 12:06	12:06 PM	33.6	6872.602958
40	4/2/2021 12:06	12:06 PM	34.3	8074.604412
41	4/2/2021 12:07	12:07 PM	33.8	7196.498757
42	4/2/2021 12:07	12:07 PM	33.3	6413.886269
43	4/2/2021 12:07	12:07 PM	37.2	15744.22381
44	4/2/2021 12:07	12:07 PM	34.4	8262.68611
45	4/2/2021 12:07	12:07 PM	33.6	6872.602958
46	4/2/2021 12:07	12:07 PM	35	9486.832981
47	4/2/2021 12:07	12:07 PM	34.3	8074.604412
48	4/2/2021 12:07	12:07 PM	33.6	6872.602958
49	4/2/2021 12:07	12:07 PM	34.3	8074.604412
50	4/2/2021 12:07	12:07 PM	33.7	7032.686446
51	4/2/2021 12:07	12:07 PM	33.1	6125.213834
52	4/2/2021 12:07	12:07 PM	33.8	7196.498757
53	4/2/2021 12:07	12:07 PM	33.5	6716.163416
54	4/2/2021 12:07	12:07 PM	33.6	6872.602958
55	4/2/2021 12:07	12:07 PM	33.5	6716.163416
56	4/2/2021 12:07	12:07 PM	33.5	6716.163416
57	4/2/2021 12:07	12:07 PM	34.2	7890.803976
58	4/2/2021 12:07	12:07 PM	33.1	6125.213834
59	4/2/2021 12:07	12:07 PM	33.7	7032.686446
60	4/2/2021 12:07	12:07 PM	37	15035.61701
61	4/2/2021 12:08	12:08 PM	36.5	13400.50776
62	4/2/2021 12:08	12:08 PM	35.3	10165.32468
63	4/2/2021 12:08	12:08 PM	35.6	10892.34164
64	4/2/2021 12:08	12:08 PM	36.5	13400.50776
65	4/2/2021 12:08	12:08 PM	36.3	12797.38556
66	4/2/2021 12:08	12:08 PM	38.9	23287.4135
67	4/2/2021 12:08	12:08 PM	41.4	41411.52794
68	4/2/2021 12:08	12:08 PM	44	75356.59295
69	4/2/2021 12:08	12:08 PM	54.1	771118.7348
70	4/2/2021 12:08	12:08 PM	61.2	3954770.216
71	4/2/2021 12:08	12:08 PM	60.1	3069878.977
72	4/2/2021 12:08	12:08 PM	53.8	719649.8757
73	4/2/2021 12:08	12:08 PM	48.7	222393.0724
74	4/2/2021 12:08	12:08 PM	42.5	53348.3823
75	4/2/2021 12:08	12:08 PM	40.1	30698.78977

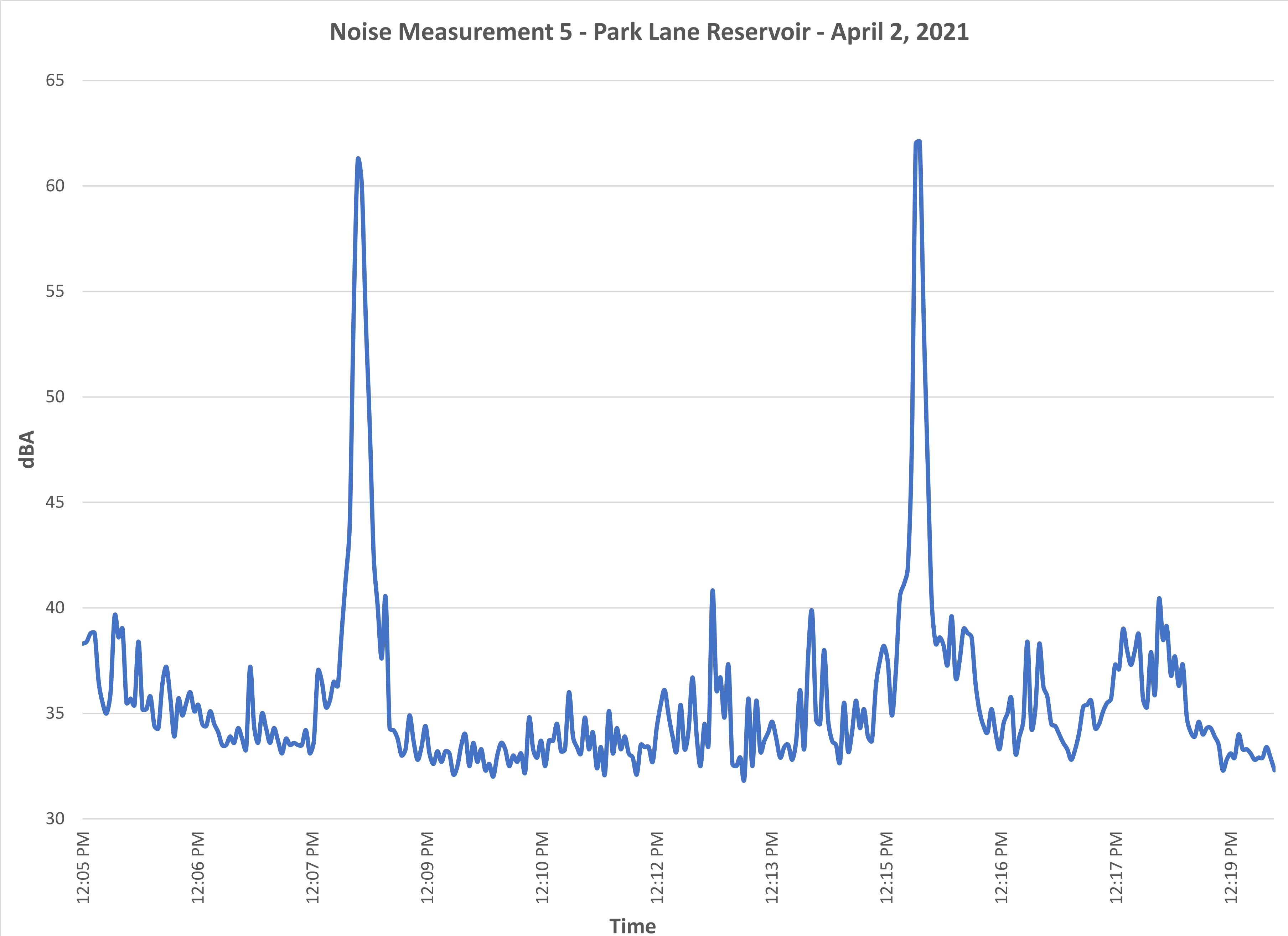
76	4/2/2021 12:08	12:08 PM	37.6	17263.19812
77	4/2/2021 12:08	12:08 PM	40.5	33660.55363
78	4/2/2021 12:08	12:08 PM	34.3	8074.604412
79	4/2/2021 12:08	12:08 PM	34.2	7890.803976
80	4/2/2021 12:08	12:08 PM	33.8	7196.498757
81	4/2/2021 12:09	12:09 PM	33	5985.786945
82	4/2/2021 12:09	12:09 PM	33.3	6413.886269
83	4/2/2021 12:09	12:09 PM	34.9	9270.886298
84	4/2/2021 12:09	12:09 PM	33.7	7032.686446
85	4/2/2021 12:09	12:09 PM	32.8	5716.382154
86	4/2/2021 12:09	12:09 PM	33.4	6563.284872
87	4/2/2021 12:09	12:09 PM	34.4	8262.68611
88	4/2/2021 12:09	12:09 PM	33.1	6125.213834
89	4/2/2021 12:09	12:09 PM	32.6	5459.102576
90	4/2/2021 12:09	12:09 PM	33.2	6267.888393
91	4/2/2021 12:09	12:09 PM	32.7	5586.26141
92	4/2/2021 12:09	12:09 PM	33.2	6267.888393
93	4/2/2021 12:09	12:09 PM	33.1	6125.213834
94	4/2/2021 12:09	12:09 PM	32.1	4865.430292
95	4/2/2021 12:09	12:09 PM	32.5	5334.83823
96	4/2/2021 12:09	12:09 PM	33.5	6716.163416
97	4/2/2021 12:09	12:09 PM	34	7535.659295
98	4/2/2021 12:09	12:09 PM	32.5	5334.83823
99	4/2/2021 12:09	12:09 PM	33.6	6872.602958
100	4/2/2021 12:09	12:09 PM	32.7	5586.26141
101	4/2/2021 12:10	12:10 PM	33.3	6413.886269
102	4/2/2021 12:10	12:10 PM	32.3	5094.730957
103	4/2/2021 12:10	12:10 PM	32.6	5459.102576
104	4/2/2021 12:10	12:10 PM	32	4754.679577
105	4/2/2021 12:10	12:10 PM	33	5985.786945
106	4/2/2021 12:10	12:10 PM	33.6	6872.602958
107	4/2/2021 12:10	12:10 PM	33.3	6413.886269
108	4/2/2021 12:10	12:10 PM	32.5	5334.83823
109	4/2/2021 12:10	12:10 PM	33	5985.786945
110	4/2/2021 12:10	12:10 PM	32.7	5586.26141
111	4/2/2021 12:10	12:10 PM	33.1	6125.213834
112	4/2/2021 12:10	12:10 PM	32.2	4978.760722
113	4/2/2021 12:10	12:10 PM	34.8	9059.855161
114	4/2/2021 12:10	12:10 PM	33.3	6413.886269
115	4/2/2021 12:10	12:10 PM	32.9	5849.533799
116	4/2/2021 12:10	12:10 PM	33.7	7032.686446
117	4/2/2021 12:10	12:10 PM	32.5	5334.83823
118	4/2/2021 12:10	12:10 PM	33.7	7032.686446
119	4/2/2021 12:10	12:10 PM	33.7	7032.686446
120	4/2/2021 12:10	12:10 PM	34.5	8455.148794
121	4/2/2021 12:11	12:11 PM	33.2	6267.888393
122	4/2/2021 12:11	12:11 PM	33.3	6413.886269

123	4/2/2021 12:11	12:11 PM	36	11943.21512
124	4/2/2021 12:11	12:11 PM	33.9	7364.126747
125	4/2/2021 12:11	12:11 PM	33.4	6563.284872
126	4/2/2021 12:11	12:11 PM	33.1	6125.213834
127	4/2/2021 12:11	12:11 PM	34.8	9059.855161
128	4/2/2021 12:11	12:11 PM	33.3	6413.886269
129	4/2/2021 12:11	12:11 PM	34.1	7711.187348
130	4/2/2021 12:11	12:11 PM	32.4	5213.402486
131	4/2/2021 12:11	12:11 PM	33.4	6563.284872
132	4/2/2021 12:11	12:11 PM	32.1	4865.430292
133	4/2/2021 12:11	12:11 PM	35.1	9707.809708
134	4/2/2021 12:11	12:11 PM	33.1	6125.213834
135	4/2/2021 12:11	12:11 PM	34.3	8074.604412
136	4/2/2021 12:11	12:11 PM	33.3	6413.886269
137	4/2/2021 12:11	12:11 PM	33.9	7364.126747
138	4/2/2021 12:11	12:11 PM	33.1	6125.213834
139	4/2/2021 12:11	12:11 PM	32.9	5849.533799
140	4/2/2021 12:11	12:11 PM	32.1	4865.430292
141	4/2/2021 12:12	12:12 PM	33.5	6716.163416
142	4/2/2021 12:12	12:12 PM	33.4	6563.284872
143	4/2/2021 12:12	12:12 PM	33.4	6563.284872
144	4/2/2021 12:12	12:12 PM	32.7	5586.26141
145	4/2/2021 12:12	12:12 PM	34.3	8074.604412
146	4/2/2021 12:12	12:12 PM	35.4	10402.10551
147	4/2/2021 12:12	12:12 PM	36.1	12221.40833
148	4/2/2021 12:12	12:12 PM	34.9	9270.886298
149	4/2/2021 12:12	12:12 PM	33.9	7364.126747
150	4/2/2021 12:12	12:12 PM	33.2	6267.888393
151	4/2/2021 12:12	12:12 PM	35.4	10402.10551
152	4/2/2021 12:12	12:12 PM	33.3	6413.886269
153	4/2/2021 12:12	12:12 PM	34.2	7890.803976
154	4/2/2021 12:12	12:12 PM	36.7	14032.05424
155	4/2/2021 12:12	12:12 PM	34	7535.659295
156	4/2/2021 12:12	12:12 PM	32.5	5334.83823
157	4/2/2021 12:12	12:12 PM	34.5	8455.148794
158	4/2/2021 12:12	12:12 PM	33.5	6716.163416
159	4/2/2021 12:12	12:12 PM	40.8	36067.93304
160	4/2/2021 12:12	12:12 PM	36.1	12221.40833
161	4/2/2021 12:13	12:13 PM	36.7	14032.05424
162	4/2/2021 12:13	12:13 PM	34.8	9059.855161
163	4/2/2021 12:13	12:13 PM	37.3	16110.95389
164	4/2/2021 12:13	12:13 PM	32.6	5459.102576
165	4/2/2021 12:13	12:13 PM	32.5	5334.83823
166	4/2/2021 12:13	12:13 PM	32.9	5849.533799
167	4/2/2021 12:13	12:13 PM	31.9	4646.449857
168	4/2/2021 12:13	12:13 PM	35.7	11146.05687
169	4/2/2021 12:13	12:13 PM	32.5	5334.83823

170	4/2/2021 12:13	12:13 PM	35.6	10892.34164
171	4/2/2021 12:13	12:13 PM	33.2	6267.888393
172	4/2/2021 12:13	12:13 PM	33.7	7032.686446
173	4/2/2021 12:13	12:13 PM	34.1	7711.187348
174	4/2/2021 12:13	12:13 PM	34.6	8652.094509
175	4/2/2021 12:13	12:13 PM	33.8	7196.498757
176	4/2/2021 12:13	12:13 PM	32.9	5849.533799
177	4/2/2021 12:13	12:13 PM	33.4	6563.284872
178	4/2/2021 12:13	12:13 PM	33.5	6716.163416
179	4/2/2021 12:13	12:13 PM	32.8	5716.382154
180	4/2/2021 12:13	12:13 PM	33.7	7032.686446
181	4/2/2021 12:14	12:14 PM	36.1	12221.40833
182	4/2/2021 12:14	12:14 PM	33.3	6413.886269
183	4/2/2021 12:14	12:14 PM	37.7	17665.30966
184	4/2/2021 12:14	12:14 PM	39.8	28649.77758
185	4/2/2021 12:14	12:14 PM	34.7	8853.62768
186	4/2/2021 12:14	12:14 PM	34.5	8455.148794
187	4/2/2021 12:14	12:14 PM	38	18928.72033
188	4/2/2021 12:14	12:14 PM	34.7	8853.62768
189	4/2/2021 12:14	12:14 PM	33.7	7032.686446
190	4/2/2021 12:14	12:14 PM	33.5	6716.163416
191	4/2/2021 12:14	12:14 PM	32.7	5586.26141
192	4/2/2021 12:14	12:14 PM	35.5	10644.40168
193	4/2/2021 12:14	12:14 PM	33.2	6267.888393
194	4/2/2021 12:14	12:14 PM	34.1	7711.187348
195	4/2/2021 12:14	12:14 PM	35.6	10892.34164
196	4/2/2021 12:14	12:14 PM	34.3	8074.604412
197	4/2/2021 12:14	12:14 PM	35.2	9933.933644
198	4/2/2021 12:14	12:14 PM	33.9	7364.126747
199	4/2/2021 12:14	12:14 PM	33.7	7032.686446
200	4/2/2021 12:14	12:14 PM	36.3	12797.38556
201	4/2/2021 12:15	12:15 PM	37.5	16870.23976
202	4/2/2021 12:15	12:15 PM	38.2	19820.80344
203	4/2/2021 12:15	12:15 PM	37.4	16486.22622
204	4/2/2021 12:15	12:15 PM	34.9	9270.886298
205	4/2/2021 12:15	12:15 PM	37	15035.61701
206	4/2/2021 12:15	12:15 PM	40.5	33660.55363
207	4/2/2021 12:15	12:15 PM	41.1	38647.48655
208	4/2/2021 12:15	12:15 PM	41.9	46464.49857
209	4/2/2021 12:15	12:15 PM	47.6	172631.9812
210	4/2/2021 12:15	12:15 PM	62	4754679.577
211	4/2/2021 12:15	12:15 PM	62.1	4865430.292
212	4/2/2021 12:15	12:15 PM	53.6	687260.2958
213	4/2/2021 12:15	12:15 PM	46.8	143589.0277
214	4/2/2021 12:15	12:15 PM	40.3	32145.57916
215	4/2/2021 12:15	12:15 PM	38.3	20282.48926
216	4/2/2021 12:15	12:15 PM	38.6	21733.0788

217	4/2/2021 12:15	12:15 PM	38.2	19820.80344
218	4/2/2021 12:15	12:15 PM	37.3	16110.95389
219	4/2/2021 12:15	12:15 PM	39.6	27360.32518
220	4/2/2021 12:15	12:15 PM	36.7	14032.05424
221	4/2/2021 12:16	12:16 PM	37.5	16870.23976
222	4/2/2021 12:16	12:16 PM	39	23829.84704
223	4/2/2021 12:16	12:16 PM	38.8	22757.32725
224	4/2/2021 12:16	12:16 PM	38.6	21733.0788
225	4/2/2021 12:16	12:16 PM	36.4	13095.47497
226	4/2/2021 12:16	12:16 PM	35.1	9707.809708
227	4/2/2021 12:16	12:16 PM	34.4	8262.68611
228	4/2/2021 12:16	12:16 PM	34.1	7711.187348
229	4/2/2021 12:16	12:16 PM	35.2	9933.933644
230	4/2/2021 12:16	12:16 PM	34.1	7711.187348
231	4/2/2021 12:16	12:16 PM	33.3	6413.886269
232	4/2/2021 12:16	12:16 PM	34.5	8455.148794
233	4/2/2021 12:16	12:16 PM	35	9486.832981
234	4/2/2021 12:16	12:16 PM	35.7	11146.05687
235	4/2/2021 12:16	12:16 PM	33.1	6125.213834
236	4/2/2021 12:16	12:16 PM	33.9	7364.126747
237	4/2/2021 12:16	12:16 PM	34.7	8853.62768
238	4/2/2021 12:16	12:16 PM	38.4	20754.92913
239	4/2/2021 12:16	12:16 PM	34.3	8074.604412
240	4/2/2021 12:16	12:16 PM	35.2	9933.933644
241	4/2/2021 12:17	12:17 PM	38.3	20282.48926
242	4/2/2021 12:17	12:17 PM	36.3	12797.38556
243	4/2/2021 12:17	12:17 PM	35.8	11405.68189
244	4/2/2021 12:17	12:17 PM	34.5	8455.148794
245	4/2/2021 12:17	12:17 PM	34.4	8262.68611
246	4/2/2021 12:17	12:17 PM	34	7535.659295
247	4/2/2021 12:17	12:17 PM	33.6	6872.602958
248	4/2/2021 12:17	12:17 PM	33.3	6413.886269
249	4/2/2021 12:17	12:17 PM	32.8	5716.382154
250	4/2/2021 12:17	12:17 PM	33.3	6413.886269
251	4/2/2021 12:17	12:17 PM	34.1	7711.187348
252	4/2/2021 12:17	12:17 PM	35.3	10165.32468
253	4/2/2021 12:17	12:17 PM	35.4	10402.10551
254	4/2/2021 12:17	12:17 PM	35.6	10892.34164
255	4/2/2021 12:17	12:17 PM	34.3	8074.604412
256	4/2/2021 12:17	12:17 PM	34.5	8455.148794
257	4/2/2021 12:17	12:17 PM	35.1	9707.809708
258	4/2/2021 12:17	12:17 PM	35.5	10644.40168
259	4/2/2021 12:17	12:17 PM	35.7	11146.05687
260	4/2/2021 12:17	12:17 PM	37.3	16110.95389
261	4/2/2021 12:18	12:18 PM	37.1	15385.84152
262	4/2/2021 12:18	12:18 PM	39	23829.84704
263	4/2/2021 12:18	12:18 PM	38	18928.72033

264	4/2/2021 12:18	12:18 PM	37.3	16110.95389
265	4/2/2021 12:18	12:18 PM	38	18928.72033
266	4/2/2021 12:18	12:18 PM	38.7	22239.30724
267	4/2/2021 12:18	12:18 PM	35.7	11146.05687
268	4/2/2021 12:18	12:18 PM	35.3	10165.32468
269	4/2/2021 12:18	12:18 PM	37.9	18497.85006
270	4/2/2021 12:18	12:18 PM	35.9	11671.35435
271	4/2/2021 12:18	12:18 PM	40.4	32894.34588
272	4/2/2021 12:18	12:18 PM	38.5	21238.37353
273	4/2/2021 12:18	12:18 PM	39.1	24384.91548
274	4/2/2021 12:18	12:18 PM	36.8	14358.90277
275	4/2/2021 12:18	12:18 PM	37.7	17665.30966
276	4/2/2021 12:18	12:18 PM	36.3	12797.38556
277	4/2/2021 12:18	12:18 PM	37.3	16110.95389
278	4/2/2021 12:18	12:18 PM	34.8	9059.855161
279	4/2/2021 12:18	12:18 PM	34.1	7711.187348
280	4/2/2021 12:18	12:18 PM	33.9	7364.126747
281	4/2/2021 12:19	12:19 PM	34.6	8652.094509
282	4/2/2021 12:19	12:19 PM	34	7535.659295
283	4/2/2021 12:19	12:19 PM	34.3	8074.604412
284	4/2/2021 12:19	12:19 PM	34.3	8074.604412
285	4/2/2021 12:19	12:19 PM	33.9	7364.126747
286	4/2/2021 12:19	12:19 PM	33.5	6716.163416
287	4/2/2021 12:19	12:19 PM	32.3	5094.730957
288	4/2/2021 12:19	12:19 PM	32.8	5716.382154
289	4/2/2021 12:19	12:19 PM	33.1	6125.213834
290	4/2/2021 12:19	12:19 PM	32.9	5849.533799
291	4/2/2021 12:19	12:19 PM	34	7535.659295
292	4/2/2021 12:19	12:19 PM	33.3	6413.886269
293	4/2/2021 12:19	12:19 PM	33.3	6413.886269
294	4/2/2021 12:19	12:19 PM	33.1	6125.213834
295	4/2/2021 12:19	12:19 PM	32.8	5716.382154
296	4/2/2021 12:19	12:19 PM	32.9	5849.533799
297	4/2/2021 12:19	12:19 PM	32.9	5849.533799
298	4/2/2021 12:19	12:19 PM	33.4	6563.284872
299	4/2/2021 12:19	12:19 PM	32.9	5849.533799
300	4/2/2021 12:19	12:19 PM	32.3	5094.730957



Noise Measurement 5 - Park Lane Reservoir - April 2, 2021
65
60
55
50
45
40
35
30
dBA
12:05 PM
12:06 PM
12:07 PM
12:09 PM
12:10 PM
12:12 PM
12:13 PM
12:15 PM
12:16 PM
12:17 PM
12:19 PM
Time

Noise Measurement 6 - Hot Springs Reservoir

Data Logger 2		
Duration (seconds)		3
Weighting	A	
Response	SLOW	
Range	30-90	
L05		50.8
L10		47.4
L50		43.9
L90		43
L95		42.8
Lmax		65.3
Time		4/2/2021 15:04
SEL		77.2
Leq		**47.9**

No.s	Date Time	Time	dB	Sound Energy
1	4/2/2021 14:50	2:50 PM	43.2	62678.88393
2	4/2/2021 14:50	2:50 PM	43.1	61252.13834
3	4/2/2021 14:50	2:50 PM	43.4	65632.84872
4	4/2/2021 14:50	2:50 PM	43.4	65632.84872
5	4/2/2021 14:50	2:50 PM	43.8	71964.98757
6	4/2/2021 14:50	2:50 PM	43.2	62678.88393
7	4/2/2021 14:50	2:50 PM	43.3	64138.86269
8	4/2/2021 14:50	2:50 PM	43.3	64138.86269
9	4/2/2021 14:50	2:50 PM	42.9	58495.33799
10	4/2/2021 14:50	2:50 PM	43.4	65632.84872
11	4/2/2021 14:50	2:50 PM	43	59857.86945
12	4/2/2021 14:50	2:50 PM	43.2	62678.88393
13	4/2/2021 14:50	2:50 PM	43	59857.86945
14	4/2/2021 14:50	2:50 PM	43.1	61252.13834
15	4/2/2021 14:50	2:50 PM	43.1	61252.13834
16	4/2/2021 14:50	2:50 PM	42.8	57163.82154
17	4/2/2021 14:50	2:50 PM	43	59857.86945
18	4/2/2021 14:50	2:50 PM	42.9	58495.33799
19	4/2/2021 14:51	2:51 PM	43.4	65632.84872
20	4/2/2021 14:51	2:51 PM	43.3	64138.86269
21	4/2/2021 14:51	2:51 PM	43	59857.86945
22	4/2/2021 14:51	2:51 PM	43.1	61252.13834
23	4/2/2021 14:51	2:51 PM	43.2	62678.88393
24	4/2/2021 14:51	2:51 PM	43.2	62678.88393
25	4/2/2021 14:51	2:51 PM	42.6	54591.02576
26	4/2/2021 14:51	2:51 PM	43.1	61252.13834
27	4/2/2021 14:51	2:51 PM	43.5	67161.63416
28	4/2/2021 14:51	2:51 PM	43.3	64138.86269

29	4/2/2021 14:51	2:51 PM	43.4	65632.84872
30	4/2/2021 14:51	2:51 PM	43	59857.86945
31	4/2/2021 14:51	2:51 PM	43.3	64138.86269
32	4/2/2021 14:51	2:51 PM	43.5	67161.63416
33	4/2/2021 14:51	2:51 PM	43.5	67161.63416
34	4/2/2021 14:51	2:51 PM	43.1	61252.13834
35	4/2/2021 14:51	2:51 PM	43.5	67161.63416
36	4/2/2021 14:51	2:51 PM	43.5	67161.63416
37	4/2/2021 14:51	2:51 PM	43.6	68726.02958
38	4/2/2021 14:51	2:51 PM	43.5	67161.63416
39	4/2/2021 14:52	2:52 PM	43.4	65632.84872
40	4/2/2021 14:52	2:52 PM	43.3	64138.86269
41	4/2/2021 14:52	2:52 PM	43.3	64138.86269
42	4/2/2021 14:52	2:52 PM	43.2	62678.88393
43	4/2/2021 14:52	2:52 PM	43.3	64138.86269
44	4/2/2021 14:52	2:52 PM	43.4	65632.84872
45	4/2/2021 14:52	2:52 PM	43.3	64138.86269
46	4/2/2021 14:52	2:52 PM	44.2	78908.03976
47	4/2/2021 14:52	2:52 PM	45.2	99339.33644
48	4/2/2021 14:52	2:52 PM	44.7	88536.2768
49	4/2/2021 14:52	2:52 PM	45	94868.32981
50	4/2/2021 14:52	2:52 PM	44.5	84551.48794
51	4/2/2021 14:52	2:52 PM	44.2	78908.03976
52	4/2/2021 14:52	2:52 PM	44.3	80746.04412
53	4/2/2021 14:52	2:52 PM	44.4	82626.8611
54	4/2/2021 14:52	2:52 PM	44.3	80746.04412
55	4/2/2021 14:52	2:52 PM	43.9	73641.26747
56	4/2/2021 14:52	2:52 PM	43.7	70326.86446
57	4/2/2021 14:52	2:52 PM	43.6	68726.02958
58	4/2/2021 14:52	2:52 PM	43.6	68726.02958
59	4/2/2021 14:53	2:53 PM	44.6	86520.94509
60	4/2/2021 14:53	2:53 PM	43.6	68726.02958
61	4/2/2021 14:53	2:53 PM	44.1	77111.87348
62	4/2/2021 14:53	2:53 PM	44.9	92708.86298
63	4/2/2021 14:53	2:53 PM	44.9	92708.86298
64	4/2/2021 14:53	2:53 PM	45.7	111460.5687
65	4/2/2021 14:53	2:53 PM	44.1	77111.87348
66	4/2/2021 14:53	2:53 PM	45.5	106444.0168
67	4/2/2021 14:53	2:53 PM	45	94868.32981
68	4/2/2021 14:53	2:53 PM	45.5	106444.0168
69	4/2/2021 14:53	2:53 PM	45.3	101653.2468
70	4/2/2021 14:53	2:53 PM	45.6	108923.4164
71	4/2/2021 14:53	2:53 PM	46.3	127973.8556
72	4/2/2021 14:53	2:53 PM	44.4	82626.8611
73	4/2/2021 14:53	2:53 PM	44.1	77111.87348
74	4/2/2021 14:53	2:53 PM	45.1	97078.09708
75	4/2/2021 14:53	2:53 PM	52.6	545910.2576

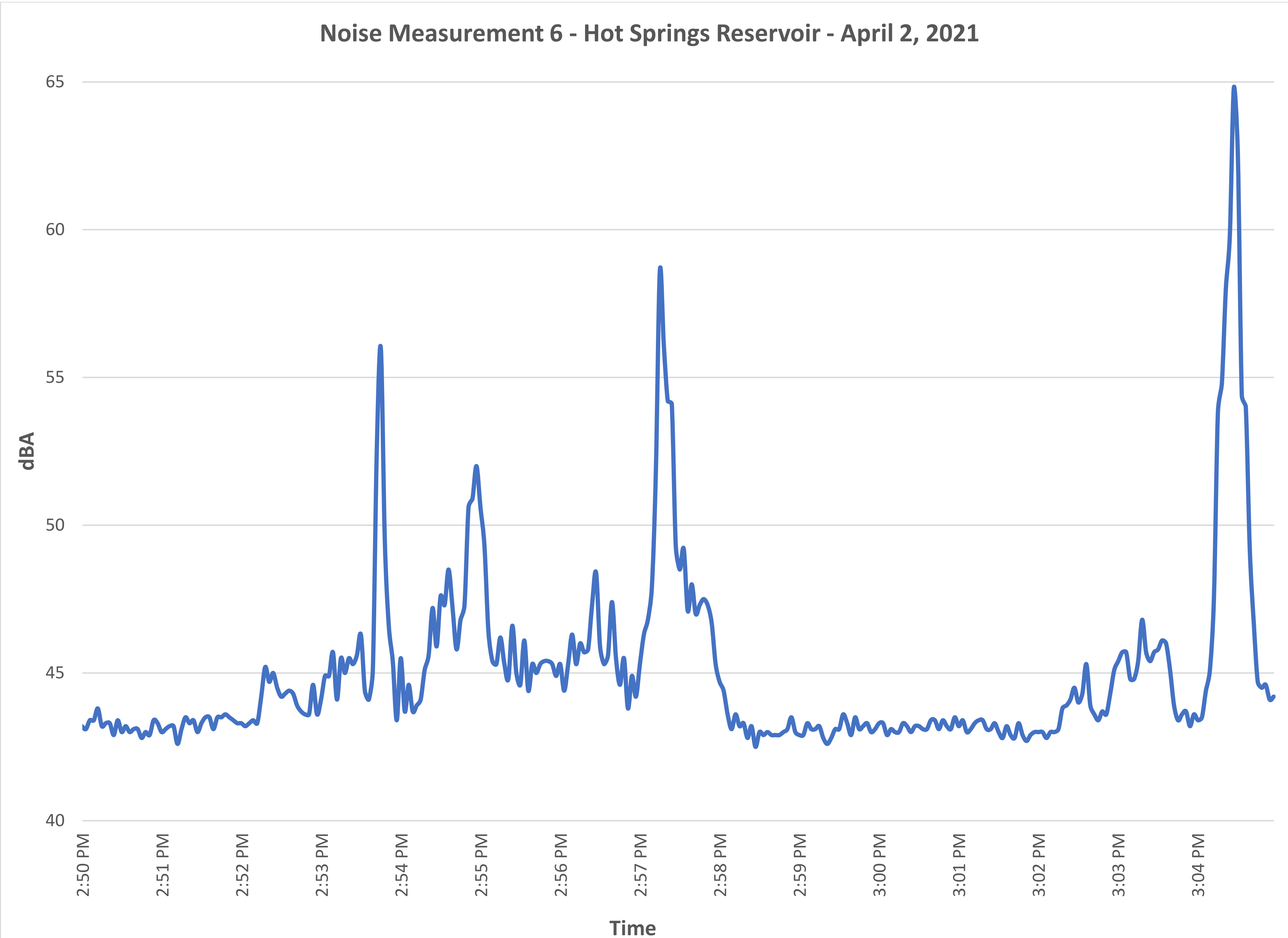
76	4/2/2021 14:53	2:53 PM	56	1194321.512
77	4/2/2021 14:53	2:53 PM	49.5	267375.2814
78	4/2/2021 14:53	2:53 PM	46.6	137126.4569
79	4/2/2021 14:54	2:54 PM	45.4	104021.0551
80	4/2/2021 14:54	2:54 PM	43.4	65632.84872
81	4/2/2021 14:54	2:54 PM	45.5	106444.0168
82	4/2/2021 14:54	2:54 PM	43.7	70326.86446
83	4/2/2021 14:54	2:54 PM	44.6	86520.94509
84	4/2/2021 14:54	2:54 PM	43.7	70326.86446
85	4/2/2021 14:54	2:54 PM	43.9	73641.26747
86	4/2/2021 14:54	2:54 PM	44.1	77111.87348
87	4/2/2021 14:54	2:54 PM	45.1	97078.09708
88	4/2/2021 14:54	2:54 PM	45.6	108923.4164
89	4/2/2021 14:54	2:54 PM	47.2	157442.2381
90	4/2/2021 14:54	2:54 PM	45.9	116713.5435
91	4/2/2021 14:54	2:54 PM	47.6	172631.9812
92	4/2/2021 14:54	2:54 PM	47.3	161109.5389
93	4/2/2021 14:54	2:54 PM	48.5	212383.7353
94	4/2/2021 14:54	2:54 PM	47.2	157442.2381
95	4/2/2021 14:54	2:54 PM	45.8	114056.8189
96	4/2/2021 14:54	2:54 PM	46.8	143589.0277
97	4/2/2021 14:54	2:54 PM	47.3	161109.5389
98	4/2/2021 14:54	2:54 PM	50.6	344446.0864
99	4/2/2021 14:55	2:55 PM	50.9	369080.6312
100	4/2/2021 14:55	2:55 PM	52	475467.9577
101	4/2/2021 14:55	2:55 PM	50.6	344446.0864
102	4/2/2021 14:55	2:55 PM	49.3	255341.4115
103	4/2/2021 14:55	2:55 PM	46.4	130954.7497
104	4/2/2021 14:55	2:55 PM	45.4	104021.0551
105	4/2/2021 14:55	2:55 PM	45.3	101653.2468
106	4/2/2021 14:55	2:55 PM	46.2	125060.815
107	4/2/2021 14:55	2:55 PM	45.3	101653.2468
108	4/2/2021 14:55	2:55 PM	44.8	90598.55161
109	4/2/2021 14:55	2:55 PM	46.6	137126.4569
110	4/2/2021 14:55	2:55 PM	45	94868.32981
111	4/2/2021 14:55	2:55 PM	44.6	86520.94509
112	4/2/2021 14:55	2:55 PM	46.1	122214.0833
113	4/2/2021 14:55	2:55 PM	44.4	82626.8611
114	4/2/2021 14:55	2:55 PM	45.3	101653.2468
115	4/2/2021 14:55	2:55 PM	45	94868.32981
116	4/2/2021 14:55	2:55 PM	45.3	101653.2468
117	4/2/2021 14:55	2:55 PM	45.4	104021.0551
118	4/2/2021 14:55	2:55 PM	45.4	104021.0551
119	4/2/2021 14:56	2:56 PM	45.3	101653.2468
120	4/2/2021 14:56	2:56 PM	44.9	92708.86298
121	4/2/2021 14:56	2:56 PM	45.3	101653.2468
122	4/2/2021 14:56	2:56 PM	44.4	82626.8611

123	4/2/2021 14:56	2:56 PM	45.3	101653.2468
124	4/2/2021 14:56	2:56 PM	46.3	127973.8556
125	4/2/2021 14:56	2:56 PM	45.3	101653.2468
126	4/2/2021 14:56	2:56 PM	46	119432.1512
127	4/2/2021 14:56	2:56 PM	45.7	111460.5687
128	4/2/2021 14:56	2:56 PM	45.8	114056.8189
129	4/2/2021 14:56	2:56 PM	47.3	161109.5389
130	4/2/2021 14:56	2:56 PM	48.4	207549.2913
131	4/2/2021 14:56	2:56 PM	45.9	116713.5435
132	4/2/2021 14:56	2:56 PM	45.3	101653.2468
133	4/2/2021 14:56	2:56 PM	45.6	108923.4164
134	4/2/2021 14:56	2:56 PM	47.4	164862.2622
135	4/2/2021 14:56	2:56 PM	45.5	106444.0168
136	4/2/2021 14:56	2:56 PM	44.6	86520.94509
137	4/2/2021 14:56	2:56 PM	45.5	106444.0168
138	4/2/2021 14:56	2:56 PM	43.8	71964.98757
139	4/2/2021 14:57	2:57 PM	44.9	92708.86298
140	4/2/2021 14:57	2:57 PM	44.2	78908.03976
141	4/2/2021 14:57	2:57 PM	45.3	101653.2468
142	4/2/2021 14:57	2:57 PM	46.3	127973.8556
143	4/2/2021 14:57	2:57 PM	46.8	143589.0277
144	4/2/2021 14:57	2:57 PM	47.9	184978.5006
145	4/2/2021 14:57	2:57 PM	51.8	454068.3745
146	4/2/2021 14:57	2:57 PM	58.6	2173307.88
147	4/2/2021 14:57	2:57 PM	56.1	1222140.833
148	4/2/2021 14:57	2:57 PM	54.2	789080.3976
149	4/2/2021 14:57	2:57 PM	54.1	771118.7348
150	4/2/2021 14:57	2:57 PM	49.3	255341.4115
151	4/2/2021 14:57	2:57 PM	48.5	212383.7353
152	4/2/2021 14:57	2:57 PM	49.2	249529.1313
153	4/2/2021 14:57	2:57 PM	47.1	153858.4152
154	4/2/2021 14:57	2:57 PM	48	189287.2033
155	4/2/2021 14:57	2:57 PM	47	150356.1701
156	4/2/2021 14:57	2:57 PM	47.3	161109.5389
157	4/2/2021 14:57	2:57 PM	47.5	168702.3976
158	4/2/2021 14:57	2:57 PM	47.3	161109.5389
159	4/2/2021 14:58	2:58 PM	46.7	140320.5424
160	4/2/2021 14:58	2:58 PM	45.3	101653.2468
161	4/2/2021 14:58	2:58 PM	44.7	88536.2768
162	4/2/2021 14:58	2:58 PM	44.4	82626.8611
163	4/2/2021 14:58	2:58 PM	43.6	68726.02958
164	4/2/2021 14:58	2:58 PM	43.1	61252.13834
165	4/2/2021 14:58	2:58 PM	43.6	68726.02958
166	4/2/2021 14:58	2:58 PM	43.2	62678.88393
167	4/2/2021 14:58	2:58 PM	43.3	64138.86269
168	4/2/2021 14:58	2:58 PM	42.8	57163.82154
169	4/2/2021 14:58	2:58 PM	43.2	62678.88393

170	4/2/2021 14:58	2:58 PM	42.5	53348.3823
171	4/2/2021 14:58	2:58 PM	43	59857.86945
172	4/2/2021 14:58	2:58 PM	42.9	58495.33799
173	4/2/2021 14:58	2:58 PM	43	59857.86945
174	4/2/2021 14:58	2:58 PM	42.9	58495.33799
175	4/2/2021 14:58	2:58 PM	42.9	58495.33799
176	4/2/2021 14:58	2:58 PM	42.9	58495.33799
177	4/2/2021 14:58	2:58 PM	43	59857.86945
178	4/2/2021 14:58	2:58 PM	43.1	61252.13834
179	4/2/2021 14:59	2:59 PM	43.5	67161.63416
180	4/2/2021 14:59	2:59 PM	43	59857.86945
181	4/2/2021 14:59	2:59 PM	42.9	58495.33799
182	4/2/2021 14:59	2:59 PM	42.9	58495.33799
183	4/2/2021 14:59	2:59 PM	43.3	64138.86269
184	4/2/2021 14:59	2:59 PM	43.1	61252.13834
185	4/2/2021 14:59	2:59 PM	43.1	61252.13834
186	4/2/2021 14:59	2:59 PM	43.2	62678.88393
187	4/2/2021 14:59	2:59 PM	42.8	57163.82154
188	4/2/2021 14:59	2:59 PM	42.6	54591.02576
189	4/2/2021 14:59	2:59 PM	42.8	57163.82154
190	4/2/2021 14:59	2:59 PM	43.1	61252.13834
191	4/2/2021 14:59	2:59 PM	43.1	61252.13834
192	4/2/2021 14:59	2:59 PM	43.6	68726.02958
193	4/2/2021 14:59	2:59 PM	43.3	64138.86269
194	4/2/2021 14:59	2:59 PM	42.9	58495.33799
195	4/2/2021 14:59	2:59 PM	43.5	67161.63416
196	4/2/2021 14:59	2:59 PM	43.1	61252.13834
197	4/2/2021 14:59	2:59 PM	43.2	62678.88393
198	4/2/2021 14:59	2:59 PM	43.3	64138.86269
199	4/2/2021 15:00	3:00 PM	43	59857.86945
200	4/2/2021 15:00	3:00 PM	43.1	61252.13834
201	4/2/2021 15:00	3:00 PM	43.3	64138.86269
202	4/2/2021 15:00	3:00 PM	43.3	64138.86269
203	4/2/2021 15:00	3:00 PM	42.9	58495.33799
204	4/2/2021 15:00	3:00 PM	43.1	61252.13834
205	4/2/2021 15:00	3:00 PM	43	59857.86945
206	4/2/2021 15:00	3:00 PM	43	59857.86945
207	4/2/2021 15:00	3:00 PM	43.3	64138.86269
208	4/2/2021 15:00	3:00 PM	43.2	62678.88393
209	4/2/2021 15:00	3:00 PM	43	59857.86945
210	4/2/2021 15:00	3:00 PM	43.2	62678.88393
211	4/2/2021 15:00	3:00 PM	43.2	62678.88393
212	4/2/2021 15:00	3:00 PM	43.1	61252.13834
213	4/2/2021 15:00	3:00 PM	43.1	61252.13834
214	4/2/2021 15:00	3:00 PM	43.4	65632.84872
215	4/2/2021 15:00	3:00 PM	43.4	65632.84872
216	4/2/2021 15:00	3:00 PM	43.1	61252.13834

217	4/2/2021 15:00	3:00 PM	43.4	65632.84872
218	4/2/2021 15:00	3:00 PM	43.2	62678.88393
219	4/2/2021 15:01	3:01 PM	43.1	61252.13834
220	4/2/2021 15:01	3:01 PM	43.5	67161.63416
221	4/2/2021 15:01	3:01 PM	43.2	62678.88393
222	4/2/2021 15:01	3:01 PM	43.4	65632.84872
223	4/2/2021 15:01	3:01 PM	43	59857.86945
224	4/2/2021 15:01	3:01 PM	43.1	61252.13834
225	4/2/2021 15:01	3:01 PM	43.3	64138.86269
226	4/2/2021 15:01	3:01 PM	43.4	65632.84872
227	4/2/2021 15:01	3:01 PM	43.4	65632.84872
228	4/2/2021 15:01	3:01 PM	43.1	61252.13834
229	4/2/2021 15:01	3:01 PM	43.1	61252.13834
230	4/2/2021 15:01	3:01 PM	43.3	64138.86269
231	4/2/2021 15:01	3:01 PM	43	59857.86945
232	4/2/2021 15:01	3:01 PM	42.8	57163.82154
233	4/2/2021 15:01	3:01 PM	43.2	62678.88393
234	4/2/2021 15:01	3:01 PM	42.9	58495.33799
235	4/2/2021 15:01	3:01 PM	42.8	57163.82154
236	4/2/2021 15:01	3:01 PM	43.3	64138.86269
237	4/2/2021 15:01	3:01 PM	42.9	58495.33799
238	4/2/2021 15:01	3:01 PM	42.7	55862.6141
239	4/2/2021 15:02	3:02 PM	42.9	58495.33799
240	4/2/2021 15:02	3:02 PM	43	59857.86945
241	4/2/2021 15:02	3:02 PM	43	59857.86945
242	4/2/2021 15:02	3:02 PM	43	59857.86945
243	4/2/2021 15:02	3:02 PM	42.8	57163.82154
244	4/2/2021 15:02	3:02 PM	43	59857.86945
245	4/2/2021 15:02	3:02 PM	43	59857.86945
246	4/2/2021 15:02	3:02 PM	43.1	61252.13834
247	4/2/2021 15:02	3:02 PM	43.8	71964.98757
248	4/2/2021 15:02	3:02 PM	43.9	73641.26747
249	4/2/2021 15:02	3:02 PM	44.1	77111.87348
250	4/2/2021 15:02	3:02 PM	44.5	84551.48794
251	4/2/2021 15:02	3:02 PM	44	75356.59295
252	4/2/2021 15:02	3:02 PM	44.3	80746.04412
253	4/2/2021 15:02	3:02 PM	45.3	101653.2468
254	4/2/2021 15:02	3:02 PM	43.9	73641.26747
255	4/2/2021 15:02	3:02 PM	43.6	68726.02958
256	4/2/2021 15:02	3:02 PM	43.4	65632.84872
257	4/2/2021 15:02	3:02 PM	43.7	70326.86446
258	4/2/2021 15:02	3:02 PM	43.6	68726.02958
259	4/2/2021 15:03	3:03 PM	44.3	80746.04412
260	4/2/2021 15:03	3:03 PM	45.1	97078.09708
261	4/2/2021 15:03	3:03 PM	45.4	104021.0551
262	4/2/2021 15:03	3:03 PM	45.7	111460.5687
263	4/2/2021 15:03	3:03 PM	45.7	111460.5687

264	4/2/2021 15:03	3:03 PM	44.8	90598.55161
265	4/2/2021 15:03	3:03 PM	44.8	90598.55161
266	4/2/2021 15:03	3:03 PM	45.4	104021.0551
267	4/2/2021 15:03	3:03 PM	46.8	143589.0277
268	4/2/2021 15:03	3:03 PM	45.7	111460.5687
269	4/2/2021 15:03	3:03 PM	45.4	104021.0551
270	4/2/2021 15:03	3:03 PM	45.7	111460.5687
271	4/2/2021 15:03	3:03 PM	45.8	114056.8189
272	4/2/2021 15:03	3:03 PM	46.1	122214.0833
273	4/2/2021 15:03	3:03 PM	46	119432.1512
274	4/2/2021 15:03	3:03 PM	45.1	97078.09708
275	4/2/2021 15:03	3:03 PM	43.9	73641.26747
276	4/2/2021 15:03	3:03 PM	43.4	65632.84872
277	4/2/2021 15:03	3:03 PM	43.6	68726.02958
278	4/2/2021 15:03	3:03 PM	43.7	70326.86446
279	4/2/2021 15:04	3:04 PM	43.2	62678.88393
280	4/2/2021 15:04	3:04 PM	43.6	68726.02958
281	4/2/2021 15:04	3:04 PM	43.4	65632.84872
282	4/2/2021 15:04	3:04 PM	43.5	67161.63416
283	4/2/2021 15:04	3:04 PM	44.4	82626.8611
284	4/2/2021 15:04	3:04 PM	45.1	97078.09708
285	4/2/2021 15:04	3:04 PM	47.5	168702.3976
286	4/2/2021 15:04	3:04 PM	53.8	719649.8757
287	4/2/2021 15:04	3:04 PM	54.8	905985.5161
288	4/2/2021 15:04	3:04 PM	58	1892872.033
289	4/2/2021 15:04	3:04 PM	59.8	2864977.758
290	4/2/2021 15:04	3:04 PM	64.8	9059855.161
291	4/2/2021 15:04	3:04 PM	62.6	5459102.576
292	4/2/2021 15:04	3:04 PM	54.4	826268.611
293	4/2/2021 15:04	3:04 PM	54	753565.9295
294	4/2/2021 15:04	3:04 PM	49.2	249529.1313
295	4/2/2021 15:04	3:04 PM	46.7	140320.5424
296	4/2/2021 15:04	3:04 PM	44.7	88536.2768
297	4/2/2021 15:04	3:04 PM	44.5	84551.48794
298	4/2/2021 15:04	3:04 PM	44.6	86520.94509
299	4/2/2021 15:05	3:05 PM	44.1	77111.87348
300	4/2/2021 15:05	3:05 PM	44.2	78908.03976



Noise Measurement 6 - Hot Springs Reservoir - April 2, 2021
dBA
65
60
55
50
45
40
2:50 PM
2:51 PM
2:52 PM
2:53 PM
2:54 PM
2:55 PM
2:56 PM
2:57 PM
2:58 PM
2:59 PM
3:00 PM
3:01 PM
3:02 PM
3:03 PM
3:04 PM
Time

Noise Measurement 7 - Cold Springs/Terminal Reservoirs

Data Logger 2		
Duration (seconds)		3
Weighting	A	
Response	SLOW	
Range	30-90	
L05		56.3
L10		51.3
L50		38.7
L90		34.2
L95		33.4
Lmax		67.0
Time		4/2/2021 15:49
SEL		79.6
Leq		**50.4**

No.s	Date Time	Time	dB	Sound Energy
1	4/2/2021 15:41	3:41 PM	32.8	5716.382154
2	4/2/2021 15:41	3:41 PM	34.3	8074.604412
3	4/2/2021 15:41	3:41 PM	37.5	16870.23976
4	4/2/2021 15:42	3:42 PM	36.5	13400.50776
5	4/2/2021 15:42	3:42 PM	39.7	27997.62902
6	4/2/2021 15:42	3:42 PM	37.2	15744.22381
7	4/2/2021 15:42	3:42 PM	37	15035.61701
8	4/2/2021 15:42	3:42 PM	33.4	6563.284872
9	4/2/2021 15:42	3:42 PM	34.1	7711.187348
10	4/2/2021 15:42	3:42 PM	34.1	7711.187348
11	4/2/2021 15:42	3:42 PM	37.2	15744.22381
12	4/2/2021 15:42	3:42 PM	43.6	68726.02958
13	4/2/2021 15:42	3:42 PM	54.4	826268.611
14	4/2/2021 15:42	3:42 PM	60.6	3444460.864
15	4/2/2021 15:42	3:42 PM	57.3	1611095.389
16	4/2/2021 15:42	3:42 PM	53.1	612521.3834
17	4/2/2021 15:42	3:42 PM	42.6	54591.02576
18	4/2/2021 15:42	3:42 PM	37.3	16110.95389
19	4/2/2021 15:42	3:42 PM	35.7	11146.05687
20	4/2/2021 15:42	3:42 PM	33.5	6716.163416
21	4/2/2021 15:42	3:42 PM	40.2	31413.85644
22	4/2/2021 15:42	3:42 PM	49	238298.4704
23	4/2/2021 15:42	3:42 PM	56.3	1279738.556
24	4/2/2021 15:43	3:43 PM	65.2	9933933.644
25	4/2/2021 15:43	3:43 PM	56.3	1279738.556
26	4/2/2021 15:43	3:43 PM	48.1	193696.2687
27	4/2/2021 15:43	3:43 PM	39.3	25534.14115
28	4/2/2021 15:43	3:43 PM	33.3	6413.886269

29	4/2/2021 15:43	3:43 PM	33.1	6125.213834
30	4/2/2021 15:43	3:43 PM	33	5985.786945
31	4/2/2021 15:43	3:43 PM	32.9	5849.533799
32	4/2/2021 15:43	3:43 PM	33.6	6872.602958
33	4/2/2021 15:43	3:43 PM	34.3	8074.604412
34	4/2/2021 15:43	3:43 PM	39.4	26128.9077
35	4/2/2021 15:43	3:43 PM	49.9	293171.1663
36	4/2/2021 15:43	3:43 PM	55.6	1089234.164
37	4/2/2021 15:43	3:43 PM	65.1	9707809.708
38	4/2/2021 15:43	3:43 PM	56.4	1309547.497
39	4/2/2021 15:43	3:43 PM	48.8	227573.2725
40	4/2/2021 15:43	3:43 PM	41.2	39547.70216
41	4/2/2021 15:43	3:43 PM	35.6	10892.34164
42	4/2/2021 15:43	3:43 PM	34.3	8074.604412
43	4/2/2021 15:43	3:43 PM	37	15035.61701
44	4/2/2021 15:44	3:44 PM	41.8	45406.83745
45	4/2/2021 15:44	3:44 PM	44.4	82626.8611
46	4/2/2021 15:44	3:44 PM	45.2	99339.33644
47	4/2/2021 15:44	3:44 PM	44.1	77111.87348
48	4/2/2021 15:44	3:44 PM	43.5	67161.63416
49	4/2/2021 15:44	3:44 PM	42.9	58495.33799
50	4/2/2021 15:44	3:44 PM	40.3	32145.57916
51	4/2/2021 15:44	3:44 PM	41.7	44373.25165
52	4/2/2021 15:44	3:44 PM	44.4	82626.8611
53	4/2/2021 15:44	3:44 PM	43	59857.86945
54	4/2/2021 15:44	3:44 PM	41.8	45406.83745
55	4/2/2021 15:44	3:44 PM	41.2	39547.70216
56	4/2/2021 15:44	3:44 PM	39.8	28649.77758
57	4/2/2021 15:44	3:44 PM	41.3	40468.88648
58	4/2/2021 15:44	3:44 PM	40.6	34444.60864
59	4/2/2021 15:44	3:44 PM	38.4	20754.92913
60	4/2/2021 15:44	3:44 PM	43.6	68726.02958
61	4/2/2021 15:44	3:44 PM	44.5	84551.48794
62	4/2/2021 15:44	3:44 PM	40.7	35246.92665
63	4/2/2021 15:44	3:44 PM	37.2	15744.22381
64	4/2/2021 15:45	3:45 PM	37.8	18076.78758
65	4/2/2021 15:45	3:45 PM	40	30000
66	4/2/2021 15:45	3:45 PM	41.5	42376.12634
67	4/2/2021 15:45	3:45 PM	40.8	36067.93304
68	4/2/2021 15:45	3:45 PM	39.9	29317.11663
69	4/2/2021 15:45	3:45 PM	43.2	62678.88393
70	4/2/2021 15:45	3:45 PM	46	119432.1512
71	4/2/2021 15:45	3:45 PM	47.8	180767.8758
72	4/2/2021 15:45	3:45 PM	43.7	70326.86446
73	4/2/2021 15:45	3:45 PM	40.1	30698.78977
74	4/2/2021 15:45	3:45 PM	39.2	24952.91313
75	4/2/2021 15:45	3:45 PM	39.8	28649.77758

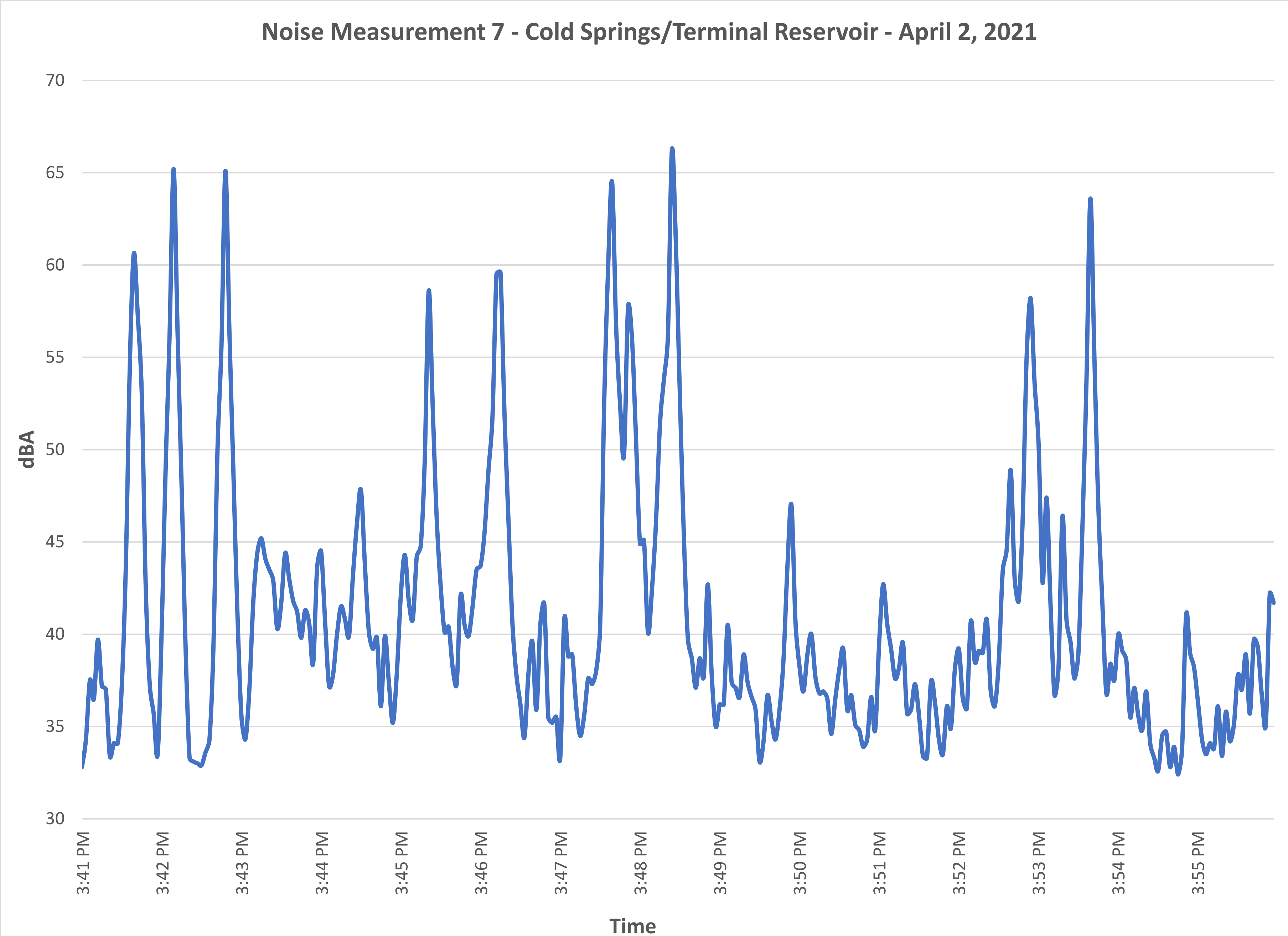
76	4/2/2021 15:45	3:45 PM	36.1	12221.40833
77	4/2/2021 15:45	3:45 PM	39.9	29317.11663
78	4/2/2021 15:45	3:45 PM	37.4	16486.22622
79	4/2/2021 15:45	3:45 PM	35.2	9933.933644
80	4/2/2021 15:45	3:45 PM	37.9	18497.85006
81	4/2/2021 15:45	3:45 PM	42.1	48654.30292
82	4/2/2021 15:45	3:45 PM	44.3	80746.04412
83	4/2/2021 15:45	3:45 PM	41.8	45406.83745
84	4/2/2021 15:46	3:46 PM	40.8	36067.93304
85	4/2/2021 15:46	3:46 PM	44.2	78908.03976
86	4/2/2021 15:46	3:46 PM	44.8	90598.55161
87	4/2/2021 15:46	3:46 PM	49.4	261289.077
88	4/2/2021 15:46	3:46 PM	58.6	2173307.88
89	4/2/2021 15:46	3:46 PM	52.3	509473.0957
90	4/2/2021 15:46	3:46 PM	46.3	127973.8556
91	4/2/2021 15:46	3:46 PM	42.6	54591.02576
92	4/2/2021 15:46	3:46 PM	40.1	30698.78977
93	4/2/2021 15:46	3:46 PM	40.4	32894.34588
94	4/2/2021 15:46	3:46 PM	38.2	19820.80344
95	4/2/2021 15:46	3:46 PM	37.3	16110.95389
96	4/2/2021 15:46	3:46 PM	42.1	48654.30292
97	4/2/2021 15:46	3:46 PM	40.5	33660.55363
98	4/2/2021 15:46	3:46 PM	39.9	29317.11663
99	4/2/2021 15:46	3:46 PM	41.5	42376.12634
100	4/2/2021 15:46	3:46 PM	43.5	67161.63416
101	4/2/2021 15:46	3:46 PM	43.7	70326.86446
102	4/2/2021 15:46	3:46 PM	45.5	106444.0168
103	4/2/2021 15:46	3:46 PM	48.9	232874.135
104	4/2/2021 15:47	3:47 PM	51.8	454068.3745
105	4/2/2021 15:47	3:47 PM	59.5	2673752.814
106	4/2/2021 15:47	3:47 PM	59.6	2736032.518
107	4/2/2021 15:47	3:47 PM	52	475467.9577
108	4/2/2021 15:47	3:47 PM	46.2	125060.815
109	4/2/2021 15:47	3:47 PM	40.6	34444.60864
110	4/2/2021 15:47	3:47 PM	37.8	18076.78758
111	4/2/2021 15:47	3:47 PM	36.2	12506.0815
112	4/2/2021 15:47	3:47 PM	34.4	8262.68611
113	4/2/2021 15:47	3:47 PM	37.8	18076.78758
114	4/2/2021 15:47	3:47 PM	39.6	27360.32518
115	4/2/2021 15:47	3:47 PM	35.9	11671.35435
116	4/2/2021 15:47	3:47 PM	40.5	33660.55363
117	4/2/2021 15:47	3:47 PM	41.6	43363.19312
118	4/2/2021 15:47	3:47 PM	35.5	10644.40168
119	4/2/2021 15:47	3:47 PM	35.2	9933.933644
120	4/2/2021 15:47	3:47 PM	35.5	10644.40168
121	4/2/2021 15:47	3:47 PM	33.3	6413.886269
122	4/2/2021 15:47	3:47 PM	40.8	36067.93304

123	4/2/2021 15:47	3:47 PM	38.8	22757.32725
124	4/2/2021 15:48	3:48 PM	38.9	23287.4135
125	4/2/2021 15:48	3:48 PM	36.1	12221.40833
126	4/2/2021 15:48	3:48 PM	34.5	8455.148794
127	4/2/2021 15:48	3:48 PM	35.6	10892.34164
128	4/2/2021 15:48	3:48 PM	37.6	17263.19812
129	4/2/2021 15:48	3:48 PM	37.3	16110.95389
130	4/2/2021 15:48	3:48 PM	38	18928.72033
131	4/2/2021 15:48	3:48 PM	40.4	32894.34588
132	4/2/2021 15:48	3:48 PM	52.3	509473.0957
133	4/2/2021 15:48	3:48 PM	59.8	2864977.758
134	4/2/2021 15:48	3:48 PM	64.5	8455148.794
135	4/2/2021 15:48	3:48 PM	56.8	1435890.277
136	4/2/2021 15:48	3:48 PM	52.5	533483.823
137	4/2/2021 15:48	3:48 PM	49.7	279976.2902
138	4/2/2021 15:48	3:48 PM	57.7	1766530.966
139	4/2/2021 15:48	3:48 PM	56	1194321.512
140	4/2/2021 15:48	3:48 PM	50.6	344446.0864
141	4/2/2021 15:48	3:48 PM	44.9	92708.86298
142	4/2/2021 15:48	3:48 PM	45.1	97078.09708
143	4/2/2021 15:48	3:48 PM	40.1	30698.78977
144	4/2/2021 15:49	3:49 PM	42.4	52134.02486
145	4/2/2021 15:49	3:49 PM	46	119432.1512
146	4/2/2021 15:49	3:49 PM	51.3	404688.8648
147	4/2/2021 15:49	3:49 PM	53.8	719649.8757
148	4/2/2021 15:49	3:49 PM	56.1	1222140.833
149	4/2/2021 15:49	3:49 PM	66.2	12506081.5
150	4/2/2021 15:49	3:49 PM	61.2	3954770.216
151	4/2/2021 15:49	3:49 PM	53	598578.6945
152	4/2/2021 15:49	3:49 PM	45.4	104021.0551
153	4/2/2021 15:49	3:49 PM	39.8	28649.77758
154	4/2/2021 15:49	3:49 PM	38.7	22239.30724
155	4/2/2021 15:49	3:49 PM	37.1	15385.84152
156	4/2/2021 15:49	3:49 PM	38.7	22239.30724
157	4/2/2021 15:49	3:49 PM	37.7	17665.30966
158	4/2/2021 15:49	3:49 PM	42.7	55862.6141
159	4/2/2021 15:49	3:49 PM	37.8	18076.78758
160	4/2/2021 15:49	3:49 PM	35	9486.832981
161	4/2/2021 15:49	3:49 PM	36.2	12506.0815
162	4/2/2021 15:49	3:49 PM	36.2	12506.0815
163	4/2/2021 15:49	3:49 PM	40.5	33660.55363
164	4/2/2021 15:50	3:50 PM	37.4	16486.22622
165	4/2/2021 15:50	3:50 PM	37.1	15385.84152
166	4/2/2021 15:50	3:50 PM	36.6	13712.64569
167	4/2/2021 15:50	3:50 PM	38.9	23287.4135
168	4/2/2021 15:50	3:50 PM	37.4	16486.22622
169	4/2/2021 15:50	3:50 PM	36.6	13712.64569

170	4/2/2021 15:50	3:50 PM	35.9	11671.35435
171	4/2/2021 15:50	3:50 PM	33.1	6125.213834
172	4/2/2021 15:50	3:50 PM	34.2	7890.803976
173	4/2/2021 15:50	3:50 PM	36.7	14032.05424
174	4/2/2021 15:50	3:50 PM	35.3	10165.32468
175	4/2/2021 15:50	3:50 PM	34.3	8074.604412
176	4/2/2021 15:50	3:50 PM	35.9	11671.35435
177	4/2/2021 15:50	3:50 PM	38.6	21733.0788
178	4/2/2021 15:50	3:50 PM	43.7	70326.86446
179	4/2/2021 15:50	3:50 PM	47	150356.1701
180	4/2/2021 15:50	3:50 PM	40.7	35246.92665
181	4/2/2021 15:50	3:50 PM	38.3	20282.48926
182	4/2/2021 15:50	3:50 PM	36.9	14693.36458
183	4/2/2021 15:50	3:50 PM	38.9	23287.4135
184	4/2/2021 15:51	3:51 PM	40	30000
185	4/2/2021 15:51	3:51 PM	37.7	17665.30966
186	4/2/2021 15:51	3:51 PM	36.8	14358.90277
187	4/2/2021 15:51	3:51 PM	36.9	14693.36458
188	4/2/2021 15:51	3:51 PM	36.5	13400.50776
189	4/2/2021 15:51	3:51 PM	34.6	8652.094509
190	4/2/2021 15:51	3:51 PM	36.5	13400.50776
191	4/2/2021 15:51	3:51 PM	38.1	19369.62687
192	4/2/2021 15:51	3:51 PM	39.2	24952.91313
193	4/2/2021 15:51	3:51 PM	35.9	11671.35435
194	4/2/2021 15:51	3:51 PM	36.7	14032.05424
195	4/2/2021 15:51	3:51 PM	35.1	9707.809708
196	4/2/2021 15:51	3:51 PM	34.8	9059.855161
197	4/2/2021 15:51	3:51 PM	33.9	7364.126747
198	4/2/2021 15:51	3:51 PM	34.3	8074.604412
199	4/2/2021 15:51	3:51 PM	36.6	13712.64569
200	4/2/2021 15:51	3:51 PM	34.8	9059.855161
201	4/2/2021 15:51	3:51 PM	39.5	26737.52814
202	4/2/2021 15:51	3:51 PM	42.7	55862.6141
203	4/2/2021 15:51	3:51 PM	40.6	34444.60864
204	4/2/2021 15:52	3:52 PM	39.2	24952.91313
205	4/2/2021 15:52	3:52 PM	37.6	17263.19812
206	4/2/2021 15:52	3:52 PM	38.2	19820.80344
207	4/2/2021 15:52	3:52 PM	39.5	26737.52814
208	4/2/2021 15:52	3:52 PM	35.7	11146.05687
209	4/2/2021 15:52	3:52 PM	35.9	11671.35435
210	4/2/2021 15:52	3:52 PM	37.3	16110.95389
211	4/2/2021 15:52	3:52 PM	35.6	10892.34164
212	4/2/2021 15:52	3:52 PM	33.4	6563.284872
213	4/2/2021 15:52	3:52 PM	33.3	6413.886269
214	4/2/2021 15:52	3:52 PM	37.4	16486.22622
215	4/2/2021 15:52	3:52 PM	36.3	12797.38556
216	4/2/2021 15:52	3:52 PM	34.3	8074.604412

217	4/2/2021 15:52	3:52 PM	33.5	6716.163416
218	4/2/2021 15:52	3:52 PM	36.1	12221.40833
219	4/2/2021 15:52	3:52 PM	34.9	9270.886298
220	4/2/2021 15:52	3:52 PM	38.1	19369.62687
221	4/2/2021 15:52	3:52 PM	39.2	24952.91313
222	4/2/2021 15:52	3:52 PM	36.5	13400.50776
223	4/2/2021 15:52	3:52 PM	36	11943.21512
224	4/2/2021 15:53	3:53 PM	40.7	35246.92665
225	4/2/2021 15:53	3:53 PM	38.5	21238.37353
226	4/2/2021 15:53	3:53 PM	39.1	24384.91548
227	4/2/2021 15:53	3:53 PM	39	23829.84704
228	4/2/2021 15:53	3:53 PM	40.8	36067.93304
229	4/2/2021 15:53	3:53 PM	36.9	14693.36458
230	4/2/2021 15:53	3:53 PM	36.1	12221.40833
231	4/2/2021 15:53	3:53 PM	38.5	21238.37353
232	4/2/2021 15:53	3:53 PM	43.4	65632.84872
233	4/2/2021 15:53	3:53 PM	44.6	86520.94509
234	4/2/2021 15:53	3:53 PM	48.9	232874.135
235	4/2/2021 15:53	3:53 PM	43	59857.86945
236	4/2/2021 15:53	3:53 PM	41.8	45406.83745
237	4/2/2021 15:53	3:53 PM	46.2	125060.815
238	4/2/2021 15:53	3:53 PM	55	948683.2981
239	4/2/2021 15:53	3:53 PM	58.2	1982080.344
240	4/2/2021 15:53	3:53 PM	53.6	687260.2958
241	4/2/2021 15:53	3:53 PM	50.3	321455.7916
242	4/2/2021 15:53	3:53 PM	42.8	57163.82154
243	4/2/2021 15:53	3:53 PM	47.4	164862.2622
244	4/2/2021 15:54	3:54 PM	41.6	43363.19312
245	4/2/2021 15:54	3:54 PM	36.7	14032.05424
246	4/2/2021 15:54	3:54 PM	38.2	19820.80344
247	4/2/2021 15:54	3:54 PM	46.4	130954.7497
248	4/2/2021 15:54	3:54 PM	40.8	36067.93304
249	4/2/2021 15:54	3:54 PM	39.6	27360.32518
250	4/2/2021 15:54	3:54 PM	37.6	17263.19812
251	4/2/2021 15:54	3:54 PM	39	23829.84704
252	4/2/2021 15:54	3:54 PM	45.8	114056.8189
253	4/2/2021 15:54	3:54 PM	53.6	687260.2958
254	4/2/2021 15:54	3:54 PM	63.6	6872602.958
255	4/2/2021 15:54	3:54 PM	55	948683.2981
256	4/2/2021 15:54	3:54 PM	46.9	146933.6458
257	4/2/2021 15:54	3:54 PM	41.7	44373.25165
258	4/2/2021 15:54	3:54 PM	36.8	14358.90277
259	4/2/2021 15:54	3:54 PM	38.4	20754.92913
260	4/2/2021 15:54	3:54 PM	37.5	16870.23976
261	4/2/2021 15:54	3:54 PM	40	30000
262	4/2/2021 15:54	3:54 PM	39.1	24384.91548
263	4/2/2021 15:54	3:54 PM	38.6	21733.0788

264	4/2/2021 15:55	3:55 PM	35.5	10644.40168
265	4/2/2021 15:55	3:55 PM	37.1	15385.84152
266	4/2/2021 15:55	3:55 PM	35.6	10892.34164
267	4/2/2021 15:55	3:55 PM	34.8	9059.855161
268	4/2/2021 15:55	3:55 PM	36.9	14693.36458
269	4/2/2021 15:55	3:55 PM	34.1	7711.187348
270	4/2/2021 15:55	3:55 PM	33.3	6413.886269
271	4/2/2021 15:55	3:55 PM	32.6	5459.102576
272	4/2/2021 15:55	3:55 PM	34.5	8455.148794
273	4/2/2021 15:55	3:55 PM	34.7	8853.62768
274	4/2/2021 15:55	3:55 PM	32.8	5716.382154
275	4/2/2021 15:55	3:55 PM	33.9	7364.126747
276	4/2/2021 15:55	3:55 PM	32.4	5213.402486
277	4/2/2021 15:55	3:55 PM	33.8	7196.498757
278	4/2/2021 15:55	3:55 PM	41	37767.76235
279	4/2/2021 15:55	3:55 PM	39	23829.84704
280	4/2/2021 15:55	3:55 PM	38.2	19820.80344
281	4/2/2021 15:55	3:55 PM	36.3	12797.38556
282	4/2/2021 15:55	3:55 PM	34.3	8074.604412
283	4/2/2021 15:55	3:55 PM	33.5	6716.163416
284	4/2/2021 15:56	3:56 PM	34.1	7711.187348
285	4/2/2021 15:56	3:56 PM	33.8	7196.498757
286	4/2/2021 15:56	3:56 PM	36.1	12221.40833
287	4/2/2021 15:56	3:56 PM	33.4	6563.284872
288	4/2/2021 15:56	3:56 PM	35.8	11405.68189
289	4/2/2021 15:56	3:56 PM	34.2	7890.803976
290	4/2/2021 15:56	3:56 PM	35.1	9707.809708
291	4/2/2021 15:56	3:56 PM	37.8	18076.78758
292	4/2/2021 15:56	3:56 PM	37	15035.61701
293	4/2/2021 15:56	3:56 PM	38.9	23287.4135
294	4/2/2021 15:56	3:56 PM	35.7	11146.05687
295	4/2/2021 15:56	3:56 PM	39.7	27997.62902
296	4/2/2021 15:56	3:56 PM	39.3	25534.14115
297	4/2/2021 15:56	3:56 PM	36.7	14032.05424
298	4/2/2021 15:56	3:56 PM	35.1	9707.809708
299	4/2/2021 15:56	3:56 PM	42.2	49787.60722
300	4/2/2021 15:56	3:56 PM	41.7	44373.25165



Noise Measurement 7 - Cold Springs/Terminal Reservoir - April 2, 2021
dBA
70
65
60
55
50
45
40
35
30
3:41 PM
3:42 PM
3:43 PM
3:44 PM
3:45 PM
3:46 PM
3:47 PM
3:48 PM
3:49 PM
3:50 PM
3:51 PM
3:52 PM
3:53 PM
3:54 PM
3:55 PM
Time

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/21/2021
Case Description: 21-11054 Reservoir Retrofits - Reservoir Construction

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
50 Feet	Residential	65.0	55.0	55.0

Equipment

Description	Impact Device	Spec Usage (%)	Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50.0	0.0
Concrete Saw	No	20		89.6	50.0	0.0
Compactor (ground)	No	20		83.2	50.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	83.2	76.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	84.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
700 East Mountain Drive	Residential	65.0	55.0	55.0

Equipment

Description	Impact Device	Spec Usage (%)	Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)

Excavator	No	40	80.7	100.0	0.0
Concrete Saw	No	20	89.6	100.0	0.0
Compactor (ground)	No	20	83.2	100.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	83.6	78.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/21/2021
Case Description: 21-11054 Reservoir Retrofits - Site Restoration

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Reference at 50 Ft	Residential	65.0	55.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		75.0	0.0
Excavator	No	40		80.7	75.0	0.0
Concrete Saw	No	20		89.6	75.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Noise Limits (dBA) Evening		Noise Limits (dBA) Night		Noise Limit Exceedance (dBA) Day		Noise Limit Exceedance (dBA) Evening		Noise Limit Exceedance (dBA) Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	81.5	77.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	77.2	73.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	86.1	79.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	86.1	82.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
999 Hot Springs Rd	Residential	65.0	55.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)

Grader	No	40	85.0		75.0	0.0
Excavator	No	40		80.7	75.0	0.0
Concrete Saw	No	20		89.6	75.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	81.5	77.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	77.2	73.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	86.1	79.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	86.1	82.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Groundborne Noise and Vibration Modeling

Notes
The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure.

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Caisson drilling	35	0.0615	84	0.015
Loaded trucks	35	0.0525	80	0.010

Source

California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual. April 2020. Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.
Last Updated: 5/1/2020

Model CSSB-2 Construction Site Sound Blankets

eNoise Control

129 Penn St, Westfield, IN 46074
Phone 888.213.4711 Fax 317-774-1911

Product Features:

- Weatherproof
- Outdoor use/Sheds water
- 2” thick, quilted exterior rated facing
- Grommets for easy attachment to a fence
- STC-21, estimated 10-20 decibel reduction
- In-stock option for quick ship

eNoise Control’s Construction Site Sound Blankets are used to block noise on construction sites, drilling sites, compressor stations, and other outdoor noise sources. Our Model CSSB-2 consists of a UV resistant, heavy duty 10 ounce per square yard vinyl coated polyester (VCP) facing on both sides of a nominal 2” thick quilted fiberglass. Sound Blankets are constructed with grommets and sewn with Gore Tenara exterior grade thread for maximum longevity. The sound blankets can simply be zip-tied to your existing chain link perimeter fence, wood fence, jersey barrier fencing, or support framing.

Specification:

Supply weatherproof, exterior-rated quilted sound blankets for sound barrier and visual barrier at construction site perimeter. Material shall be nominal 2” thick, diamond stitched UV resistant 10 ounce per square yard vinyl coated polyester (VCP) faced both sides. Sewn using exterior-rated Gore Tenara thread. Grommets integrated into blankets for securing to job site fencing. Minimum STC-21 rating. Minimum NRC-0.75 rating. Secure blankets with no visual gaps at joints and tight to ground level, complying to manufacturers installation guidelines. Use Model CSSB-2, Construction Site Sound Blanket manufactured by eNoise Control, 129 Penn St, Westfield, IN 46074, 888.213.4711, info@enoisecontrol.com.

Technical Data:

Facing	UV resistant, weather proof VCP both sides
Thickness	Nominal 2.00” [1.5” post fabrication]
Standard Width	48”
Weight	0.50 lb-psf
Temperature Range	-40° to +180°F
Sound Data Summary	STC-21, NRC-0.75

SOUND ABSORPTION (ASTM C-423)						
125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	NRC
.46	.94	.85	.64	.47	.33	.75

SOUND TRANSMISSION LOSS (ASTM E-90 & E-413)						
125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	STC
9	14	19	21	27	34	21

Appendix E

Assembly Bill 52 Consultation Results

MONTECITO WATER DISTRICT

April 28, 2021

Barbareño/Ventureño Band of Mission Indians
Patrick Tumamait
992 El Camino Corto
Ojai, CA 93023

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Mr. Tumamait:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill 52 [AB 52] of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Barbareño/Ventureño Band of Mission Indians is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

583 San Ysidro Road
Santa Barbara, CA
931089-2124

Ph 805.969.2271
Fax 805.969.7261

info@montecitowater.com
www.montecitowater.com

MONTECITO WATER DISTRICT

April 28, 2021

Barbareño/Ventureño Band of Mission Indians
Eleanor Arrellanes
PO Box 5687
Ventura, CA 93005

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Ms. Arrellanes:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

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The input of the Barbareño/Ventureño Band of Mission Indians is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

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MONTECITO WATER DISTRICT

April 28, 2021

Barbareño/Ventureño Band of Mission Indians
Raudel Banuelos
331 Mira Flores
Camarillo, CA 93012

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Mr. Banuelos:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

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The input of the Barbareño/Ventureño Band of Mission Indians is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

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www.montecitowater.com

MONTECITO WATER DISTRICT

April 28, 2021

Barbareño/Ventureño Band of Mission Indians
Julie Tumamait-Stenslie, Chairperson
365 North Poli Ave
Ojai, CA 93023
Via Email: jtumamait@hotmail.com

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Chairperson Tumamait-Stenslie:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

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The input of the Barbareño/Ventureño Band of Mission Indians is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

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www.montecitowater.com

MONTECITO WATER DISTRICT

April 28, 2021

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street
Bakersfield, CA 93307
Via Email: chumashtribe@sbcglobal.net

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Chairperson Quair:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill 52 [AB 52] of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Chumash Council of Bakersfield is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

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Santa Barbara, CA
931089-2124

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Fax 805.969.7261

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www.montecitowater.com

MONTECITO WATER DISTRICT

April 28, 2021

Coastal Band of the Chumash Nation
Gino Altamirano, Chairperson
PO Box 4464
Santa Barbara, CA 93140
Via Email: cbcn.consultation@gmail.com

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Chairperson Altamirano:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill 52 [AB 52] of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Coastal Band of the Chumash Nation is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

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Santa Barbara, CA
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Fax 805.969.7261

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April 28, 2021

Northern Chumash Tribal Council
Fed Collins, Spokesperson
PO Box 6533
Los Osos, CA 93412
Via Email: fcollins@northernchumash.org

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Spokesperson Collins:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill 52 [AB 52] of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Northern Chumash Tribal Council is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

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931089-2124

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April 28, 2021

San Luis Obispo County Chumash Council
Mark Vigil, Chief
1030 Ritchie Road
Grover Beach, CA 93433

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Chief Vigil:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill 52 [AB 52] of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the San Luis Obispo County Chumash Council is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

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MONTECITO WATER DISTRICT

April 28, 2021

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
PO Box 517
Santa Ynez, CA 93460
Via Email: kkahn@santaynezchumash.org

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Chairperson Kahn:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill 52 [AB 52] of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Santa Ynez Band of Chumash Indians is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

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Santa Barbara, CA
931089-2124

Ph 805.969.2271
Fax 805.969.7261

info@montecitowater.com
www.montecitowater.com

MONTECITO WATER DISTRICT

April 28, 2021

Yak tityu tityu yak tilhini – Northern Chumash Tribe
Mona Tucker, Chairperson
660 Camino Del Rey
Arroyo Grande, CA 93420
Via Email: olivas.mona@gmail.com

RE: Assembly Bill 52 Consultation, Montecito Water District Reservoir Retrofits and Replacement Project, Unincorporated Santa Barbara County, California

Dear Chairperson Tucker:

The Montecito Water District is preparing an Initial Study – Mitigated Negative Declaration (IS-MND) for the proposed Reservoir Retrofits and Replacement Project. The proposed project consists of seismic retrofits and some replacements at eight existing water reservoirs within the Montecito Water District's service area: Terminal, Cold Springs, Hot Springs, Park Lane, Romero, Buena Vista, Bella Vista, and Doulton. Construction activities at all sites may include demolition of concrete and steel, excavation activities, wood formwork, steel welding, concrete pouring, minor pipe excavation and repairs, electrical repairs, and replacement of components. The proposed project is subject to the California Environmental Quality Act.

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The input of the Yak tityu tityu yak tilhini – Northern Chumash Tribe is important to the Montecito Water District's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at 805-969-2271 or via e-mail at akanold@montecitowater.com. Thank you for your assistance.

Sincerely,

Adam Kanold
Assistant General Manager/Engineering Manager
Montecito Water District

Enclosure: Project Location Map

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Santa Barbara, CA
931089-2124

Ph 805.969.2271
Fax 805.969.7261

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www.montecitowater.com

Barbareño Band of Chumash Indians

kiykɨ’ ’i ka šiš-kuhk’ú’ hi ’it’il šup o kiy-a nu’na

TRIBAL COUNCIL CHAIR

Eleanor Fishburn

TRIBAL COUNCIL OFFICERS

Barbara Lopez
Secretary

Barbara Lopez
Treasurer

TRIBAL COUNCIL

Ernestine DeSoto
Eleanor Fishburn
Regina Gradias
Barbara Lopez
Linda Morello Trevino
LoryAnn Velez
James R. Yee

CONTACT:

Barbareño Band of
Chumash Indians
P.O. Box 60141
Santa Barbara
CA 93160

(805) 689-9528
bbcindians@gmail.com

Tax ID: 81-2012164

May 2021

Montecito Water District
583 San Ysidro Road
Santa Barbara, CA 93108

RE: California Environmental Quality Act Public Resources Code section 21080.3, subd. (b) Request for Formal Notification of Proposed Projects Within the Barbareño Band of Chumash Indians Tribe's Geographic Area of Traditional and Cultural Affiliation

To Whom It May Concern:

As of the date of this letter, in accordance with Public Resources Code Section 21080.3.1, subd. (b), the Barbareño Band of Chumash Indians, which is traditionally and culturally affiliated with a geographic area within your agency's geographic area of jurisdiction, requests formal notice of and information on proposed projects for which your agency will serve as a lead agency under the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq.

Pursuant to Public Resources Code section 21080.3.1, subd. (b), and until further notice, we hereby designate the following person as the tribe's lead contact person for purposes of receiving notices of proposed projects from your agency:

Name: Eleanor Fishburn
Title: Chair, Barbareño Band of Chumash Indians
Address: P.O. Box 60141, Santa Barbara, CA 93160
Phone Number: (805) 701-3246
Email Address: bbcindians@gmail.com

We request that all notices be sent via certified U.S. Mail with return receipt. Following receipt and review of the information your agency provides, within the 30-day period proscribed by Public Resources Code section 21080.3.1, subd. (d), the Barbareño Band of Chumash Indians may request consultation, as defined by Public Resources Code section 21080.3.1, subd. (b), pursuant to Public Resources Code section 21080.3.2 to mitigate any project impacts a specific project may cause to tribal cultural resources.

If you have any questions or need additional information, please contact our lead contact person listed above.

Sincerely,

Eleanor Fishburn

Eleanor Fishburn
Chair, Barbareño Band of Chumash Indians

cc: Native American Heritage Commission

Montecito Water District Reservoir Retrofits Project Assembly Bill 52 Correspondence

Contact Name	Date Letter Sent to Contact	Date of Response	Comments/Concerns
Barbareño/Ventureño Band of Mission Indians Patrick Tumamait 992 El Camino Corto Ojai, CA, 93023 Phone: (805) 216-1253	4/28/2021	5/10/2021	Certified mail was delivered on April 30, 2021. Called May 10, 2021 3:10. Pat expressed that he would like to have a native American monitor on site. AK called Pat on May 27, 2021 at 2:45. Pat affirmed he was OK with MWD closing the AB52 consultation period. He felt MWD was "way ahead of the curve".
Barbareño/Ventureño Band of Mission Indians Eleanor Fishburn, née Arellanes PO Box 5687 Ventura, CA, 93005 Phone: (805) 701-3246	4/28/2021	5/10/2021	Certified mail was delivered on May 6, 2021. Called May 10, 2021 3:08; Left Message. Eleanor called back at 3:15 May 10, 2021. Eleanor expressed interest in consulting for this project, based on the findings at Ocean View Avenue. Called May 11, 2021 4:00 to return a voicemail; she had no further questions, they were answered in the previous call. AK called Eleanor on May 27, 2021 at 2:48. Eleanor affirmed she was OK with MWD closing the AB52 consultation period. She said she looked at the GPS locations and has completed her review of the project. She just wants NA monitoring of the project during excavation.
Barbareño/Ventureño Band of Mission Indians Raudel Banuelos 331 Mira Flores Camarillo, CA, 93012 Phone: (805) 427-0015	4/28/2021	5/3/2021	Certified mail was delivered to on May 3, 2021. Called May 10, 2021 3:07; Left message. Called May 12, 2021 2:34; Left message.
Barbareño/Ventureño Band of Mission Indians Julie Tumamait-Stenslie, Chairperson 365 North Poli Ave Ojai, CA, 93023 Phone: (805) 646-6214 Email: jtumamait@hotmail.com	4/28/2021	-	Certified mail was delivered but no acceptance date was recorded. Called May 10, 2021 3:05; Left message. Called May 12, 2021 2:35; Left message.

Contact Name	Date Letter Sent to Contact	Date of Response	Comments/Concerns
Chumash Council of Bakersfield Julio Quair, Chairperson 729 Texas Street Bakersfield, CA, 93307 Phone: (661) 322-0121 Email: chumashtribe@sbcglobal.net	4/28/2021	-	Certified mail was delivered on April 30, 2021. Called May 10, 2021 3:02; No answer. Called May 11, 2021 12:42; no answer.
Coastal Band of the Chumash Nation Gino Altamirano, Chairperson PO Box 4464 Santa Barbara, CA, 93140 Email: cbcn.consultation@gmail.com	4/28/2021	-	Certified mail was delivered to Kelly Lopez on May 5, 2021. Sent email to Mariza Sullivan (new chair person) on May 11 at cbcntribalchair@gmail.com.
Northern Chumash Tribal Council Fred Collins, Spokesperson PO Box 6533 Los Osos, CA, 93412 Phone: (805) 801 – 0347 Email: fcollins@northernchumash.org	4/28/2021	-	Certified mail was delivered to Fred Collins on May 6, 2021. Called May 10, 2021 3:01; left message. Called May 12, 2021 2:30; left message.
San Luis Obispo County Chumash Council Mark Vigil, Chief 1030 Ritchie Road Grover Beach, CA, 93433 Phone: (805) 481-2461 Fax: (805) 474-4729	4/28/2021	-	Certified mail was delivered on April 30, 2021. Called May 10, 2021 2:58; disconnected number. Called May 12, 2021 2:28; still a disconnected number.
Santa Ynez Band of Chumash Indians Kenneth Kahn, Chairperson PO Box 517 Santa Ynez, CA, 93460 Phone: (805) 688-7997 Fax: (805) 686-9578 Email: kkahn@santaynezchumash.org	4/28/2021		Certified mail was delivered to Jasmine Taylor, no date recorded Called May 10, 2021 2:56; left voice mail with assistant Karen. Called May 12, 2021 2:26; spoke with Karen, she says they received the letter on May 7 and it is in the queue to be given a response.
Yak tityu tityu yak tiłhini – Northern Chumash Tribe Mona Tucker, Chairperson 660 Camino Del Rey Arroyo Grande, CA, 93420 Phone: (805) 748-2121 Email: olivas.mona@gmail.com	4/28/2021	5/10/2021	Certified mail was delivered to M. Peterson on April 29, 2021. Called May 10, 2021 2:52; Left message. Mona called back at 3:50 May 10, 2021. No comments on the project except to get in contact with the tribes from this area.