PROJECT DESCRIPTION

FOR THE

ELIOT QUARRY SMP-23

RECLAMATION PLAN AMENDMENT PROJECT

Applicant:

CEMEX Construction Materials Pacific, LLC.
2365 Iron Point Road, Suite 120
Folsom, CA 95630

Prepared by:

Compass Land Group
3140 Peacekeeper Way, Suite 102
McClellan, CA 95652

February 2019

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Executive Summary 1

1.2 Name and Addresses of Applicant's Representatives 2

1.3 Project Purpose and Reclamation Objectives 2

1.4 Basic Project Objectives 4

1.5 Project Justification 4

1.6 Plans and Technical Studies Prepared in Support of Application 5

1.7 Permit Streamlining Act 9

2.0 SITE HISTORY AND EXISTING ENTITLEMENTS 9

2.1 Site and Entitlement History 9

2.2 Vested Mining Rights (Pre-1976 Q-1, Q-4, and Q-76 Permits) 11

3.0 SITE AND AREA CHARACTERISTICS 12

3.1 Project Location and Access 12

3.2 Utilities 13

3.3 Land Use 13

3.3.1 General Plan, Zoning, and Assessor Parcel Numbers 13

3.3.2 Existing Land Uses 14

3.4 Surrounding Land Uses 14

3.5 Environmental Resources 15

4.0 ENVIRONMENTAL SETTING 15

4.1 Visibility and Aesthetics 15

4.2 Geology 16

4.3 Soils 17

4.4 Hydrology / Surface Water 18

4.5 Groundwater 19

4.6 Water Quality 20

4.7 Vegetation 21

4.8 Wildlife 22

5.0 DESCRIPTION OF MINING 23

5.1 Mineral Commodity Mined 24

5.2 Mining Operation 24

5.3 Project Life 25
5.4 Project Size 26
5.5 Excavations 26
5.6 Anticipated Production of Commodity 27
5.7 Planned Ore Processing Methods, Milling, Beneficiation, and Smelting On-Site 27
5.8 Production Water Data 27
5.9 Mine Wastes 28
5.10 Imported Wastes 28
5.11 Erosion and Sedimentation Control 28
5.12 Blasting 28
5.13 Truck Traffic / Transportation 29
5.14 Dust and Noise Control 29
6.0 DESCRIPTION OF RECLAMATION 29
6.1 Subsequent Uses 29
6.2 Reclamation Schedule and Treatments 30
6.3 Pit Areas and Excavations 30
6.4 Ponds, Reservoirs, Tailings, Wastes 30
6.5 Clean Up 31
7.0 PROJECT ESTIMATED SCHEDULE 31
8.0 LAVQAR SPECIFIC PLAN CONSISTENCY 33
9.0 SCOPE OF ENVIRONMENTAL REVIEW 33
9.1 Use of a Subsequent EIR to Evaluate Environmental Impacts 33
9.1.1 Statutory and Regulatory Subsequent EIR Provisions 34
9.1.2 Age of the 1981 EIR 35
9.1.3 Project Description and Impacts Previously Considered in the 1981 EIR 36
9.1.4 New Impacts to be Considered in the SEIR 40

TABLES

Table 1 Assessor Parcel Numbers 14
Table 2 NRCS Soils Summary 17
Table 3 Anticipated Progression of Mining and Reclamation 32

FIGURES

Figure 1 Site Vicinity Map
Figure 2a Existing Facilities
Figure 2b Plant Site Area Utilities
Figure 3 General Plan Land Use Designations
Figure 4 Zoning Designations
Figure 5 Existing Truck Haul Routes

APPLICATION ATTACHMENTS (REFERENCED HEREIN)

Attach. 1 Planning Commission Resolution No. 87-18 (SMP-23)
Attach. 2 Agreement between Zone 7 and RMC Lonestar
Attach. 3 Letter to Pleasanton Gravel Company and Vulcan Materials Company
Attach. 4 Clay Bed Modeling Report
Attach. 5 Air and Greenhouse Gas Emissions Study
Attach. 6 Noise Analysis
Attach. 7 Improvement Plans for Eliot Facility Arroyo del Valle Realignment Project

1.0 INTRODUCTION

1.1 Executive Summary

CEMEX Construction Materials Pacific, LLC. ("CEMEX") owns and operates the Eliot Quarry, a ±920-acre sand and gravel mining facility, located between the cities of Livermore and Pleasanton, at 1544 Stanley Boulevard in unincorporated Alameda County. CEMEX and its predecessors-in-interest have been continuously mining for sand and gravel at the Eliot Quarry since at least 1906. In addition to mining and reclamation, existing permitted and accessory uses at the Eliot Quarry include aggregate, asphalt and ready-mix concrete processing, as well as ancillary uses such as aggregate stockpiling, load-out, sales, construction materials recycling, and equipment storage and maintenance. CEMEX's mining operations at the site are vested per pre-1957 mining activities and Alameda County Quarry Permits Q-1 (1957), Q-4 (1957), and Q-76 (1969). Surface mining reclamation activities at the site are currently conducted pursuant to Surface Mining Permit and Reclamation Plan No. SMP-23 ("SMP-23"), approved in 1987.

Under the Eliot Quarry SMP-23 Reclamation Plan Amendment Project ("Project"), CEMEX proposes a Revised Reclamation Plan that serves to adjust reclamation boundaries and contours, enhance drainage and water conveyance facilities, incorporate a pedestrian and bike trail, and achieve current surface mining reclamation standards. The planned post-mining end uses are water management, open space, and agriculture (non-prime).

Consistent with prior approvals, the Project will develop Lake A and Lake B, which are the first two lakes in the Chain of Lakes pursuant to the Alameda County Specific Plan for Livermore-Amador Valley Quarry Area Reclamation adopted in 1981 ("LAVQAR Specific Plan"). Upon reclamation, Lake A and Lake B, along with their appurtenant water conveyance facilities, will be dedicated to the Zone 7 Water Agency ("Zone 7") for purposes of water storage, conveyance and recharge management.

Lake A reclamation will include installation of a surface water diversion from the Arroyo del Valle ("ADV") to Lake A; conversion of a berm that is currently located in Lake A that blocks water to a small island to allow water to flow across the lake; installation of a water conveyance pipeline from Lake A to future Lake C (located off-site to the northwest); and an overflow outlet to allow water to flow back into ADV when Lake A water levels are high to prevent flooding in the localized area. The final surface area of Lake A will be 81 acres as compared to 208 acres in SMP-23. No further mining will occur in Lake A.

Lake B reclamation will include installation of a pipeline turn-out from Lake A, a water pipeline conduit to future Lake C, and an overflow outlet to allow water to flow back into ADV when Lake B water levels are high. The final bottom elevation of Lake B is proposed at 150 feet above mean sea level ("msl"), in order to maximize the available aggregate resource. The final surface area of Lake B will be 208 acres as compared to 243 acres in SMP-23.

To facilitate the southerly progression of Lake B, the Project includes realignment and restoration of a ±5,800 linear foot reach of the ADV. The proposed ADV realignment will result in an

enhanced riparian corridor that flows around, rather than through (as currently anticipated in SMP-23), Lake B. The ADV realignment was contemplated in the LAVQAR Specific Plan and subject to environmental review in 1981.

Outside of Lake A and Lake B, reclamation treatment for other disturbed areas, including the Lake J excavation (not part of the Chain of Lakes), processing plant sites, and process water ponds will involve backfills and/or grading for a return to open space and/or agriculture.

The Project is a modification of an approved reclamation plan project (i.e., SMP-23) for a vested mining operation. Except as outlined above, CEMEX proposes no change to any fundamental element of the existing operation (e.g., mining methods, processing operations, production levels, truck traffic, or hours of operation). A more complete description of the proposed Project is contained in this Project Description, the Revised Reclamation Plan, and supporting attachments (together comprising the "Application").

1.2 Name and Addresses of Applicant's Representatives

Applicant:
Attn: Deborah Haldeman
CEMEX Construction Materials Pacific, LLC.
2365 Iron Point Road, Suite 120
Folsom, CA 95630
(916) 941-2844

Agent / Land Use Consultant:
Attn: Yasha Saber
Compass Land Group
3140 Peacekeeper Way, Suite 102
McClellan, CA 95652
(916) 825-4997

Counsel:
Attn: Pat Mitchell, Esq.
Mitchell Chadwick LLP
3001 Lava Ridge Court, Suite 120
Roseville, CA 95661
(916) 462-8888

Engineer:
Attn: Karen Spinardi, P.E.
Spinardi Associates
265 Sea View Avenue
Piedmont, CA 94610
(510) 595-4001

1.3 Project Purpose and Reclamation Objectives

This Project Application is being submitted to the County in response to Condition No. 7 of SMP-23, as adopted under Planning Commission Resolution No. 12-20 on December 17, 2012. (See Application Attachment 1, Planning Commission Resolution No. 87-18). Condition No. 7 requires the following:

a) The need to reflect the current boundaries of SMP-23 as referenced by lands both presently owned by CEMEX and previously authorized for mining operations and reclamation activities.

b) As to Lake A, the need for long-term mining and reclamation plans to address geologic hazards associated with and remedied by the Lakeside Circle Corrective Action Plan.

c) As to Lake B, the need for long-term mining and reclamation plans to address a depth and configuration which are inconsistent with the approved reclamation plans.

d) The need for SMP-23 to include provisions for the management of water flows, during both the pre- and post-reclamation conditions, between the groundwater basin, the Arroyo del Valle, and Lakes A, B and C of the Specific Plan for Livermore-Amador Valley Quarry Area Reclamation ("Specific Plan").

e) The need for revised plans for all water conveyance facilities that: (i) reflect existing topographic conditions and desired future topographic conditions of CEMEX; (ii) fulfill the requirements and intent of the water management objectives of the Specific Plan; and (iii) may be constructed in conformance with all laws and regulations.

f) The need to coordinate the planning, design, and construction of all water conveyance structures between Lakes A, B, and C with adjacent mine operator, property owners and the Zone 7 Water Agency.

g) The geographic locations of approved end uses over the entire site once reclaimed.

h) Relative to public roadways, the need to specify, in plan and text format, authorized vehicular access points and haul routes.

i) The need to establish an estimated schedule which correlates the timing of completion for reclamation components to specific stages in the mining plan.

j) The need to establish reclamation plans that accommodate a trail as depicted in the Specific Plan, along the entire southern boundary of SMP-23 in the vicinity of Vineyard Avenue.

CEMEX proposes to amend SMP-23 with a revised Reclamation Plan that addresses these requirements and serves to adjust reclamation boundaries and contours, enhance drainage and water conveyance facilities, incorporate a pedestrian and bike trail, and achieve current surface mining reclamation standards. The planned post-mining end uses are water management, open space, and agriculture (non-prime). The revised Reclamation Plan explicitly reflects that no further commercial mining activity will occur in the Lake A area.

The Project is a modification of an approved reclamation plan project (i.e., SMP-23) for a vested mining operation. Except as outlined above, CEMEX proposes no change to any fundamental element of the existing operation (e.g., mining methods, processing operations, production levels, truck traffic, or hours of operation).

This Application has been prepared in accordance with the requirements of SMARA (Cal. Pub. Resources Code §2710 et seq.), SMARA regulations (14 CCR §3500 et seq.), Alameda County Surface Mining Ordinance ("ACSMO"), the LAVQAR Specific Plan, and the Zone 7 Agreement. See Application Attachment 2, Agreement between Zone 7 and RMC Lonestar. This Application has also been developed based on extensive input and coordination with the Alameda County Flood Control and Water Conservation District, Zone 7, including a coordinated geologic drilling program completed in 2018. CEMEX has also coordinated with the adjacent mine operator

(Vulcan Materials Company d/b/a Pleasanton Sand & Gravel) and property owner (Pleasanton Gravel Company) regarding the water conveyance structures between Lakes A, B, and C. See Application Attachment 3, Letter to Pleasanton Gravel Company and Vulcan Materials Company.

1.4 Basic Project Objectives

The Project's basic objectives include the following:

1. To address the requirements of Condition No. 7 of Planning Commission Resolution No. 12-20.

2. To realign and restore a ±5,800-foot reach of the Arroyo del Valle resulting in an enhanced riparian corridor that flows south of, rather than through (as currently anticipated in SMP-23), Lake B.

3. To maximize the extraction of the remaining available on-site sand and gravel resources through the anticipated reclamation end date of 2056, including a change in the final depth of excavation in Lake B to 150 feet mean sea level.

4. To continue to supply the regional demands for Portland Cement Concrete (PCC) grade aggregate.

5. To carry out the objectives of the LAVQAR Specific Plan and Zone 7 Agreement for implementation of the Chain of Lakes on the portions of land controlled by CEMEX.

6. To implement the proposed reclamation plan to establish end uses of water management, open space, and non-prime agriculture in accordance with the Surface Mining and Reclamation Act (PRC 2710, et seq.).

1.5 Project Justification

The Project is consistent with the State Legislature's recognition that the extraction of minerals is essential to the continued economic well-being of the State and to the needs of society (as codified in PRC §2711(a)). As published in the California Department of Conservation's "*Map Sheet 52, Aggregate Sustainability in California*" (Department of Conservation, 2018), aggregate construction materials are essential to modern society, both to maintain existing infrastructure and to provide for new construction. Specific to the South San Francisco Bay Production Consumption Region, which Alameda County producers serve, the State projected that only 38 percent of permitted aggregate supply remains to meet a projected 50-year aggregate demand of 1.3 *billion* tons (*ibid*).

The Project is also consistent with an explicit goal of the Alameda County General Plan "to insure extraction of minerals and reclamation of land to the fullest extent possible consistent with sound management policies." (General Plan Conservation Element at p. I-89, 1994). The General Plan recognizes sand and gravel sourced from Alameda County as "a principle source of aggregate

materials for the San Francisco Bay Area," and identifies the ADV as one of the primary sources of sand and gravel (Id., at pp. I-83 and I-84). The Project will also carry out the objectives of the LAVQAR Specific Plan, which is a component of the Alameda County General Plan, on CEMEX property.

The Eliot Quarry is a regionally important source of high-quality construction aggregate material that has helped serve the building and infrastructure needs of Alameda County and the San Francisco Bay region for over 100 years. This Project will ensure the continued supply of much-needed source of construction materials and associated jobs for the region while providing for current reclamation standards to be achieved. Maximizing this local source of construction materials will minimize the economic and environmental costs (e.g., increased construction cost, fuel consumption, greenhouse gas emissions, and traffic congestion) associated with transporting aggregate from distant sources, consistent with the State Legislature's finding in PRC §2711(d). In addition, promoting the continued use of the existing Eliot Quarry facilities in an efficient manner is environmentally superior to developing new resources and facilities elsewhere.

The Project is consistent with the existing zoning and General Plan designations for the site and includes a reclamation plan to return mined lands to a useable condition that includes water management, open space, and non-prime agriculture. For the foregoing reasons, and others, the Project is justified.

1.6 Plans and Technical Studies Prepared in Support of Application

The following plans and technical studies have been submitted in support of this application for reclamation plan amendment:

Revised Reclamation Plan

1. *Revised Reclamation Plan for the Eliot Quarry (SMP-23)* (Compass Land Group, February 2019), including the following technical appendices:

   Appendix B *Hydraulic Design Study* (Brown and Caldwell, January 25, 2019)

   Brown and Caldwell ("B&C") performed hydrologic and hydraulic analyses to evaluate water diversion, conveyance, and flood potential associated with the Revised Reclamation Plan. The study demonstrates that the diversion and conveyance into the Chain of Lakes can be feasibly constructed in compliance with known regulatory requirements. The study also demonstrates that the realigned ADV will remain stable, and that neither the channel modifications nor the ADV to Lake A diversion structure will increase flood risk to neighboring properties or infrastructure. The study includes conceptual designs for the realigned ADV and the ADV to Lake A diversion structure.

Appendix C *Lake A Landscape Planting & Restoration Plans* (Cunningham Engineering, May 14, 2018); as well as a memorandum titled, *Eliot Quarry (SMP-23) – Lake A Landscape Design Functions and Values* (Cunningham Engineering, June 28, 2018).

Cunningham Engineering ("Cunningham") developed an updated landscaping and revegetation plan for Lake A that reflects current restoration, revegetation and water efficient planting design strategies. The plan features species native to California and to the East Bay / Alameda County and is compatible with the planned water management end use goals for Lake A. The planting pallet consists of the planting and temporary irrigation of approximately 2,500 trees and shrubs, plus hydroseeding. The plan shares the core design functions and values of the David L. Gates & Associates Lake A Reclamation [landscaping and revegetation] Plan (1993), while following current State water ordinance design measures as well as planting restoration practices to support and encourage native ecosystems on site.

Appendix F *Biological Resources Assessment, ±920-Acre Eliot Facility Plan Area, Alameda County, California* (Foothill Associates, December 21, 2018)

Foothill Associates ("Foothill") performed a biological resources assessment for the Project site to document onsite physical features, as well as the plant and wildlife species occurring, or potentially occurring, at the site. Foothill analyzed the suitability of on-site habitats to support special-status species as well as sensitive habitats.

Appendix G *Aquatic Resources Delineation Report, ±920-Acre Eliot Facility Plan Boundary, Alameda County, California* (Foothill Associates, January 9, 2019)

Foothill performed an aquatic resources delineation for the Project site following technical guidance provided by the U.S. Army Corps of Engineers. Foothill delineated a total of 314.71 acres of aquatic resources within the 920-acre Project site consisting of depressional seasonal marsh, riverine seasonal marsh, willow riparian wetland, intermittent streams, perennial stream (the ADV), breached quarry ponds, quarry pond, silt pond, and percolation ponds. Of this total, approximately 87.4 acres are considered to be potentially jurisdictional waters of the U.S.

Appendix H *Groundwater Hydrology and Water Quality Analysis Report for the Amendments to the CEMEX Eliot Quarry SMP-23 Reclamation Plan, Alameda County, California* (EMKO Environmental, February 2019)

EMKO Environmental, Inc. ("EMKO") conducted an analysis of hydrology and water quality conditions for the Project. The technical report provides a description of baseline conditions, as well as a discussion of conditions that will exist at the site once reclamation is completed under the Revised

Reclamation Plan. The analysis also informs water surface, berm, and overflow spillway elevations incorporated into the Revised Reclamation Plan as well as the effects of Project silt storage in the groundwater aquifer.

Appendix I *Geotechnical Investigation, Cemex Eliot – SMP-23 Reclamation, Alameda County, California* (Geocon Consultants, January 2019)

Geocon Consultants, Inc. ("Geocon") conducted a geotechnical analysis for the Project that supplements previous explorations at the site, evaluates the stability of proposed mining and reclamation slopes, and provides geotechnical recommendations for Project design and construction. Geocon's analysis and recommendations have been incorporated in the Revised Reclamation Plan.

Appendix J *Geotechnical Investigation / Slope Stability Analysis, Cemex Eliot – Arroyo del Valle Realignment at Lake B, Alameda, California* (Geocon Consultants, March 2017)

Geocon conducted a geotechnical analysis of the proposed realignment of the ADV in the Lake B area. The study evaluated subsurface conditions at the site based on literature review, targeted subsurface exploration, and laboratory testing; and evaluated the stability of slopes along the proposed realignment of the ADV channel adjacent to the Lake B mining pit. Geocon's analysis and recommendations have been incorporated in the Revised Reclamation Plan and improvement plans for the realigned ADV (referenced below).

The other appendices to the Revised Reclamation Plan are not technical reports but include the site legal description (Appendix A), a signed statement of reclamation responsibility (Appendix D), drill logs (Appendix E), a placeholder for reclamation-related conditions of Project approval (Appendix K), and a Financial Assurance Cost Estimate (Appendix L).

Technical Reports (Application Attachments)

Attachment 4 *Clay Bed Modeling, Eliot Quarry - CEMEX Aggregates, Alameda County, California* (Jeff Light Geologic Consulting, December 3, 2018).

Jeff Light Geologic Consulting ("JLGC") evaluated and modeled the distribution of clay beds at the CEMEX Eliot Quarry, in order to establish whether or not potential aquitards are present in the Project area. JLGC's study demonstrates that all modeled clay beds across the study area are discontinuous, and presents substantial evidence to support this conclusion. In addition, JLGC reviewed the Zone 7 Water Agency's preliminary interpretations relating to the distribution of clay beds and provides an evidence-based comparison of those interpretations to JLGC's findings based on the geologic model. A copy of this report was sent to

the County and Zone 7 on December 5, 2018 and JLGC subsequently presented its findings relating to the report to Zone 7 in person on December 12, 2018.

Attachment 5 *Air and Greenhouse Gas Emission Study, Eliot Quarry SMP-23 Reclamation Plan Amendment* (Compass Land Group, February 2019)

Compass evaluated the potential air quality and greenhouse gas emissions from existing operations at the Project site (i.e., baseline) and from the proposed Project. Compass compared these emissions to determine the net changes in emissions anticipated from the Project. Net emission changes from the Project were then compared against significance thresholds adopted by the Bay Area Air Quality Management District ("BAAQMD"). The modeling results indicate that Project emissions are below applicable BAAQMD thresholds of significance with the exception of daily maximum emissions of nitrogen oxides (NOx).

Attachment 6 *Environmental Noise Analysis, Eliot Quarry SMP-23 Reclamation Plan Amendment Project, Alameda County, California* (Bollard Acoustical Consultants, January 2019).

Bollard Acoustical Consultants, Inc. ("Bollard") performed a noise analysis for the Project that identifies existing sensitive land uses in the Project vicinity, quantifies existing ambient noise levels at those land uses, identifies noise standards most applicable to the Project, and compares expected Project noise levels to those standards. Bollard's study concludes that with implementation of the suggested noise mitigation measures, the Project would not result in significant adverse noise impacts.

Improvement Plans (Realigned Arroyo del Valle)

Attachment 7 *Improvement Plans for Eliot Facility Arroyo del Valle Realignment Project (CEMEX), 95% Design Construction Drawings* (Brown and Caldwell, August 2018).

B&C's 95% improvement plans detail the construction specifications and design for the realigned ADV. These improvement plans will need to undergo review not only by the County, but also by the approving regulatory agencies as part of the regulatory permit application review process, including by the California Department of Fish and Wildlife ("CDFW") in support of a Section 1600 Lake and Streambed Alteration Agreement; the California Regional Water Quality Control Board ("RWQCB") in support of a Section 401 Water Quality Certification; and the U.S. Army Corps of Engineers ("USACE") in support of a Department of the Army Permit (aka "Section 404 Permit").

The other attachments to the Application are not technical reports or improvement plans but include the Planning Commission Resolution No. 12-20 (Attachment 1), the Zone 7 Agreement (Attachment 2), and a letter of coordination sent to Pleasanton Gravel Company and Vulcan Materials Company (Attachment 3).

1.7 Permit Streamlining Act

This Project constitutes a discretionary development project that is adjudicative in nature, to which the Public Streamlining Act applies (Government Code §65920). In addition, Condition 8 of SMP-23 provides that the Community Development Agency shall work diligently and be timely in processing this Application to completion.

2.0 SITE HISTORY AND EXISTING ENTITLEMENTS

2.1 Site and Entitlement History

CEMEX and its predecessors-in-interest, including but not limited to Lonestar Industries, Pacific Cement and Aggregates, Inc., and RMC Pacific Materials LLC (RMC Lonestar), have been continuously mining for sand and gravel at the Eliot Site since 1906 or earlier. In September 2005, CEMEX acquired RMC Pacific, including all holdings, leases and permits.

After decades of operations, and following the County's 1956 passage of Ordinance 181 N.S. governing quarries and gravel pits, CEMEX's predecessor obtained Quarry Permit No. 1 ("Q-1") from the County in January of 1957. In 1969, CEMEX's predecessor obtained Quarry Permit No. 76 ("Q-76") from the County via Resolution No. 129465, which authorized sand and gravel pit operations on an additional 165 acres of the site, of which CEMEX owned 110 acres. Revised Reclamation Plan Figure 3, Vested Mining Permits, shows areas covered by vested pre-SMARA permits, including the Q-1 and Q-76 Permits.

In 1975, the State passed the Surface Mining and Reclamation Act ("SMARA"), which became effective on January 1, 1976. Thereafter, in compliance with SMARA, the County adopted the Alameda County Surface Mining Ordinance ("ACSMO") in July 1977.

In 1981, the County adopted the LAVQAR Specific Plan. As part of the Specific Plan, quarry operators in the Livermore-Amador Valley, including CEMEX, would excavate basins for the future operation by Zone 7 of water storage, conveyance and recharge facilities known as the "Chain of Lakes." The potential environmental impacts of the Specific Plan and Chain of Lakes were analyzed in the Specific Plan Environmental Impact Report ("EIR") certified by the County in 1981. Section 3.2 of the Revised Reclamation Plan describes the goals and objectives of the Specific Plan and outlines CEMEX's relevant obligations, as well as the Project's consistency with the plan.

On April 6, 1987, via County Resolution No. 87-18, CEMEX's predecessors obtained SMP-23, a reclamation plan for the Project site on the areas of CEMEX's existing permitted rights under the Q-1 and Q-76 Permits. SMP-23 was not a conditional use permit for mining; rather it was the

reclamation plan for the site as required by SMARA and the ACSMO. The County prepared and approved a Negative Declaration for the SMP-23 Reclamation Plan, on the basis that SMP-23 was consistent with the LAVQAR Specific Plan. The SMP-23 Reclamation Plan has been modified several times since its initial approval.

In 1989-1992, CEMEX's predecessor purchased four parcels of land from Pleasanton Gravel Co. and Jamieson Co., which parcels are herein collectively referred to as the Jamieson Parcels (see Revised Reclamation Plan Figure 3). Jamieson Parcels Nos. 1 and 2 were within the scope of the Q-76 Permit, while Jamieson Parcels Nos. 3 and 4 were within the scope of the Q-4 Permit initially granted to California Rock and Gravel Company in 1957. The Jamieson Parcels also have vested mining rights. Since the Jamieson Parcels were acquired by CEMEX's predecessors after SMP-23 had been approved by the County in 1987, those parcels were not included within the currently-approved SMP-23 reclamation plan boundary. Instead, surface mining operations at the Jamieson Parcels have been covered by and conducted by CEMEX in accordance with the Surface Mining Permit and Reclamation Plan No. 16 (SMP-16), which applies to the surface mining operation adjoining the Project site's eastern and northern boundary (i.e., the Vulcan operation).

The following is a chronologic summary of approved permits and other relevant regulatory actions for the Project site:

1957 Q-1 and Q-4 Mining Permits.

1969 Q-76 Mining Permit, Resolution 129465.

1975 Q-76 Reclamation Plan approval and EIR certification, Resolution 11145.

1987 SMP-23 Reclamation Plan and Negative Declaration, Resolution 87-18.

1988 Agreement between Zone 7 and RMC Lonestar.

1992 SMP-23 Periodic Review, Resolution 92-29 (20 conditions).

1995 Q-76 Permit time extension and incorporation into SMP-23, Resolution 95-34.

1996 SMP-23 Amendment to add signage to Lake A (5 new conditions).

2006 Lakeside Circle Corrective Action Plan for Lake A.

2010 SMP-23 Amendment to Condition 29 (Stanley Boulevard landscaping conditions), Resolution 10-09.

2012 SMP-23 Periodic Review, Resolution 12-20 (35 conditions).

2013 SMP-23 Corrective Action Plan for Lake B, administrative approval pursuant to ACSMO § 6.80.120; initial application for SMP-23 amendment.

2014 Notice of Reclamation Plan Approval recorded with the County Recorder's office pursuant to California Public Resources Code Section 2772.7.

2016 Revised application for SMP-23 amendment.

CEMEX continues to operate the Eliot Quarry pursuant to vested rights and the Q-1, Q-4, Q-76 and SMP-23 (as amended) entitlements. The Project does not propose to modify the existing Q-1, Q-4, or Q-76 entitlements.

2.2 Vested Mining Rights (Pre-1976 Q-1, Q-4, and Q-76 Permits)

SMARA exempts a vested rights holder from the need to acquire a permit to mine from the local permitting agency as long as such vested rights continue and as long as no substantial changes are made in the mining operation. (Cal. Pub. Resources Code § 2776(a).) Under SMARA, a person is deemed to have a vested right if, "prior to January 1, 1976, the person has, in good faith and in reliance upon a permit or other authorization, if the permit or other authorization was required, diligently commenced surface mining operations and incurred substantial liabilities for work and materials necessary for the surface mining operations." (Id.) The ACSMO, enacted in 1977, similarly provides that any surface mining operation authorized to operate under a permit issued prior to January 1, 1976, is exempt from the requirement to obtain a surface mining permit. (Alameda County General Ordinance Code, § 6.80.050(B).)

As stated in Section 2.1 above, the Eliot site has been continuously mined for construction material aggregates since 1906 or earlier, long before the effective dates of County's Ordinance 181 N.S. (1956), SMARA (1976), and the ACSMO (1977). Additionally, CEMEX's predecessors obtained the Q-1 and Q-4 Permits in 1957 and Q-76 Permit in 1969, before the effective dates of SMARA and the ACSMO.

The focus of this application is to amend the SMP-23 Reclamation Plan solely on those areas subject to CEMEX's vested mining rights under the Q-1, Q-4, and Q-76 Permits. No "substantial changes" to CEMEX's mining operations are proposed or required as part of this Reclamation Plan Amendment. CEMEX proposes no change to any fundamental element of the existing operation (e.g., mining methods, processing operations, production levels, truck traffic, or hours of operation). The aggregate processing plant is in the process of being relocated to the south of the existing location; however, such relocation does not amount to a "substantial change" within the meaning of SMARA because (1) the plant relocation was previously authorized by both the LAVQAR Specific Plan and the approved SMP-23 Reclamation Plan; and (2) CEMEX's vested right allows CEMEX to expand its mining and accessory operations to the entire Project Site without any additional land use permit approvals (i.e., a use permit) from the County (see Hansen Brothers Enterprises, Inc. v. Board of Supervisors (1996) 12 Cal.4th 533, 553-59).

3.0 SITE AND AREA CHARACTERISTICS

3.1 Project Location and Access

Eliot Quarry encompasses 920± acres of the 966± acre CEMEX-owned property and is located within the unincorporated area of Alameda County, between the cities of Livermore and Pleasanton, in the Livermore-Amador Valley. See Figure 1, Site Vicinity Map. The site sits south of Stanley Boulevard, north of Vineyard Avenue, and both east and west of Isabel Avenue / State Route 84. The quarry, processing plants and office are currently accessed from an existing driveway entrance at 1544 Stanley Boulevard. See Figure 2a, Existing Facilities.

The site is located within unsectioned portions of the Rancho Valle De San Jose land grant in Township 3 South, Range 1 East and Township 3 South, Range 2 East on the 7.5-minute USGS Livermore, California quadrangle, and is centered at approximate UTM 4168100 Northing / 605350 Easting.

In addition to the main entrance located at 1544 Stanley Boulevard, the site can also be accessed from the following locations:

1. **To the Lake A area**, from:
    a. The north side of old Vineyard Avenue, to access the existing pedestrian and bike trail at the east end of Lake A;
    b. The south side of Alden Lane, through a private locked gate at the northwest corner of Lake A;
    c. The north side of the pedestrian and bike trail along Vineyard Avenue, through private locked gates (to enter restricted quarry areas); and
    d. Under the Isabel Avenue bridge, along the existing access road that connects the Lake B area to the Lake A area (to enter restricted quarry areas).
    e. The southwest corner of Lake A, to cross the new pedestrian / bike bridge parallel to and east of Isabel Avenue to the north side of the ADV, then through a private locked gate (to enter restricted quarry areas).
2. **To the Lake B area**, from:
    a. The frontage road that parallels the west side of Isabel Avenue, which is accessible from Concannon Boulevard north of the ADV, through a private locked gate (to enter restricted quarry areas); and
    b. The north side of Vineyard Avenue, through a private locked gate (to enter restricted quarry areas).
3. **To the North areas**, from:
    a. The south side of Stanley Boulevard, through a private locked gate near the northwest corner of the main silt pond (to enter restricted quarry areas).

3.2 Utilities

The following utilities currently serve the site (see Figure 2a and Figure 2b, Plant Site Area Utilities):

1. A water well equipped with a purification system that supplies domestic water, located between the aggregate processing plant and ready-mix concrete plant in the North reclamation area.
2. A septic tank to collect sewage, located near the office trailers near the processing plant site in the North reclamation area.
3. A natural gas line from Stanley Boulevard that supplies gas to the asphalt concrete plant operated by Granite Construction Company in the North reclamation area.
4. An electrical substation, located near the maintenance shop in the North reclamation area.

The Project is a modification of an approved reclamation plan project (i.e., SMP-23) for a vested mining operation. No changes to these facilities are necessary or proposed.

3.3 Land Use

3.3.1 General Plan, Zoning, and Assessor Parcel Numbers

The Project is located within the East County Area Plan ("ECAP") area of the Alameda County General Plan. The East County area was formerly called the Livermore-Amador Valley Planning Unit. The Project is also located within and subject to the LAVQAR Specific Plan.

The Project site's assessor parcels are summarized in Table 1, below. The Alameda County General Plan / ECAP designates the site as "Large Parcel Agriculture" and "Water Management." See Figure 3, General Plan Land Use Designations. The site's current zoning classifications are Agriculture ("A"), Unclassified ("U"), and Planned Development ("PD"). See Figure 4, Zoning Designations.

Alameda County Code §17.50.010, prescribes that every use in the Unclassified zoning district, not otherwise prohibited by law, is a conditional use and shall be permitted only if approved by the board of zoning adjustments as provided in §17.54.130. Existing uses are permitted to continue as provided in §17.54.180.

Based on input from the Alameda County Planning Department (personal communication with Louis Andrade, Planner III on January 28, 2019), the PD district allows those uses allowed in the Agriculture district as well as pre-cast concrete manufacture. The portions of the property subject to the PD district are reflected on Figure 4 based on parcel-specific zoning information provided by the County. We believe the reflected boundary may not match the original intent of a zone change, however, which was to provide for the operation of the former Utility Vault pre-cast concrete manufacturing operation at the site (shown on Figure 2a).

TABLE 1
ASSESSOR PARCEL NUMBERS

APN	Acres (approx.)	Recordation	Zoning
904-6-1-18	84.8	87-036266	A
904-6-2 (part)	57.4	87-036266	A
904-8-1-3 (part)	90.2	87-036266	A
904-8-1-2	66.0	87-036266	PD
904-8-2-5	6.6	87-036266	A
946-1350-9-12	29.3	87-036266	A
946-1350-9-19	209.7	87-036266	A
946-1350-10-5	23.7	87-036266	A
946-4598-19	6.9	2007290105	U
950-6-3-9	48.6	2007290105	A
950-6-1-5	129.0	87-036266	A
99-290-11-7	209.7	2000116048	A
Total:	**961.9**		

Note: The assessor parcel acreages are taken from Alameda County Assessor data and are not as precise as the areas calculated on Plan Sheets and figures using GIS and AutoCAD (based on the property boundary survey performed by Kier and Wright, a licensed survey firm, in 2013). The overall CEMEX property is 966± acres (based on property survey) of which 920± acres are within the Plan boundary.

3.3.2 Existing Land Uses

In addition to mining and reclamation, existing permitted and accessory uses at the Eliot Quarry include aggregate, asphalt and ready-mix concrete processing, as well as ancillary uses such as aggregate stockpiling, load-out, sales, construction materials recycling, and equipment storage and maintenance. Topcon Positioning Systems, Inc. (a lessee) currently operates a heavy equipment geopositioning training facility within a southern portion of the Project boundary. This use is temporary as it will need to be moved elsewhere to accommodate the realignment of the ADV (anticipated to occur between 2022-2023).

3.4 Surrounding Land Uses

The predominant land uses in the general vicinity of the site are aggregate mining, recreational, and residential. A separate mine operated by Vulcan Materials Company (subject to separate reclamation entitlements referred to as "SMP-16") abuts the site's eastern and northern border of Lake B. The ADV flows along the southern border from southeast to northwest, and is currently, but not historically, separate from the active operating areas at the Eliot Quarry. The East Bay Regional Park District ("EBRPD") Shadow Cliffs Recreation Area, also a reclaimed surface mine, abuts the site's western border. The Ruby Hills subdivision and other residential developments in the City of Pleasanton are located across Vineyard Avenue to the south of the ADV and Lake B. Residential uses are also located in the City of Livermore to the north of Lake A. The nearest residential developments are contiguous to the northern boundary of the Lake A

area, with the nearest home approximately 35 feet from the northwest corner of the Lake A property.

3.5 Environmental Resources

The Project site is situated on proven mineral resources that have been mined for over 100 years. On-site environmental resources are primarily associated with the ADV, which functions as a potential wildlife movement corridor and flows along the southern portion of the site. No designated critical wildlife habitats are present on-site. Agricultural and open space lands are located to the south of the site, along Vineyard Avenue. The Sycamore Grove Park and Del Valle Reservoir are located approximately one-quarter mile and three miles to the southeast of the site, respectively. The applicant is not aware of any other important scenic, historic, prehistoric, geothermal, wind, solar, hydroelectric, hydrocarbon resources in close proximity to the site.

A more complete description of on-site resources is included in the environmental setting, below.

4.0 ENVIRONMENTAL SETTING

Impacts are not evaluated and CEMEX does not propose any mitigation measures, other than the Revised Reclamation Plan itself, in this section. CEMEX understands that the County will prepare an Environmental Impact Report ("EIR") pursuant to CEQA that will evaluate potential Project effects on the environment and identify mitigation measures and alternatives as may be appropriate to avoid or reduce those effects. The Project technical reports provide recommendations relating to carrying out reclamation under the Revised Reclamation Plan, which the County may choose to adopt as mitigation measures. Pursuant to discussions with County staff and Benchmark Resources (EIR preparer), these topics will be handled by Benchmark Resources in the EIR, and not by the applicant. The EIR will include circulation to appropriate responsible agencies, including the County Flood Control and Water Conservation District (Zone 7) and the U.S. Geologic Survey (if needed).

4.1 Visibility and Aesthetics

Setting

Eliot Quarry is a vested operation that has been continuously operating since 1906 or earlier. The Project site is visible from numerous vantage points, including public rights-of way (e.g., Stanley Boulevard and Isabel Avenue), residential developments to the south (e.g., Ruby Hills south of Lake B), and residential developments to the north (e.g., Pulte Oaks and Kristopher Ranch north of Lake A). However, most of the existing mining activity occurs below grade (and is generally not visible from surrounding areas). Existing processing facilities, including the aggregate and asphaltic concrete plants in the northwestern portions of the site near Stanley Boulevard, are most visible. Substantial existing landscaping is in place along Stanley Boulevard which buffers some of the views of the site. In addition, landscaping recently installed by CEMEX along the Lake A pedestrian and bike trail adds visual character to the area.

Key Project Considerations and Effects

The Project is a modification of an approved reclamation plan project (i.e., SMP-23) for a vested mining operation. The planned implementation of a landscape plan for Lake A, landscaping along the pedestrian and bike trail along Vineyard Avenue south of Lake B, and restoration of the ADV south of Lake B should all aid in enhancing the general attractiveness of the area.

4.2 Geology

Setting

The Eliot Quarry is located within the Livermore-Amador Valley, an east-west trending inland alluvial basin located in northeastern Alameda County. The Valley is partially filled with Pleistocene-Holocene age (recent alluvium) alluvial fan, stream and lake deposits, which range in thickness from a few feet along the margins to as much as 800 feet in the west-central part of the basin. The alluvium consists of unconsolidated gravel, sand, silt, and clay. The southern region of the Valley consists mainly of sand and gravel that was deposited by the ancestral and present ADV and Arroyo Mocho.

The Livermore Formation underlies the recent alluvium in the vicinity and forms the Livermore uplands to the south of the site. The Livermore Formation consists of beds of clayey gravels and sands, silt, and clay that are unconsolidated to semi-consolidated. These deposits are estimated to be up to 4,000 feet thick. Although the Livermore Formation produces groundwater in some areas, the yields are generally much lower than the alluvium in the central part of the Valley.

The geologic deposits at Eliot Quarry (listed from closest to surface to deepest) consist of Quaternary Alluvium, the Upper Livermore Formation, and the Lower Livermore Formation. The Quaternary Alluvium and Upper Livermore Formation consist of discontinuous clay and silt layers within a predominantly sand and gravel matrix, indicating deposition in a braided stream environment. CEMEX's mining occurs in these two geologic units. Much of the Quaternary Alluvium consists of material eroded from the Upper Livermore, making it difficult to distinguish between the two geologic units. The Lower Livermore also includes alternating and discontinuous layers of clay, silt, sand and gravel, but contains a higher proportion of fine-grained material. Volcanic activity was occurring in the region at the time that the Lower Livermore Formation was deposited, resulting in the presence of volcanic ash layers known as tuff deposits within the Lower Livermore.

The geology of the site is further informed by a Becker hammer drilling program performed in 2013 and a sonic coring program performed in 2018, which reflects the alternating and discontinuous layers of clay, silt, sand and gravel at the site. Drill logs from these coring programs are included as Appendix E of the Revised Reclamation Plan.

Key Project Considerations and Effects

Geologic parameters and potentially adverse geologic conditions affecting the Project are described in Application Attachment 4 (Clay Bed Modeling Report), the Revised Reclamation Plan, and the Revised Reclamation Plan's supporting technical appendices, including Appendix H (Groundwater Hydrology and Water Quality Analysis Report), Appendix I (Geotechnical Investigation), and Appendix J (Slope Stability Analysis – Arroyo del Valle Realignment at Lake B).

4.3 Soils

Table 2 below summarizes the soil units mapped for the site by the U.S. Department of Agriculture's Natural Resources Conservation Service ("NRCS"). The summary is derived from the NRCS web soil survey available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. The distribution of these soil types across the property is shown on Revised Reclamation Plan Figure 10, NRCS Soils Map. Laboratory gradation and strengths data for the soils that will be used in construction of reclamation features and facilities is included in Appendix I (Geotechnical Investigation) of the Revised Reclamation Plan.

TABLE 2
NRCS SOIL SUMMARY

Map Unit Symbol	Map Unit Name	Typical Profile
Gp	Gravel pit	H1 - 0 to 6 inches: extremely gravelly sand H2 - 6 to 60 inches: extremely gravelly sand
Lg	Livermore gravelly loam	H1 - 0 to 12 inches: gravelly loam H2 - 12 to 34 inches: very gravelly coarse sandy loam H3 - 34 to 60 inches: very gravelly loamy coarse sand
Lm	Livermore very gravelly coarse sandy loam	H1 - 0 to 12 inches: very gravelly coarse sandy loam H2 - 12 to 34 inches: very gravelly coarse sandy loam H3 - 34 to 60 inches: very gravelly loamy coarse sand
PgA	Pleasanton gravelly loam, 0 to 3 percent slopes	H1 - 0 to 21 inches: gravelly loam H2 - 21 to 64 inches: gravelly clay loam H3 - 64 to 72 inches: gravelly silt loam
PgB	Pleasanton gravelly loam, 3 to 12 percent slopes	H1 - 0 to 21 inches: gravelly loam H2 - 21 to 64 inches: gravelly clay loam H3 - 64 to 72 inches: gravelly silt loam
PoC2	Positas gravelly loam, 2 to 20 percent slopes, eroded	H1 - 0 to 11 inches: gravelly loam H2 - 11 to 29 inches: clay H3 - 29 to 54 inches: clay loam H4 - 54 to 60 inches: gravelly sandy clay loam
Rh	Riverwash	Undefined
W	Water	Not applicable
YmA	Yolo loam, calcareous substratum, 0 to 6 percent slopes, MLRA 14	A - 0 to 16 inches: loam C1 - 16 to 24 inches: very fine sandy loam C2 - 24 to 46 inches: fine sandy loam C3 - 46 to 60 inches: loam

TABLE 2 (CONTINUED)

Map Unit Symbol	Map Unit Name	Typical Profile
Ys	Yolo sandy loam, 0 to 3 percent slopes	H1 - 0 to 16 inches: sandy loam H2 - 16 to 60 inches: stratified gravelly sandy loam to gravelly loam
Za	Zamora silt loam, 0 to 4 percent slopes	H1 - 0 to 18 inches: silt loam H2 - 18 to 60 inches: clay loam

4.4 Hydrology / Surface Water

Setting

The area in the vicinity of the quarry is drained by ADV, a perennial stream trending east to west. ADV and Arroyo Mocho are two major streams draining into the southern portion of the Valley. Over the decades, mining and development activities have rerouted and channelized much of the lower reaches of the ADV and Arroyo Mocho. The ADV is located in the upper Alameda Creek watershed, and its existing channel flows along the southern portion of the site adjacent to existing Lakes A and B. The ADV flows through two small lakes along the south side of the Shadow Cliffs Regional Park and then continues west through the City of Pleasanton. The ADV drains an area of approximately 172 square miles before it discharges to Arroyo de la Laguna west of Pleasanton.

Approximately 85 percent (146 square miles) of the ADV basin is located upstream of Del Valle Reservoir, which reservoir was constructed in 1968 to serve as off-channel storage for water delivered through the South Bay Aqueduct and for flood control. Zone 7 is one of the three water agencies served by the South Bay Aqueduct. Del Valle Reservoir has altered the hydraulic flow regime in the lower reaches of the ADV. Peak flows have decreased and large-magnitude flood flows have been virtually eliminated. Managed releases during the dry season have resulted in perennial flow conditions along the valley floor rather than the historical intermittent flow conditions when the arroyo would become dry in the summertime. Directly downstream of the dam, the ADV flows through a narrow, sinuous canyon until it reaches the valley floor about one mile downstream, near the Veterans Administration hospital. At this point, the channel and floodplain become wider and, in the past, more active and braided. Altered flows have also contributed to changes in the ADV channel; the once actively braided channel network along the valley floor now has shifted to a more defined central channel system.

In addition to the mining excavations at Lakes A, B and J, several smaller quarry ponds are located south of Lake B along the south side of the ADV in the “Topcon” area. The quarry ponds at the Topcon site are aggregate mining pits excavated along the ADV in areas that were historically upland areas.

Key Project Considerations and Effects

This Application has been developed based on extensive input and coordination with the Alameda County Flood Control and Water Conservation District, Zone 7, including a coordinated geologic drilling program completed in 2018.

Hydrology and surface water parameters and Project effects are described in the Revised Reclamation Plan and its supporting technical appendices, including Appendix B (Hydraulic Design Study) and Appendix H (Groundwater Hydrology and Water Quality Analysis Report). Geologic interpretations related to the distribution of clays across the Project site between different aquifer layers are included in Application Attachment 4, Clay Bed Modeling Report.

4.5 Groundwater

Setting

EMKO conducted an analysis of hydrology and water quality in support of the Revised Reclamation Plan, which describes in detail the existing hydrogeology conditions at the site. See Revised Reclamation Plan Appendix H (Groundwater Hydrology and Water Quality Analysis Report). The following summary presents a brief overview from the report.

The Eliot Quarry is in the Livermore Valley Groundwater Basin located in the central part of the Livermore-Amador Valley. The Livermore Valley Groundwater Basin is located within the Valley and beneath the Livermore Uplands to the south of the Valley. The Main Basin is located in the central part of the Livermore Valley Groundwater Basin. In the Main Basin area, the groundwater flow direction is generally from southeast to northwest. The Eliot Quarry is located within the southeast corner of the Main Basin. East of Isabel Avenue, in the Lake A area, groundwater occurs within a relatively thin layer of alluvium (approximately 80 to 100 feet thick) and within the underlying Lower Livermore Formation. West of Isabel Avenue, groundwater occurs entirely within the alluvium, which extends to at least 600 feet below the surface in the area of Lake B and Lake J.

In general, groundwater within the alluvium under the Eliot site and west of Isabel Avenue has been classified as being part of two main aquifer zones. As stated in *Hydrostratigraphic Investigations of the Aquifer Recharge Potential for Lakes C and D of the Chain of Lakes, Livermore, California* (Zone 7, 2011, page 5), the two aquifer zones are designated as the Upper Aquifer and the Lower Aquifer.

Throughout much of the Main Basin, these two aquifer zones are separated by a silty clay layer that prevents or limits the vertical migration of groundwater between the two zones. This silty clay layer is referred to as an aquitard. The aquitard layer is not present everywhere, as it may contain zones of coarser-grained material, or may become very thin in some locations. In areas where these variations occur, the aquitard is referred to as “leaky” because it may allow groundwater to be transmitted between the two aquifers. There is substantial evidence that the aquitard layer is both thin and discontinuous in the area of the Eliot Quarry (EMKO 2019). Based

on subsequent site-specific drilling performed in 2013 and 2018, and published reports, EMKO reports that it is apparent that there are not any continuous aquitard units present across the Eliot facility and that the various aquifer units are in hydraulic communication with each other (meaning that the sand and gravel deposits are interconnected and not separated by low-permeability, fine-grained material).

Groundwater contours prepared by Zone 7 (2012, 2013, 2014a, 2015, 2016) indicate that groundwater flow within the alluvium is toward the northwest. Dewatering of mine pits at the Eliot Quarry and adjacent operations has resulted in local drawdowns that currently alter the natural groundwater flow gradient. Near Lake B, groundwater levels may fluctuate by more than 10 feet on an annual basis and have varied by more than 70 feet over the last 60 years in response to wet and drought periods. East of Isabel Avenue and south of Lake A, groundwater levels have been much more consistent, fluctuating annually by about five feet on average and varying less than 10 feet over the last 40 years. (EMKO 2019).

Key Project Considerations and Effects

This Application has been developed based on extensive input and coordination with the Alameda County Flood Control and Water Conservation District, Zone 7, including a coordinated geologic drilling program completed in 2018.

Groundwater parameters and Project effects are described in the Revised Reclamation Plan and its supporting technical appendices, including Appendix H (Groundwater Hydrology and Water Quality Analysis Report). Geologic interpretations related to the distribution of clays across the Project site between different aquifer layers are included in Application Attachment 4, Clay Bed Modeling Report.

4.6 Water Quality

EMKO evaluated existing water quality for the site using data obtained from Zone 7 for wells and surface water locations in the vicinity of the Eliot Quarry. See Revised Reclamation Plan Appendix H (Groundwater Hydrology and Water Quality Analysis Report). The following summary presents a brief overview of the water quality setting described in the report.

Regarding groundwater quality, EMKO indicates that Zone 7 has reported that there are not any distinct water quality characteristics that uniquely distinguish an individual well or aquifer unit within the basin (Zone 7 2011, as cited in EMKO 2019). The groundwater is primarily a calcium-bicarbonate water type. For groundwater, TDS levels range from about 300 milligrams per liter (mg/L) to about 550 mg/L. The pH ranges from 6.8 to 8.0. The predominant anion (negatively charged ion) is bicarbonate. Calcium is the predominant cation (positively charged ion). Evaluation of past water quality data indicates that water quality parameters have been consistent over time and that there have not been any significant trends in these parameters over the last 40 to 50 years. (EMKO 2019).

Regarding surface water quality, EMKO reports that surface water samples were collected from the east and west parts of Lake A, the pond at the bottom of Lake B, the quarry ponds along ADV at the Topcon site, Island Pond, and Lake Boris. The quarry ponds at the Topcon Site, Island Pond, and Lake Boris are historical aggregate mining pits along ADV. Island Pond and Lake Boris are located south of Shadow Cliffs Lake. The surface water data suggest that the general water chemistry is slightly different at Lake A compared to downstream locations. At Lake A, the water chemistry is similar to that for groundwater in nearby wells, with TDS levels in the range of 450 mg/L to 490 mg/L. At the locations downstream from Lake A, the TDS is less than 340 mg/L, the predominant cation alternates between calcium and sodium, and the predominant anion is bicarbonate. The pH at all surface water locations ranges from 8.4 to 8.9. (EMKO 2019).

EMKO's analysis indicates that the surface water related to ADV has a lower TDS concentration than the groundwater in the vicinity of the Eliot facility. The predominant anions and cations for both surface water and groundwater are comparable.

Key Project Considerations and Effects

Water quality parameters and Project effects are described in the Revised Reclamation Plan and its supporting technical appendices, including Appendix H (Groundwater Hydrology and Water Quality Analysis Report).

4.7 Vegetation

Setting – Biological Communities

Based on the results of Foothill's Biological Resources Assessment (Revised Reclamation Plan Appendix F), biological communities that occur within Plan boundary include marsh, intermittent stream, breached quarry pond, sycamore woodland, willow riparian woodland, gravel bar, ruderal grassland, native revegetation area, quarry pond, silt pond, percolation pond, and developed. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status plant and wildlife species. Historic and ongoing mining activities have reduced the habitat function and values of many of these communities. No designated critical habitat for federally threatened or endangered species is located on site.

In addition, the ADV has extensive expanses of exotic, invasive plant species within the ordinary high-water mark of the channel including common reed, giant reed, and pampas grass.

Of these biological communities, Foothill considers the following to be sensitive:

1. Sycamore woodland.
    - *Note:* Although the sycamore woodland meets the criteria to be considered a sensitive community, it is very low quality due to small patch size, declining tree health, lack of supporting hydrology, and fragmented patches.

2. Potentially jurisdictional waters of the U.S. (including applicable portions of marsh, intermittent stream, breached quarry pond, willow riparian wetland, and gravel bar habitats).

The Plan area also contains native oak species that warrant consideration under CEQA.

Setting – Special Status Plant Species

Based on the results of Foothill's Biological Resources Assessment, no special-status plant species were considered to have a high potential to occur within the Project area due to the high degree of historic and ongoing disturbance that is occurring within the area due to gravel mining operations. Only three special-status plant species were determined to have any potential to occur, including:

1. Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), Rank 1B.1. Low potential.
2. Mt. Diablo buckwheat (*Eriogonum truncatum*), Rank 1B.1. Low Potential.
3. Mt. Diablo fairy-lantern (*Calochortus pulchellus*), Rank 1B.1. Low Potential.

None of these species were found on the site. For a complete list of other vegetation identified by Foothill (that are not considered special status) please see Appendix F of the Revised Reclamation Plan.

4.8 Wildlife

Setting – Special Status Wildlife Species

Based on the results of Foothill's Biological Resources Assessment (Revised Reclamation Plan Appendix F), the following special status wildlife species are known to occur or may have moderate to high potential to occur on site:

1. Bald eagle (*Haliaeetus leucocephalus*), State Endangered, Bald and Golden Eagle Protection Act, California Fully Protected Species. High Potential.
2. Golden eagle (*Aquila chrysaetos*), California Fully Protected Species, Bald and Golden Eagle Protection Act. High Potential.
3. Hoary bat (*Lasiurus cinereus*), California Special Animal. High Potential.
4. Pallid bat (*Antrozous pallidus*), California Species of Special Concern. High Potential.
5. Yuma myotis (*Myotis yumanensis)*, California Special Animal. High Potential.
6. Western pond turtle (PPT; *Actinemys marmorata*), California Species of Special Concern. Present.
7. American Peregrine Falcon, California Fully Protected Species. Present.
8. White-tailed kite (*Elanus leucurus*), California Fully Protected Species. Present.

For a complete list of other wildlife species identified by Foothill (that are not considered special status) please see Appendix F of the Revised Reclamation Plan.

Setting – Fisheries

The ADV historically supported steelhead (*Oncorhynchus mykiss*) during certain times of year. However, flood control structures and other barriers to fish migration downstream of the Plan area decades ago removed the potential for steelhead and other special-status fish species to occur on the site (Hanson *et al.* 2004, as cited in Appendix F).

Although no special-status fisheries are present or have moderate to high potential to occur at the site, the possibility of restoring a run of steelhead trout to Alameda Creek has been the topic of sporadic discussion and study for over 50 years. In 1996, Central Coast steelhead was listed as threatened pursuant to the federal Endangered Species Act. The Alameda Creek Fisheries Restoration Workgroup was formed in 1999 as a collaborative effort among many parties to pursue steelhead restoration. To formalize the activities of the workgroup, and to design and conduct hydrologic studies to estimate the range, magnitude, timing, duration, frequency and location of flows necessary to restore steelhead fisheries (while minimizing the impacts to water supply operations), a Memorandum of Understanding ("MOU") was executed in 2007 by Alameda County Flood Control and Water Conservation District, Alameda County Resource Conservation District, Alameda Creek Alliance, Alameda County Water District, California State Coastal Conservancy, California Department of Fish and Game, East Bay Regional Park District, National Marine Fisheries Service, Pacific Gas and Electric Company, San Francisco Public Utilities Commission, and Zone 7. Since 2007, the workgroup has facilitated a series of projects to establish the physical data needed to meet the MOU objective, including preparing an overall Study Plan (January 2008) that identified priority management issues associated with steelhead recovery.

Implementation of SMP-23 as approved in 1987, with the ADV flowing through Lakes A and B with spillways, would have introduced a new challenge in the steelhead recovery effort. This Plan instead supports the recovery effort by providing for the ADV to flow separate from Lakes A and B, with consideration for fish passage incorporated into the designs for both the realigned ADV and the 500 cfs diversion structure from the ADV into Lake A.

5.0 DESCRIPTION OF MINING

The Project is a modification of an approved reclamation plan project (i.e., SMP-23) for a vested mining operation. Except as outlined in this Project Description, CEMEX proposes no change to any fundamental element of the existing operation (e.g., mining methods, processing operations, production levels, truck traffic, or hours of operation). The discussions in this Project Description and other elements of the Application regarding existing and expected mining operations at the Project site are included for the purposes of background and context only, and not as part of the Project and they require no County approvals. The following sections provide brief descriptions of the existing and ongoing surface mining operations, including mineral commodities mined,

mining methods and parameters, noise and dust minimization measures, and an anticipated schedule for carrying out mining and reclamation.

5.1 Mineral Commodity Mined

The mineral commodity that will continue to be mined is sand and gravel from the Quaternary Alluvium and Upper Livermore Formations.

5.2 Mining Operation

For contextual purposes only, this section summarizes the proposed mining operation, including removal of vegetation and overburden; how the mineral commodity will be extracted; timing of the operation; the equipment that will be used; and proposed phasing of the operation.

The description that follows is also described in Section 2.1.6 of the Revised Reclamation Plan.

Current Mining Operations

Eliot Quarry is mined for aggregates that are used in the construction industry for road base, concrete, asphalt pavement, bedding and select fill. In addition, recycled aggregate, which is produced from the crushing and screening of returned concrete and asphalt that would have otherwise been directed to landfills, is produced and sold as road base or fill.

Lake A, located east of Isabel Avenue / State Route 84, will only be further disturbed to carry out reclamation activities only.

The primary areas that will be subject to further surface mining disturbances include:

1. "Lake B," including the ADV realignment area, located west of Isabel Avenue; and
2. "Lake J," located in the northern portion of the site south of Stanley Boulevard.

No further commercial mining is planned for Lake A, but some limited surface disturbances still need to occur to prepare the lake for installation of water conveyance facilities for future dedication to Zone 7. In the northern portions of the facility (north of Lake B), limited surface disturbances are also planned to occur on CEMEX property in areas identified as Ponds C and D (to be used as freshwater and silt ponds), which may in the future be merged with "Future Lake C" and "Future Lake D" of the Chain of Lakes. Pond D may be excavated down to elevation 200 feet msl (about 80 feet bgs) prior to its conversion to a silt pond. If this occurs, then it is anticipated to occur and be completed late in the quarry's life (e.g., year 2050). Other areas, such as the northern portions of the site adjacent to Stanley Boulevard, will continue to be used for office, processing plants and silt ponds. Reclamation treatments for each of the areas described above are described in detail later in this Plan.

Equipment Use

Mining equipment employed at the site includes conventional scrapers, excavators, front-end loaders, motor graders and bulldozers. Other specialty mining equipment, such as dredges or drag-lines, have been mobilized and used as needed but much less frequently. Haul trucks and conveyors are used to transport materials from mining areas to the on-site processing plants. Aggregate processing operations employ conventional sand and gravel processing equipment, such as scrubbers (to wash aggregates), screens (to wash and sort aggregates), crushers (to resize and reshape materials), conveyors (to move material between processing plant components and stockpiles), bins (for storage), mixers and dryers. Specialized processing equipment is used in the production of asphaltic concrete and ready-mix concrete. Portable processing equipment (similar to that used at the main aggregate processing plant) is also used to process aggregates and recycled materials. Support equipment includes, but is not limited to, water trucks (for dust control), truck scales, portable and submersible water pumps, service/maintenance vehicles, trucks, cranes, loaders and fork-lifts.

Mining Methods

Mining operations are initiated by the removal of vegetation, topsoil/growth media, and other overburden materials (such as subsoils or clays) that lie above marketable sand and gravel deposits. The overlying materials are typically removed using scrapers aided by a motor grader and bulldozer as needed. Excavators and haul trucks are sometimes also used for this purpose. Overburden is either directly placed or stockpiled for later use to build berms and haul roads, raise banks, cap silt ponds, and prepare a revegetation substrate.

After overburden is removed, marketable sand and gravel is typically excavated using conventional mining equipment such as front-end loaders, excavators, and bulldozers. The underlying “pit run” sand and gravel material is usually mined by developing a working face through excavation or pushing the material down-slope into a “dozer trap,” and then transporting the material by overland conveyor, haul truck or a combination of both to the processing plant site for processing. For excavations below groundwater levels, dewatering is customarily conducted at the site to achieve planned mining depths and to allow mining to occur with bulldozers, excavators, loaders, and conveyor transport. Groundwater pumped from excavation areas is recycled on-site and used in aggregate washing, concrete operations, dust control and/or pumped into the adjacent Shadow Cliffs lake (as allowed under existing RWQCB authorizations) or fresh water ponds. Where dewatering is not practical, mining will continue to be conducted by conventional excavator, dredge, and/or drag-line excavator.

5.3 Project Life

Mining operations are vested and ongoing and will continue until just before the reclamation objectives of the Project’s Revised Reclamation Plan are met. The Project life (for reclamation) is anticipated to be 37 years, with an end date of December 31, 2056. See Section 7.0 for detail.

5.4 Project Size

The proposed Project footprint is ±920 acres, nearly all of which has been or will continue to be disturbed and/or restored as part of reclamation. With the exception of the ADV to Lake A diversion structure and realignment of the ADV south of Lake B, work in the ADV would be limited to restoration activities (e.g., invasive species removal and compensatory mitigation as may be prescribed by approved regulatory agencies).

5.5 Excavations

Maximum Anticipated Depth of Excavation

As described in Section 2.1.4 of the Revised Reclamation Plan, the maximum anticipated depth of the surface mining operation is ±260 feet below ground surface ("bgs") to a maximum bottom elevation of 130 feet msl. This max depth occurs at the area referred to as "Lake J," as described below. This Plan contemplates mining to the following depths:

- **Lake A –** No further mining to occur. Mining previously extended to a maximum bottom elevation of 350 feet msl but backfill was placed in a portion of the pit bottom and at its deepest point the current pit bottom elevation is ±360 feet msl.
- **Lake B –** Mining will continue to a maximum bottom elevation of 150 feet msl.
- **North Area, Lake J –** Mining will continue to a maximum bottom elevation of 130 feet msl. SMP-23 authorized mining of this area to the "bottom of aggregate deposit." Although for the purposes of the Revised Reclamation Plan the maximum depth planned is to elevation 130 feet msl, CEMEX reserves its vested right to mine to the bottom of the aggregate deposit should mining to depths below the elevation of 130 feet msl prove to be feasible in the future (subject to a future reclamation plan amendment).
- **North Area, Pond D –** Mining will continue to a maximum bottom elevation of 200 feet msl in the North Area Pond D.

Development of the mine excavations may vary due to geologic, engineering, economic and/or market conditions. As such, mining operations may or may not reach the maximum depths and mining depth may vary throughout the site. Reclamation would, in any case, be completed according to the standards described in the Revised Reclamation Plan and would be consistent with the objectives identified in the LAVQAR Specific Plan.

Slope Design

Future excavations will adhere to the final design slope angles of 2H:1V or flatter. Final reclamation fill slopes will not exceed 2H:1V. Mining and reclamation design slopes are reflected on Revised Reclamation Plan Sheets M-1, M-2, R-1, R-2, R-3 and R-4. Reclamation fill slopes will be constructed consistent with the recommendations found in Section 2.6.2 of the Revised Reclamation Plan, based on input from Geocon (the Project geotechnical engineer).

5.6 Anticipated Production of Commodity

As described in Section 2.1.2 of the Revised Reclamation Plan, moving forward, approximately 33.3 million cubic yards (54.9 million tons at 1.65 tons per cubic yard) of sand and gravel is anticipated be mined. Of this total, up to 30% (or 10.0 million cubic yards) is anticipated to be discharged to silt ponds as aggregate process wash losses. The remaining 23.3 million cubic yards (38.4 million tons) is anticipated to be produced as saleable product.

The anticipated schedule provided in Table 3 above assumes anticipated average production of 1,000,000 tons per year (±606,000 cubic yards per year); however, this is in no way to be construed as a production limit. CEMEX has vested mining rights and proposes no change to any permitted production levels as part of this Project.

In addition, approximately 6.5 million cubic yards of non-marketable overburden clay lenses are anticipated to be handled during surface mining and reclamation operations. This amounts to an average handling of ±176,000 cubic yards of overburden per year over the 37-year life of the Project.

5.7 Planned Ore Processing Methods, Milling, Beneficiation, and Smelting On-Site

The Project is a reclamation plan amendment for a vested mining operation. The Project proposes no change to existing / vested aggregate, construction materials recycle, ready-mix concrete, and asphalt concrete processing operations. The Project also proposes no change to any existing maintenance shop activities.

5.8 Production Water Data

The Project is a reclamation plan amendment for a vested mining operation with no change to existing sources and use of water for the mining and processing operations. Water used in ongoing operations is primarily sourced from existing fresh water ponds.

The Project's anticipated water demands (under baseline and proposed conditions) are described in detail in Appendix H (Groundwater Hydrology and Water Quality Analysis Report) of the Revised Reclamation Plan.

A description of wastewater management, stormwater runoff, and potential contaminants is included in the Revised Reclamation Plan, including in Sections 2.2 (Description of Reclamation Features and Facilities), 2.3.2 (Reclamation Measures Adequate for the End Use), 2.7 (Hydrology and Water Quality), 2.8 (Protection of Fish and Wildlife Habitat), and 2.11 (Equipment Removal and Incidental Waste Disposal).

5.9 Mine Wastes

The Project is a reclamation plan amendment for a vested mining operation and CEMEX proposes no change to waste disposal or contamination control practices. Mine waste handling and disposal is described in Section 2.7.4 of the Revised Reclamation Plan.

In addition, consistent with current operations, CEMEX will continue to manage and dispose of wastes generated by the surface mining operation in the following manner:

1. **Mine waste rock (overburden):** overburden that cannot be sold as product is used in reclamation.

2. **Water:** Water used in processing operations is recycled to the extent feasible to minimize the need for make-up water. CEMEX also takes advantage of storm water that collects in open water ponds for use in dust control.

5.10 Imported Wastes

The Project is a reclamation plan amendment for a vested mining operation and no commercial import of waste material is proposed. Consistent with current operations, CEMEX will continue to manage and dispose of other imported materials that could ultimately constitute wastes in the following manner:

1. **Refuse:** incidental refuse or garbage (minimal amounts) is hauled off-site by professional contractors and disposed of in accordance with local and state standards.

2. **Used oil / antifreeze:** Maintenance of mobile equipment is generally performed by the equipment manufacturer (e.g., Caterpillar, Volvo) and occurs at the existing processing plant site shop or off-site. Used petroleum products and antifreeze are managed in accordance with applicable regulations, and is picked up by approved haulers for recycling and/or disposal.

3. **Sewage:** Portable toilets are provided for employee use and are serviced by professionals. An existing septic system services the plant office and is periodically serviced by qualified professionals.

5.11 Erosion and Sedimentation Control

Methods to prevent erosion and/or sedimentation are described in Sections 2.7 (Hydrology and Water Quality) and 2.8 (Protection of Fish and Wildlife Habitat) of the Revised Reclamation Plan.

5.12 Blasting

No blasting occurs or is proposed to occur on-site.

5.13 Truck Traffic / Transportation

The Project is a reclamation plan amendment for a vested mining operation, with no proposed change to any truck traffic or transportation uses or patterns. Finish products will continue to be shipped by truck from the Project site's main entrance at 1544 Stanley Boulevard. Trucks leaving the site will continue to turn right onto Stanley Boulevard to access State Route 84 and Interstate 680. See Figure 5, Existing Truck Haul Routes. Based on City of Pleasanton ordinance, only local deliveries are permitted to turn left onto Stanley Boulevard. It is estimated that approximately five percent of trucks leaving the facility are CEMEX-owned. The Project proposes no change to daily average or maximum truck traffic.

5.14 Dust and Noise Control

CEMEX is in current compliance with its permits to operate issued by Bay Area Air Quality Management District ("BAAQMD") that contain conditions related to control of dust. CEMEX will also continue to implement its internal fugitive dust control plan, which was developed to ensure ongoing compliance with BAAQMD rules and regulations. The dust control plan includes best management practices ("BMPs") for dust control, such as watering exposed surfaces, limiting vehicle speeds, use of water spray and dust suppression systems at the aggregate processing plant, and track-out control. The Plan also identifies administrative controls, including monitoring and employee training procedures.

An assessment of noise levels associated with carrying out Project reclamation activities is included as Application Attachment 6, Noise Analysis. The noise consultant, Bollard, recommends as mitigation measures that:

1. Project construction activities be limited to daytime hours;
2. Mobile equipment be fitted with mufflers consistent with manufacturers recommendations and be well maintained to ensure compliance with local noise standards; and
3. All residences within 500 feet of the conduit and pipeline installation components of the Project be provided notice of the pipeline installation schedule and informed that short-term periods of elevated daytime ambient noise levels could occur during that period.

CEMEX is agreeable to these measures.

6.0 DESCRIPTION OF RECLAMATION

6.1 Subsequent Uses

As described in more detail in Section 2.3.1 of the Revised Reclamation Plan, the planned end uses for the Eliot Quarry are water management, open space, and agriculture (non-prime).

6.2 Reclamation Schedule and Treatments

See Section 7, below, as well as Section 2.1.6 of the Revised Reclamation Plan for detail. Reclamation treatments are described in detail in the Revised Reclamation Plan, including in Sections 2.2 (Description of Reclamation Features and Facilities), 2.3.2 (Reclamation Measures Adequate for the End Use), 2.6 (Slope Stability and Disposition of Fill Materials), 2.7 (Hydrology and Water Quality), 2.8 (Protection of Fish and Wildlife Habitat), 2.9 (Resoiling), 2.10 (Revegetation), 2.11 (Equipment Removal and Incidental Waste Disposal), and 2.12 (Closure of Portals, Shafts and Openings).

6.3 Pit Areas and Excavations

A detailed description of how pit areas or excavations will be reclaimed is included in the Revised Reclamation Plan, including in Sections 2.3.2 (Reclamation Measures Adequate for the End Use), 2.6 (Slope Stability and Disposition of Fill Materials), 2.9 (Resoiling), and 2.10 (Revegetation). Reclaimed pit areas and excavations are reflected on Revised Reclamation Plan Sheets R-1 through R-5.

6.4 Ponds, Reservoirs, Tailings, Wastes

A detailed description of how ponds and/or mine wastes will be reclaimed (e.g., regraded, dewatered, capped, revegetated, removed) is included in the Revised Reclamation Plan, including in Sections 2.2 (Description of Reclamation Features and Facilities), 2.3.2 (Reclamation Measures Adequate for the End Use), 2.6 (Slope Stability and Disposition of Fill Materials), 2.7 (Hydrology and Water Quality), 2.8 (Protection of Fish and Wildlife Habitat), 2.9 (Resoiling), 2.10 (Revegetation), and 2.11 (Equipment Removal and Incidental Waste Disposal). Reclaimed ponds and waste disposition areas are reflected on Revised Reclamation Plan Sheets R-1 through R-5.

The Project will construct a small low-head dam as part of the ADV to Lake A diversion structure and realign a ±5,800 linear foot reach of the ADV south of Lake B, as summarized in Revised Reclamation Plan Section 2.2. Detailed parameters for the low-head dam and realigned ADV are included in the Project's Hydraulic Design Study included as Appendix B of the Revised Reclamation Plan. These features are also shown on Revised Reclamation Plan Sheets R-2 through R-4. Detailed construction improvement plans for the realigned ADV are included as Application Attachment 7, Improvement Plans for Eliot Facility Arroyo del Valle Realignment Project.

The Project will also construct numerous berms and embankments between mining areas and the ADV, serving various purposes as summarized in Sections 2.2 and 2.6.2 of the Revised Reclamation Plan. All of these berms and embankments are shown on Revised Reclamation Plan Sheets R-1 through R-4, and are addressed in further detail as appropriate in the Project's Hydraulic Design Study (Appendix B of the Revised Reclamation Plan) and Geotechnical Investigation (Appendix I of the Revised Reclamation Plan).

6.5 Clean Up

A description of methods and timing for general clean-up is included in the Revised Reclamation Plan, including in Sections 2.3.2 (Reclamation Measures Adequate for the End Use), 2.7.4 (Contaminant Control and Mine Waste Disposal), and 2.11 (Equipment Removal and Incidental Waste Disposal).

7.0 PROJECT ESTIMATED SCHEDULE

Total saleable sand and gravel reserves are estimated at 38 million tons. At an anticipated average production (matching sales) rate of 1,000,000 tons per year, the anticipated end date for the surface mining operation is December 31, 2056.

Mining will continue to progress in a manner that will allow for reclamation to be initiated at the earliest possible time on those portions of the mined lands that will not be subject to further surface mining disturbances. Final reclamation, consisting of finish slope contouring, revegetation and equipment removal will generally commence in each pit as soon as final excavation grades are achieved. An estimated time schedule for mining and reclamation is provided in Table 3, below.

This anticipated sequence and schedule is dependent upon many factors such as securing regulatory entitlements, fluctuations in market demands, and need for specific aggregate products. Therefore, it is expressly understood that this anticipated schedule and sequence is subject to change. The reclamation finish dates listed represent the anticipated date by which physical reclamation activity is complete. In addition to market conditions, monitoring periods for specific aspects of reclamation (e.g., revegetation monitoring) may extend the final date of reclamation sign-off beyond these dates.

TABLE 3

ANTICIPATED PROGRESSION OF MINING AND RECLAMATION

Area	Mining (End)	Reclamation (Start)	Reclamation (Finish)[2]
1. Lake A	**Complete**		
a. Convert berm to island	--	2022	2022
b. Berm between ADV and Lake A	--	2022	2022
c. Overflow outlet to ADV	--	2022	2022
d. Pipeline from Lake A to Lake C[3]	--	2022	2022
e. Diversion structure – ADV**	--	2023	2023
f. Fill percolation ponds	--	2023	2023
g. Revegetation	--	2023	2023
2. Lake B	**2056**		
a. Realigned Arroyo del Valle**	--	2022	2023
b. Berm between ADV and Lake B	--	2022	2022
c. Pedestrian and bike trail[4]	--	2028	2028
d. Conduit from Lake B to C[5]	--	2031	2031
e. Overflow outlet to ADV	--	2056	2056
f. Excavate Shark's fin drainage notch	--	2056	2056
g. Revegetation	--	2056	2056
3. North Area - Silt Ponds	**2050**		
a. Resoiling cap – main silt pond	--	2030	2030
b. Revegetation – main silt pond	--	2030	2030
c. Pond D excavation	2050	2050	2050
4. North Area - Plant Site and Lake J Area[6]	**2030 (Lake J)**		
a. Plant site removal	--	2056	2056
a. Contour grading / resoiling	--	2056	2056
b. Retention ponds	--	2056	2056
c. Revegetation	--	2056	2056

Notes:

** Timing for these reclamation items contingent on obtaining regulatory agency authorizations (e.g., 404, 401, and 1600 authorizations). The realigned ADV may be constructed in as little as one year.

1. Anticipated progression is approximate only. Actual timelines will vary depending on market and geologic conditions. Schedule assumes anticipated average production of 1,000,000 tons per year.
2. In order to demonstrate that performance standards for reclamation have been met (e.g., revegetation monitoring), final reclamation for specific reclamation features may not occur for at least three (3) years following anticipated progression of mining and reclamation. For the realigned ADV, it is currently anticipated that regulatory agencies will require a minimum monitoring period of five (5) years following the completion of construction for all restored habitats and biological features.
3. Pipeline from Lake A to Lake C includes turn-out into Lake B.
4. Pedestrian and bike trail south of the realigned ADV is assumed to be developed after an estimated five-year revegetation monitoring period for the realigned ADV.
5. The 30-inch Lake B to Lake C conduit is anticipated to be installed after completion of mining in the Lake J area, and generally concurrent with mining activity in the Lake B utility vault area.
6. The Lake J excavation will be repurposed as a silt pond after mining is complete (anticipated year 2030).

8.0 LAVQAR SPECIFIC PLAN CONSISTENCY

The Project is designed to carry out the objectives of the LAVQAR Specific Plan as pertains to CEMEX-controlled properties and is consistent with the plan's policies. A discussion of the Project's consistency with the pertinent policies of the LAVQAR Specific Plan is contained in Section 3.2 of the Revised Reclamation Plan.

9.0 SCOPE OF ENVIRONMENTAL REVIEW

The California Environmental Quality Act ("CEQA") only applies to discretionary approvals by public agencies (14 CCR §15352(a)). CEMEX's mining activities at the Project Site are subject to vested rights and do not require any new permits or other approvals from the County. Accordingly, there is no discretionary "approval" that would trigger CEQA review of the mining component of CEMEX's operations at the Project site.

In contrast, pursuant to SMARA and County Code, an amendment to SMP-23 requires the County's discretionary approval, which subjects the proposed reclamation plan amendment to CEQA compliance (PRC §2776(a)). Therefore, the focus of the environmental review for the Project should be limited to review of potential environmental impacts of the proposed changes to the reclamation aspect of CEMEX's surface mining operations at the Project site. (See *City of Ukiah v. County of Mendocino* (1987) 196 Cal.App.3d 47; *El Dorado County Taxpayers for Quality Growth v. County of El Dorado* (2004) 122 Cal.App.4th 1591.) The discussions in this Application regarding existing and expected mining operations at the Project site are included for the purposes of background and context only, and not as part of the Project.

The Applicant believes that this Application provides sufficient information to permit the lead agency to determine "whether an environmental impact report ["EIR"], a negative declaration, or a mitigated negative declaration shall be required…" pursuant to PRC §21080.1. The Applicant believes that preparation of a Subsequent EIR is an appropriate course of action based on extensive consultation with County staff. At the County's request, justification for this approach prepared by Mitchell Chadwick LLP is presented below.

9.1 Use of a Subsequent EIR to Evaluate Environmental Impacts

CEMEX and its predecessors-in-interest have been continuously mining for sand and gravel at the Eliot Quarry site since 1906 or earlier. The County published a Draft EIR for a "Master" Reclamation Plan covering the Livermore-Amador Valley Quarry Area ("Quarry Area") in 1979. In 1980, the County published an Addendum, which included responses to comments on the DEIR. The County Planning Commission certified the EIR in 1981 ("1981 EIR"). In November 1981, the County adopted the LAVQAR Specific Plan. In 1987, the County approved CEMEX's reclamation plan for the Eliot facility via a negative declaration ("SMP-23"). Since then, two Corrective Action Plans and several conditions from 5-year periodic reviews have modified the 1987 Reclamation Plan. The amendments proposed in this application are modifications to the previously analyzed Master Reclamation Plan and SMP-23.

According to the California Supreme Court, a lead agency has broad discretion to utilize CEQA's subsequent review provisions, if "at least *some* of the environmental impacts of the modified project were considered in the original document, such that the original document retains some relevance to the ongoing decisionmaking process." (*Friends of the College of San Mateo Gardens v. San Mateo County Community College District* (2016) 1 Cal.5th 937, 951, underline added.) In this case, it is appropriate for the County to use a Subsequent EIR ("SEIR") to evaluate the environmental impacts stemming from this reclamation plan amendment Application.

9.1.1 Statutory and Regulatory Subsequent EIR Provisions

When an EIR has been prepared for a project, CEQA establishes a presumption against requiring further environmental review. In summary, "no [supplemental or subsequent EIR] is required unless there are substantial changes in the project or the circumstances surrounding the project, or if new information becomes available." (*Santa Teresa Citizen Action Group v. City of San Jose* (2003) 114 Cal.App.4th 689, 703.) In this case for the Eliot site, all parties agree that given changes since 1981 an EIR is necessary. The proposed reclamation plan amendment does not involve a new, stand-alone project, rather many of the major project features studied in the 1981 EIR remain the same. However, since new information is available and substantial changes are proposed in this Reclamation Plan Amendment application, preparation of a subsequent EIR, pursuant to CEQA section 21166, is necessary.

California Public Resources Code section 21166 provides:

> When an [EIR] has been prepared for a project…, no subsequent or supplemental [EIR] shall be required by the lead agency…unless one or more of the following events occurs:
>
> (a) Substantial changes are proposed in the project which will require major revisions of the [EIR].
>
> (b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the [EIR].
>
> (c) New information, which was not known and could not have been known at the time the [EIR] was certified as complete, becomes available.

(Underline added.) All three of the above conditions apply to this reclamation plan amendment application.

The CEQA Guidelines expand upon section 21166. CEQA Guidelines section 15162 mirrors the language of section 21166 while offering additional detail, on the three circumstances under which a subsequent EIR must be prepared for a project:

> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR…due to the involvement of new significant

environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR…due to the involvement of new significant, environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete…, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR…;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

(Guidelines, § 15162, subd. (a).)

The 2019 SEIR would be subsequent to the 1981 EIR.

When an agency evaluates a proposed change or modification to a previously reviewed project, the scope of subsequent environmental review is limited. The subsequent review standards apply whether or not the project has actually been constructed. (*Benton v. Board of Supervisors* (1991) 226 Cal.App.3d 1467, 1477.)

9.1.2 Age of the 1981 EIR

The fact that the original EIR was prepared in 1981 does not affect the County's ability to use an SEIR here. CEQA establishes no rules regarding the expiration of prior environmental review. For example, the appellate court in *Mani Brothers Real Estate Group v. City of Los Angeles* (2007) upheld the city's decision to rely on an addendum prepared in 2005 for an EIR certified in 1989—a sixteen-year gap, except as to the issue of police services. (153 Cal.App.4th 1385, 1390-1391, 1397-1398.) On the topic of police services, the court required the county to prepare a supplemental EIR, pursuant to section 21166. (*Id.* at pp. 1403-1404.) Indeed, *Mani Brothers* noted that courts have upheld even the use of an addendum (a much lesser degree of environmental review than a subsequent EIR) under section 21166 in "numerous contexts," including "in cases

where many years had elapsed between the original EIR and later project revisions…and where the project's appearance had changed fairly dramatically." (*Id.* at p. 1398.) In another case, the court endorsed the use of a supplemental EIR, rather than a new EIR, when considering modifications to a CUP for mining operations in 1996, where that CUP had been previously studied in a 1976 EIR—twenty years prior. (*Fairview Neighbors, supra,* 70 Cal.App.4th at p. 243.)[1]

9.1.3 Project Description and Impacts Previously Considered in the 1981 EIR

The 1981 EIR evaluated numerous design features to coordinate reclamation of the Quarry Area between three different operators. A number of the major reclamation features considered in the 1981 EIR will be relevant to the 2019 SEIR, including:

- Creation of the chain of lakes, including Lakes A and B. (1981 EIR p. 3.)
- Utilization of the pits to store high quality ground and imported water with which to recharge the groundwater basin, with the aim of improving water quality. (1981 EIR p. 4.)
- Use of the chain of lakes for water storage, flood control, recreation, and water quality enhancement. (1981 EIR p. 26.)
- Retention or construction of a channel for Arroyo del Valle along the southern perimeter of the Quarry Area, to help conveyance of water. (1981 EIR p. 3.)
- Conduits connecting water filled pits, which could transmit or block water flow through the area. (1981 EIR p. 3.)

In addition to these key reclamation concepts, the 1981 EIR also analyzed several specific features and impacts which are relevant to the current reclamation plan amendment application and the 2019 SEIR. Below are excerpts from the 1981 EIR discussing relevant impacts.

Aesthetics

- The Reclamation Plan is intended, in part, to restore the Quarry Area landscape to an attractive condition. Pits will either be backfilled or filled with water. In most areas, the net result will not deteriorate current aesthetics and may enhance visual quality in some cases. (1981 EIR p. 45.)
- One identifiable adverse impact is potential for degradation of visual quality of the Arroyo del Valle area. (1981 EIR p. 45.)

[1] See also *City of Duarte v. City of Azusa* (2013, B235097 [nonpub. opn.] *1-2), upholding use of twenty-year-old EIR to establish baseline conditions for modifications to a mining CUP and reclamation plan studied in 2010.

Biological Resources

- No rare or endangered plant or animal species is known to exist in the area. The area exhibits a mix of vegetation and habitat including cultivated fields, settling ponds and other lakes, and barren areas devoted to active quarrying[2]. (1981 EIR p. 39.)
- Livermore-Amador Valley is part of the hunting area of the Southern Bald Eagle and the American Peregrine Falcon, which have been classified as endangered by the State. However, neither is endemic to the region and their primary hunting area would lie outside the Quarry Area. (1981 EIR p. 39).
- The most significant adverse impact of the Plan on biota would result from replacing the existing Arroyo del Valle channel with an artificial channel. (1981 EIR p. 39.)
- The best mitigation of loss of the natural Arroyo del Valle channel is to construct the new channel as close in appearance and function to the natural existing channel as is feasible. (1981 EIR p. 40.)

Cultural Resources

- No archaeological sites have been recorded within the Quarry Area. The quarrying has the potential to both reveal and destroy archaeological sites. The Reclamation Plan makes no mention of the possibility of discovery of artifacts or methods of action to deal with the possibility. (1981 EIR p. 48.)

Geology and Soils

- Areas termed "capped settlement ponds," in which 5 to 10 feet of overburden material is proposed to be placed over water saturated fine sand and silt, may not be suitable for building construction. (1981 EIR p. 8.)
- Typical backfilled areas would be below original surface elevations. Drainage problems may result. (1981 EIR p. 8.)

Climate and Atmospheric Conditions

- No adverse impacts foreseeable. No other impacts on climate are identifiable at this time[3]. (1981 EIR p. 41.)

Hydrology and Water Quality

- A channel for Arroyo del Valle is to be retained or constructed along the southern perimeter of the Quarry Area so that Arroyo del Valle flow could pass through the area

[2] This biological resource area will require additional review in the 2019 SEIR.
[3] This resource area will require additional GHG review in the 2019 SEIR.

without first going into the gravel pit lakes. (1981 EIR p. 3; Livermore-Amador Valley Quarry Reclamation Plan p. 1.)

- Conduits to transmit water between the gravel pit lakes as shown in Figure 4D attached to the LAVQAR Specific Plan EIR. (1981 EIR p. 23.)
- The natural transmission function of the upper aquifer would be replaced with pipes, canals and the lakes (1981 EIR p. 25).
- Considered the relocation of the Arroyo Del Valle Channel. (1981 EIR p. 33.)

Land Use and Planning

- As quarrying continues…agricultural and open space uses will decline while land used for quarrying increases. (1981 EIR p. 42.)
- To mitigate impacts of untimely or illogical development on reclaimed lands, policies should be adopted in the LAVQAR Specific Plan to implement the Reclamation Plan as part of the Livermore-Amador Valley General Plan to guide such uses during the Plan period. To avoid impacts of commitment to intensive land uses, an assumption could be made in the Specific Plan that open space and mining related industrial uses of reclaimed lands are appropriate as a present designation until it can be demonstrated that agricultural, industrial, or residential uses would not conflict with other land uses, policies, plans, and environmental quality existing at that future time. (1981 EIR p. 43.)

Noise

- High noise levels would be generated in excavation and backfilling processes. Reduction of noise at the source can be accomplished by proper maintenance of equipment and usage of newer equipment[4]. (1981 EIR p. 49.)

Transportation / Traffic

- Approval of the Reclamation Plan would have no significant effect on traffic levels on area streets for the duration of the interim period while quarrying is still taking place. Urban or recreational development of the area would generate significant amounts of traffic; meaningful analysis cannot be accomplished at this time, but would occur in detailed environmental review for any specific proposal. (1981 EIR p. 44)

Utilities and Service Systems

- Sand and gravel excavation and reclamation activities are self-contained and have little need for community facilities and services. (1981 EIR p. 44)

[4] This resource area will require additional review in the 2019 SEIR.

Energy

- Energy would be consumed to construct the Reclamation Plan facilities. The Plan, if followed, would indirectly cause an increase in energy needed to supply water to the Livermore Valley from the State Water Project. More of this import water would be needed if groundwater levels are kept low so as not to interfere with mining. After completion of mining, some energy would be required to transmit water through the area. (1981 EIR p. 47.)
- Consumption of energy is but one factor to be taken into account in planning for a water management plan for the Quarry Area. Public benefits of increased water supply, flood control, and conservation may outweigh costs of increased energy consumption. (1981 EIR p. 48.)

Health and Safety

- Potentially hazardous areas exist within the Quarry Area. Large ponds are present with near vertical sides. Steep slopes abound. (1981 EIR p. 49.)
- The Reclamation Plan calls for 1:1 final cut slopes as the norm for water-filled pits. Slopes this steep are difficult to grab into to pull ones' self out of the water in an emergency. Such slopes also have a tendency to crumble underfoot if walked upon, and they make rescue operations difficult. (1981 EIR p. 49.)
- Mitigation of safety hazards of steep slopes can be accomplished by adhering to the 2:1 slope requirements of the Alameda County Surface Mining Ordinance. (1981 EIR p. 49.)
- Mitigation of mosquito production includes the following measures: proper grading and reformation of land to allow proper drainage and prevent standing water; avoiding extensive shallow areas in permanent ponds, minimization of vegetation near the edge of ponds; establishment of access roads to allow inspections and control activities; and coordination of planning and project management with the Alameda County Mosquito Abatement District to provide information and mosquito control materials. (1981 EIR p. 50.)

Public Plans and Policies

- Sand and gravel mining is consistent with the General Plan, as is the concept of reclamation and reuse of land in the Quarry Area. (1981 EIR p. 51.)
- No impacts on zoning or impacts of zoning upon the Reclamation Plan are evident. (1981 EIR p. 51.)
- The consistency of the Reclamation Plan as submitted with the ACSMO must be evaluated by the Planning Commission,…this EIR, and other elements comprising the record on this matter. Specific requirements of the ACSMO are relied upon…to mitigate impacts which would otherwise occur. (1981 EIR p. 54.)

9.1.4 New Impacts to be Considered in the SEIR

This amendment application contains some features that were not analyzed in the 1981 EIR. These features will undergo environmental review in the SEIR. Additionally, some portions of the 1981 EIR will need to be reviewed again and updated in the SEIR. For example, the 1981 EIR states that no rare or endangered plant or animal species are known to exist in the area, and that there would be no foreseeable or identifiable climate impacts. In addition, since 1981, homes have been built in areas south of Lake B and north of Lake A. These homes will need to be considered in the 2019 SEIR. Circumstances have changed and new information has become available since 1981. As a result, the relevant EIR sections will be reevaluated and expanded in light of new information and changed circumstances, as required by CEQA.

FIGURES