39th Avenue Reservoir Replacement Project

Mitigated Negative Declaration

East Bay Municipal Utility District

EBMUD

September 2012

September 27, 2012

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

39th Avenue Reservoir Replacement Project

Project Title: 39th Avenue Reservoir Replacement Project (project)

Lead Agency: East Bay Municipal Utility District (EBMUD)

Project Location: The project is located in the City of Oakland

Project Description: The existing 10.5-million gallon (MG) reservoir roof system and appurtenances will be demolished and disposed offsite. The existing concrete lining will be crushed on-site and re-used onsite. A 3.5-MG replacement tank including a buried valve pit structure and pipeline modifications will be installed within the existing basin. The tank will be situated towards the eastern portion of the site in order to avoid the Hayward Fault Zone. Contouring and landscaping features will be installed to reduce the visual impact of the exposed existing basin as well as the new tank.

Project Objective: The project is designed to replace the aging facility in order to increase system reliability and to improve water quality and operating efficiency by removing excess, inefficient storage.

Schedule: Key milestones for project implementation are summarized as follows:

Complete Environmental Review	December 2012
Develop Bid Construction Documents	2018
Begin Construction	2019
Complete Construction	2020

Environmental Determination: Pursuant to the requirements of the California Environmental Quality Act, an Initial Study was prepared for the project. Based on the results of that study, it was determined that project-related construction work could potentially generate environmental impacts to air quality, biological resources, geology/soils, hazardous material, hydrology and traffic/transportation. Long-term reservoir operation will not generate significant impacts. Proposed mitigations are included with the project to ensure that the project will not generate a significant adverse impact on the environment. Based on this assessment, a proposed "Mitigated Negative Declaration" has been prepared.

Environmental Mitigation: All impacts will be reduced to Less than Significant by standard construction techniques as well as best management practices. In addition, a preliminary assessment of 'isolated' Wetlands located on the reservoir site has been developed and submitted to the U.S. Army Corp of Engineers (Corp) for verification. Assuming the Corp has no jurisdiction, EBMUD will need to obtain a permit from the Regional Water Quality Control Board if any of the mapped features are impacted by the project.

Public Comment/Review: The Mitigated Negative Declaration and Initial Study are available for review at:

- East Bay Municipal Utility District, 375 11th Street, Oakland, CA 94607
- EBMUD website (http://ebmud.com/)
- Oakland Public Library, Main Library, 125 14th Street, Oakland, CA 94612
- Oakland Public Library, Montclair Branch, 1687 Mountain Boulevard, Oakland, CA 94611

In accordance with Section 15073 of the State of California's Environmental Quality Act Guidelines, this Mitigated Negative Declaration is available for public review from September 27, 2012 through October 29, 2012. Written comments on this proposed Mitigated Negative Declaration must be received no later than 4:30 p.m. on October 29, 2012. Please address comments to East Bay Municipal Utility District, Bill Jeng, Associate Civil Engineer, 375 11th Street, MS #701, Oakland, California 94607, or email to 39th.ave.mnd@ebmud.com.

9-12-12
Date

Xavier J. Irias
Director of Engineering and Construction

39th Avenue Reservoir Replacement Project
Mitigated Negative Declaration

East Bay Municipal Utility District

September 2012

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Appendix

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
BAAQMD	Bay Area Quality Management District
BMPs	Best Management Practices
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CO_2	carbon dioxide
CORPS	U.S. Army Corps of Engineers
DTSC	State of California Department of Toxic Substances Control
EBMUD	East Bay Municipal Utility District
EPA	U.S. Environmental Protection Agency
ESP	EBMUD Engineering Standard Practices
GHG	Green House Gas
in/sec	inches per second
MBTA	Migratory Bird Treaty Act
MG	million gallon
MMRP	Mitigation Monitoring and Reporting Plan
MND	Mitigated Negative Declaration
$PM_{2.5}$	particulate matter 2.5 microns in diameter or less
PPV	Peak Particle Velocity
project	39th Avenue Reservoir Project
RD-1	Detached single-unit residential zoning
RTU	Remote Terminal Unit
RWQCB	Regional Water Quality Control Board
SCREEN3	EPA dispersion model
URBEMIS	The Urban Emission model

CHAPTER 1
SUMMARY

East Bay Municipal Utility District's (EBMUD) overall water distribution system provides water service to 20 incorporated cities and 15 unincorporated areas in Alameda and Contra Costa Counties (Figure 1.1). In addition to water supply and six treatment facilities, there are over 4,000 miles of potable (treated water) distribution and transmission pipes, 16 tunnels, 175 potable water reservoirs, 130 pumping plants, and numerous other facilities that together provide water service to EBMUD's customers.

1.1 Project Objective

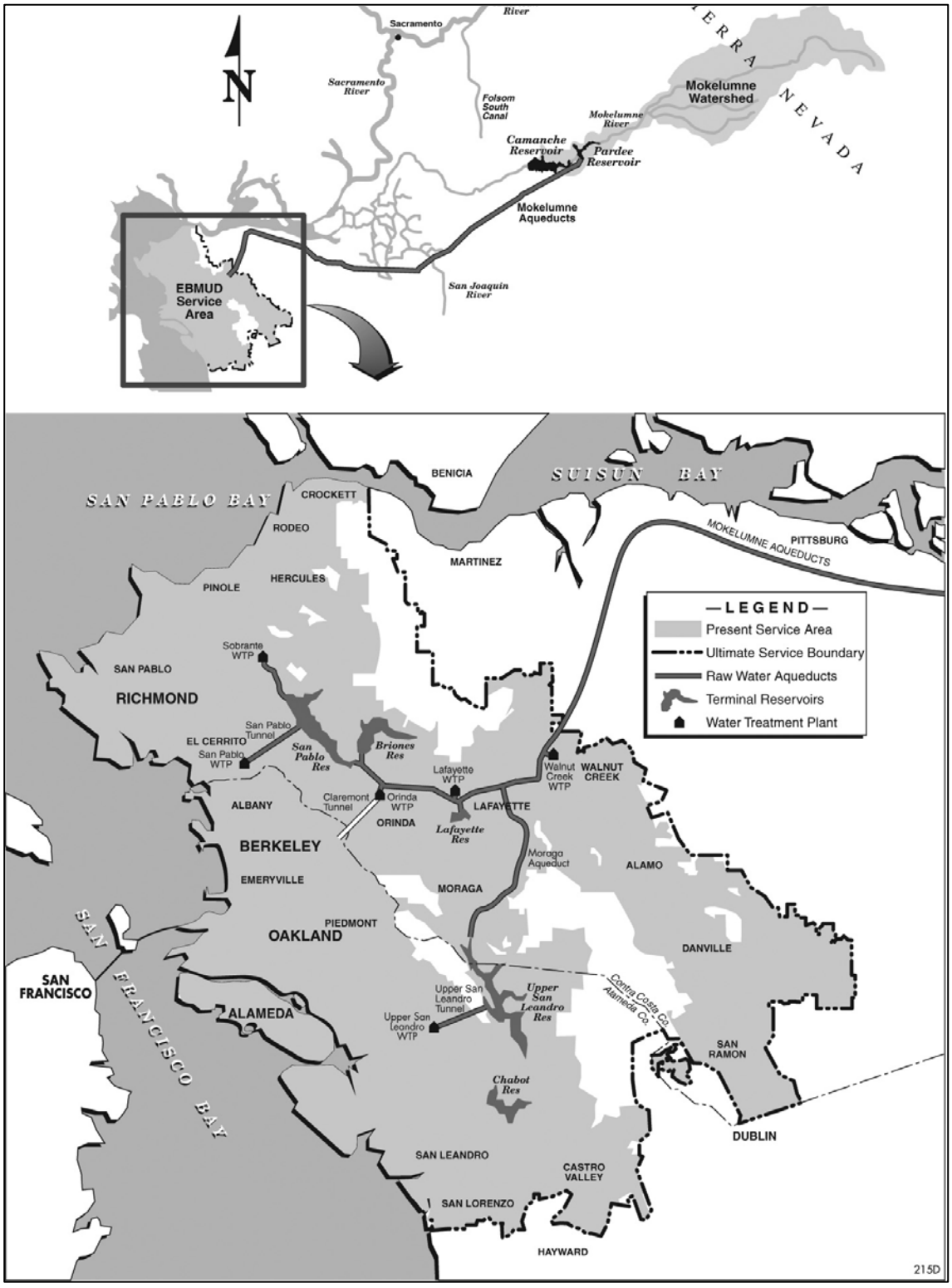
The 39th Avenue Reservoir Replacement Project is part of a planned system of improvements located in the Oakland Hills service area (south of Highway 24 north of the Oakland/San Leandro border). The project is designed to replace the aging facility in order to increase system reliability as well as to improve water quality and operating efficiency by removing excess, inefficient storage.

1.2 Purpose of Mitigated Negative Declaration

This Mitigated Negative Declaration (MND) report assesses the potential environmental impacts related to the 39th Avenue Reservoir Project proposed by EBMUD. This document has been prepared in accordance with the California Environmental Quality Act (CEQA) statutes and guidelines. EBMUD is the lead agency for this CEQA process. EBMUD has incorporated mitigation into the project to mitigate the potentially significant impacts identified in the Initial Study such that no significant impacts will occur. These mitigations are summarized in the attached Mitigation Monitoring and Reporting Plan (MMRP), see Appendix A.

1.3 Summary of Environmental Consideration

Based on the results of the Initial Study, project-related construction work could potentially generate environmental impacts to air quality, biological resources, geology/soils, hazardous material, hydrology, noise and vibration, and traffic/transportation. These impacts, and mitigation measures incorporated into the project to reduce these impacts to Less than Significant levels, are discussed in Section 3.0 of this document. Long-term operation will not generate significant impacts. EBMUD has determined that an MND is the appropriate level of CEQA review for this project. The mitigations that have been incorporated in the project are summarized in the attached MMRP.



Source EBMUD

East Bay Municipal Utility District Service Area

Figure 1.1

1.4 List of References by Environmental Topic

Aesthetics - Siegfried Engineering Inc., August 2012. EBMUD 39th Avenue Reservoir Replacement Concept Design Process and Recommendations. Prepared for East Bay Municipal Utility District.

Air Quality and Green House Gases - Lamphier-Gregory, August 2012. EBMUD 39th Avenue Reservoir Replacement Air Quality and Green House Gas Analysis. Prepared for East Bay Municipal Utility District.

Biological Resources - East Bay Municipal Utility District, March 2012. Evaluation of Biological Resources for the 39th Avenue Reservoir Replacement Project. Prepared by EBMUD Fisheries and Wildlife Service Division for the Water Distribution Planning Division.

Geology/Soils - Engeo Incorporated and EBMUD Materials Engineering, June 2012. Geologic Review and Reconnaissance, 39th Avenue Reservoir, and supporting documentation. Prepared for EBMUD Water Distribution Planning Division.

Hydrology Resources - Letter from Monk & Associates to U.S. Army Corps of Engineers, July 27, 2012. Request for Jurisdictional Determination for EBMUD 39th Avenue Reservoir Replacement Project, Oakland, California.

Noise - Illingworth & Rodkin, Inc., August 2012. EBMUD 39th Avenue Reservoir Replacement Project, Noise and Vibration Assessment. Prepared for East Bay Municipal Utility District.

Traffic/Transportation - Fehr and Peers. August 2012. 39th Avenue Reservoir Replacement Project, Traffic and Circulation Technical Report. Prepared for East Bay Municipal Utility District.

1.5 Circulation of the Mitigated Negative Declaration

In accordance with CEQA, a good faith effort has been made during the preparation of the Initial Study and MND to contact affected agencies, organizations and persons who may have an interest in this project. In reviewing the Initial Study and MND, affected persons and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and the ways in which the significant effects of the project were avoided or mitigated.

Comments on the Initial Study and MND may be made in writing before the end of the comment period. A 30-day review and comment period has been established in accordance with §15205(d) of the CEQA Guidelines. Following the close of the public comment period, which ends on October 29, 2012 at 4:30 p.m., EBMUD will consider this Initial Study and MND and comments thereto in determining whether to approve the proposed project.

This Initial Study and MND document is available and is also posted online at the EBMUD webpage (www.ebmud.com). Written comments should be sent to EBMUD's street address or the email address:

East Bay Municipal Utility District, MS #701
Bill Jeng, Associate Civil Engineer
375 11th Street
Oakland, CA 94607

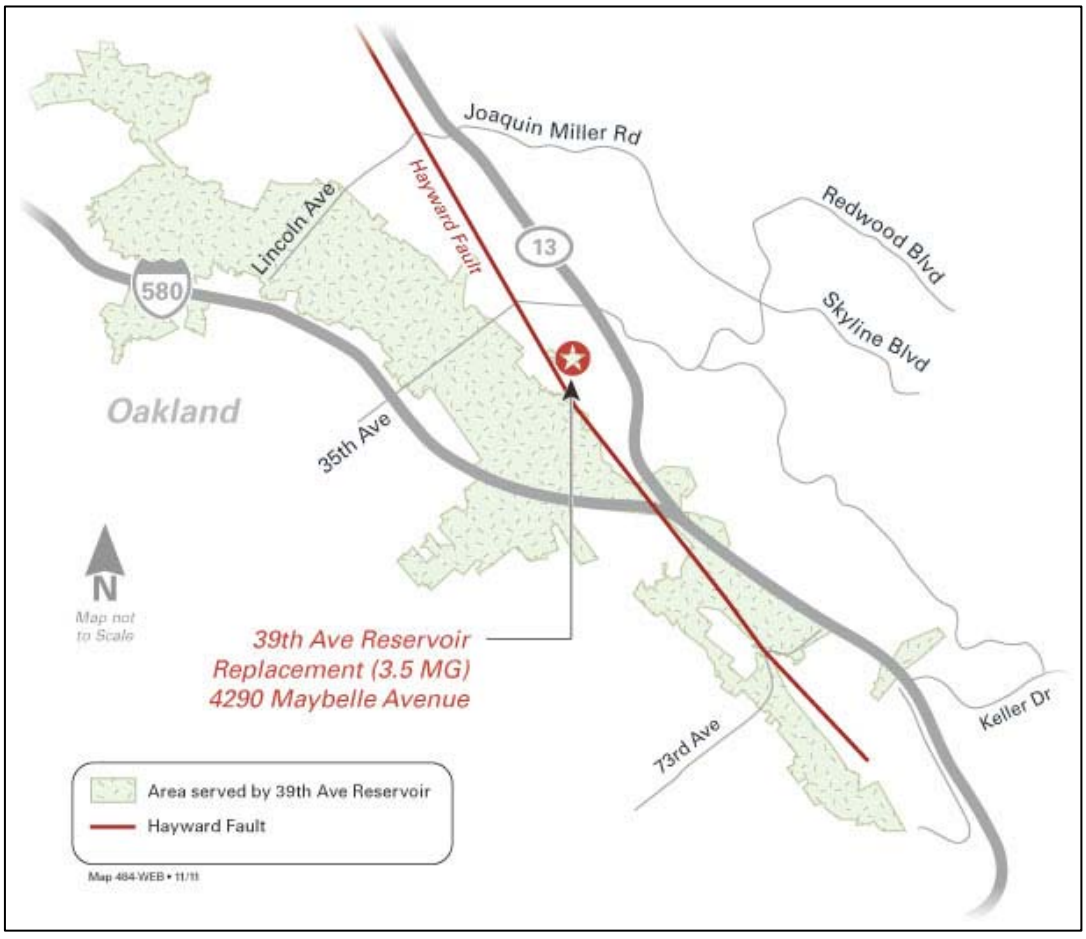
or

39th.ave.mnd@ebmud.com

CHAPTER 2
PROJECT DESCRIPTION

2.1 Overview

The 39th Avenue Pressure Zone is located in the southern portion of the City of Oakland, which receives its supply from both the Piedmont and Aqueduct Pressure Zones. The 39th Avenue Pressure Zone provides water to approximately 8,700 water services in both the cities of Oakland and Piedmont between the elevations of 200 feet and 325 feet. Two pumping plants (39th Avenue and Field Pumping Plants), two reservoirs (39th Avenue and Field Reservoirs), and one regulator (La Salle Regulator) supply water to the 39th Avenue Pressure Zone as shown in Figure 2.1.



Source EBMUD

EBMUD 39th Avenue Pressure Zone

Figure 2.1

2.2 Reservoir Deficiencies

39th Avenue Reservoir is a 10-million gallon (MG) open-cut reservoir (Figure 2.2 Aerial View) that was constructed in 1920. The reservoir has two dams; the main dam is located at the west side of the reservoir while the auxiliary dam is located at the east end. A 92,000 square foot roof enclosure was installed in 1933, retrofitted in 1961, and a 25,000 square foot portion patched in 2011. Deficiencies include:

- The reservoir is sized approximately 3 times larger than required by EBMUD's Engineering Standard Practices (ESP 492.2), which leads to water quality operational challenges.
- There is no underdrain present at the reservoir.
- The Hayward Fault Zone lies on the southwest portion of the reservoir.
- Existing roofing material is reaching the end of its useful life. A portion had to be temporarily replaced during the winter of 2010/2011.
- The roof structure does not meet current seismic codes.
- The roof's Galbestos section contains asbestos that required past remediation. The asbestos sources, if disturbed, are subject to Required Safety Practice 3700. Restricted Work Authorization requires Workplace Health Safety notification.
- The Remote Terminal Unit (RTU) is obsolete and is recommended for replacement under the RTU Replacement Program.

Source: EBMUD

39th Avenue Reservoir (Aerial View)

Figure 2.2

2.3 Proposed Project

The existing 10-MG reservoir roof system and appurtenances will be demolished and disposed offsite. The existing concrete lining will also be demolished and crushed but re-used onsite as backfill material. A 3.5-MG replacement tank including a buried valve pit structure and pipeline modifications will be installed within the existing basin, refer to Figure 2.3. The proposed landscape features and tank layout were developed based on input from EBMUD's Operations, Maintenance, Engineering, Health and Safety staff and its Landscape Architect consultant as well as community members who attended the January 18, 2012 and April 25, 2012 public outreach meetings.

Key factors for the final site concept design solution included proximity to the fault line, visibility of the tank from the adjacent neighbors, accessibility for maintenance vehicles, low maintenance landscaping, and fire break protection. In essence the concept plan developed in the planning process provides between a 10 percent to 20 percent design effort. Additional detail regarding design solutions and process is provided in the Concept Design Process and Recommendation report (August 2012).

2.4 Environmental Setting

The 39th Avenue Reservoir is located on an 8.2 acre site bounded by 39th Avenue to the northwest and Reinhardt Drive to the east. A portion of this site was originally a sag pond created by the Hayward Fault, which lies on the southwest portion of the reservoir. Vehicle access to the reservoir is located both on 39th and Maybelle Avenues. The parcel is located in a residential developed area, and generally encircled by private residences. Numerous coast redwood, Monterey pine, coast live oak, big leaf maple, deodar cedar, buckeye, English ivy, non-native grasses, and shrubs line the property, limiting the view of the reservoir roof from the public views located on 39th Avenue, Reinhardt Drive and Maybelle Avenue. Within the project site, there are small potentially seasonal wetlands that are isolated and not connected to navigable waters. Most neighboring homes have no view or a filtered view of the existing reservoir roof. A few homes on the north side may have direct views of the southern roof portion from their upper stories. An aerial view of the site and topography is shown in Figure 2.2.

2.5 Construction Characteristics

2.5.1 Construction Equipment - Equipment anticipated to be used during the project construction include: backhoes, excavators, concrete crusher, dump trucks, bull dozer, high lift crane, pre-stressing machine, flatbed delivery trucks, asphalt pavers, vibratory compactors, water trucks, concrete trucks, compressors, and various passenger vehicles. Construction activity, duration, and resulting vehicle trip is listed in Table 2.1. Equipment usage is identified in Table 2.2.

2.5.2 Staging Area - Material and off-road equipment will be staged within the reservoir site. Two project construction trailers will also be placed on site for the duration of the construction period. The trailers will be cited near the onsite access road.

2.5.3 Work Hours - Construction would occur between 7:00 a.m. and 7:00 p.m., Monday through Friday, with after-hours or weekend construction activity limited to unplanned/unexpected occurrences or critical shutdowns approved by EBMUD staff. Although a 12-hour window is proposed, a typical eight-hour work day serves as the basis of the productions rates listed in Table 2.2. If the contractor elects to work extended hours, productivity will increase and construction duration will shorten.

Source: EBMUD

Proposed Reservoir Replacement Project

Figure 2.3

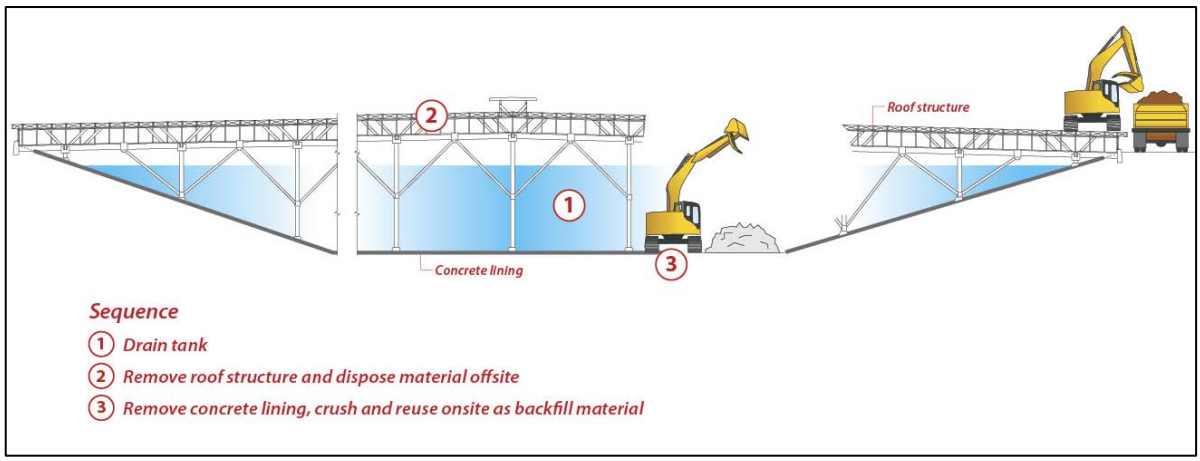
TABLE 2.1
Construction Activities Associated with 39th Avenue Reservoir

Construction Activity	Major Equipment	Duration (weeks)	Material/ Haul Trucks (per day)	Worker Vehicles (per day)	Max One-Way Trip (per hour)
Demolition					
Drain Reservoir (EBMUD)	Portable pump (1)	4	1	5	5
Contractor Mobilization	Trailer, generator, excavators	2	4	5	5
Remove Roof Structure	Excavator, chain saw, haul trucks	4	10	6	11
Remove Concrete Lining	Excavator, hoe ram, haul trucks, air compressor, concrete crusher	2	2	5	6
Earthwork Improvements					
Access Road	Dozer, material truck, back-hoe	2	4	4	5
Temporary Slope Cut	Excavator, bulldozer, material truck	4	2	4	6
Foundation Excavation	Excavator, dozer, compactor	4	2	4	6
Import Fill	Dozer, compactor, material trucks	1	60	4	14
Tank Construction					
Foundation Rebar & Form	Crane, delivery trucks	2			
Reservoir Foundation Pour	Concrete truck, concrete pump	2 days	45	20	22
Reservoir Walls	Crane, delivery trucks, concrete trucks, concrete pump	8	2	15	17
Reservoir Roof/staging	Crane, delivery truck	5	2	15	17
Reservoir Roof Pour	Concrete truck, concrete pump	2 days	45	20	22
Wall Pre-stressing	Pre-stressing tower, concrete truck, concrete pump	4	2	8	10
Valve Pit and Piping,	Backhoe, material trucks, concrete truck, concrete pumps	6	1	8	10
Field Testing and Startup		8	1	8	8
Site Restoration					
Tank Backfill	Material trucks, bulldozer, backhoe, compactor	2	15	10	7
Contouring/Landscaping	Material trucks, backhoe	6	1	10	11
Complete Civil Work	Asphalt paver, scraper, roller	2	2	2	1
Demobilization	Haul trucks, backhoe	2	4	4	2
Total Construction Duration		**69**			

TABLE 2.2
Construction Equipment Associated With 39th Avenue Reservoir

Construction Activity	Major Equipment	Weeks	Total Equipment Hours Used	Material/ Haul Trucks[1] (per day)
Demolition				
Drain Reservoir (EBMUD)	Portable pump (1)	4	120	
Contractor Mobilization	Generator	2	8	
	2 Excavators		1	
Remove Roof Structure	2 Excavators (88 percent)	4	210	
	Chain saw		32	
Remove Concrete Lining	(1) Excavator (50percent)	2	40	
	Hoe ram (50 percent)		40	
	Air compressor (33 percent)		25	
	Concrete crusher (66hp) 3gal/hr40tph		70	
Earthwork and Foundation Improvements				
Access Road	Bulldozer (50 percent)	2	40	
	Back-hoe		40	
	Vibratory compactor		40	
Reservoir Foundation	Excavator	4	140	
	Bulldozer		140	
Temporary Slope Layback	Excavator	4	140	
	Bulldozer		140	
Import Fill	Bulldozer (88 percent)	1	35	
	Compactor (88 percent)		35	
Tank Construction				
Reservoir Foundation Pour	Concrete truck	2 days	--	100 (total)
	Concrete pump		16 (total)	
Reservoir Walls	Crane (75 percent)	8	240	
	High-lift crane 80hp (50 percent)		160	
	Concrete trucks		--	80 (total)
	Concrete pump		32	
Reservoir Roof	Crane (75 percent)	5	150	
	High lift crane, 80hp (50 percent)		100	
	Concrete truck			100 (total)
	Concrete pump		16	
Reservoir Roof Pour	Concrete truck	2 days		100 (total)
	Concrete pump		16	
Wall Pre-stressing	Pre-stressing tower (50hp) (50percent)	4	80	
	Concrete truck		--	8 (total)
	Concrete pump		24	
Valve Pit and Piping,	Backhoe	6	16	
	Concrete truck			10 (total)
	Concrete pumps		16	
Field Testing and Startup		8		
Site Restoration				
Tank Backfill	Bulldozer	2	70	
	Backhoe		70	
	Compactor		70	
Contouring /Landscaping	Backhoe (50 percent)	6	120	
Complete Civil Work	Asphalt paver	2	16	
	Scraper		16	
	Roller		16	
	Bulldozer		32	
Demobilization	Backhoe	2	16	
Total Construction Duration		**69**		

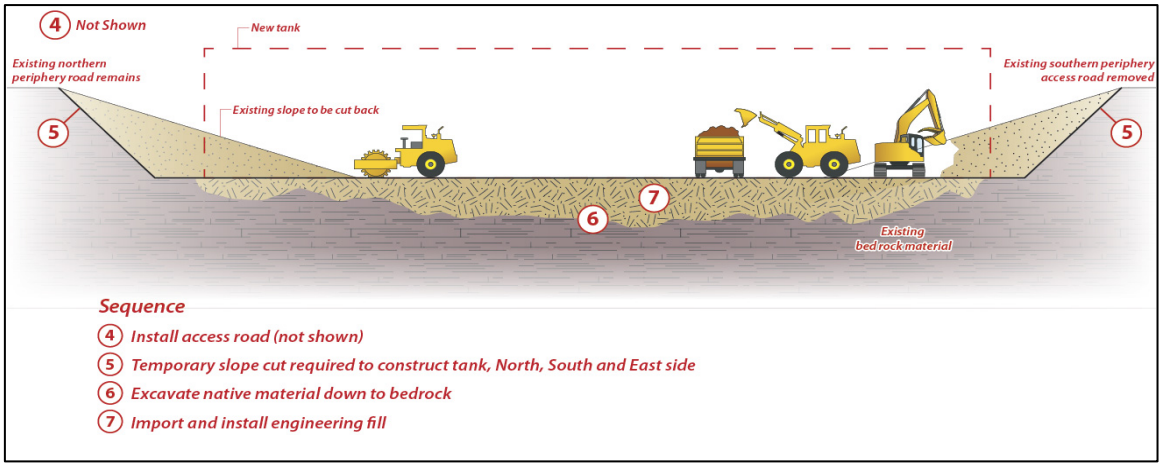
2.5.4 Demolition - The demolition phase consists of removing the reservoir's water content by pumping water back into the distribution system as well as disposing the accumulated sediment located on the lining system. The roofing material and its supporting structure will be removed and disposed of. The roofing material located on the far southeast roof section contains asbestos. This material will be removed and disposed of by a Department of Safety and Health registered asbestos abatement contractor. To help reduce project truck traffic, the concrete lining will be crushed and re-used as onsite fill material. Demolition work activities will take approximately 12 weeks to complete and the key activities are depicted in Figure 2.4 and listed in Table 2.1.



Source: EBMUD

Demolition Sequence
Figure 2.4

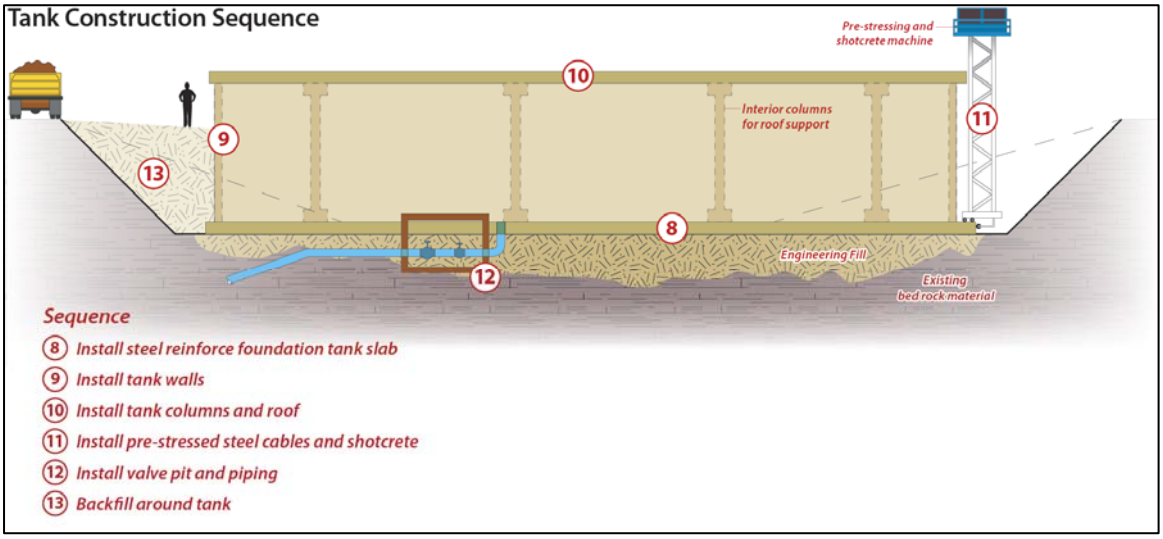
2.5.5 Earthwork and Foundation Improvement - An access road will need to be constructed from the top of the existing reservoir embankment into the basin for construction purposes as well as long-term access to the proposed tank. A portion of the existing reservoir slide slope will be excavated for equipment staging purposes. All excavated material from the site will be temporarily stored at the western side of the existing basin and then re-used as backfill material around the new tank. Additionally, up to 10 feet of existing material will be excavated underneath the proposed tank and backfilled with engineered fill. This work is required to minimize the potential tank settlement. It will take between 40 to 60 trucks per day for up to a two week period to import the engineered material. All earthwork and foundation improvement activities will take approximately 11 weeks to complete and the key activities are depicted in Figure 2.5 and listed in Table 2.1



Source: EBMUD

Earthwork and Foundation Sequence
Figure 2.6

2.5.6 Tank Construction - The tank diameter and height will be approximately 175 feet inner diameter and 28 feet tall. The sequence of construction includes the placement of engineered fill and base rock followed by the concrete pad foundation, concrete reservoir walls, reservoir roof, wall pre-stressing, shotcrete, valve pit structure, piping and appurtenances. Tank construction activities will take approximately 33 weeks to complete and the key activities are depicted in Figure 2.6 and listed in Table 2.1.



Source: EBMUD

Tank Construction Sequence
Figure 2.6

2.5.7 Site Restoration - Once the tank is operable, the area outside the tank will be partially back-filled with available surplus soil and crushed concrete resulting from earthwork activities. This operation will use vibratory equipment to achieve compaction requirements. Contouring and slope restoration within the basin shall not exceed a 3:1 grade. Site restoration activities will take approximately 12 weeks to complete and the key activities are listed in Table 2.1.

2.6 Project Schedule and Cost

The EBMUD Board of Directors will consider adoption and approval of this MND at a regularly scheduled meeting in December 2012. Due to a 25,000 square foot temporary roof repair performed in 2011, EBMUD staff believes that the roof's life expectancy has been extended for another 5-10 years. Thus, design of the replacement project is anticipated to commence in 2018. Construction is estimated to take about 16 to 18 months, beginning in 2019. The planning level cost estimate is $8.9 million. This estimate includes design, construction, construction management, and inspection costs.

CHAPTER 3
ENVIRONMENTAL ANALYSIS

3.1 Project Information

1. **Project Title:** 39th Avenue Reservoir Project
2. **Lead Agency Name and Address:** East Bay Municipal Utility District
   Water Distribution Planning Division, MS 701
   375 11th Street
   Oakland, CA 94607
3. **Contact Person:** Bill Jeng, Associate Civil Engineer
   (510) 287-1291
4. **Project Location:** Residential area in the City of Oakland
   (see Figure 2.1)
5. **Project Sponsor's Name and Address:** East Bay Municipal Utility District
   Water Distribution Planning Division, MS 701
   375 11th Street
   Oakland, CA 94607
6. **General Plan Designation:** City of Oakland - Detached Unit Residential and Hillside Residential
7. **Zoning:** City of Oakland - RD-1 (detached single-unit residential)
8. **Description of Project:** The existing 10.5 million gallon reservoir roof system and appurtenances will be demolished and disposed offsite. The existing concrete lining will be crushed on-site and re-used onsite. A 3.5 million gallon replacement tank including a buried valve pit structure and pipeline modifications will be installed within the existing basin. The tank will be situated towards the eastern portion of the site in order to avoid the Hayward Fault Zone. Contouring and landscaping features will be installed to reduce the visual impact of the exposed existing basin as well as the new tank.

   Refer to Section 2.3 Proposed Project
9. **Surrounding land uses and setting *(briefly describe project's surroundings)*:**

   City of Oakland - RD-1 (detached single-unit residential)
10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**
    1. Regional Water Quality Control Board: Storm Water Pollution Prevention Permit and Wetland Mitigation Permits as needed.
    2. California Air Resources Board: registration of portable engines, air compressors and generators
    3. Bay Area Air Quality Management District (BAAQMD): Notification Form for Road Construction and Maintenance Operation
    4. Encroachment permits: None

3.2 Environmental Factors Potentially Affected

The environmental factors checked below could potentially be affected by this project, but would be mitigated to a Less than Significant level.

☐	Aesthetics	☐	Agriculture Resources	☒	Air Quality
☒	Biological Resources	☐	Cultural Resources	☒	Geology/Soils
☐	Greenhouse Gas Emissions	☒	Hazards/Hazardous Materials	☒	Hydrology/Water Quality
☐	Land Use/Planning	☐	Mineral Resources	☒	Noise & Vibration
☐	Population/Housing	☐	Public Services	☐	Recreation
☒	Transportation/Traffic	☐	Utilities/Service Systems	☐	Mandatory Findings of Significance

3.3 Environmental Determination (Negative Declaration)

On the basis of this initial evaluation:

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

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

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

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

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

Xavier J. Irias, Director of Engineering and Construction
East Bay Municipal Utility District

9-12-12
Date

3.4 Evaluation of Environmental Impacts and Initial Study Checklist

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report is required.
4. "Negative Declaration - Less than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a Less than Significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program Environmental Impact Report, or other California Environmental Quality Act (CEQA) process, an effect has been adequately analyzed in an earlier Environmental Impact Report or Negative Declaration. Section 15063 (c) (3) (D). Earlier analyses are discussed in the Earlier Analysis Section at the end of the environmental checklist forms.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources - A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different ones.
9. The analysis of each issue should identify:
    a) The significance criteria or threshold used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL IMPACT CHECKLIST

I. AESTHETICS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?				X
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c. Substantially degrade the existing visual character or quality of the site and its surroundings?		X		
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?				X

DISCUSSION

The aesthetics discussion is based upon the report titled 39th Avenue Reservoir Replacement Project, Concept Design Process and Recommendations by Siegfried Engineering Inc., dated August 2012. The concept was developed based upon two public meetings hosted by EBMUD on January 19, 2012 and April 25, 2012.

Ia. No Impact. The project site is not within a designated scenic vista.

Ib. No Impact. The project site is not located within a state scenic highway and no impacts to trees, rock outcrops or historic buildings would result from the project.

Ic. Less than Significant Impact with Mitigation. There will be a change to the visual site character due to the removal of the existing 2.25 acre 39th Avenue Reservoir roof structure. The views from the streets and surrounding residences into the site will be improved since the entire reservoir bowl and partially buried tank will be landscaped with grasses, wild flowers, shrubs and trees, to provide continuity with existing site landscaping. Therefore, visual changes resulting from construction of this reservoir project would be minimal and considered Less than Significant. Mitigation measures are identified as Mitigation Measure AES-1 in Appendix A.

Id. No Impact. No permanent external lighting will be installed as part of this project.

II. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

DISCUSSION

IIa. No Impact. The project site is not designated as prime Farmland, Unique Farmland, or Farmland of Statewide Importance. It is located within an urban area surrounded by residential uses.

IIb. No Impact. The project site is not currently zoned for agricultural use nor is it under a Williamson Act contract for agricultural preservation. Therefore there is no potential for significant impact, and additional analysis (and/or mitigation measures) is not required.

IIc. See IIa. above.

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Conflict with or obstruct implementation of the applicable air quality plan?				X
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?			X	
d. Expose sensitive receptors to substantial pollutant concentrations?				X
e. Create objectionable odors affecting a substantial number of people?				X

DISCUSSION

The Air Quality discussion is based upon a report titled EBMUD 39th Avenue Reservoir Replacement Air Quality and Green House Gases Analysis, prepared by Lamphier Gregory, August 2012. The Urban Emission (URBEMIS) model was used to estimate emissions from this type of construction project, as recommended by BAAQMD.

IIIa. No Impact. The project would not conflict with the implementation of air quality plan. General estimated basin-wide construction–related emissions are included in the BAAQMD emission inventory and are not expected to prevent attainment or maintenance of the ozone, particulate matter, and carbon monoxide within the Bay Area. Therefore, construction impacts related to air quality plans from the proposed project would be Less than Significant, and no mitigation would be required.

IIIb. and IIIc. Less than Significant Impact. The project would result in maximum daily emissions levels that are below BAAQMD thresholds. Therefore, the project's impact related to construction-period criteria pollutant emissions is Less than Significant.

However, BAAQMD recommends implementation of construction mitigation measures to reduce construction-related emissions for all projects, regardless of the significance level of construction-period impacts, so Mitigation Measure Air-1 would be applicable. These measures are identified as Mitigation Measure AIR-1 in Appendix A.

Construction activities can also result in fugitive dust, which contributes to particulate matter levels. While construction-period dust emissions have been estimated, BAAQMD does not have a threshold of significance for fugitive dust impacts, but instead regards fugitive dust impacts to be mitigated if appropriate management practices are implemented. BAAQMD-recommended basic construction management practices are included in Mitigation Measure Air-1. Consistent with BAAQMD recommendations, the fugitive dust emissions presented in the MMRP have been reduced by 53 percent to reflect implementation of the measures included in Mitigation Measure Air-1 in Appendix A.

IIId. No Impact. BAAQMD recommends assessment of community risks and hazards within a 1,000 foot radius of a project boundary. The project site is surrounded by residential uses. Due to the proximity of residential units, which are considered sensitive receptors in relation to health risks, a Construction Health Risk Assessment was performed by Lamphier-Gregory as part of the August 2012 Technical Analysis on Air Quality and Green House Gases. The study used the URBEMIS emissions estimates (discussed above) together with the U.S. Environmental Protection Agency (EPA) dispersion model (SCREEN3) to determine the potential health risks related to diesel exhaust from construction equipment.

For the maximum exposed individual, including conservative age sensitivity factor of 10 to account for young children, the inhalation cancer risk would be 1.79 in 1 million (compared to a threshold of 10.00 in 1 million). The maximum chronic hazard index would be 0.008 (compared to a threshold of 1.000). The annual average particulate matter 2.5 microns in diameter or less ($PM_{2.5}$) concentration would be 0.042 mg/m3 micrograms per cubic meter ($\mu g/m^3$[compared to the threshold of 0.300 $\mu g/m^3$]). These quantitative modeling results are conservative (i.e., likely overstate actual health risks) because the model was run taking into account the approximately 5 percent reductions in exhaust emissions that would result from implementation of basic construction measures included in Mitigation Measure Air-1 in Appendix A.

The project vicinity is largely built-out. There are no additional projects to take into account for cumulative localized construction-period impacts.

Exposure risks for the maximally exposed individual are below threshold levels; therefore, the impact related to construction-period exposure would be Less than Significant.

Also note that the existing materials could contain asbestos and/or lead-based paint. Appropriate surveying of the materials and removal of any hazardous materials by a qualified consultant are required prior to issuance of demolition permits.

IIIe. No Impact. Pipeline operation will not generate long-term objectionable odors.

IV. BIOLOGICAL RESOURCES. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service?		X		
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or United States Fish and Wildlife Service?				X
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
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?				X
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
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?				X

DISCUSSION

Information in this section is based on the Biological Assessment report prepared by East Bay Municipal Utility District in March 2012.

The site is dominated by an "urban mix" of plant species including native tree species planted for landscaping, such as coast redwood (*Sequoia sempervirens*), Monterey pine (*Pinus radiata*), coast live oak (*Quercus agrifolia*), buckeye (*Aesculus californica*), and big leaf maple (*Acer macrophyllum*); non-native trees including deodar cedar (*Cedrus deodora*), Chinese elm (*Ulmus parvifolia*) golden wattle (*Acacia pycnantha*), and late cotoneaster (*Contoneaster lacteus*). Understory vegetation is dominated by English ivy (*Hedera helix*), with other non-natives including bull thistle (*Cirsium vulgare*), stinkwort (*Dittrichia graveolens*), common chickweed (*Stellaria media*), cutleaf geranium (*Geranium dissectum*), bristly ox-toungue (*Helminthotheca echoides*), and Himalayan blackberry (*Rubus armeniacus*).

IVa. Less than Significant Impact with Mitigation. ***Sensitive and Special Status Plant Species.*** Sensitive and special status plant species that may occur on the proposed project site and plant species observed during the site visits during spring 2012 are noted in the referenced Biological Resources Assessment prepared by East Bay Municipal Utility District, March 2012. The proposed project site lacks unique substrates, (e.g., alkaline or serpentine soils) micro-habitats (e.g., volcanic rock outcrops, vernal pools, wetlands, etc.), is entirely surrounded by residential development, and does not provide habitat characteristics typically associated with special status plant species. For these reasons, no special-status plant species are expected to occur in the proposed project site. Therefore, the proposed project would not result in any impacts to sensitive or special status plant species.

Sensitive and Special Status Wildlife Species

The proposed project site does not provide habitat characteristics typically associated with sensitive or special status wildlife species and is entirely surrounded by residential development. For these reasons, no sensitive or special-status wildlife species identified in Appendix A were observed or are expected to occur in the proposed project site.

The proposed project may include the removal of trees potentially used for nesting by bird species protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGC). In addition, loud noise associated with construction activities have the potential to disturb nesting occurring in close proximity to the proposed project site and to result in the abandonment of an active nest. The loss of an active nest of a bird species protected by MBTA and/or CFGC may be considered a significant impact.

The implementation of Mitigation Measure BIO-1 in Appendix A would reduce potential impacts to bird species to a less-than-significant level.

IVb. No Impact. As a developed site, there are no riparian habitats or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service on the proposed project site. Therefore, the project would not result in any impacts to riparian habitat or sensitive natural communities.

IVc. Less than Significant Impact with Mitigation. Several small potential seasonal wetlands and one sparsely vegetated drainage feature occur within topographic low areas in the center of the western half of the project site. These potential wetland features support a mix of both hydrophytic (wetland) and upland vegetation. Non-native species that occur within these features include prickly lettuce (*Lactuca serriola*), prostrate spurge (*Chamaesyce prostrata*), hyssop loosestrife (*Lythrum hyssopifolia*), common vetch (*Vicia sativa*) and common knotweed (*Polygonum aviculare*). Native species that occur within these features include alder (*Alnus rhombifolia*), summer cottonweed (*Epilobium brachycarpum*), Pacific willow (*Salix lasiandra* var. *lasiandra*), flatsedge (*Cyperus eragrostis*), rush (*Juncus mexicanus*) and narrow-leaved cattail (*Typha angustifolia*). These seasonal wetlands are characterized by a dominance of hydrophytic vegetation and their adjacent upland areas are dominated by upland vegetation.

A small potential seasonal wetland on the northern boundary of the project site, adjacent to the paved road supports non-native species such as wart cress (*Lepidium didymum*), prostrate spurge, common vetch and scarlet pimpernel (*Anagalis arvensis*), and native species such as black nightshade (*Solanum americanum*). Wetland taxa that occur within this feature include the non-native species everlasting cudweed (*Pseudognaphalium luteoalbum*) and hyssop loosestrife (*Lythrum hyssopifolia*) and the native species toad rush (*Juncus bufonius* var. *bufonius*). This feature is dominated by hydrophytic vegetation.

The areas mapped on the project site are considered to be "isolated" since they do not have hydrologic connectivity with navigable waters of the United States, and therefore are not subject to the U.S. Army Corps of Engineers' (Corps) jurisdiction; however, only the Corps can confirm/verify this assumption. If impacts to wetlands or other waters of the United States can not be avoided, the implementation of Mitigation Measure BIO-2 in Appendix A would reduce potential impacts to wetland functions to a Less than Significant level.

IVd. No Impact. The proposed project site does not function as an important regional wildlife corridor because the site and adjacent areas have been developed, paved, or landscaped. The site is surrounded by residential uses on all four sides, including the Warren Freeway (SR-13). No impacts to other sensitive biological communities are anticipated.

IVe. Less than Significant. Although EBMUD is not subject to building and land use zoning ordinances (such as tree ordinances) for projects involving the transmission of water (refer to Government Code section 53091) EBMUD strives to consider and work

with host jurisdictions and neighboring communities during project planning and to conform to local environmental protection policies, where feasible and not contrary to its public purpose and responsibilities. During the community outreach process, participants were concerned that the project would require removal of redwood trees located on the western portion of the reservoir site. EBMUD clarified that between 5-10 trees will need to be removed on the embankment in order replace the existing inlet/outlet pipeline. No other trees would be removed under this project.

The implementation of Mitigation Measure BIO-3 in Appendix A will help preserve the existing coast redwood and coast live oak trees.

IVf. No Impact. The project is not within the boundaries of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project will not conflict with the provisions of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans.

V. CULTURAL RESOURCES. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?				X
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?			X	
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
d. Disturb any human remains, including those interred outside of formal cemeteries?			X	

DISCUSSION

Va. No Impact. The project site is not listed on the Federal, California or Oakland Register of Historic Places. Additionally, an evaluation of the roof structure was made using the City of Oakland's Landmark Preservation Advisory Board (LPAB) Guidelines for determination of Landmark Eligibility. The roof structure received the lowest rating of a 'D' and therefore is not eligible for a City Landmark.

Vb. through Vd. Less than Significant Impact. The project site is located on developed land that has been subject to extensive prior excavation and disturbance. All project work will occur in areas that have been previously disturbed. It is unlikely that unique archeological, paleontology resources or human remains exist along the project alignments. However, if remains of archeological features or human remains are uncovered during trench excavation work, the standard protocol will be followed to preserve and protect such features. Generally this will consist of immediately stopping work until such time as a qualified archeologist or the county coroner can make a determination of significance for archeological and human remains, respectively.

VI. GEOLOGY AND SOILS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:		X		
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?				X
ii. Strong seismic ground shaking?			X	
iii. Seismic-related ground failure, including liquefaction?				X
iv. Landslides?				X
b. Result in substantial soil erosion or the loss of topsoil?			X	
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?				X
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X

VI. GEOLOGY AND SOILS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
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?				X

DISCUSSION

The Geology and Soils discussion is based upon a memo titled Evaluation of Geology, Geotechnical, and Seismicity Impacts for 39th Avenue Reservoir Project, prepared by EBMUD, November 2010. Geology, geotechnical and seismicity assessments were conducted to evaluate potential environmental impacts for the proposed 39th Avenue Reservoir Replacement Project based on review of available geological maps, reports and other related literature. From geotechnical and geological viewpoints, it is considered that the project site is suitable for construction and operation of the proposed pipeline replacement project.

VIa. Less than Significant Impact with Mitigation. The project site is within the Alquist-Priolo Special Studies Zone as defined by the California Division of Mines and Geology (1982). Two traces of the Hayward Fault are mapped west of the project site and a third mapped trace of the fault is located east of the site. Although these traces do not underlie the proposed water tank, sympathetic rupture may cause damage to the water tank and other structures and result in a potential loss of water. Implementation of Mitigation Measure GEO-1 indentified in Appendix A will lessen potential impacts to a Less than Significant level.

VIa. (i. and ii.) No Impact and Less than Significant Impact, respectively. There is no evidence of Holocene activity in possible minor faults or shear in the Franciscan rock units along the proposed pipeline alignments, refer to Figure 2.2. The closest active fault to the pipeline alignment is the Hayward fault, which is about 700 feet east from the central section of Proctor Avenue. The estimated maximum earthquake magnitude on the Hayward fault is moment magnitude Mw 7.25 and the peak ground acceleration is estimated to be 0.56g. Impacts on the buried pipeline from the seismic ground shaking from potential earthquakes are considered Less than Significant because the proposed pipeline will be designed to resist these ground motions.

VI.a.iii. No Impact. The soils most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained soils that occur close to the ground surface, usually at depths of less than 50 feet. In general, upland areas have a low liquefaction potential, except where significant alluvium is present in creek bottoms or swales. The proposed pipeline alignment does not consist of such alluvium material.

VIa.iv No Impact. There is no evidence of potential landslide along the proposed pipeline alignment that would cause direct impact to the buried pipelines.

VIb. Less than Significant. Construction work will incorporate best management practice for erosion control in accordance to General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit Order No. 2009-0009-DWQ). These erosion control measures would reduce to the potential for short-term soil erosion and loss of topsoil.

VIc. No Impact. No evidence of landslide, lateral spreading, subsidence, liquefaction or collapse of geologic unit or soil has been identified as discussed in items VIa.iii and VIa.iv.

VId. No Impact. The project is not located on expansive soil.

VIe. No Impact. Septic tanks or alternative wastewater disposal systems are not part of this project.

VII. GREENHOUSE GAS EMISSIONS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?			X	
b. Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

DISCUSSION

The Greenhouse Gas (GHG) Emission discussion is based upon a report titled EBMUD 39th Avenue Reservoir Replacement Air Quality and Green House Gases Analysis, prepared by Lamphier Gregory, June 2012. BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. BAAQMD's operational threshold of 1,100 metric tons carbon dixoide equivalent (CO_2e) per year was used for a conservative analysis.

VIIa. Less than Significant Impact. Construction-period emissions of CO_2 have been calculated using URBEMIS. Short tons were converted to metric tons using a conversion factor of 0.91. Consistent with U.S. EPA assumptions, BAAQMD assumes CO_2 accounts for 95 percent of the GHG from vehicle exhaust, so the CO_2 emissions were multiplied by 1.0526 to account for other GHGs and convert the emissions to CO_2e. The project would result in total emissions of 144 metric tons CO_2e. This total would be divided

across the construction period to find the annual emission of 111 metric tons for comparison to the threshold of 1,100 metric tons CO_2e per year.

VIIb. No Impact. The project would have a significant environmental impact if it was inconsistent with a plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.

GHG emissions have been analyzed per the BAAQMD Guidelines and found to be Less than Significant. BAAQMD's thresholds and methodologies take into account implementation of state-wide regulations and plans, such as the California Assembly Bill 32 Scoping Plan and adopted state regulations. While the City of Oakland Climate Action Plan would generally not directly relate to this project, EBMUD does promote water conservation, which can help cities meet their Climate Action Plan goals.

Therefore, there would be a Less than Significant impact in relation to consistency with GHG reduction plans, policies or regulations.

VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
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?		X		
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X

VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**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 for people residing or working in the project area?				X
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

DISCUSSION

VIIIa. and VIIIb. Less than Significant Impact with Mitigation.

Asbestos - Construction and excavation activities disturbing more than one acre of asbestos-containing materials, which may exist in the serpentine rock matrix in the Franciscan Formation in the project site, are required to prepare an Asbestos Dust Mitigation Plan specifying measures that would be taken to prevent visible dust dispersing into adjacent property. The plan must be submitted to and approved by the BAAQMD at least two weeks prior to the beginning of excavation, and the site operator must ensure the implementation of all measures through the construction project. In addition, the BAAQMD may require air monitoring for offsite migration of asbestos dust during construction activities and may change the plan on the basis of the air monitoring results. Implementation of Mitigation Measure HAZ-1 identified in Appendix A will lessen potential impacts to a Less than Significant level.

Asbestos Roofing Panel - The roofing material located on the far south-east roof section contains asbestos. This material will be removed and disposed of by a Department of Safety and Health registered asbestos abatement contractor and disposed of at an appropriate waste disposal site (Keller Canyon).

Chlorine - Backbone and distribution pipelines are dosed with chlorine to disinfect the pipeline prior to being placed in-service. This water is then purged from the pipeline and then dechlorinated prior to release into the sewer or storm water system. Implementation of Mitigation Measure HAZ-2 identified in Appendix A will lessen potential impacts to a Less than Significant level.

Silicone - The potential for silicosis exposure (related to demolition, concrete recycling and construction activities) is considered Less than Significant because dust and particulate matter controls utilized by the contractor and required as part of the contract specifications (see Air Quality section and Mitigation Measure AIR-1 in Appendix A) will ensure that levels of silica and other particulate materials are not harmful either to workers at the site or sensitive receptors (residents) in vicinity of the site. All construction activities would occur in accordance with applicable federal and state requirements relative to health and safety, including California Occupational Safety and Health Administration (CAL-OSHA) requirements.

Creosote - The existing 39th Avenue Reservoir roof structure contains creosote as a wood preservative. State and Federal Regulations limit reuse of treated lumber to the site of origin and for "similar uses" within the State of California. The proposed landscape plan for 39th Avenue Reservoir does not include re-use of any treated wood thus treated wood will be handled, transported and disposed of at an appropriate waste disposal site (Keller Canyon). Alternatively, pressure-treated lumber may potentially be transported and reused in either Mexico as an "Excluded Recyclable Material," provided that all applicable State of California Department of Toxic Substances Control (DTSC) requirements are met, or in other states provided that all applicable State and Federal requirements are met. No unregulated hazardous substances will be used or present when new project components are in service.

VIIIc. No Impact. The project does not involve or generate hazardous waste (see responses to VIIIa. and VIIIb. above).

VIIId. No Impact. A trench spoil investigation was conducted for the 39th Avenue Reservoir project. The project locations were screened for known hazardous materials sites in EBMUD's own environmental database as well as the DTSC online Envirostor Database which is compiled under pursuant to Government Code Section 65962.5. The project is not listed on a hazardous materials site list.

VIIIe. No Impact. The project site is not located within an airport land use plan, or within two miles of a public airport, public use airport or private airstrip.

VIIIf. No Impact. See response for VIIIe above.

VIIIg. No Impact. The project would not affect the implementation of any emergency response or evacuation plan. See response to item XVIe. under Transportation Resources.

VIIIh. No Impact. The proposed project would be not expose people to risk of loss, injury or death involving wildland fires.

IX. HYDROLOGY AND WATER QUALITY. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Violate any water quality standards or waste discharge requirements?			X	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?				X
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off-site?			X	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off-site?			X	
e. Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			X	
f. Otherwise substantially degrade water quality?				X

IX. HYDROLOGY AND WATER QUALITY. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j. Inundation by seiche, tsunami, or mudflow?				X

DISCUSSION

IXa. Less than Significant Impact. EBMUD water distribution system/facilities are designed, constructed, operated and maintained to conform to state and federal requirements for water treatment and discharge, thus no impacts to water treatment and discharge are anticipated. No further analysis and/or mitigation measures are proposed. See response to item VIIIa. and VIIIb. under Hazards and Hazardous.

IXb. No Impact. The project would not deplete groundwater supplies or recharge, because the existing impermeable surface will be restored thus maintaining the status quo commensurate with infiltration (from precipitation), groundwater and recharge. No drinking water wells are located in the vicinity of the project site and thus no impacts to groundwater are anticipated.

IXc. through IXe. Less than Significant Impact. Natural drainage features at the project site will be re-used and improved. An increase in percolation and water collection adjacent to the proposed parking area (in the reservoir bowl) may occur once the concrete reservoir lining is removed. Any increased water will easily percolate through the soil downstream into the existing drainage system that connects to a creek. Drainage patterns may be temporarily disrupted during construction. No impacts to the existing drainage system are anticipated and no further analysis and/or mitigation measures are proposed.

IXf. through IXh. No Impact. The project site is not located within a 100-year flood plain.

IXi. No Impact. The project would eliminate the potential for flooding as a result of the failure of a dam.

IXj. No Impact. The facilities would not be subject to inundation by seiche or tsunami as the project is located inland away from large bodies of water.

X. LAND USE AND PLANNING. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Physically divide an established community?				X
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

DISCUSSION

Xa. No Impact. The project site is already developed with a reservoir, and the proposed project is a replacement of the same use but with smaller tanks; thus the project is an established land-use within an established residential community. There will be no change of land–use, and the project will not physically divide an established community. Therefore there is no impact to Land-Use/Planning.

Xb. Less than Significant. Although EBMUD is not subject to the building and zoning ordinances of local jurisdictions for projects involving the transmission of water (refer to Government Code section 53091), EBMUD strives to consider the regulations and ordinances of local jurisdictions during construction, where feasible and not contrary to its public purpose and responsibilities.

Xc. No Impact. Refer to item IVf. under Biological Resources for discussion pertaining to habitat and natural community conservation plans.

XI. MINERAL RESOURCES. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
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?				X
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?				X

DISCUSSION

XIa. and XIb. No Impact. No mineral deposits of economic significance are known to exist within the project boundary. Furthermore, existing urban/residential conditions at the project site and within the vicinity limit the potential for any quarrying or mining activity at the site. Although quarrying for volcanic rocks was once commonplace throughout the Oakland Hills, and has historically been used for construction and development, today there are no remaining quarries in the City of Oakland and current city policy prohibits quarrying unless compelling evidence can be presented indicating that the benefits will outweigh the environmental costs. Therefore, there will be no impacts to Mineral resources.

XII. NOISE & VIBRATION. Would the project result in:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b. Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?			X	
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	

XII. NOISE & VIBRATION. Would the project result in:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
e. For a project located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

DISCUSSION

The Noise (and Vibration) discussion is based upon a report titled 39th Avenue Reservoir Replacement Project Noise and Vibration Assessment, prepared by Lamphier Gregory/Illingworth Rodkins, Inc., August 2012. The report summarized ambient noise conditions in the project vicinity, and provides an evaluation of the potential significance of noise and vibration-related impacts that would result from the project.

XIIa. and XIId. Less than Significant Impact with Mitigation. The project would result in short term exposure of persons to demolition and construction related noise levels. Although EBMUD is not subject to local jurisdiction zoning ordinances for projects involving the transmission of water (refer to Government Code section 53091) EBMUD strives to consider local noise ordinances during construction, where feasible and not contrary to its public purpose and responsibilities. By limiting work hours and implementing best management construction practices established by the City of Oakland, noise resulting from the project is considered Less than Significant. Measures limiting work hours are identified in Mitigation Measure NOI-1 in Appendix A. Best Management Practices (BMPs) related to Noise Control and Noise Complaint Procedures are identified in Mitigation NOI-2 and NOI-3 in Appendix A, respectively.

While BMPs related to construction practices will limit vibrations, preconstruction home surveys are available in the unlikely and remote event that the project is demonstrated to have caused any damage to residences (Mitigation NOI-4 in Appendix A).

Two monitoring stations for project noise and vibration levels measurements will be placed on the north and south sides of the site. Communication with the measurement system, including daily reports would be prepared. Vibration will be limited to no more than 0.5 inches per second (in/sec) peak particle velocity (PPV).

Vibration levels generated by construction activities would be perceptible inside the residences located adjacent to the site and along the truck routes and may cause some annoyance. However, planned construction hours are during the daytime, limiting the possibility of annoyance during typical periods of sleep or rest.

XIIb. Less than Significant Impact. The project would not result in exposure of persons to or generation of excessive ground-borne vibration levels. There are no local, state, or federal vibration impact criteria that are applicable to this project. The California Department of Transportation uses a vibration limit of 0.5 in/sec PPV for buildings designed to modern engineering standards. A conservative vibration limit of 0.3 in/sec PPV is used for older residential structures found to be structurally sound. EBMUD has successfully applied the 0.5 in/sec standard with no known adverse impacts.

Equipment anticipated during project construction would include: backhoes, excavators, cranes, dump trucks, front end loaders, concrete crusher, vibratory compactor, water trucks, asphalt pavers, concrete trucks and various passenger vehicles. PPV values at 50 feet would not exceed 0.1 in/sec. The impact resulting from the project would be considered Less than Significant as vibration levels would not exceed the 0.5 in/sec PPV criteria established to evaluate the risk for cosmetic or structural damage to buildings.

XIIc. Less than Significant Impact. Normal operation of the reservoir would not generate noise that exceeds ambient noise levels. However, construction activities associated with the project will elevate noise levels for short/intermittent intervals during the construction period which is anticipated to endure for up to 18 months. project noise impacts are considered Less than Significant by limiting work hours and implementing BMPs set forth by Mitigation NOI-1 through NOI-3 in Appendix A.

XIIe. and XIIf. No Impact. The project is not located within an airport land use plan, or is within two miles of a public airport or a private airstrip.

XIII. POPULATION AND HOUSING. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Induce substantial 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)?				X

XIII. POPULATION AND HOUSING. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
b. Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?				X
c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?				X

DISCUSSION

XIIIa. No Impact. The project will not induce population growth by making additional water supply available for new development. The project refurbishes and replaces existing facilities to improve the reliability of the existing water distribution system. Only planned growth, approved and permitted by the City of Oakland will be served by the improved facilities.

XIIIb. No Impact. No housing presently exists at the project site which occurs within public roadways; therefore, the proposed project would not displace housing.

XIIIc. No Impact. The project would not displace people or housing from the site and no relocation would be required.

XIV. PUBLIC SERVICES.	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**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, 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:				
i) Fire protection?				X
ii) Police protection?				X
iii) Schools?				X

XIV. PUBLIC SERVICES.	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
iv) Parks?				X
v) Other public facilities?				X

DISCUSSION

XIVa. No Impact. The project replaces existing water transmission and distribution pipelines only. The project would not generate a need for any new public facilities (schools, police protection, parks, etc.) because it does not induce population and employment growth. Workers at the project site are likely to commute from the existing Bay Area labor supply. Any deterioration of existing public facilities resulting from construction (e.g., streets) would be restored by EBMUD to pre-construction condition upon completion of construction. Such impacts are short-term and considered de minimis.

XV. RECREATION.	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**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?				X
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?				X

DISCUSSION

XVa. No Impact. The project will not generate or attract additional population, as would be associated with residential, commercial or industrial uses; therefore, it would not affect demand for recreational facilities.

XVb. No Impact. The proposed project consists exclusively of distribution system facilities and does not require the construction or expansion of recreational facilities.

XVI. TRANSPORTATION/TRAFFIC. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit?		X		
b. Conflict with an applicable congestions management program, including but not limited to level of service demands and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?		X		
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
e. Result in inadequate emergency access?		X		
f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

DISCUSSION

The Transportation/Traffic discussion is based upon a report titled 39th Avenue Reservoir Replacement Project Traffic and Circulation Report, prepared by Lamphier Gregory/Fehr and Peers, August 2012. The report summarizes the potential traffic and circulation impacts based on; field reconnaissance of the project site (including surrounding roadway network, intersection controls, roadway widths, on-street parking,

sight distances, pedestrian/bicycles facilities, and traffic route), peak period intersection traffic volume counts for local roadways, and estimated project vehicle/truck trips. Existing traffic conditions plus various project peak hour traffic conditions were then calculated and compared to the CEQA Guidelines and City of Oakland significance criteria to determine significance of impacts. Traffic Mitigations are listed in Appendix A.

XVIa. and XVIb. **Less than Significant with Mitigations**. The project would generate vehicle trips during project construction, temporarily contributing to increased traffic on local roadways. Truck trips would be associated with hauling materials, debris and equipment to and from the site. Construction employees would also contribute to vehicle trips. The near-term impact to intersections is Significant But Mitigable. Implementation of Mitigation Measure TRAF-1 identified in Appendix A will lessen potential impacts to a Less than Significant level. The long-term cumulative impact of the project is Less than Significant as the project would generate less vehicle trips than the existing project due to minimal maintenance requirements for a new pipeline.

XVIc. No Impact. The project would not affect air traffic and no impacts related to air traffic or safety would result.

XVId. No Impact. The project would not result in any permanent changes to existing traffic design features.

XVIe. No Impact. The project would not impact emergency access because contract specifications will require the contractor to maintain emergency roadway access at all times.

XVIf. No Impact. Post construction, and during normal operations, the project would generate less than one vehicle trips per day. Therefore it would not affect policies supporting alternative transportation.

XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X

XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e. Result in a determination by the wastewater treatment provider that 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?				X
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			X	

DISCUSSION

XVIIa. through XVIIe. No Impact. The project does not include wastewater facilities.

XVIId. No Impact. The project would not result in the need for new additional water supply.

XVIIf. Less than Significant. The project will require the excavation of in-place soils. Soils and any solid waste encountered in the excavations will be disposed of at an appropriate landfill identified by the contractor as required in EBMUD construction specifications regarding material off-haul and disposal.

XVIIg. Less than Significant. The project will comply with applicable statutes and regulations related to solid waste.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
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.)				X
c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?				X

DISCUSSION

XVIIIa. Less than Significant with Mitigations. Installation of a new water storage facility in this project will require disinfection of equipment and related pipelines with high-chlorine-level dosed water. Implementation of Mitigation Measure HAZ-2 identified in Appendix A will lessen potential impacts to a Less than Significant level. The project will not significantly or adversely impact a sensitive environmental resource as referenced in Section IV, Biological Resource.

XVIIIb. No Impact. All project related impacts are short-term and construction related. Impacts to Visual Quality, Air Quality, Greenhouse Gases/Climate Change, Geology, Soils and Seismicity and Biological Resources are Less than Significant with mitigation.

Regarding cumulative impacts, twelve projects have been identified within a one to three mile radius of the project site. Due to the generalized level of information available for the projects identified, no cumulative significant impacts are projected. Refer to

item XVIa. and XVIb., Traffic/Circulation provides a discussion of cumulative traffic impacts due to the Caltrans Caldecott Tunnel Fourth Bore project and EBMUD's Estates Reservoir Replacement Project. This project will be constructed after Caltrans Caldecott Tunnel and EBMUD's Estates Reservoir projects; therefore, no cumulative impacts are projected.

XVIIIc. No Impact. The project would not result in substantial adverse effects on human beings or their environment, either directly or indirectly.

APPENDIX A
MITIGATION MONITORING AND REPORTING PROGRAM

ENVIRONMENTAL MITIGATION
39TH AVENUE RESERVOIR REPLACEMENT PROJECT

The requirement for a mitigation monitoring or reporting program (MMRP) is introduced in Section 15091 of Title 14, California Code of Regulations, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act (CEQA). This section directs the public agency approving or carrying out the project (East Bay Municipal Utility District [EBMUD]) to make specific written findings for each significant impact identified in the MMRP. When making the required findings, the agency will also adopt a program for reporting on or monitoring the changes that it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These mitigation measures must be fully enforceable through permit conditions, agreements, or other measures.

Section 15097 was added to the CEQA Guidelines on October 23, 1998. It requires the public agency to adopt a program for monitoring or reporting on the revisions that it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. Reporting or monitoring responsibilities may be delegated to another public agency or private entity. However, until mitigation measures have been completed, the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

As the Lead Agency, EBMUD will monitor and report on mitigations for 39th Avenue Reservoir Replacement Project (project). Reporting generally consists of a written compliance review by the Regulatory Compliance Division, based on reports prepared during and at the end of the Design and Construction Phases. Monitoring is generally an ongoing or periodic process of project oversight, conducted by EBMUD Construction Division during the Project Construction Phase.

The project's MMRP is comprised of a matrix of impacts and mitigation. For each significant impact, an action (mitigation measure) is identified along with the timing requirements for implementation, and designation of EBMUD's work unit responsible for ensuring that the action occurs. For impacts that are Less than Significant, mitigation is not required by CEQA. Mitigation for impacts to environmental justice, a social concern, is also not required under CEQA.

The attached table presents the MMRP for the project.

39TH AVENUE RESERVOIR REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Impact being Mitigated	Timing Requirement	Responsibility for Implementation	Responsibility for Monitoring	Design Phase Check Box	Construction Phase Check Box	Post-Construction Phase Check Box
AETHESTICS							
Mitigation Measure AES-1: ▪ Civil and Landscape plans for the 39th Avenue Reservoir Replacement Project will be prepared during the Design Phase that will be consistent with the August 2012 Siegfried Concept Design Process and Recommendations Report. ▪ Designers will observe the design intent of including natural variations in color and texture for the reservoir roof.	**Impact AES-1:** Project construction will alter the site's appearance and long-term visual effects.	Design/ Construction	Design Engineer/ Construction Inspection	Record of Engineer/ EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA
AIR QUALITY							
Mitigation Measure AIR-1: The BAAQMD "Basic Construction Mitigation Measures" will be incorporated by EBMUD into the contract specifications: ▪ All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day and/or kept moist with a permanent mister, type to be determined. ▪ All haul trucks transporting soil, sand, or other loose material off-site shall be covered. ▪ All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. ▪ All vehicle speeds on unpaved roads shall be limited to 15 mph. ▪ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). ▪ All construction equipment shall be maintained and properly tuned, in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. EBMUD will request and maintain logs that certify the proper operating condition of construction vehicles.	**Impact AIR-1**: Construction activities would generate exhaust emissions from vehicles/equipment and fugitive dust particles that could affect air quality**.**	Construction	EBMUD contractor	EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA
BIOLOGICAL RESOURCES							
Mitigation Measure BIO-1: If site clearing, demolition, and construction do not commence between September 1 and January 31, then preconstruction surveys, for nesting birds should be conducted by a qualified biologist to ensure that no nest will be disturbed during project implementation. This survey shall be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the biologist will inspect all trees and other habitats in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist, in consultation with CDFG, will determine the extent of a construction-free buffer zone to be established around the nest to ensure that no nests	**Impact BIO-1:** Special status plant or wildlife species could be encountered during the construction of the reservoir.	Pre-Construction	EBMUD Biologist	EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA

39TH AVENUE RESERVOIR REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Impact being Mitigated	Timing Requirement	Responsibility for Implementation	Responsibility for Monitoring	Design Phase Check Box	Construction Phase Check Box	Post-Construction Phase Check Box
of species protected by the Migratory Bird Treaty Act or State code will be disturbed during project implementation. If active nests of migratory bird species (listed in the MBTA and/or raptors) are within the project area or in areas subject to disturbance from project activities, a no-disturbance buffer will be required in order to avoid nest disturbance. Avoidance buffer is based on the nest location, topography, cover and species' tolerance to disturbance and is determined by a qualified biologist. If an avoidance buffer is not achievable, a qualified biologist will monitor the nest(s) to document that no take of the nest (nest failure) has occurred. Active nests cannot be taken or destroyed under the MBTA and, for raptors, under the CDFG. If it is determined that construction activity is resulting in nest disturbance, work should cease immediately and CDFG should be contacted. Use the Corp-verified wetland delineation map to obtain a permit from the RWQCB if any mapped feature is impacted the final design of the proposed project.							
Mitigation Measure BIO-2: In the event that impacts to mapped wetland or other waters of the U.S. are identified, EBMUD will consult with the Corps, CDFG, and Regional Water Quality Control Board regarding the most appropriate assessment and mitigation methods to adequately address losses to wetland function that could occur as a result of the project. The appropriate permits will be obtained and the mitigation measures outlined within these permits will be implemented. All mitigation work shall be authorized by applicable permits and will reduce potential impacts to Less than Significant.	**Impact BIO-2:** Protect coast redwood trees and heritage coast live oak trees that could be damaged or removed during construction.	Design/ Construction	Design Engineer/ Construction Inspection	Record of Engineer/ EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA
Mitigation Measure BIO-3: EBMUD will minimize the number of trees to be removed during construction. Approximately 5- 10 trees on the western embankment will need to be removed on the western reservoir embankment in order to install the new inlet/outlet pipeline. All other trees on the site will be preserved. Prior to the start of any clearing, stockpiling, excavation, compaction, paving, changes in ground elevation, changes in construction, retained trees that are adjacent to or within proposed project construction areas will be identified and clearly delineated by protective fencing, which shall remain in place for the duration of all construction work.	**Impact BIO-3:** Protect wetland functions that could be damaged or removed during construction						
GEOLOGY/SOILS							
Mitigation Measure GEO-1: The tank has been designed to have a setback from known active traces of the fault and will meet or exceed the Uniform Building Code and American Water Works Association standards for foundation design	**Impact GEO-1**: **:** Facility damage or service interruptions resulting from strong ground shaking	Design/ Construction	Design Engineer/ Construction Inspection	Record of Engineer/ EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA

39TH AVENUE RESERVOIR REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Impact being Mitigated	Timing Requirement	Responsibility for Implementation	Responsibility for Monitoring	Design Phase Check Box	Construction Phase Check Box	Post-Construction Phase Check Box
HAZARDS AND HAZARDOUS MATERIALS							
Mitigation Measure HAZ-1: If asbestos-laden serpentinite rock is encountered during earthwork, Contractor will be required to obtain an approved Asbestos Dust Mitigation Plan from the Bay Area Air Quality Management District prior to trench excavation.	**Impact HAZ-1:** Subsurface investigations at the site did not encounter asbestos-laden serpentinite bedrock materials. However, asbestos-laden serpentinite materials have occasionally been encountered during earthwork in the East Bay. If serpentinite rocks are encountered at the site, then earthwork may disperse dusts containing asbestos.	During Construction	EBMUD contractor	EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA
Mitigation Measure HAZ-2: .Following EBMUD's Best Management Practices (BMPs), discharge any purged water from the reservoir and associated pipelines into the sanitary sewer under local sanitary permit conditions; or dechlorinate and off-haul to EBMUD's main waste water treatment plant or District-owned disposal site.	**Impact HAZ-2:** Pipelines are dosed with a high-chlorine-level of water for disinfectant purposes prior to being placed in-service. The high-chlorine-level of water is purged from the pipeline and can cause significant environmental hazards.	During Construction	EBMUD contractor	EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA
NOISE and VIBRATION							
Mitigation Measure NOI-1: Day and Hours of Construction Operations ▪ Construction activities will be limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, and extreme noise generating activities greater than 90 dBA will be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday. ▪ Any construction activity proposed for special activities outside the standard hours of 7:00 a.m. to 7:00 p.m. (Monday through Friday) must be approved by EBMUD. ▪ No extreme noise-generating activities shall be allowed on Saturdays. ▪ No construction activity shall take place on Sunday or Federal holidays. ▪ For clarification, construction activities include but are not limited to: truck idling, moving equipment (including trucks, elevators, etc) or materials, deliveries, and construction meetings held on-site in a non-enclosed area. **Mitigation Measure NOI-2.** Noise Control ▪ Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible). ▪ Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from	**Impacts NOI-1, 2, 3** and 4: Construction activities associated with the project will elevate noise and vibration levels near the project site and along the truck route for short/intermittent intervals. The construction period is estimated at 16 to 18 months. Construction of the 39th Avenue Reservoir Replacement Project could cause vibration that could disturb local residents and cause cosmetic damage to buildings and structures	During Construction	EBMUD contractor	EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA

39TH AVENUE RESERVOIR REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Impact being Mitigated	Timing Requirement	Responsibility for Implementation	Responsibility for Monitoring	Design Phase Check Box	Construction Phase Check Box	Post-Construction Phase Check Box
pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible. ▪ Stationary noise sources shall be located as far from adjacent residential or sensitive receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible. ▪ District will install noise and vibration monitors in the neighborhood, number to be determined, and record readings as needed to maintain noise and vibration levels within mitigation limits. **Mitigation Measure NOI-3.** Noise Complaint Procedures ▪ Contractor shall provide a procedure and phone numbers for notifying the EBMUD staff (during regular construction hours and off-hours). ▪ Install a sign posted on-site with permitted construction days and hours, complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the EBMUD staff and construction contractor's telephone numbers (during regular construction hours and off-hours). ▪ The designation of an on-site construction complaint and enforcement manager for the project. Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of the estimated duration of the activity; and A preconstruction meeting shall be held with EBMUD inspectors and the general contractor/on-site project manager to confirm that noise mitigation and practices (including construction hours, noise control, neighborhood notification, posted signs, etc.) are in place or completed. ▪ The designation of a Project Liaison for public contact 24 hours a day, 7 days a week. **Mitigation Measure NOI-4.** Preconstruction Home Surveys ▪ To prevent cosmetic or structural damage to adjacent or nearby structures, EBMUD will incorporate into contract specifications restrictions on construction whereby surface vibration will be limited to no more than 0.5 in/sec PPV, measured at the nearest residential or other sensitive structure. The noise control mitigations will also ensure that impacts are reduced to a Less than Significant level. In the unlikely and remote event that the project is demonstrated to have caused any damage to residences, compensation shall be provided to repair any damage caused by the construction. ▪ With homeowner permission, EBMUD will conduct pre-construction surveys of homes, sensitive structures and other areas of concern within the area of potential effects due to concrete demolition. During construction, a Project Liaison will be assigned to facilitate communication and expedite claims processing within the legal framework available to all parties.							

39TH AVENUE RESERVOIR REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Impact being Mitigated	Timing Requirement	Responsibility for Implementation	Responsibility for Monitoring	Design Phase Check Box	Construction Phase Check Box	Post-Construction Phase Check Box
TRAFFIC/TRANSPORTATION							
Mitigation Measures TRAF-1: EBMUD contract specifications shall require preparation and implementation of a Traffic Management Plan, which shall include the following elements. ▪ The work hours for each phase of project construction, the process for notifying residents of construction activity, and the means for people to report construction-related problems. ▪ A haul route will be provided to all trucks serving the site during the construction period. The haul route will identify the schools in the vicinity of the project site, including the school crossing on Maybelle Avenue between Masterson Street and Bayou Street. The map will also indicate the existence of speed humps on Maybelle Avenue. ▪ A truck staging area to be used when there is insufficient space for trucks within the site. The staging area should be located such that trucks would not be queued onto the steep portion of Maybelle Avenue east of Bayo Street. ▪ A flagger at the MacArthur Boulevard/Maybelle Avenue intersection to assist truck turning into and out of Maybelle Avenue during periods of peak construction activities, including import fill and site restoration activities. Construction site to direct construction vehicles and control traffic as needed. ▪ Signage on Maybelle Avenue warning motorist of the construction work ahead and presence of trucks entering the roadway. ▪ Pre-construction documentation of road pavement conditions for all routes that would be used by construction vehicles both before and after project construction. Roads found to have been damaged by construction vehicles shall be repaired to the level at which they existed prior to project construction.	**Impact TRAF-1:** The addition of construction activity traffic during project construction would cause an increase in traffic on Maybelle Avenue by more than the daily fluctuation of traffic experienced on this roadway. Construction activities would reduce roadway speeds, increase roadway hazards, and create potential conflicts between transit buses, pedestrians, and bicyclists. Emergency access would also be constrained at project construction locations. Based on the significance criteria, this is considered a significant impact if not mitigated.	During Construction	EBMUD contractor	EBMUD Construction Inspector	Completed by _____ Date _____	Completed by _____ Date _____	NA