RESOLUTION NO. 2015-_____

A RESOLUTION OF THE PLANNING COMMISSION OF NAPA COUNTY, STATE OF CALIFORNIA REGARDING THE SYAR NAPA QUARRY EXPANSION SURFACE MINING PROJECT PERMIT NO. P08-00337-SMP: (1) ADOPTING FINDINGS AND REJECTING THE PROPOSED PROJECT, THE NO PROJECT ALTERNATIVE, AND THE REDUCED FOOTPRINT/CONSERVATION ALTERNATIVE PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA); (2) FINDING THE SYAR MODIFIED PROJECT PLUS AREA C (THE REDUCED PRODUCTION ALTERNATIVE) CONSISTENT WITH THE NAPA COUNTY GENERAL PLAN; (3) ADOPTING THE MITIGATION MONITORING AND REPORTING PROGRAM; (4) ADOPTING THE SYAR MODIFIED PROJECT PLUS AREA C (REDUCED PROJECT ALTERNATIVE); AND (5) APPROVING SURFACE MINING PERMIT NO. P08-00337-SMP

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WHEREAS, on or about May 7, 2008, Syar Industries, Inc. (Syar, Applicant, or Permittee) submitted an application for Surface Mining Permit No. P08-00337-SMP (SMP No. P08-00337-SMP or Permit) to the Napa County Planning, Building and Environmental Services (PBES) Department (formerly the Conservation, Development and Planning Department) requesting approval of a Surface Mining Permit (SMP) to modify the mining and reclamation plan and associated aggregate processing, production and sales as currently permitted under County Permit Nos. UP-128182, UP-27374, and County Agreement No. 2225 to allow: a) an approximate 124 acre expansion of the current surfacing mining and reclamation plan for a 35 year term; b) an increase in mining depth from approximately 300 feet and 150 feet above mean sea level (msl) to no greater than 50 feet above msl; c) an increase in production of aggregate materials from approximately 1 million tons per year to 2 million tons per year; d) add Reclaimed Asphalt Pavement (RAP) handling equipment to the existing asphalt batch plant; and e) relocate and improve portions of Skyline Trail that were originally constructed on the quarry property back onto Skyline Wilderness Park lands (the 2008 Syar Project, proposed Project or Project);

WHEREAS, the proposed Project is located on the east side of State Highway 221 (Napa-Vallejo Highway) at its intersection with Basalt Road at 2301 Napa-Vallejo Highway, within the unincorporated portion of Napa County and zoned Agricultural Watershed (AW) on parcel numbers 045-360-005, 046-370-012, -013, -015, 046-390-002, -003, and 046-450-071, and zoned Industrial (I) on parcels 046-370-022 and -025. The southern end of parcel number 045-360-005 is within the Airport Compatibility Combination District (Zone D); however, no Project activities are proposed in this area (the Project Site);

WHEREAS, in March 2009, the PBES Department assisted by planning consultant GHD (formerly Winzler & Kelly) initiated the environmental review process required by the California Environmental Quality Act (CEQA), to analyze the potential environmental impacts of the 2008 Syar Project;

WHEREAS, in June 2009, an Initial Study/Environmental Checklist was prepared to identify areas to be further discussed in an environmental impact report (EIR);

WHEREAS, on June 10, 2009, a formal Notice of Preparation of an EIR (NOP) was issued soliciting public input regarding the Draft EIR (or DEIR) for the 2008 Syar Project. The comment period ran from June 10, 2009 through July 14, 2009;

WHEREAS, on July 1, 2009, the Napa County Planning Commission (or Planning Commission) held a public scoping session, in conjunction with circulation of the NOP, to elicit additional comments from the public on the scope and content of the DEIR;

WHEREAS, during the NOP period and scoping session (June 10th through July 14, 2009) the County received over 150 comments. These comments were considered in the preparation of the DEIR;

WHEREAS, on September 23, 2009, the PBES Department held a public informational meeting on the 2008 Syar Project;

WHEREAS, the County, as lead agency, caused to be prepared a Draft EIR for the 2008 Syar Project entitled "The Syar Napa Quarry Expansion Surface Mining Permit No. P08-00337 Project (August 2013) (State Clearinghouse No. 2009062054)";

WHEREAS, in accordance with CEQA, the Draft EIR was released for public and agency review on September 6, 2013. The public comment period ran from September 6, 2013 through December 5, 2013;

WHEREAS, on October 2, 2013, the County held two public hearings on the Draft EIR for purposes of receiving public comment: one hearing was held in the morning before the Planning Commission and one was held in the evening before the Director of the PBES Department;

WHEREAS, between the start of the public comment period on September 6, 2013, and its end on December 5, 2013, the County received 26 public and agency written comments on the Draft EIR;

WHEREAS, in accordance with CEQA, all comments received on the Draft EIR during the comment period were responded to and included in a Final EIR or FEIR. The Final EIR included the Draft EIR and comments and responses to comments on the Draft EIR and minor text changes to the Draft EIR;

WHEREAS, on November 11, 2014, in accordance with CEQA, the Final EIR (November 2014) was mailed to all commenting state and local agencies, organizations and individuals at least ten days prior to the Planning Commission's action on the 2008 Syar Project;

WHEREAS, on November 21, 2014, notice of a public hearing on the 2008 Syar Project before the Napa County Planning Commission was mailed, published and posted in accordance with County Code Section 16.12.370;

WHEREAS, in accordance with Government Code Section 65402, the PBES Department prepared a written report for the Planning Commission's consideration regarding implementing the 2008 Syar Project and its consistency with the Napa County General Plan;

WHEREAS, on January 7, 2015, the Commission conducted a public hearing to consider certification of the EIR and the merits of the 2008 Syar Project and associated SMP. Prior to the hearing, comments were received on the 2008 Syar Project, as well as, the adequacy of the proposed Final EIR (November 2014). During the hearing, there were several hours of testimony presented primarily by interested parties. At the conclusion of the public testimony, the Commission continued the hearing to February 18, 2015 and directed staff to: a) evaluate and respond to public comments; b) clarify potential impacts and how they were assessed; c) clarify the benefits and disadvantages of the Project alternatives identified in the EIR; d) provide a hybrid project alternative for consideration; and e) clarify and refine proposed mitigation measures and conditions of approval;

WHEREAS, at the continued public hearing on February 18, 2015, the Commission received additional testimony and comments from interested parties on the Final EIR and 2008 Syar Project. At staff's request, the Commission continued the item to the April 1, 2015 to allow staff and the environmental consultant additional time to evaluate and respond to comments. The

Commission also directed staff, at the request of interested parties, to explore the option of conducting a special meeting to allow a more convenient opportunity for the public to attend and participate in the hearing process;

WHEREAS, on March 17, 2015, in response to concerns raised by the public, Syar modified the 2008 Syar Project by: (1) reducing the proposed annual production level from 2 million tons per year to 1.3 million tons per year consistent with the Reduced Production Alternative; (2) reducing the size of the proposed expansion areas by approximately 15 acres; (3) clarifying hours of operation; (4) providing additional tree planting areas; (5) committing to provide prior notice of blasting activities; and (5) agreeing to suspend blasting during windy periods[1] (the Syar Modified Project);

WHEREAS, the Syar Modified Project has less environmental impacts and a smaller footprint than the 2008 Syar Project. The Syar Modified Project also incorporates and captures all of the Project features and mitigation measures contained in the Reduced Project Alternative with some operational changes and additional tree plantings;

WHEREAS, on April 1, 2015, the Commission dropped the item from its agenda so that it could be re-noticed for a special meeting in the late afternoon to allow staff adequate time to evaluate the Syar Modified Project;

WHEREAS, on August 12, 2015, the Commission conducted a special meeting to consider certification of the EIR and the merits of the proposed quarry expansion including the Syar Modified Project and associated SMP. Public notice of this meeting was mailed, posted and published on July 11, 2015. Immediately prior to the hearing, extensive comments and technical reports were received. The Commission heard and considered several hours of testimony. After listening to all comments from the Applicant, public and interested parties, the Commission continued the hearing to September 2, 2015, to allow time for staff and County consultants to review and evaluate the comments;

WHEREAS, at the continued public hearing on September 2, 2015, the Commission received additional testimony and comments from interested parties on the Final EIR and Project. At staff's request, the Commission continued the item to the October 21, 2015, Commission meeting, to allow staff and the consultants time to adequately review materials submitted and comments received;

WHEREAS, pursuant to State CEQA Guidelines Section 15132, the FEIR consists of the following documents and records: the Draft EIR for the Syar Napa Quarry Expansion Project (August 2013) (State Clearinghouse No. 2009062054); the FEIR (November 2014), Appendix B to the FEIR (June 2015), Appendix C to the FEIR (October 2015); the following Planning Commission staff reports including attachments: January 1, February 18, August 12, and October 21, 2015; and the related planning and other County records, minutes, and files constituting the record of proceedings which is incorporated herein by this reference. The DEIR and FEIR are hereafter referred to as the FEIR or Final EIR (October 2015);

[1] Please see Syar letter dated March 17, 2015 for further details of the Syar Modified Project.

WHEREAS, on October 21, 2015 at a duly noticed public hearing, the Planning Commission heard and considered all public comments including from the Applicant team, environmental consultants, public and interested parties. The Commission tentatively considered approval of the Syar Modified Project plus an additional four acre buffer area to protect the Pasini Pond which can be viewed from Skyline Wilderness Park in Area C which is hereafter referred to as the Syar Modified Project Plus Area C;

WHEREAS, at the October 21st meeting, after considering all comments, the Planning Commission closed the public hearing and adopted Resolution No. 2015-02 and certified the Final EIR (October 2015). That same day, following certification of the Final EIR (October 2015), the Commission adopted a motion to: (1) Adopt Findings and Reject the 2008 Syar Project, the No Project Alternative, and the Reduced Footprint/Conservation Alternative Pursuant to the CEQA; (2) Find the Syar Modified Project Plus Area C Consistent with the Napa County General Plan; (3) Adopt the Mitigation Monitoring and Reporting Program; (4) Adopt the Syar Modified Project Plus Area C; (5) Approve Surface Mining Permit No. P08-00337-SMP; and (6) directed staff to return with final documents on November 18th; and

WHEREAS, the Planning Commission now desires to adopt this Resolution reflecting the above described actions.

NOW, THEREFORE, BE IT RESOLVED as follows:

SECTION 1. Recitals.

The Planning Commission hereby finds that the foregoing recitals are true and correct.

SECTION 2. Purpose of the Findings.

The purpose of these Findings is to satisfy the requirements of Public Resources Code Section 21000, et seq., and Sections 15091, 15092, and 15097 of the CEQA Guidelines, 14 Cal. Code Regs. Sections 15000, et seq., associated with adoption of the Syar Modified Project. These Findings provide the written analysis and conclusions of the Planning Commission regarding the Syar Modified Project. They are divided into general sections. Each of these sections is further divided into subsections, each of which addresses a particular impact topic and/or requirement of law. At times, these Findings refer to materials in the administrative record, which are readily available for review in the PBES Department.

SECTION 3. Project Objectives.

As noted in the Draft EIR (pg. 3-2) Syar declared the following as the objectives of the proposed Project:

Primary Project Objectives:

- To continue and extend operation of the existing Syar Napa Quarry for 35 years, thereby by providing a local, reliable, affordable, and consistent source of aggregate and aggregate-related materials to customers in the Napa region;

- To expand the surface mining and reclamation plan by approximately 124 acres to allow for mining access to reliable, affordable, and consistent source of aggregate and aggregate-related materials to customers in the Napa region; and
- To increase the annual permitted saleable quantity of aggregate and aggregate related materials from the current one million tons to two million tons.

Supporting Project Objectives:

- To increase production of high quality aggregate and aggregate products in conformance with state and local goals and objectives, including the Napa County General Plan (which designates the site as Mineral Resource (MR)) and the policies of the State Mining and Geology Board (which has designated the site as a resource of regional significance);
- To extend the life of the existing quarry to meet long-term local needs for aggregate materials in the Napa region through continued and expanded operation of the existing facilities, including the rock processing plant, sand plant, two asphaltic concrete (AC) plants, and the aggregate base (AB) recycling plant;
- To extend the life of the existing quarry and in so doing aid implementation of state and local goals to reduce the loss of high quality productive agricultural land as well as minimize greenhouse gas emissions and fossil fuel use by providing a local aggregate resource;
- To help fulfill California's need to permit additional aggregate resources to meet current and expected demand for public and private infrastructure improvements;
- To utilize Reclaimed Asphaltic Product (RAP) handling equipment at the Syar Napa Quarry and in so doing aid implementation of state and local goals to facilitate local production and reuse of high quality aggregate products;
- To improve and refine commitments for surface mine reclamation during and after active mining;
- To relocate sections of the existing Skyline Wilderness Park trail currently located on the Project Site so that it is permanently accessible to the public by returning it to land within Skyline Wilderness Park; and
- To update the Reclamation Plan which will be more effective and use native species.

SECTION 4. Findings are Determinative.

The Planning Commission recognizes that there may be differences in and among the different sources of information and opinions offered in the documents and testimony that make up the Final EIR (October 2015) and the administrative record; that experts disagree; and that the Planning Commission must base its decision and these Findings on the substantial evidence in the record that it finds most compelling. Therefore, by these Findings, the Planning Commission ratifies the Final EIR (October 2015) and resolves that these Findings shall control and are determinative of the potentially significant impacts of the Syar Modified Project Plus Area C.

SECTION 5. Findings Associated With Less Than Significant Impacts Without Need for Imposition of Mitigation.

A) The Planning Commission has reviewed and considered the information in the Draft EIR and the Final EIR (October 2015), addressing environmental effects, mitigation measures, and

alternatives. The Planning Commission, relying on the facts and analysis in the DEIR, and Final EIR (October 2015), which were presented to the Commission and reviewed and considered prior to any approvals, concurs with the conclusions of the DEIR and Final EIR (October 2015) regarding the less than significant environmental effects.

B) The following impacts from implementation of the 2008 Syar Project are less than significant: Aesthetics (Impacts 4.1-1, 4.1-2, 4.1-3 and 4.1-4); Agriculture and Forest Resources (Impact 4.2-4); Air Quality (Impacts 4.3-4, 4.3-5 and 4.3-6); Biology (Impacts 4.4-4 and 4.4-11); Cultural Resources (Impacts 4.5-1 and 4.5-2); Geology and Soils (Impacts 4.6-1, 4.6-3 and 4.6-4); Hazardous Materials (Impacts 4.7-1, 4.7-5 and 4.7-6); Land Use (Impacts 4.9-1 and 4.9-3); Mineral Resources (Impact 4.10-2); Noise (Impacts 4.11-3, 4.11-4, 4.11-5, and 4.11-6); Population and Housing (Impact 4.12-1); and Public Services (Impact 4.13-1). (See DEIR, pgs. 2-1 through 2-10.) Because the Syar Modified Project Plus Area C reduces production levels by 700,000 tons per year, has a reduced footprint and less impacts than the 2008 Syar Project, these less than significant impacts would remain less than significant under the Syar Modified Project Plus Area C.

SECTION 6. Findings Associated With Impacts and Mitigation Measures.

According to Public Resources Code Section 21081 and CEQA Guidelines Section 15091, no public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.
2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.
3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

CEQA does not require that a lead agency adopt every mitigation measure recommended in an EIR. However, when an agency rejects any of the mitigation measures identified in the EIR for a significant impact, it must make specific findings that the rejected measures are infeasible. These findings must show the agency's reasons for rejecting the mitigation measures that the EIR recommends. An agency may reject a mitigation measure recommended in an EIR if it finds that it would be infeasible to implement the measure because of "specific legal, economic, social, technological, or other considerations, including the provision of employment opportunities for highly trained workers." (Public Resources Code Section 21081(a)(3); 14 CCR Section 15091 (a)(3).) None of the mitigation measures in the Final EIR (October 2015) have been rejected as infeasible or are within the jurisdiction and responsibility of another public agency.

A) AIR QUALITY

1) Impact 4.3-2: Potential Violation of Air Quality. Construction or operation of the 2008 Syar Project could violate air quality standards or contribute substantially to an existing or projected air quality violation.

Mitigation Measure 4.3-2a: Reduce NOx: Any time production of 810,363 tons (i.e. the Baseline Condition) of aggregate or aggregate-related materials has been achieved within the previous 12-month period, the Applicant shall demonstrate that project NOx emissions are less than ten (10) tons per year.

Activity levels of off-road vehicle engines, which contribute a majority of project NOx emissions, shall be logged to document operational emissions from that source. The Applicant shall prepare a Horsepower-Hour Log (Log) of monthly horsepower-hours for off-road vehicles operated within the previous 12-month period. The Log shall include the rolling 12-month total horsepower-hours. Low use equipment operated less than 20 hours per year shall be excluded. The Log shall sum the horsepower-hours for each tier of engine and calculate the percent of horsepower-hours operated by engines in each tier category. The Log shall be updated by the Applicant no less than semi-annually (i.e. every six months) or with greater frequency as necessary to ensure compliance with this mitigation measure.

The Applicant shall implement one or more the following options to reduce NOx emission increases to less than ten (10) tons per year above baseline.

Option 1. Operating cleaner off-road vehicle engines as conditioned below:

a) Baseline conditions are established at 810,363 tons with a fleet mix of 39 percent Tier 0, 49 percent Tier 1, 10 percent Tier 2 and 2 percent Tier 3.

b) Production up to 945,000 tons per year shall be allowed upon continued demonstration that 12 percent of horsepower-hours operated are Tier 2 or better.

c) Production up to 1,100,000 tons per year shall be allowed upon continued demonstration that 44 percent of the horsepower-hours are Tier 2 or better.

d) Production up to 1,300,000 tons per year shall be allowed upon continued demonstration that 5 percent of horsepower-hours are Tier 3 or better and 72 percent of the horsepower-hours are Tier 2 or better.

Consistency with Option 1(a) through 1(d) above would demonstrate that NOx emissions are consistent with those calculated in the EIR and have increased by an amount less than ten (10) tons per year.

Option 2. Reduce NOx emissions from locomotive and/or barge engines by employing units with Tier 1 or better engines.

Option 3. Reduce onsite and/or offsite emissions by some other approved means. Onsite reductions may include, but are not limited to, source controls at the asphalt plants, electrifying processes that require off-road equipment (such as automated loadout conveyor systems to reduce haul truck emissions), or using alternate fuels such as biodiesel or electric motors. Offsite may include purchasing offsets. The purchase of any offsets shall be real, surplus, permanent, quantifiable, and enforceable.

If Options 2 or 3 are used, then the effectiveness of the actions to be taken shall be demonstrated to the County by submittal of an Emissions Calculations report prepared by a qualified professional (at the Applicant's expense). In that case, the Horsepower-Hours Log and/or documented historical fuel used in each vehicle shall be used to calculate NOx emissions from off-road vehicle engines. Project NOx emissions from other sources not affected by proposed mitigations (e.g., on-road vehicle engines, asphalt plant burners, and blasting) shall be included in the Emissions Calculations to demonstrate that, in total, the combined NOx emissions increase from all Project sources is less than ten (10) tons per year above baseline.

Both the Log and Emissions Calculations report shall be submitted to the County for review semi-annually and in the Annual Compliance Report required by Condition of Approval No. 2(L), or as requested by the County to demonstrate compliance. If the County finds that operations have not achieved the required reductions, the Applicant shall immediately update the Horsepower-Hours Log and scale back to a monthly production rate that will achieve the appropriate limit identified in Option 1 within the next two months as determined based on the percentages and tier of off-road vehicle engines in use during the three month period prior to the County's finding that operations have not achieved the required reductions. Thereafter reduced production levels shall be maintained until the Applicant provides documentation demonstrating the mitigation options chosen have been implemented and that increased production levels will result in a NOx emissions increase of less than ten (10) tons per year. As necessary the County will either hire a consultant (at the Applicant's expense) or enlist the BAAQMD to assess and determine compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential air quality impact is mitigated by adoption of Mitigation Measures 4.3-2a and 4.3-2b found on page 4.3-35 through 4.3-39 of the DEIR as COA Nos. 2(M) and 11(A) on Syar's SMP No. P08-0037-SMP. Implementation of a tiered approach to reducing NOx and fugitive dust emissions that is proportionate to the net increase in production would reduce this impact to less than significant. Furthermore, because the Syar Modified Project Plus Area C would reduce annual production by 700,000 tons from the 2008 Syar Project, NOx emissions would be further reduced.

Mitigation Measure 4.3-2b: Reduce Fugitive Dust (PM_{10} and $PM_{2.5}$): Any time production of 810,363 tons (i.e. the Baseline condition) has been achieved within the previous 12-month period, the Applicant shall demonstrate that PM_{10} and $PM_{2.5}$ emissions have not increased above baseline levels. If the County finds that PM_{10} or $PM_{2.5}$ emissions have increased then monthly production shall be scaled back immediately to the level that will reduce the rolling 12-month PM_{10} and/or $PM_{2.5}$ emissions to less than the baseline level within two months. Reduced production levels that result in emission compliance shall be maintained as long as necessary until the Applicant provides documentation demonstrating that increased production levels would result in no increase of PM_{10} and $PM_{2.5}$ emissions above baseline levels. The Applicant shall reduce PM_{10} and $PM_{2.5}$ through compliance with Items 1 through 4 below, and one or more of the methods listed in 5 through 6, below:

1. The Applicant shall clean internal paved roads daily using a particulate matter efficient street sweeper.

2. Blasting shall be prohibited during high wind conditions. High wind conditions means when two-minute average wind speed exceeds 20 miles per hour as measured using the methods described by South Coast Air Quality Management District in Attachment A to the Rule 403 Implementation Handbook.

3. The Applicant shall apply water to blast sites where and when feasible prior to detonation.

4. The Applicant shall limit speeds on unpaved areas to less than 15 MPH.

5. The Applicant shall maintain chemical dust suppressant, equivalent dust suppressant that achieves similar control, on the unpaved road surfaces as described in the manufacturer's specifications.

6. The Applicant shall reduce onsite emissions by some other means (e.g. surface moisture content performance standard, watering frequency, installing or utilizing water spray systems), or electrifying processes that require off-road equipment (such as automated load-out conveyor systems to reduce haul truck emissions). Stationary source emissions of particulates can be reduced by: installing baghouses to aggregate processing equipment; installing bags with higher removal efficiencies in existing baghouses (such as the asphalt plants); installing scrubbers; or installing water spray systems.

The effectiveness of this measure shall be demonstrated to the County by submittal of an Emissions Calculations report that has been prepared by a qualified professional (at Applicant's expense). The Emissions Calculations report shall be submitted to the County for review in the Annual Compliance Report required by COA No. 2(L), or as requested by the County to demonstrate compliance. As necessary the County will either hire a consultant (at the Applicant's expense) or enlist the BAAQMD to assess compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential air quality impact is mitigated by adoption of Mitigation Measures 4.3-2a and 4.3-2b found on page 4.3-35 through 4.3-39 of the DEIR as COA Nos. 2(M), 11(A) and 11(B) on Syar's SMP No. P08-0037-SMP. Implementation of a tiered approach to reducing PM_{10} and $PM_{2.5}$ emissions that is proportionate to the net increase in production would reduce this impact to less than significant. Furthermore, because the Syar Modified Project Plus Area C would reduce annual production by 700,000 tons from the 2008 Syar Project, these air quality impacts would be further reduced.

2) Impact 4.3-3: The proposed Project would expose sensitive receptors to levels of toxic air contaminants above the threshold. A sensitive receptor is defined as a point where a person may be located for a given period of time and includes: residential dwellings, schools, daycares, hospitals, and senior-care facilities. For the purposes of health risk screening, sensitive receptors are typically considered within 1,000 feet from of the Project boundary or critical/sensitive infrastructure, such as hospitals and residential areas (Winzler & Kelly 2012). There is minimal development within 1,000 feet of the property boundary. There is a park with

hiking and bike trails to the north and east of the site. The southwest portion of the site, near the rail and barge loading areas, has industrial and commercial development within 1,000 feet of the site. Beyond the 1,000 foot offset of the Project boundary there is a residential area (approximately 2,000 feet to the north) and a state hospital (approximately 1,500 feet to the north-west). The residential area to the north is of primary concern as it is downwind of the site based on the prevailing weather patterns.

The Health Risk Assessment (HRA) evaluated the 30-year age adjusted cancer risk for sensitive receptors as recommended by OEHHA, ground-level concentrations of carbon monoxide and particulate matter (PM2.5), and non-cancer chronic and acute health risk (hazard index) (Appendix I). Offsite worker cancer and chronic risks were also assessed. The results of the HRA found an increased 30-year age adjusted cancer risk at the maximum exposed individual (MEI) receptor (i.e. Receptor R4) to be 118 in a million. The Project impact at the MEI receptor after implementation of Mitigation Measures 4.3-2a and 4.3-2b was found to be 16.7 in one million at Receptor R7. Accordingly, cancer risk from the proposed Project after mitigation for NOx and fugitive dust remains a significant impact that requires further mitigation.

Production of 810,363 tons per year with the baseline fleet was modeled. The changes onsite include the potential to shift activity within the site from historical levels to 40 percent from Blue/Eagles Nest Pits, 40 percent from Snake/Pasini Pits, and 20 percent from State Grey Pit. Resulting changes from baseline levels are -3.7 percent activity in the State Grey Pit, +18.4 percent activity in the Blue Pit, and - 14.7 percent activity in the Snake/Pasini Pits. The Project when curtailed to 810,363 results in cancer risk less of 7 in 1 million at the MEIR (i.e. Receptor 7). Therefore, no mitigation is necessary at production levels less than 810,363 tons per year.

Between 810,363 and 1,100,000 tons per year additional reduction of diesel particulates over the amount resulting from Mitigation Measure 4.3-2a is needed to reduce cancer risk to less than significant levels.

Up to 945,000 tons per year can be achieved without exceeding cancer risk thresholds provided that activities remain apportioned as they are in the baseline (i.e. 45 percent from Blue and Grey Pits, and 65 percent from Snake/Pasini Pit area). Alternatively, the proposed apportionment (i.e. 60 percent from Blue and Grey Pits, and 40 percent from Snake/Pasini) can be achieved without exceeding the cancer risk significance threshold provided that the fleet is further controlled so that 44 percent of horsepower-hours are from engines having Tier 2 particulate emissions characteristics. Regardless of which approach is chosen, the MEIR is reduced to 8.8 in 1 million or less at Receptor 7.

Up to 1,100,000 tons per year can be achieved without exceeding cancer risk thresholds provided that activities remain apportioned as they are in the baseline (i.e. 45 percent from Blue and Grey Pits, and 65 percent from Snake/Pasini pit area) and the fleet is controlled pursuant to Mitigation Measure 4.3-2a (i.e. 44 percent of horsepower-hours are Tier 2 or better). Alternatively, the proposed apportionment (i.e. 60 percent from Blue and Grey Pits, and 40 percent from Snake/Pasini) can be achieved without exceeding the cancer risk significance threshold provided that the fleet is further controlled so that 56 percent of horsepower-hours are from engines having Tier 2 particulate emissions characteristics. With one of these mitigations the cancer risk is reduced to 3.5 in 1 million at Receptor 7.

Mitigation Measure 4.3-2a contains sufficient mitigation for throughputs exceeding 1,100,000 tons per year.

Mitigation Measure 4.3-3: Reduce Health Risk. The Applicant shall implement the following mitigations to reduce health risk at sensitive receptors:

1. Using the Log described in Mitigation Measure 4.3-2a and blasting activity or other records that substantiate the relative amount of activity in each pit, the following tiered approach shall be followed:

a) Production up to 810,363 tons per year shall be allowed upon the Applicant's continued demonstration that at least 12 percent of horsepower-hours operated are Tier 2 or better (i.e. Baseline fleet activity as described in Mitigation Measure 4.3-2a, Option 1(a).

b) Production up to 950,000 tons per year shall be allowed upon the Applicant's continued demonstration that one of the following conditions is met:

i) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 427,500 tons per year (45 percent) and at least 12 percent of horsepower-hours operated are Tier 2 or better (i.e., Baseline); or

ii) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 570,000 tons per year (60 percent) and at least 44 percent of horsepower-hours operated are Tier 2 or better as described in Mitigation Measure 4.3-2a, Option 1(b).

c) Production up to 1,100,000 tons per year shall be allowed upon the Applicant's continued demonstration that one of the following conditions is met:

i) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 495,000 tons per year (45 percent) and at least 12 percent of horsepower-hours operated are Tier 2 or better (i.e., Baseline); or

ii) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 660,000 tons per year (60 percent) and at least 56 percent of horsepower-hours operated are Tier 2 or better.

d) Production up to 1,300,000 tons per year shall be allowed upon the Applicant's continued demonstration that 5 percent of horsepower-hours operated are Tier 3 or better and 72 percent of horsepower-hours operated are Tier 2 or better as described in Mitigation Measure 4.3-2a, Option 1(c).

2. Reduce onsite emissions by some other means such as, control of particulates by installation of verified diesel emissions control systems (VDECS) on engines that operate within the quarry to reduce emissions from the overall fleet. VDECS are defined by the California Air Resources Board and listed on the CARB website.

The effectiveness of this measure shall be demonstrated to the County by submittal of the Horsepower-Hour Log described in Mitigation Measure 4.3-2a and blasting activity or other records that substantiate the relative amount of excavation in the Blue and Grey Pits as compared to the total excavation amount. The Horsepower-Hour Log shall be submitted to the County for review semi-annually and in the Annual Compliance Report required by COA No. 2(L), or as necessary to demonstrate compliance. As necessary the County will either hire a consultant (at the Applicant's expense) or enlist the BAAQMD to assess compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential air quality impact is mitigated by adoption of Mitigation Measures 4.3-2a and 4.3-3 found on pages 4.3-35 through 4.3-39 and 4.3-41 of the DEIR as COA Nos. 2(M), 11(A) and 11 (C) on Syar's SMP No. P08-0037-SMP. Implementation of Mitigation Measures 4.3-3-2a and 4.3-3 would reduce cancer risks to levels that are less than significant. Furthermore, because the Syar Modified Project Plus Area C would reduce annual production by 700,000 tons from the 2008 Syar Project, cancer risks would be further reduced.

B) BIOLOGICAL RESOURCES

1) Impact 4.4-1: The proposed Project would have the potential to directly and indirectly impact populations of CNPS List 1 plant species within the Project Site.
Approximately 55 individual holly-leaved ceanothus plants (a CNPS List 1B plant species) are mapped on the site in patches scattered within a matrix of predominantly chamise chaparral (some small areas mapped as coast live oak) that have the potential to be disturbed by the proposed mining activities. Areas of potentially significant impact to this species are shown on Figure 4.4-3 of the DEIR.

No other special-status plant species (List 1 and/or 2) were observed. Federal and/or State listed plant species are not expected to occur at the Project Site. For precautionary purposes, however, it should be noted that due to the implementation timeline, the proposed Project could have the potential to directly or indirectly impact populations of special-status plant species (CRPR) if such species become established or a change in extent of existing population occurs at the Project Site during the implementation period.

Mitigation Measure 4.4-1a: Holly-leaf ceanothus (Ceanothus purpereus) impact reduction. The Applicant shall comply with the following:

1. Avoidance and Preservation. Prior to initiation of any vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion areas), the Applicant shall revise the Mining and Reclamation Plan to clearly delineate and show the 5 acre "Ceanothus Preservation and Replanting Area" required by this measure. The revised plan shall be submitted to the PBES Department's Engineering and Conservation Divisions for review and concurrence to demonstrate compliance with this measure. Avoidance and Preservation areas shall also be established and identified in the field through the placement of signage that clearly identifies the area(s) to be avoided so that accidental encroachment or removal of vegetation does not occur. Sign design and locations shall be included in the revised the Mining and Reclamation Plan.

2. Plant Replacement. The Applicant shall replace each holly-leaf ceanothus plant at a 3:1 ratio within the 5 acre "Ceanothus Preservation and Replanting" area to offset the impact to

approximately 32 plants. No less than 96 individual holly-leaved ceanothus plants shall be planted to provide replacement and compensation for direct and potential indirect impacts.

3. Planting Plan. The Applicant shall retain a qualified biologist (at the Applicant's expense) to prepare a Planting Plan for holly-leaf ceanothus for review and approval by the PBES Department 12 months prior to any vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion area) where ceanothus plants would be removed. The Planting Plan shall specify plant sizes and protection measures identified in Item No. 4 below, methods of plant propagation/procurement (i.e., plant salvage, propagation plan, etc.), habitat enhancement of replanted area, appropriate planting densities, watering protocol (duration/quantity/schedule), maintenance requirements, and monitoring and success criteria identified in Item No. 5 below. The Planting Plan also shall address avoidance and conservation methods (i.e., fencing, etc.) for existing individual plants that are avoided by the mining footprint and designated processing area, or that occur in the "Ceanothus Preservation and Replanting Area".

4. Additional Planting Specifications. The replacement plants shall be from one-gallon size or larger containers and shall be planted in the fall in clusters of 3 to 20 individual plants, based on details provided in the Planting Plan. Mesh shelters or other equally effective measures shall be installed around the plants to protect them from rodent damage and deer browsing. Plants shall be mulched to enhance moisture retention and discourage weeds during the plant establishment period, and the area immediately surrounding the plants shall be weeded to reduce competition.

5. Monitoring and Success Criteria. The Applicant shall retain a qualified biologist to monitor the enhanced habitat and plantings on an annual basis to ensure the replantings achieve a minimum of 80 percent success/survival rate after three years, and to ensure habitat conditions remain adequate to support target species. If the success criterion has not been met after three years, supplemental plantings shall be made at the direction of a qualified biologist, and the plant establishment period shall be extended for an additional two-year period, with additional annual monitoring events. The Applicant shall submit documentation of monitoring to the County on an annual basis, in conjunction with the Annual Compliance Report required by COA No. 2(L), for a minimum of three years or until success criteria are achieved, including survival rates, photographs, and a description of any maintenance or other pertinent issues identified by the monitoring biologist. The monitoring report shall also include information to illustrate the condition and location of any failed plantings.

Mitigation Measure 4.4-1b: Special-status plant species protection.

1. The Applicant shall have a qualified biologist prepare (at the Applicant's expense) updated seasonally-appropriate plant surveys prior to initiation of any vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities in undisturbed areas (including expansion areas) that contain potential habitat for special-status plant species. Since plant surveys are typically considered valid for a two to three year period, updated plant surveys shall be conducted on a phased basis as necessary within areas anticipated for new mining and quarrying activities no greater than three years prior to planned ground-disturbing activities.

2. If new or expanded California Native Plant Society (CNPS) sensitive-listed plant species populations (i.e. List 1 or 2) are identified within areas planned for Project ground

vegetation-disturbing activities, a plant replacement plan shall be prepared by a qualified biologist. The plant replacement plan shall specify a replant/replacement area, a 3:1 replacement ratio, methods of plant propagation/procurement (i.e., plant salvage if feasible, propagation plan, etc.), habitat enhancement of replanted area, planting densities, watering protocol (including duration, quantity and schedule), planting schedule, protective measures such as mesh shelters or other equally effective measures (and/or fencing) to protect plant establishment from rodent damage or deer browsing, maintenance requirements, success criteria, and monitoring to ensure success criteria are achieved. The plant replacement plan shall be prepared for and submitted for approval by CDFW and the County prior to conducting any mining or quarrying activities within the area of identified plant population(s).

3. A qualified biologist shall monitor the enhanced habitat and plantings on an annual basis to ensure the replantings achieve a minimum of 80 percent success/survival rate after three years, and to ensure habitat conditions remain adequate to support target species. If the success criterion has not been met after three years, supplemental plantings shall be made (at the Applicant's expense) at the direction of a qualified biologist, and the plant establishment period shall be extended for an additional two-year period, with additional annual monitoring events. The Applicant shall submit documentation of monitoring to the County and CDFW on an annual basis for a minimum of three years or until success criteria are achieved, including survival rates, photographs, and description of any maintenance or other pertinent issues identified by the monitoring biologist. The monitoring report shall also include information to illustrate the condition and location of any failed plantings.

4. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by COA No. 2(L), and as necessary to demonstrate compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential biological resources impact is mitigated by adoption of Mitigation Measures 4.4-1a found on page 4.4-67 of the DEIR and 4.4-1b found on page 2-2 of the FEIR (November 2014) as COA Nos. 11(D) and 11(E) on Syar's SMP No. P08-0037-SMP. Impacts to special status plants would be reduced to less than significant through avoidance, preservation and replanting. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these biological impacts would be further reduced.

2) Impact 4.4-2: The proposed Project would have the potential to affect American badger, a CDFW Species of Special Concern. If American badger individuals were present on the Project Site or in the vicinity, direct mortality or indirect impacts could occur during construction activities. Soil disturbance (e.g., scraping and mining/quarrying) could destroy badger burrows and injure/kill the inhabitants. If present, the species also could be indirectly affected through noise and general disruption of foraging and use of the site.

Mitigation Measure 4.4-2: American badger protection measures.

1. The Applicant shall retain a qualified biologist (at the Applicant's expense) to perform pre-construction surveys for American badger prior to initiation of Project activities including vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion areas) that occur in potential badger habitat (grassland and low density woodland areas with less than two trees per acre).

2. No more than two weeks before earthmoving activities begin within areas determined to be potential badger habitat (grassland and low density woodland with less than two trees per acre) and that have not previously been disturbed, a qualified biologist (at the Applicant's expense) shall conduct a survey for burrows/dens and American badgers of onsite areas within 500 feet of new quarrying or earthmoving activities. Surveys shall be submitted to the County for review prior to the removal of vegetation or overburden, and earthmoving or earth-disturbing activities. The purpose of the survey shall be to determine whether burrows/dens exist within the area considered for disturbance within that construction year. Surveys shall not be required for areas already disturbed and/or where American badger habitat is not present.

3. If occupied burrows are found during pre-construction surveys, the biologist shall consult with CDFW and the County to determine whether the Project activities would adversely disrupt the breeding activity of the badger. If the biologist determines that construction activities would disrupt breeding activity, the Applicant shall ensure that occupied areas are avoided from March through August. Implementation of Project activities within 500 feet of onsite occupied burrows during this time shall be delayed until a qualified biologist can determine that juvenile badgers are self-sufficient enough to move from their natal burrow and avoid Project activities. Documentation shall be provided to the PBES Department.

4. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by COA No. 2(L), and as necessary to demonstrate compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential impact on American badgers is mitigated by adoption of Mitigation Measure 4.4-2 found on pages 4.4-68 through 4.4-69 of the DEIR as COA No. 11(F) on Syar's SMP No. P08-0037-SMP. The performance of pre-construction surveys and avoidance of Project activities during the breeding season or in proximity to burrows/dens would reduce potential impacts on the American badger to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these potential American badger impacts would be further reduced.

3) Impact 4.4-3: The proposed Project would have the potential to impact special-status and/or migratory bird species. The 2008 Syar Project would be implemented in areas that

are considered potential habitat for special-status and/or migratory bird species and raptors, including foraging area within the California Annual Grassland Series (approximately 62 acres; 37 percent of this habitat type impacted onsite); Coast Live Oak Series (approximately 130 acres or 50 percent of this habitat type impacted on site); Bay Laurel Series (i.e., riparian) (0.8 acres or 10 percent of this habitat type impacted on site); and chaparral habitats (approximately 36 acres or 71 percent of this habitat type impacted on site). Project activity could occur during the breeding and nesting seasons for various bird species (February 1st through August 31st).

Removal or degradation of both woody and herbaceous vegetation during construction has the potential to impact nesting and foraging habitat for migratory birds and raptors. In addition to removal of habitat, construction-related disturbances during the nesting season could result in significant adverse impacts to migratory birds, and raptors through increased stress and mortality.

Removal or degradation of areas mapped as Coast Live Oak Series and California Bay Laurel Series (i.e., riparian vegetation) during construction also has the potential to result in impact to foraging and nesting habitat for special-status bird species, including some raptor species and migratory birds.

Mitigation Measure 4.4-3: Special-status bird species protection. The Applicant shall not disturb active bird nests without a permit or other authorization from the County, USFWS and/or CDFW. Prior to commencement of vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying activities within any undisturbed areas, the Applicant shall retain a qualified biologist (at the Applicant's expense) to conduct pre-construction surveys for raptors and passerine birds for Project activities occurring during the nesting season (i.e. February 1st through August 31st).

1. For vegetation or overburden removal, earthmoving, earth-disturbing activities, or quarrying activities within previously undisturbed areas (including areas of grassland, shrubs, and trees) occurring between February 1st through August 31st, a qualified wildlife biologist shall conduct preconstruction surveys for passerine bird and raptor nests (including offsite areas with public access, excluding offsite private property) as follows: i) for areas that are not adjacent to lands within the Skyline Wilderness Park Combining District (NCC Chapter 18.90) surveys shall be conducted within a 300 foot radius of earth-disturbing activities; and, ii) for areas that are adjacent to Skyline Wilderness Park designated lands surveys shall be conducted within a 0.25 mile radius of earth-disturbing activities. Because raptor nests may be difficult to identify during the egg laying, incubation, or chick brooding periods (late April to early June), an early season survey is required if Project activity areas are known prior to late April. The biologist shall conduct the preconstruction surveys within the 14-day period prior to vegetation removal and ground-disturbing activities (a minimum of three separate days of surveys shall occur within that 14-day period).

2. In the event that nesting passerine birds and/or raptors are found, the biologist shall consult with CDFW and the County to obtain approval for specific nest-protection buffers as appropriate based on the species. Generally, a minimum 150 foot buffer is required around active passerine bird nests and a minimum 300 foot buffer is required around active raptor nests during the breeding and nesting season, or until it is determined by a qualified biologist that all young have fledged. Nest protection measures shall apply to both onsite and offsite active nests that are located within 300 feet of Project activities. These buffer zones may be modified in coordination with CDFW based on existing conditions at the Project Site. Buffer zones shall be fenced with temporary

construction fencing, which shall remain in place until the end of the breeding season or until young have fledged.

3. If Project-related work lapses for 15 days or longer during the breeding season, a qualified biologist shall conduct another bird and raptor preconstruction survey and consult with CDFW as set forth above in sections (1) and (2) before Project work may be reinitiated.

4. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by COA No. 2(L), and as necessary to demonstrate compliance, commencing one year from the date of approval of permit.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential biological resources impact is mitigated by adoption of Mitigation Measure 4.4-3 found on page 2-3 of the FEIR (November 2014) as COA No. 11(G) on Syar's SMP No. P08-0037-SMP. The performance of preconstruction surveys, nest protection measures and adherence to buffers would reduce potential impacts to special status and/or migratory birds to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project and results in additional tree plantings, these bird impacts would be further reduced.

4) Impact 4.4-5: The proposed Project would have the potential to impact special-status bat species. Several special-status bat species, including the pallid bat, Townsend's big-eared bat, fringed myotis, and long eared myotis, have the potential to occur on the Project Site. No bats were observed during site evaluations, and none of the bat species are expected to occur in substantial numbers at the Project Site based on the results of field site evaluation. Although the breeding and foraging habitat for these species on the Project Site and in adjacent areas is generally marginal. bat species still could forage over the Project Site and roost under bark or in cavities of trees, rock crevices, or in buildings. Project activity occurring during the March 1st through August 31st breeding season may have an adverse impact on breeding success for special-status bat species.

Mitigation Measure 4.4-5: Prior to commencement of any vegetation or overburden removal, or Project or quarrying activities within any undisturbed areas that contain trees, the Applicant shall implement, at the Applicant's expense, the following measures:

1. Retain a qualified biologist to conduct a habitat assessment for special-status bat habitat within 14 days of Project initiation or tree removal.

2. If the habitat assessment identifies suitable special-status bat habitat and/or habitat trees, the biologist shall submit an avoidance plan for review and approval by the County, who may consult with CDFW if determined to be necessary. The avoidance plan shall identify and evaluate the type of habitat present at the Project Site and specify methods for habitat and/or habitat tree removal. Trees with cavities, crevices and deep bark fissures shall be avoided. Bat habitat/tree removal shall occur in two phases conducted over two days under the supervision of a qualified

biologist. In the afternoon on day one, limbs and branches of habitat trees without cavities, crevices and deep bark fissures would be removed by chainsaw. On day two, the entire tree can be removed.

3. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by COA No. 2(L), and as necessary to demonstrate compliance, commencing one year from the date of approval of permit

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential biological resources impact is mitigated by adoption of Mitigation Measure 4.4-5 found on page 4.4-71 of the DEIR as COA No. 11(H) on Syar's SMP No. P08-0037-SMP. The performance of preconstruction surveys and avoidance of special-status habitat would reduce potential impacts on special-status bats to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these bat impacts would be further reduced.

5) Impact 4.4-6: Construction of the relocated Skyline Trail may affect unknown biological resources in trail relocation areas not previously surveyed. Several special-status bat species, including the pallid bat, Townsend's big-eared bat, fringed myotis, and long eared myotis, have the potential to occur on the Project Site. No bats were observed during site evaluations, and none of the bat species are expected to occur in substantial numbers at the Project Site based on the results of field site evaluation. Although the breeding and foraging habitat for these species on the Project Site and in adjacent areas is generally marginal bat species still could forage over the Project Site and roost under bark or in cavities of trees, rock crevices, or in buildings. Project activity occurring during the March 1st through August 31st breeding season may have an adverse impact on breeding success for special-status bat species.

Mitigation Measure 4.4-6: The Applicant shall retain a qualified professional biologist (at the Applicant's expense) to conduct resource surveys for any future trail relocation areas that have not been previously surveyed as part of the planning process prior to construction. Surveys shall be conducted for special-status wildlife and plant species and habitats that may occur in the trail relocation area(s) and vicinity, and if any sensitive biological resource is identified, it shall be avoided. Trail relocation in areas not previously surveyed shall not occur unless alignments would completely avoid sensitive biological resources. If impacts to biological resources as a result of trail relocation cannot be avoided through project design, then alternate segment alignments shall be considered.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Under the Syar Modified Project Plus Area C, the trail would not be relocated, this yet unknown biological impact would not occur and therefore Mitigation Measure 4.4-6 is not needed.

6) Impact 4.4-7: The proposed Project would have the potential to result in net reduction of protected wetlands as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/wetlands. Project construction activities such as excavation and grading could result in impacts to protected wetlands and Waters of the U.S. as defined in Section 404 of the Clean Water Act, riparian vegetation, and non-federally jurisdictional waters/wetlands (the latter two of which are likely jurisdictional by the state and/or local authorities). A delineation of wetlands and waters of the U.S. was prepared for the site (See DEIR Figure 4.4-2), and a USACE-jurisdictional determination was provided (File Number 2009-00284N; see Appendix C of the DEIR). Proposed Project activities would result in direct impacts to 0.4 acres of federal jurisdictional perennial wetlands. State and/or local jurisdictional areas potentially include (A) 1.9 acres of drainages (tributary and other which are ephemeral); (B) 0.03 acres of culverts; (C) 0.1 acres of isolated perennial wet areas; (D) 0.9 acres of isolated seasonal wet areas; (E) 4.7 acres of sediment basin; and (F) 0.03 acres of isolated seeps, and (G) 0.6 acres of California Bay Series.

Mitigation Measure 4.4-7: Wetlands and riparian communities. To reduce potential wetland impacts the Applicant shall:

1. Prior to initiation of Project activities (i.e. vegetation and overburden removal within any undisturbed areas) that may affect the areas identified as C1 and C2 in the USACE-jurisdictional determination (USACE File Number 2009-00284N) through direct removal, the Applicant shall obtain a Clean Water Act Section 404 permit from the USACE. If a 404 permit is obtained, then the Applicant shall also obtain a water quality certification from the RWQCB under Clean Water Act Section 401. The Applicant shall compensate for the loss of wetland habitat in these areas to ensure no net loss of habitat functions and values. If mitigation is determined by the County to be infeasible due to lack of areas suitable for wetland creation, the County may approve a suitable offsite location(s). A detailed wetland mitigation plan (subject to approval by the USACE) to provide compensation wetlands shall be required that includes a 5-year monitoring program and reporting requirements, responsibilities, performance success criteria, and contingency requirements. At the end of each monitoring year, an annual report shall be submitted to the USACE, RWQCB, and the Napa County PBES Department. The report shall document the hydrological and vegetative conditions of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies. The compensation wetlands shall be located within the same watershed as Project impacts. In lieu of creating compensation wetlands, the Applicant may purchase mitigation credits from an approved mitigation bank at a ratio of 2:1, or as otherwise approved by the USACE.

2. Prior to initiation of Project activity (including vegetation and overburden removal) that may affect sensitive wetland habitats in non-USACE-jurisdictional areas, the Applicant shall obtain permits as may be required by the RWQCB, CDFW, and the County, and shall replace wet areas, at a 2:1 ratio or as directed by the RWQCB, CDFW, and/or the County, to ensure no net loss of habitat functions and values. If onsite mitigation is determined by the County to be infeasible due to lack of areas suitable for wetland creation that are not already planned for Project activities, a detailed wetland mitigation plan to provide compensation wetlands shall be required (subject to

approval by applicable state and/or local jurisdictions) that includes a 5-year monitoring program and reporting requirements, responsibilities, performance success criteria, and contingency requirements. At the end of each monitoring year, an annual report shall be submitted to the regulatory agencies. The report shall document the hydrological and vegetative conditions of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies. The compensation wetlands shall be located within the same watersheds (i.e. the Arroyo Creek or Cayetano Creek watersheds/drainages) as Project impacts or other suitable areas as determined by the County.

3. As part of the 2008 Syar Project, a 50 foot setback is included from the main stem of Arroyo Creek for new Project elements beyond the extent of existing roads and development, thus avoiding impact to the riparian corridor along the main stem Arroyo Creek. The 50 foot setback shall be determined by mapping the Ordinary High Water Mark (OHWM) of the main stem (below 300 foot elevation) of Arroyo Creek on the Project Site. The OHWM and 50 foot setback shall be flagged in the field for review and approval by state and/or local jurisdictions.

In two small areas, located in the southwest corner of the Property south of the former Grey Rock Plant (as shown on DEIR Figure 4.4- 4), the 50 foot setback shall be increased to approximately 60 feet to avoid two small riparian areas (0.07 acres) that extend beyond the 50 foot setback. The drip-line of this additional vegetation shall be flagged in the field for review and approval by state and/or local jurisdictions.

4. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by COA No. 2(L), and as necessary to demonstrate compliance, commencing one year from the date of approval of permit.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential wetlands impact is mitigated by adoption of Mitigation Measure 4.4-7 found on pages 4.4-73 through 4.4-74 of the DEIR as COA No. 11(I) on Syar's SMP No. P08-0037-SMP. Compensation through no net loss of wetland habitat values and functions and adherence to setbacks along the main stem of Arroyo Creek would reduce potential wetland and riparian corridor impacts to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, indirect impacts to wetlands would be further reduced.

7) Impact 4.4-8: The proposed Project could result in indirect impacts to perennial native grassland (purple needlegrass). Approximately 1.5 acres of perennial native grassland (purple needlegrass) is present at the Project Site. Native bunchgrass species in these areas are of low diversity at the site and include mainly small patches of purple needlegrass (Nasella pulchra) and are intermixed with predominantly non-native grassland and invasive species (native cover was observed to be less than 50 percent). Direct impacts to this area will be avoided within the eastern exclusion area, shown in Figure 4.4-3 of the DEIR, where no quarry activities would occur and no new ground disturbance activities are planned. Therefore, no direct impacts to purple needlegrass

would occur. However, disturbed areas and areas adjacent to new disturbance are subject to increased introduction and growth of invasive species. Invasive species already present or that could become established within the purple needlegrass grassland during the life of the Project could further degrade this remnant habitat. In general, without grassland management, overall native plant and animal biodiversity is reduced. Project implementation may conflict with Napa County General Plan Conservation Element Policy CON-17 to preserve and protect native grasslands, resulting in a potentially significant indirect impact.

Mitigation Measure 4.4-8: Invasive Species Management within Preservation /Replanting Areas.

1. The Applicant, at its expense, shall retain a qualified biologist to prepare an Invasive Species Management Plan (ISMP) for protected native perennial grassland areas (Purple Needlegrass Series) and replanted mitigation areas (i.e., the Ceanothus Preservation/Replanting Area described by Mitigation Measure 4.4-1). The ISMP shall be submitted to the PBES Department for review and approval within 12 months of the effective date of the SMP. The ISMP shall target invasive plant species either existing on the Project Site or that could colonize in the future, and shall specify methods of early detection, management, and control of invasive plant species to improve and protect onsite habitats.

The ISMP shall provide a list of target invasive species to be managed at the site with Cal-IPC rating of moderate or higher for the Napa and Mt. George quadrangles and specify success criteria for managed invasive species. Star thistle, medusa head grass, and french broom are known to occur on a nearby vineyard property and shall be included on the list of target invasive species identified in the ISMP.

2. The ISMP shall be implemented by the Applicant within 12 months of approval of the ISMP by the PBES Department to control infestations of invasive species onsite as needed to minimize impacts of such species on remaining protected sensitive habitat areas. Targeted invasive species identified in the ISMP may be managed by handpulling, local application of herbicide, and/or light grazing, or other techniques recommended by the ISMP. Guidance through managed grazing helps reduce fire fuel loads and, if timed properly, can favor the maintenance and expansion of native plant species. Selective control of invasive species shall be employed using best-management practices (BMPs) to minimize soil erosion, water contamination, or non-target herbicide effects that could occur during implementation of invasive species management techniques.

3. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by COA No. 2(L), and as necessary to demonstrate compliance, commencing one year from the date of approval of permit.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential indirect biological resources impact is mitigated by adoption of Mitigation Measure 4.4-8

found on pages 4.4-74 through 4.4-75 of the DEIR as COA No. 11(J) on Syar's SMP No. P08-0037-SMP. The preparation and implementation of an ISMP would target invasive plant species thereby reducing potential indirect impacts to perennial native grassland (Purple Needlegrass) to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these impacts would be further reduced.

8) Impact 4.4-9: The proposed Project would result in direct and indirect impacts to native oak woodlands. Approximately 117 acres of oak woodland would be directly impacted by implementation of the 2008 Syar Project. Additionally, indirect/fringe impacts are estimated for up to an additional 12.5 acres of remaining oak trees at the interface of the future quarry activities and exclusion areas. In total, approximately 130 acres of oak woodlands (49 percent of this habitat type onsite) could be directly and/or indirectly impacted.

Mitigation Measure 4.4-9: Oak woodland avoidance, replacement, and preservation. The Applicant shall, at the Applicant's expense, compensate for direct and indirect impacts to approximately 121 acres of native oak woodlands at a total mitigation ratio of 2:1, including combination of onsite avoidance and preservation (see DEIR Figure 4.4-3 exclusion areas and 50 foot buffer zone along property lines), onsite replacement (see DEIR Figure 4.4-4), and offsite as summarized in the table below.

All documentation associated with on and offsite oak woodland mitigation shall be submitted to the County in accordance with the timeframes identified herein and shall be included in the Annual Compliance Report required by COA No. 2(L), and as necessary at the request of the County to demonstrate compliance.

Summary of Proposed Oak Avoidance, Replacement, and Preservation

Row	Type	Acres	Notes
A	Coast Live Oaks Impact	121	108.3 direct plus 12.4 indirect for root impacts
B	2:1 Ratio Mitigation Package Total	242	
C	Avoidance and Preservation (Onsite)	145	Buffer and exclusion areas onsite
D	Net Additional Mitigation Required	97	Rows B-C
E	Replacement and Preservation (Onsite)	12	Onsite plantings adjacent to existing oaks
F	Additional Replacement and/or Preservation	85	Offsite
G	Total Replacement and Preservation	97	Rows E+F

The Applicant shall mitigate through a combination of onsite avoidance and preservation, partial onsite replacement and preservation, and additional offsite preservation (as necessary) in accordance with a plan prepared by a qualified biologist at the Applicant's expense.

1. Avoidance. The Syar Modified Project Plus Area C would avoid 136 acres of onsite oak woodlands in the Exclusion areas shown on Figure 4.4-3 of the DEIR. These areas shall be protected via deed restriction in a form acceptable to the County and shall be recorded prior to the commencement of any mining activities in any previously undisturbed area or any new vegetation or overburden removal activities within the Project area.

2. Replacement. A site evaluation of oak woodlands on the Project Site prepared by an ecologist mapped out areas that appeared suitable for initiating oak replacement plantings (see DEIR Figure 4.4-4), and these activities would provide added benefit of enhancing the age structure of oak woodland at the site. These areas amount to approximately 12 acres of suitable area for potential onsite replacement for partial mitigation of impacts to oaks (additional onsite suitable area may be available upon additional investigation). The oak woodlands evaluation also concluded that planting and/or management practices could be conducted on site to enhance seedling establishment, improve the age structure of the oak woodlands, and increase the sustainability of the oak stands, although these activities can be a challenge to implement due to long term commitment requirement, cost and labor intensive management techniques, and remote nature of some of the onsite areas for access for maintenance.

A qualified biologist shall prepare an oak woodland establishment and restoration plan subject to County approval. Prior to the commencement of any mining activities in any previously undisturbed area or any new vegetation or overburden removal activities within the Project area the Oak Woodland Establishment and Restoration Plan shall be initiated and completed (i.e. all replacement trees identified in the Plan shall be planted). Once the success criteria identified in the plan (as described below) is achieved the Plan will be considered finaled.

The Plan shall specify the location of a minimum of 12 acres onsite for oak replacement/restoration (generally as shown in Figure 4.4-4 of the DEIR), methods of implementation, plants or propagule source(s), watering (schedule/amounts/duration), and maintenance of the oak woodland replacement areas, including measures to avoid deer browsing, as well as a monitoring protocol. The Plan shall also specify minimum success criteria consistent with those identified in Section 6.3.2 (Planting Success Criteria) of the Syar Napa Quarry Mining and Reclamation Plan and COA No. 3(C) on Syar's SMP No. P08-0037-SMP. The Plan and documentation demonstrating planting and survival and success shall be included in the Annual Compliance Report required by COA No. 2(L), and as requested by the County to demonstrate compliance.

3. Offsite Preservation. An additional 85 acres offsite shall be permanently preserved via easement or deed restriction. Offsite preservation shall be phased in as part of the Project. Based on implementation of the above measures, the removal of approximately 78 acres of oak woodland could occur before offsite mitigation is necessary. Prior to the commencement of mining operations, or vegetation or overburden removal within any undisturbed areas (including expansions areas), that would remove in total more than 78 acres of onsite oak woodlands (i.e. those areas beyond oak woodland acreage covered by the deed restriction avoidance and replacement onsite) the Applicant shall provide the County with an Offsite Oak Woodlands Preservation Plan containing no less than 85 acres of oak woodlands for review and approval by the County.

Offsite location(s) shall be located within the Napa River Watershed and be of like quality and habitat value as those being removed, as determined by a qualified biologist and the County. So

that offsite mitigation provides the maximum benefit to the area most affected by the Project and occurs within the geographic context of the Project, preference shall be given to comparable oak woodlands that are located within the close proximity of the quarry (i.e. within 3.5 miles of the outer portion of the Project boundary).

In the event offsite preservation areas are determined to be of lesser quality and habitat value relative to the areas removed from the Project Site, the County may consider an increase in preserved acreage beyond the required 85 acres to offset the inequity in quality and biological value. The PBES Director will make final determinations related to quality of oak woodlands and any increases in preserved acreage to offset any inequities in quality of the preserved woodland.

If offsite mitigation is determined by the County to be infeasible due to lack of areas suitable for oak woodland replacement or preservation, the County may approve, provided all other replacement and preservation means are exhausted, additional preservation through an in-lieu fee payment. In-lieu fee payments shall be made to the County for the purpose of purchasing and preserving oak woodlands within the Napa River Watershed or to the Oak Woodlands Conservation Fund consistent with Public Resources Code section 21083.4 as developed and approved by the County.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential oak woodlands impact is mitigated by adoption of Mitigation Measure 4.4-9 found on pages 4.4-76 through 4.4-77 of the DEIR as COA Nos. 2(O) and 11(K) on Syar's SMP No. P08-0037-SMP. Avoidance, preservation and replacement at a 2:1 ratio would reduce oak woodlands impacts to less than significant. Furthermore, because the Syar Modified Project Plus Area C has approximately 19 acre smaller footprint and additional oak plantings than the 2008 Syar Project, these oak woodland impacts would be further reduced.

9) Impact 4.4-10: The proposed Project would have the potential to cause indirect hydrology impacts affecting biological resources and functions within the Arroyo Creek watershed. Indirect impacts to existing hydrology could occur due to mining in close proximity to approximately 2,700 linear feet of the upper headwaters/seasonal reaches of Arroyo Creek, such as a change in the nature of flow downstream in the main stem portion of Arroyo Creek (i.e., quantity, quality, timing, etc.). The change in flow quality and/or quantity could result in indirect downstream effects to aquatic functions and the quality of seasonal wetlands/waters (such as recharge rates and water table elevation), aquatic resources, and adjacent riparian habitat. Water that may be collected from the new quarry face adjacent to upper reaches of Arroyo Creek would be detained and then redirected back to main stem Arroyo Creek. This would partially reduce the potential for lost hydrologic function (i.e., stormwater attenuation, water quality/quantity changes, timing of flow, filtration, etc.), at least to the downstream portion of Arroyo Creek. Upper reaches of the headwaters of Arroyo Creek that may be in close proximity to the future quarry face still could be subject to indirect impacts affecting biological resources.

Mitigation Measure 4.4-10: Creek Buffer Establishment. The Applicant shall provide a minimum setback of 85 feet from the upper reaches of Arroyo Creek and provide a setback of a minimum of 60 feet from the lower reach of Arroyo Creek (as shown in Figure 4.4-4 of the DEIR) to reduce potential impacts on biological resources and functions consistent with the measurement requirements contained in Chapter 18.108 of the Napa County Code.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential biological resources impact is mitigated by adoption of Mitigation Measure 4.4-10 found on page 4.4-77 of the DEIR as COA Nos. 2(N) and 11 (L) on Syar's SMP No. P08-0037-SMP. Adherence to a minimum setback of 85 feet from the upper reaches of Arroyo Creek would reduce potential hydrological impacts on biological resources and functions to less than significant.

C) CULTURAL AND PALEONTOLOGICAL RESOURCES

1) Impact 4.5-3: Trail Relocation has the potential to impact historical or archaeological resources within Skyline Wilderness Park. No historical or archaeological resources were identified on the portion of the Skyline Trail relocation alignment (Proposed Trail Relocation Alignment Alternative 1 as shown in Figure DEIR 4.14-1) that has already been surveyed for cultural resources. Therefore, it is considered unlikely that relocation and use of this portion of the trail would impact historical or archaeological resources. However, additional segments of the Skyline Trail that encroach onto the Project Site may ultimately be relocated back onto Skyline Wilderness Park lands. The relocation sites have not yet been determined and therefore trail segments have the potential to impact historical and archaeological resources.

Mitigation Measure 4.5-3: Conduct Field Surveys for Historic and Archaeological Resources and Avoid Impacts from Trail Relocation. Once the Skyline Trail relocation corridors are selected, the corridors shall be surveyed by a qualified archaeologist at the Applicant's expense. Any identified potentially significant archaeological or historical resources that would be directly or indirectly impacted by trail relocation and use shall be avoided. The archaeologist shall identify, and the County shall review and approve, the appropriate buffer area around the resource to ensure both direct and indirect impacts are avoided. The size of the buffer area shall be determined by a qualified archaeologist based upon the type of resource found and the visibility of the resource from the trail.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Under the Syar Modified Project Plus Area C, the trail would not be relocated, this yet unknown biological impact would not occur and therefore Mitigation Measure 4.5-3 is not needed.

2) Impact 4.5-4: The Project has the potential to impact unknown historical or archaeological resources on the Project Site. Additional unknown historic and prehistoric archaeological resources, which may not have been identified during the field survey because they are obscured by vegetation or occur below the ground surface, could be present within the Project impact areas. Impacts to such resources would be considered potentially significant.

Mitigation Measure 4.5-4: Avoid or Minimize Impacts to Unknown Historical or Archaeological Resources. In accordance with CEQA Guidelines Section 15064.5(f), should any previously unknown prehistoric or historic archaeological resources, such as, but not limited to, obsidian and chert flaked-stone tools or toolmaking debris, shellfish remains, stone milling equipment, concrete or stone footings, filled wells or privies, or deposits of metal, glass, or ceramic refuse be encountered during vegetation or overburden removal or other ground disturbing activities, work within 100 feet of these materials shall be stopped, and the Applicant shall, at the Applicant's expense, consult with a professional archaeologist. The Applicant shall notify the County within 24 hours of encountering any cultural resources as a result of mining and quarrying activities and operations, and the County shall inspect the site immediately thereafter to ensure the find is adequately protected.

The Applicant shall have the archaeologist prepare an assessment report and recovery plan to evaluate the significance of the find and identify appropriate mitigation measures as may be necessary if the deposit contains significant archaeological materials. The Applicant shall provide the assessment report and recovery plan to the County PBES Department for review and approval, and those mitigation measures shall be carried out prior to any resumption of related ceased earthwork or quarrying activities. The archaeologist shall also undertake data recovery of the deposit unless the Project can be modified to allow the materials to be left in place. Data recovery efforts must follow standard archaeological methods and all significant cultural resource materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards, and the report shall be provided to the County PBES Department as necessary.

In the event that the cultural resources identified within the Project area results in a reduction or modification of mining/quarrying boundaries due to avoidance, the Mining and Reclamation Plan shall be revised promptly by the Applicant and submitted to the County for review and approval. Documentation of any occurrence that triggers the provisions above shall be included in the Annual Compliance Report required by COA No. 2(L), and as necessary to demonstrate compliance. The County PBES Department shall monitor this requirement.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential cultural and paleontological resources impact is mitigated by adoption of Mitigation Measure 4.5-4 found on page 4.5-15 of the DEIR as COA No. 11(M) on Syar's SMP No. P08-0037-SMP. Stopping work upon the discovery of any prehistoric or historic archaeological resources and evaluation of the find and preparation of appropriate mitigation measures by an archaeologist would reduce this impact to less than significant. Furthermore, because the Syar Modified Project Plus

Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these unknown historical impacts would be further reduced.

3) Impact 4.5-5: Ground-disturbing activities could disturb unknown human remains present within the Project impact areas. Human remains were not identified during previous studies of the Project area. However, the potential exists that human remains could be unearthed or discovered during Project activities. If any human remains were impacted by the Project, the impact would be potentially significant.

Mitigation Measure 4.5-5: Avoid or Minimize Impacts to Unknown Human Remains. Should human remains, associated grave goods, or items of cultural patrimony be encountered during quarry or other ground-disturbing activities, the Applicant shall comply with the following procedures as required by Public Resources Code section 5097.9 and Health and Safety Code section 7050.5. In the event of discovery or recognition of any human remains, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the Napa County Coroner has determined that the remains are not subject to his or her authority. If the coroner determines the human remains to be Native American, he or she shall contact, by telephone within 24 hours, the State Native American Heritage Commission (NAHC). The NAHC shall assign a Most Likely Descendent (MLD). The MLD may provide recommendations regarding the treatment of the human remains and any associated cultural materials. If the Applicant rejects the recommendations and the mediation by NAHC fails to provide acceptable measures, then the Applicant shall rebury the Native American remains and associated grave goods with appropriate dignity on the property, in a location not subject to further subsurface disturbance.

Furthermore, the Applicant shall notify the County within 24 hours of encountering any human remains as a result of mining and quarrying activities and operations that the County Coroner determines to be Native American. The County shall inspect the site immediately thereafter to ensure the find is adequately protected. Prior to any further mining or quarrying activities in areas where human remains have been encountered, the Applicant shall provide documentation that they have consulted with the NAHC regarding the treatment of the human remains. In the event that the human remains identified within the Project area result in a reduction or modification of mining/quarrying boundaries, the Mining and Reclamation Plan shall be revised promptly by the Applicant and submitted to the County for review and approval.

Documentation of any occurrence that triggers these provisions above shall be included in the Annual Compliance Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential cultural and paleontological resources impact is mitigated by adoption of Mitigation Measure 4.5-5 found on page 4.5-15 of the DEIR as COA No. 11(N) on Syar's SMP No. P08-0037-SMP. The avoidance or minimization of impacts to unknown human remains would reduce this

impact to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these impacts would be further reduced.

4) Impact 4.5-6: Currently unknown significant paleontological resources within the Pleistocene alluvial deposits at the western edge of the site may be disturbed by Project activities. The Project Site is geologically mapped as Quaternary alluvium and Miocene-Pliocene volcanic deposits. Considering the nearby floodplain of the Napa River and the potential for fluvial sediments to contain elements of Rancholabrean fauna, the only potentially fossiliferous units are the Pleistocene alluvial deposits along the western edge of the Project Site. If any such paleontological resources are present and disturbed by the Project, the impact would be potentially significant.

Mitigation Measure 4.5-6: Evaluation and Treatment of Paleontological Resources. If paleontological resources (e.g., vertebrate bones, teeth, or abundant and well-preserved invertebrates or plants) are encountered during Project activities, the Applicant shall divert work in the immediate vicinity away from the find and protective fencing shall be installed a minimum of 50 feet from the exterior bounds of the find to protect it until a professional paleontologist (at the Applicant's expense) assesses and salvages the resource, if necessary.

The Applicant shall notify the County within 24 hours of encountering any paleontological resources as a result of mining and quarrying activities and operations, and the County shall inspect the site immediately thereafter to ensure the find is adequately protected. Prior to any further mining or quarrying activities in areas where paleontological resources have been encountered, the Applicant shall provide an assessment report and salvage plan prepared by a professional paleontologist for review and approval by the County. In the event that the paleontological resources are identified within the Project area that result in a reduction or modification of mining/quarrying boundaries, the Mining and Reclamation Plan shall be revised promptly by the Applicant and submitted to the County for review and approval. Documentation of any occurrence that triggers the provisions above shall be included in the Annual Compliance Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential cultural and paleontological resources impact is mitigated by adoption of Mitigation Measure 4.5-6 found on page 4.5-16 of the DEIR as COA No. 11(O) on Syar's SMP No. P08-0037-SMP. The diversion of further work from the area of encountered paleontological resources and assessment of the find by a professional paleontologist would reduce this impact to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these paleontological impacts would be further reduced.

D) GEOLOGY AND SOILS

Impact 4.6-2: The Project could expose people or structures to substantial adverse effects (failure of newly constructed dams, berms, detention/sedimentation basins and related structures for stormwater improvements) from strong seismic ground shaking. The nearest active fault to the Project Site is the West Napa fault. Other nearby regional faults include: the Healdsburg-Rogers Creek, the Concord-Green Valley, the Maacama, and the Hayward faults. Shaking intensity for earthquakes on these faults may result in moderate to very strong ground shaking at the site. To estimate the probability of future earthquake events in the Bay Area, the United States Geological Survey (USGS) considered potential sources of an event on seven different fault systems in the Bay Area. Based on a combined probability of all seven fault systems and background earthquakes, there is a 62 percent chance of a magnitude 6.7 or larger earthquake occurring in the Bay Area by the year 2032. Smaller earthquakes, between magnitudes 6.0 and 6.7, capable of considerable damage, have about an 80 percent chance of occurring in the Bay Area by 2030.

The USGS has developed regional maps showing probabilistic peak ground accelerations for the area of the Syar Napa Quarry. The probabilistic peak ground accelerations (a measure of earthquake acceleration on the ground) mapped for the Syar Napa Quarry site, based on the latitude and longitude of the closest map coordinates is 0.44 g with a probability of 10 percent in 50 years. There have been no significant earthquakes recorded near the mining area in the last 100 years. The Project could reasonably expect to experience at least one major earthquake during the proposed 35-year quarry life. Seismic ground shaking from a major earthquake in the region could result in rockfall, temporary slope instability, and damage to equipment and buildings, all of which would pose risks to site workers. This impact would be potentially significant.

Mitigation Measure 4.6-2a: Supplemental Geotechnical Design Criteria. The Applicant shall not locate facilities on unstable slopes, to the extent feasible. Prior to construction of any roads, berms or dams associated with detention/sedimentation basins, or related structures, the Applicant shall, at the Applicant's expense, retain a licensed geotechnical engineer and, when appropriate, a structural engineer to conduct a construction-level geotechnical investigation for the facility(ies). The slope stability inspection reports required by Mitigation Measure 4.6-2b (below) may be included in this report.

The geotechnical investigation shall evaluate seismic hazards and provide recommendations to mitigate the effect of strong ground shaking and unstable soils and slopes to avoid structural failure. The geotechnical study shall provide design criteria to mitigate strong seismic ground shaking. The seismic design criteria shall take into account the active faults in the Napa area**.**

The geotechnical study shall include an evaluation of unstable land in the areas of stormwater improvements and road construction, including any areas susceptible to liquefaction or settlement, and any areas that may contain expansive soils. The study shall provide measures to repair, stabilize, or avoid such soils or slopes, and may include, but not be limited to:

- Removal and replacement of unstable materials in an existing landslide or in an actively eroding area with a stronger material;

- Grading to remove loose material and provide an acceptably stable topographic configuration by terracing, reducing slope angles, and reducing the height of cut and fill slopes;
- Installation of drainage facilities, such as subdrains and dewatering wells to reduce pore water pressure and reduce the risk of slope failure;
- Covering steep slopes with concrete or vegetation;
- Buttressing the slope or the toe of slopes to provide additional support to the slope. Where buttressing is not feasible, internal reinforcement such as a pinning system or lattice grid can be incorporated into the slope design to strengthen the slope;
- Retaining walls or other external applications to strengthen slopes;
- Placement of slope fencing or other material to stabilize rock fall from cut slope and mitigate hazards from falling rocks;
- Removal of native soils and replacement with engineered fill materials not prone to seismically-induced liquefaction or shrinking and swelling;
- Soil stabilization, such as lime treatment to alter soil properties to reduce shrink-swell potential to an acceptable level; and/or,
- Deepening support structures to a depth where unstable soils are no longer present.

The Applicant shall design and construct Project facilities in conformance with the specific recommendations contained in design-level geotechnical studies, including recommendations for grading and ground improvement. The geotechnical investigations and any associated documents or reports required by this measure shall be submitted within 12 months approval of this permit and shall be included in the Annual Compliance Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance. As necessary the County may hire a consultant (at the Applicant's expense) to assess geotechnical investigations and compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the DEIR, FEIR and the administrative record, this potential geology and soils resources impact is mitigated by adoption of Mitigation Measure 4.6-2a found on pages 4.6-8 through 4.6-9 of the DEIR as COA No. 11(P) on Syar's SMP No. P08-0037-SMP. Potential impacts to people and structures from strong seismic ground shaking would be reduced to less than significant by designing and constructing the proposed Project in conformance with all of the geotechnical recommendations of the geotechnical engineer. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these geotechnical impacts would be further reduced.

2) Impact 4.6-2b: The Project could expose people or structures to substantial adverse effects from landslides. Potentially unstable slopes in the proposed quarry expansion area could cause a significant impact in the event of a landslide.

Mitigation Measure 4.6-2b: Slope Stability Criteria. At the Applicant's expense, a California registered Geotechnical Engineer, shall conduct slope stability inspections during excavation of undisturbed areas including the expansion areas. Inspections shall be completed on an annual basis, at a minimum, as well as after heavy rain events (precipitation falling with an intensity in excess of 0.30 inches per hour) or earthquakes with a magnitude of 6.0 or greater. Inspections shall include mapping and movement monitoring of the slopes to assess the potential for Project excavation, grading, and overburden storage to trigger movement of debris flow and landslides. If a slope condition presents a risk to safety or the potential for mass movement, repair measures shall be recommended and promptly implemented by the Applicant. This may include repair, stabilization, or avoidance of landslides and areas of soil creep or possible debris flow. A memorandum summarizing the findings of the inspections and any recommendations shall be prepared and submitted to the Napa County PBES Department and Syar each year. Engineering recommendations for slope repair or stabilization shall be approved by Napa County and incorporated into the Syar Napa Quarry Mining and Reclamation Plan as necessary.

Slope stability inspection reports/memorandums and any associated documents or reports required by this measure shall be submitted within 12 months of approval of this permit and shall be included in the Annual Compliance Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance. As necessary the County will hire a consultant (at the Applicant's expense) to assess slope stability memorandums/reports and compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential geology and soils resources impact is mitigated by adoption of Mitigation Measure 4.6-2b found on pages 4.6-9 through 4.6-10 of the DEIR as COA No. 11(Q) on Syar's SMP No. P08-0037-SMP. The periodic inspection of slopes by a registered geotechnical engineer for risks to safety and the prompt implementation of any recommended repair measures along with submittal of an annual report summarizing the inspections and recommendations would reduce potential landslide impacts to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these geotechnical impacts would be further reduced.

E) HAZARDS AND HAZARDOUS MATERIALS

1) Impact 4.7-2: The proposed Project has the potential to create a significant hazard to the public or the environment through the release of hazardous materials into the environment. An increase in mining activity related to quarry expansion would likely cause an increase in fuel and lubricant use from onsite aboveground tanks. Any increased demand for aboveground storage tank (AST) capacity resulting from the Project could cause a corresponding increase in the potential for incidental tank leakage, rupture and spillage. Such a spill could result in contamination hazards to the public or environment. If substantial quantities of fuels, lubricants, or other liquid reach soil or drainage areas, surface and/or groundwater quality may be degraded.

The release of hazardous materials into the environment could occur during routine operation and maintenance of equipment. Hazardous materials used include substances such as gasoline, diesel fuel, motor oil, and hydraulic fluid. Spills could occur during daily fueling and lubrication of equipment. Small quantities of fuel, oil, and grease leaking from properly maintained vehicles could also occur. An incident involving a service or refueling truck could also release fuels and lubricants. Given the relative hazard and quantity of the material involved in such an incident, the accidental release could pose a hazard to quarry employees, as well as to the environment.

Mitigation Measure 4.7-2: Standard operating procedures (SOPs) shall be used during the handling of hazardous materials for the operation and maintenance of vehicles and equipment; and an approved Hazardous Material Business Plan shall be maintained for the Project Site.

1. Syar shall develop SOPs for the use of hazardous materials including fuels and lubricants used onsite prior to implementation of the Project including any vegetation or overburden removal, mining or quarrying activities, or earth-disturbing occurring in undisturbed areas. Quarry personnel shall follow written SOPs during onsite operation and maintenance of all equipment. The SOPs, which are designed to reduce the potential for incidents involving hazardous materials, shall include the following information and protocols:

- Refueling shall be conducted only with approved pumps, hoses, and nozzles.
- Catch-pans shall be placed under equipment to catch potential spills during servicing.
- All disconnected hoses shall be placed in containers to collect residual fuel from the hose.
- Vehicle engines shall be shut down during refueling.
- No smoking, open flames or welding shall be allowed in refueling or service areas.
- All refueling, maintenance of vehicles and other equipment, handling of hazardous materials, and staging areas shall occur at least 100 feet from water courses, existing groundwater wells, and any other water resource to avoid the potential for risk of surface and groundwater contamination.
- Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.
- A spill containment kit that is recommended by the Napa County Environmental Health Division (EHD) or local fire department shall be onsite and available to staff if a spill occurs.
- A rinse water containment area shall be established outside the proposed creek setbacks and away from any areas that could potentially drain off site or potentially affect surface and groundwater quality. When quarry equipment is cleaned, only rinse water that is free of gasoline residues, other chemicals, and waste oils is allowed to diffuse back into the quarry area. No rinse water shall be drained to a septic system or discharged to ground or surface water to prevent the release of hazardous materials into the environment during operation and maintenance of the proposed Project.

- To prevent the accidental discharge of fuel or other fluids associated with vehicles and other equipment, all workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

In the event that contaminated soil and/or groundwater or other hazardous materials are generated or encountered during quarry operations, all work shall be halted in the affected area and the type and extent of the contamination shall be determined by the County Environmental Health Division (EHD). Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with federal, state, and local regulations. If containment and size of the spill is beyond the scope of the attending personnel, proper authorities shall be notified. The Applicant shall notify the County Engineering and Conservation Division and the EHD within 24 hours of any potential soil or groundwater contamination that has occurred or is a result of quarry operations.

2. Syar's Hazardous Materials Business Plan (HMBP) shall be updated annually as required by law. Syar shall amend the existing HMBP inventory form for the Syar Napa Quarry, in accordance with state law, in the following instances if warranted as a result of the Project:

- A 100 percent or more increase in the quantity of a previously disclosed material; or,
- Any handling of a previously undisclosed hazardous material above the reportable quantity thresholds of 500 pounds of solid, 55 gallons of liquid or 200 cubic feet of gas.

3. The Applicant's HMBP shall also meet the standards of the *Hazardous Material Business Plan and Emergency Action Plan* (Napa County Department of Environmental Management, 2008 or as amended) and shall be subject to approval by Napa County. The amended HMBP shall include: an inventory of the type and quantity of hazardous materials stored onsite; a site map; risks of using the hazardous materials; spill prevention methods; emergency response plan; employee training and emergency contact information.

4. The HMBP shall also include a review of each chemical used onsite and a determination on whether any substitution with less hazardous chemicals can be made. Changes shall be made as appropriate. The hazardous materials inventory, site map, emergency response plan, business owner form, and business activities form must be submitted to the County EHD. The Applicant shall notify the EHD within 30 days of any change in storage of a hazardous material or if there is a 100 percent increase in quantity of a hazardous material previously disclosed in the HMBP. An employee training record shall be filed onsite and may be inspected by the EHD once every three years.

5. Waste oil containers shall be stored in secondary containments that include oil-impervious bermed areas or liners, retaining walls, and/or are stored on impervious concrete floors. Waste oil containers shall be covered during rain events and shall not be stored within any buffers, creek setback, or other exclusion areas. Waste oil containers shall be labeled "waste oil". The containers shall also be labeled with the following information: accumulation start date; the hazardous properties of the waste (ex. flammable, corrosive, reactive, toxic, etc.) and the name and address of the facility generating the waste. All waste oil containers shall be transported offsite by a licensed transporter and taken to a waste oil recycling facility.

6. The SOPs, amended/updated HMBP, and any associated documents or reports required by this mitigation measure shall be submitted within 12 months of approval of this permit and shall be included in the Annual Compliance Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hazards and hazardous materials impact is mitigated by adoption of Mitigation Measure 4.7-2 found on pages 4.7-11 through 4.7-12 of the DEIR as COA No. 11(R) on Syar's SMP No. P08-0037-SMP. The preparation, amendment and implementation of a HMBP and Emergency Action Plan would reduce this hazardous materials impact to less than significant. Furthermore, because the Syar Modified Project Plus Area C has 700,000 tons less annual production than the 2008 Syar Project, these hazardous materials impacts would be further reduced.

F) HYDROLOGY AND WATER QUALITY

1) Impact 4.8-1: The Project could violate water quality standards or waste discharge requirements. The Project could result in a violation of water quality standards or waste discharge requirement by employing quarry practices that would cause substantial erosion or sedimentation onsite or offsite. The Syar Napa Quarry currently has a SWPPP as part of Syar's NPDES Permit for Industrial Activities and would continue to do so under the Project. The SWPPP describes and dictates management practices to prevent contaminants from entering storm water discharge and prevent unauthorized non-storm water discharges. The SWPPP includes BMPs to address erosion and sediment control, wind erosion control, source controls, and waste management. Compliance with sediment discharge limits is monitored by comparing the discharge from the site to EPA suggested benchmarks. Monitoring of storm water discharges from the Syar Napa Quarry has indicated that EPA suggested benchmark standards have been exceeded.

Below is a list of the benchmarks and the range of analytical results for parameters considered particularly relevant to the Project due to the nature of the Project or past occurrence of benchmark exceedance:

TABLE 4.8-2: SUMMARY OF SELECTED BENCHMARK MONITORING RESULTS

Parameter/Compound		Range of Detections	Regulatory Benchmark Levels	Regulatory Benchmark Levels of Concern
Total Solids	Suspended	<1.0 to 2,210 mg/l	<100 mg/l	>130 mg/l
Specific Conductance		30 to 1,400 umho/cm	<200 umho/cm	>300 umho/cm

Source: Winzler & Kelly, 2012.

Mitigation Measure 4.8-1: Update Industrial Storm Water Pollution Prevention Plan to address new land disturbance and operations changes. Prior to initiation of any vegetation removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in

any undisturbed areas (including any expansion areas) and annually as necessary, the Applicant shall update Syar Napa Quarry's existing Industrial SWPPP (WDID#228I005111) to reflect additional areas of land disturbance and changes in operation resulting from the Syar Modified Project. The Applicant shall modify the SWPPP as the Project progresses and as conditions warrant to remain consistent and compliant with SWRCB Order No. 2014-0057-DWQ[2], Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities.

The updated SWPPP shall identify the sources of pollution that may affect the quality of industrial stormwater discharges and authorized non-storm water discharges, and describe and ensure the implementation of BMPs to reduce or prevent pollutants in industrial stormwater discharges. The updated SWPPP shall also include monitoring measures and other requirements contained in Order No. 2014-0057-DWQ. Implementation of the SWPPP shall include reviews, inspections or monitoring by the County Engineering and Conservation Division on a quarterly basis. The Applicant shall continue to compare quarterly monitoring results to current and future EPA suggested benchmark levels (i.e. Numeric Action Levels (NAL) identified in Order No. 2014-0057-DWQ) to determine the effectiveness of onsite control measures and make adjustments accordingly. No discharges from the site shall exceed 100 mg/l of Total Suspended Solids or 200 umho/cm (i.e. micromhos per centimeter) of Specific Conductance. In addition the Project shall not result in a net increase in sediment load. Quarterly monitoring reports shall be submitted to the County for review to determine compliance and corrective actions to achieve benchmarks and assess the effectiveness of previously implemented BMPs.

Should ongoing oversight by the County Engineering and Conservation Division or the Environmental Health Division show any exceedances of EPA Benchmarks that have persisted for more than 12 months (that are not attributed to naturally occurring environmental conditions, or background conditions), the Applicant shall, within 30 days of notification by the County, implement additional or new BMPs to adequately address the exceedances.

The updated SWPPPs and any associated documentation, including annual monitoring reports submitted to the RWQCB shall be submitted within 12 months of approval of the Permit and shall be included in the Annual Compliance Report required by COA No. 2(L), or as requested by the County to demonstrate compliance. Updated SWPPPs will be appended to the Mining and Reclamation Plan as necessary in order to satisfy the erosion and sediment control of SMARA.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measure 4.8-1 found on pages 4.8-24 and 4.8-25 of the DEIR as COA Nos. 2(L)(2), 2(L)(3)and 11(S) on Syar's SMP No. P08-0037-SMP. The requirement to update Syar's SWPPP to address new land disturbance and operations changes and to monitor the effectiveness of onsite control

[2] Industrial General Permit (IGP) adopted by the SWRCB April 1, 2014, effective date July 1, 2015: replaces IGP Order no. 97-03-DWQ that expires June 30, 2015.

measures and make adjustments accordingly to ensure no discharges from the site exceed 100 mg/l of Total Suspended Solids or 200 umho/cm of Specific Conductance and is no net increase in sediment load would reduce this hydrology and water quality impact to less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these water quality impacts would be further reduced

2) Impact 4.8-2: The proposed Project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge in the vicinity of Arroyo Creek such that there would be a net deficit in aquifer volume or lowering of the local (MST) groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). Mining into the regional groundwater potentiometric surface could reduce recharge volumes and will not be allowed. Detention ponds with bottom elevations above the regional groundwater potentiometric surface will be used to maintain infiltration rates. Without proper grading prior to each rain season, infiltration of surface waters in the Arroyo Creek watershed would be reduced by proposed expansion of mining areas within the quarry and would have a significant effect on the net recharge to the regional aquifer for three reasons.

Mitigation Measure 4.8-2: Avoid depleting groundwater supplies or interfering with groundwater recharge mechanisms including maintaining a 10 foot vertical separation between final grade and regional groundwater potentiometric elevation. The Applicant shall maintain existing volumes of groundwater recharge and shall ensure that a vertical buffer of undisturbed native soil/rock remains in place which maintains the final grade elevation no closer than ten (10) feet above the spring season regional groundwater potentiometric elevation. The Applicant shall not excavate and/or mine material within ten (10) feet of the regional groundwater potentiometric surface to prevent the creation or expansions of open water bodies subject to evaporation or springs which can drain regional groundwater to surface drainages or creeks.

To avoid depleting groundwater supplies in all mined areas within the Syar Napa Quarry the grade of the excavation shall be maintained at a minimum of ten (10) feet above the elevation of the regional groundwater potentiometric elevation. This mitigation will preclude regional groundwater from discharging as surface water. To ensure that groundwater infiltration/recharge volumes are maintained, pre-Project (baseline) infiltration volumes shall be compared with Project groundwater infiltration volumes. If there is a deficit, BMPs shall be adjusted or consumptive use of water shall be curtailed until groundwater recharge volumes are greater than or equal to pre-Project volumes. Pre-Project infiltration volumes were calculated at 685 acre-feet in the Arroyo Creek watershed/drainage and 442 acre-feet in the State Blue watershed/drainage, totaling 1,067 acre-feet.

For the upper reaches of the site, this mitigation measure shall be achieved through a combination of best management practices (BMP's) that entail: managing recharge areas [or detention/infiltration ponds] so that pre-Project (baseline) groundwater infiltration volumes are maintained, limiting the depths of excavation and or mining to ten (10) feet above the regional groundwater table and, limiting the depths of excavation and or mining near Arroyo Creek so as not to change the flow path of the creek.

For the lower reaches of the site (and any offsite interactions), this mitigation measure shall be achieved by maintaining pre-Project flow conditions in Arroyo Creek. These conditions include the flow rates, timing of peak runoff, and volume of water in the creek. This mitigation measure

requires the monitoring of stream flow in the lower reach of Arroyo Creek. Impacts to the amount of water and timing of peak flows entering the creek are managed through the use of surface grading, surface cover, and detention basins.

It is expected that the actual elevation of regional groundwater potentiometric elevation will vary from the estimates provided in Figure 4.8-6. Adherence with this mitigation measure requires accurate and contemporary understanding of the regional groundwater potentiometric elevation under the Syar Napa Quarry. This understanding is necessary in order to avoid excavating into the 10 foot vertical buffer zone. To accomplish this and to obtain the data necessary to comply with this mitigation measure, the Applicant shall provide the County with an Annual Groundwater Elevation Monitoring and Use Report, prepared under the direction of a qualified Professional Engineer or Professional Geologist (at the Applicant's expense), that quantifies the groundwater potentiometric elevations during spring of each year (when groundwater elevations are expected to be highest at the Syar Napa Quarry) and through the following means:

1. The Applicant shall monitor stream flow and pond elevation throughout every year the quarry is in operation. This information, along with publicly available climactic data, shall be used to calculate the groundwater infiltration volumes quarterly, in a manner consistent with Appendix J of the DEIR. The results of the monitoring and water balance infiltration analysis shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report.

2. The Applicant shall install piezometers or monitoring wells as required to quantify the regional groundwater potentiometric elevation in areas of active mining prior to any mining excavation that will cause an increase in mining depth beyond existing conditions and/or is likely to extend to within 50 feet of the groundwater elevations presented on Figure 4.8-6. The results of groundwater potentiometric elevation monitoring shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report which is required by this Mitigation Measure. All excavation activity at the Syar Napa Quarry shall be conducted to maintain a 10 foot separation of undisturbed native soil/rock between the finished grade and the underlying groundwater potentiometric elevation as determined by the most recent Annual Groundwater Elevation Monitoring and Use Report. Increased mining depth in areas that are already at or below the groundwater potentiometric elevation, including but not limited to the State Blue Pit, shall not occur.

3. To determine the location, number, and timing of piezometer or monitoring well installations that are necessary to accurately determine the groundwater potentiometric elevation in areas of active mining, the Applicant shall provide a monitoring piezometer/well plan prepared by a qualified Professional Engineer, Professional Geologist, or Professional Hydrogeologist to the County for review and approval prior to commencing any mining activities that would increase the depth of mining beyond existing conditions. The monitoring piezometer/well plan shall also be included in the Annual Groundwater Elevation Monitoring and Use Report.

4. To avoid interfering with the groundwater recharge mechanisms, the Applicant shall also ensure that any subsurface flow in fractures or soil that is exposed or intercepted by the excavation shall be reinfiltrated within the same watershed boundaries. Any surface water that is not the direct result of surface water runoff during rain events shall be infiltrated or directed to areas that provide groundwater infiltration onsite (such as Project detention ponds/basins) and within the same watershed and as depicted on Figure 4.8-10 of the DEIR. Surface water which is the direct

result of rain events shall be infiltrated to groundwater or directed to the existing channels. Spring season monitoring shall be conducted by the Applicant concurrent with SWPPP monitoring (required by Mitigation Measure 4.8-1) to verify that springs and subsurface flow exposed as a result of mining activities is infiltrated back into the subsurface before reaching the surface flow channels. If persistent springs are formed by mining activities the Applicant shall hire a qualified professional (at the Applicant's expense) to assess springs and provide an evaluation to the County to determine if the elevation of these springs is part of the regional groundwater potentiometric surface; if so, mining shall not advance further below this elevation.

5. While no direct groundwater extraction has been proposed or approved in the Arroyo Creek vicinity, existing Well No. 4 could be activated for extraction or an additional well could be installed. The extraction of groundwater from Well No. 4 or from any additional well at the Project Site, including in the Arroyo Creek vicinity, shall be subject to the groundwater extraction limitation of 140.6 acre-feet per year pursuant to Mitigation Measure 4.4-8 and COA Nos. 2(D) and 11 (V). Any new groundwater extraction wells shall subject to additional environmental review pursuant to CEQA and modification of Surface Mining Permit No. P08-00337-SMP.

Any monitoring reports, including annual documentation of groundwater infiltration/recharge volumes and mining elevations in relation to the estimated regional groundwater potentiometric elevations (presented in DEIR Figure 4.8-6), and documentation of any exploratory borings and/or monitoring wells required to be installed or that have been installed, shall be submitted within 12 months of approval of the permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required by this measure. Additionally, any documentation required by this mitigation measure shall also be included in the Annual Compliance Report required by COA No. 2(L), or as requested by the County to demonstrate compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measure 4.8-2 found on pages 4.8-26 and 4.8-27 of the DEIR as COA Nos. 2(D) and 11 (T) on Syar's SMP No. P08-0037-SMP. A 10 foot vertical separation between final grade and regional groundwater potentiometric elevation along with monitoring and adherence to groundwater extraction limitations would reduce this potential hydrology impact to less than significant.

3) Impact 4.8-3: The proposed Project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge in the vicinity of State Blue and State Grey Pits such that there would be a net deficit in aquifer volume or lowering of the local (MST) groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). The Project proposes to excavate down to an elevation of 50 feet msl in area of State Blue and State Gray Pits. The DEIR has interpreted the existence of a hydraulic connection between the State Blue and State Grey Pits and the MST (vicinity of Lake Camille) to the north of State Blue and State Gray Pits. Excavation to an elevation of 50 feet msl requires that

the potentiometric elevation of groundwater in the excavated area be reduced from approximately 150 feet to the elevation of the proposed bottom of the excavation at 50 feet msl. This would require significant groundwater pumping during mining activities. This could generate considerable volumes of water which would be conveyed away from this portion of the quarry and (presumably) discharged elsewhere on the quarry property. This pumped groundwater would therefore no longer recharge to the MST in the vicinity of Lake Camille. This would interfere with groundwater recharge to the MST and is a potentially significant impact.

Furthermore, the pumping of groundwater on the Project Site to an elevation lower than the regional groundwater potentiometric elevation in the MST is likely to cause a reversal in the direction of groundwater flow from the MST towards the Project Site. This could cause a lowering of the regional groundwater potentiometric elevation in the MST. The lowering of the regional groundwater potentiometric elevation in the MST could cause a decrease in the elevation of water level in existing wells within the MST and is a potentially significant impact.

The water that is stored in State Blue Pit is interpreted to be at the same elevation as the regional groundwater potentiometric elevation. Therefore the water in State Blue Pit is a surface occurrence of regional groundwater (essentially a very large diameter well). Consumptive use of this groundwater or transport of this groundwater to other watersheds could impact the volume of groundwater reaching the MST. Therefore consumptive use or transport to of this groundwater is a potentially significant impact.

Unless mitigated a long term impact could be created by enlargement of the exposed groundwater interpreted to exist in State Blue Pit. The residual effect of removing rock material which is currently at or below the regional groundwater potentiometric elevation is the creation of an open body of water. While this open water body would provide hydraulic connection for Project Site groundwater to flow through to the MST, the enlarged open body of water is exposed to more water loss through evaporation. This evaporation represents an additional consumptive use of groundwater and is a potentially significant impact.

Mitigation Measure 4.8-3: Avoid reducing the groundwater potentiometric elevation by increasing consumptive use of surface water or surface occurrence of regional groundwater as a result of quarry activities. The Applicant shall ensure that all water extracted from open bodies of water that are at the regional groundwater potentiometric elevation shall be reinfiltrated in surface detention/infiltration basins within the same watershed from which the extraction occurs (i.e. the State Blue or Arroyo Creek watersheds) or it shall be considered a consumptive use of groundwater. This will prevent depletion of the groundwater resource by consumptive use of water derived from open bodies of water such as State Blue Pit. This Mitigation Measure 4.8-3 shall not apply to the draining of ponded surface water which is at an elevation higher than the underlying regional groundwater potentiometric elevation, provided the water is not used outside of the watershed it was derived from. Ponded surface water which occurs in temporary low areas in active mining areas may be pumped to detentions ponds within the same watershed for reinfiltration purposes.

As part of quarry activities, water may be pumped from open water bodies such as State Blue Pit for consumptive quarry activities such as dust control and other uses where the water is not reinfiltrated. The volume of groundwater that is pumped from those water bodies where the water surface elevation is effectively the same as the regional groundwater potentiometric elevation (i.e.

State Blue Pit) shall be considered part of the maximum allowable annual groundwater use allocation of 140.6 acre-feet per year for the Project. Consumptive use from open water bodies such as State Blue Pit shall be recorded and considered a part of the groundwater allocation in the same manner as the groundwater pumping from the Quarry Well. The volume of water used to wash materials shall not be included in the quantification of groundwater use if it is returned to the aquifer by reinfiltration. The volume of wash water returning to detention ponds for infiltration is not considered in quantifying groundwater use because it is not a consumptive use of groundwater.

To help ensure that groundwater infiltration volumes are not decreased, pre-Project infiltration volumes shall be compared with Project groundwater infiltration volumes. If there is a deficit, BMP shall be adjusted or consumptive use of water shall be curtailed until groundwater recharge volumes are greater than or equal to pre-Project volumes. Pre-Project infiltration volumes were calculated at 685 acre-feet in the Arroyo Creek drainage and 442 acre-feet in the State Blue drainage, totaling 1,067 acre-feet.

Maintaining groundwater recharge volume shall be addressed by routing stormwater runoff to existing ponds or new surface detention/infiltration basins that shall be constructed on recharge areas to ensure that groundwater infiltration volumes are equal or greater than pre-Project groundwater infiltration volumes. To ensure that existing volumes of groundwater recharged are maintained the Applicant shall monitor pond elevation throughout the year. This information, along with publicly available climactic data, shall be used to calculate the groundwater infiltration volumes quarterly, in a manner consistent with Appendix J of the DEIR. The results of the monitoring and water balance infiltration analysis shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report.

Monitoring reports required by this measure shall be submitted within 12 months of approval of the permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required pursuant to Mitigation Measure 4.8-2. Additionally, reports required by this mitigation measure shall also be included in the Annual Compliance Report required by COA No. 2(L), and as necessary or requested by the County to demonstrate compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measure 4.8-3 found on pages 4.8-28 through 4.8-29 of the DEIR as COA Nos. 2(D) and 11(U) on Syar's SMP No. P08-0037-SMP. The potentially significant hydrology impact from conducting quarry operations at elevations that are at or below the regional groundwater potentiometric elevation would be reduced to less than significant by reinfiltrating all water extracted from open bodies of water that are at the regional groundwater potentiometric elevation and by increasing consumptive use of surface water.

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4) Impact 4.8-4: The Project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge in the vicinity of the Quarry Well and Sand Plant such that there would be a net deficit in aquifer volume or lowering of the local (MST) groundwater table level. Existing mining activities use groundwater from the Quarry Well (shown in DEIR Figure 4.8-6) located in the western portion of the Syar Napa Quarry (which overlies the MST), for sand plant operations and dust suppression during the dry season. The Syar Napa Quarry Water Supply Assessment concluded that the baseline demand is 45.8 million gallons (140.6 acre-ft) per year, and the proposed Project water demand is 62.1 million gallons (190.6 acre-ft) per year.

The supply for the annual additional water demand over baseline conditions (45.8 million gallons per year [140.6 acre-ft]) represents an increase in consumptive use of 16.3 million gallons (50 acre-ft) per year. Extraction of any portion of this using the existing water supply system of pumping from the Quarry Well or pumping from open water bodies would constitute an increased demand on the groundwater resource. Unless mitigated any increase for consumptive use of the groundwater or surface water that would otherwise infiltrate to groundwater is a potentially significant impact.

Mitigation Measure 4.8-4: Avoid depleting groundwater supplies by water reuse and obtaining new supplies of additional water for operations. No additional groundwater from existing sources is available to accommodate the additional water demand of the proposed Project. The Applicant's maximum allowable annual groundwater usage for all quarry operation and associated activities shall not exceed 45.8 million gallons (or 140.6 acre-ft) per year. This mitigation measure includes metering to verify that demands upon water resources are not exceeded and also includes accommodating any additional water demands with a combination of water reuse, new water sources or water conservation methods.

In order to document the use of the existing water sources, the Applicant shall continuously monitor, meter and maintain records of all water use at the quarry site. These monitored sources shall include:

1. Groundwater from the Quarry Well, or any other groundwater well related to the project that could have a similar impact (i.e. Well No. 4 and/or the Latour Court Well);
2. Water collected from open water bodies in contact with the regional groundwater potentiometric elevation (as identified in Mitigation Measures 4.8-2 and 4.8-3); and/ or
3. Impounded surface water that would otherwise infiltrate to groundwater.

Monitoring reports required by this measure shall be submitted within 12 months of approval of the permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required pursuant to Mitigation Measure 4.8-2. Additionally, reports required by this mitigation measure shall also be included in the Annual Compliance Report required by COA No. 2(L), and as requested by the County to demonstrate compliance.

If new wells are installed and/or if existing wells (i.e. Well No. 4) are brought into production the extraction from these wells shall be included in the annual usage total. The total of groundwater/surface water used for quarry operations shall be totaled and reported monthly to the County. Any new groundwater well shall subject to additional environmental review pursuant to CEQA and modification of this surface mining permit.

Onsite water that is used which can be used non-consumptively such as a controlled process where the water is used for sand washing and then recharged to the groundwater through a detention basin would not be included in the total of water used for the quarry if it can be demonstrated through monitoring and reporting as part of the annual water usage report that it is recharged to groundwater.

The Applicant shall also off-set additional water demands by reusing water and increasing processing efficiencies. This could include gravel application to roadways and production areas to reduce dust generation and the need for dust suppression by water application. It could also include process revisions to reuse sand wash water rather than allow the water to drain off as surface water or to allow it to evaporate in shallow ponds that have low infiltration benefit.

If additional water is required for the Project, the additional water shall be obtained from offsite sources such as new wells outside of the MST. Offsite sources of recycled water are available and water can be purchased from public or private sources. If additional water sources are not available then the Applicant shall reduce its production volume to a level such that the water use shall not exceed the maximum allowable annual usage of 45.8 million gallons (140.6 acre-feet) per year. Any new or additional water sources for quarry operations shall be subject to additional environmental review pursuant to CEQA and modification of this surface mining permit.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential groundwater impact is mitigated by adoption of Mitigation Measure 4.8-4 found on pages 4.8-29 through 4.8-30 of the DEIR as COA Nos. 2(D), 11(T), 11(U) and 11(V) on Syar's SMP No. P08-0037-SMP. Imposition of an annual maximum groundwater usage cap of 45.8 million gallons or 140.6 acre-ft per year along with the requirement to reuse water and obtain new, alternative water sources would reduce potential groundwater impacts to less than significant.

5) Impact 4.8-5: The Project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite.

Under the proposed Project conditions, the Sand Plant and Central Creek watersheds are not to be mined. However, the onsite drainage patterns for the Arroyo Creek watershed, the State Blue Pit watershed and State Gray Pit would be altered. Expansion of the mining area within the quarry could lead to increased runoff due to removal of vegetation, reconfigured topography, and the creation of compacted surfaces. Onsite drainage features, including culverts, storm drains, seasonal drainage swales, and inlet and outlet structures would need to be constructed to convey surface-water flows around and through the disturbed areas (i.e. mining areas). Prevention of localized flooding would depend on adequately sizing the onsite drainage features.

Mitigation Measure 4.8-5: Reduce Potential for Offsite Runoff. The Applicant shall design and construct detention ponds in the mined watersheds to reduce stormwater runoff volume, rates and sedimentation in addition to maintaining infiltration to groundwater. The specific locations of these detention ponds shall be determined during the development of the grading and drainage plans, as required by the County's Surface Mining and Reclamation Ordinance (Napa County Code Chapter 16.12). The Applicant shall submit a final detailed design-level hydrologic and hydraulic analysis within 12 months of approval of the permit as part of the annual mining plan (that is a component of the Project's Mining and Reclamation Plan) to the Napa County Engineering and Conservation Division detailing the implementation of the proposed drainage plans, including detention pond facilities that shall conform to the following standards and includes the following components:

1. Peak runoff in 2, 10, 50, and 100 year storm events during the years of active mining and at the end of mining shall not exceed existing conditions. The final grading and drainage plan, including detention pond designs, shall be prepared by a California licensed professional engineer. All design and construction details shall be depicted on the grading and drainage plans (or SWPPP) and shall include, but not be limited to, inlet and outlet water control structures, grading, designated maintenance access, and connection to existing drainage facilities.

2. The Napa County Engineering and Conservation Division shall review and approve the grading and drainage plans prior to implementation to ensure compliance with Napa County standards. The Applicant shall implement any additional improvements deemed necessary by the County.

3. Once constructed, the drainage components, including detention ponds designed for the watersheds, shall be inspected by the County's Engineering and Conservation Division annually to ensure they are maintained per the guidelines outlined in the Sediment Basin BMPs found in the Napa Quarry SWPPP. The Applicant shall ensure that all disturbed areas of the quarry are graded and maintained in conformance with the approved grading and drainage plans or SWPPP, and are designed in such a manner as to direct stormwater runoff to a properly sized detention pond.

4. All calculations, plans, and reports required by this mitigation measure shall also be included in the Annual Compliance Report required by COA No. 2(L), or as requested by the County to demonstrate compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measure 4.8-5 found on pages 4.8-34 and 4.8-35 of the DEIR as COA No. 11(W) on Syar's SMP No. P08-0037-SMP. The preparation of drainage plans by a licensed engineer and the construction and maintenance of drainage improvements in accordance with the plans would reduce the potential for offsite runoff to less than significant.

6) Impact 4.8-6: The proposed Project could create or contribute runoff water which would provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality.

Proposed quarrying activities would include earthmoving such as rough grading and soil stockpiling. These types of activities expose soil to erosion that, in turn, can result in discharge of sediment to receiving surface water bodies. Sediment can degrade water quality and adversely affect the habitat of aquatic species. Mining operations also generate other pollutants such as diesel and hydraulic fluid that if released to the environment could degrade receiving waters. The Project includes onsite storage of petroleum products and other hazardous materials. Operation, storage, maintenance, and repair of mining equipment would occur as part of the Project. These activities require the use, transport, transfer, and storage of fuels, lubricants, and cleaners. Spills or leaks of these petroleum products and other hazardous materials could affect surface-water quality if not properly stored and handled. This is considered a significant impact.

The proposed Project creates additional potential for contamination of groundwater, particularly through spills. The removal of soil overburden and rock material reduces the buffer between a surface spill and the underlying groundwater. In the area of State Blue pit the rock buffer has been completely removed by past and ongoing mining activities and is no longer available to absorb contaminants or retard the migration of spilled contaminants to groundwater through fracture flow.

Mitigation Measure 4.8-6: Update Industrial Storm Water Pollution Prevention Plan to address hazardous materials spill response actions. The Applicant shall revise its Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan as necessary to directly address the potential for a spill or release of hazardous material near or into a water body that is directly connected to the regional aquifer. The revisions shall include provisions for training in spill response and containment and maintaining access to the needed equipment to respond to a spill. The revisions to the plan will also contain provisions to eliminate or minimize the storage of hazardous materials in areas which drain to portions of the Project Site where the regional groundwater is exposed. These revisions shall then be incorporated into the SWPPP by summary and reference. The Applicant shall provide the revised Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan to the County for review and approval within 12 months of approval of the SMP.

Thereafter, any time the Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan is revised or updated it shall also be submitted to the County in the Annual Compliance Report required by COA No. 2(L), or as necessary to demonstrate compliance. If the County finds that the Applicant has not revised and updated the plan as necessary the Applicant shall have 30 days to submit the plans to the County for review and approval. Compliance with this measure shall be subject to Napa County Code Sections 16.12.600 through 16.12.660 (Surface Mining and Reclamation – Enforcement).

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measure 4.8-6 found on pages 4.8-35 through 4.8-36 of the DEIR as COA Nos. 2 (L) and 11(X) on Syar's SMP No. P08-0037-SMP. Implementation of Mitigation Measure 4.8-6 would reduce potential impacts to surface water quality by requiring the Applicant to amend the existing plans to identify response actions in case of a release of hazardous materials near or into a water body and construct, properly use, and maintain detention ponds in mined areas to prevent offsite sedimentation and reduce impacts to less than significant.

7) Impact 4.8-8: The proposed Project could result in substantial adverse effects to the surface and groundwater hydrology of Skyline Wilderness Park. Skyline Wilderness Park is located to the northeast of the Project Site. Hiking trails that run between the Project Site and Skyline Wilderness Park crisscross the property boundary. The sections of the hiking trails that are located on the Project Site are to be relocated onto the public property of Skyline Wilderness Park. Activities associated with the proposed Project would include removal of vegetation, grading, active mining and groundwater pumping adjacent to Skyline Wilderness Park. These activities could have adverse impacts on surface and groundwater hydrology on the adjoining park property, specifically Marie Creek and Lake Marie. Marie Creek flows in a northwesterly direction maintaining an approximate minimum 1,000 feet setback horizontally from the proposed mining boundary. Marie Creek drains into and from Lake Marie, a constructed reservoir with water surface elevation of approximately 700 feet above MSL. A direct effect on the surface water of the Skyline Wilderness Park is unlikely because there are no drainage routes from the Project property onto Skyline Wilderness Park and none will be established as part of the proposed Project. However, groundwater could be significantly be affected by large scale pumping that could occur as part of the Project.

Mitigation Measure: Implementation of Mitigation Measures 4.8-2, 4.8-3 and 4.8-4 would reduce potential impacts to groundwater because groundwater would not be pumped beyond the volume extracted under existing conditions. These mitigation measures reduce the potential impact to groundwater to less than significant.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measures 4.8-2, 4.8-3 and 4.8-4 found on page 4.8-26 through 4.8-30 of the DEIR as COA Nos. 2(D), 11(T), 11(U) and 11(V) on Syar's SMP No. P08-0037-SMP. Potential impacts to surface and groundwater hydrology on Skyline Wilderness Park would be reduced to less than significant because groundwater would not be pumped beyond the volume extracted under existing conditions.

8) Impact 4.8-9: The Project could contribute to violation of water quality standards or waste discharge requirements in the cumulative scenario. Implementation of Mitigation Measure 4.8-1 would reduce the potential impact on water quality to less than significant because it requires updating the existing Industrial SWPPP to account for the additional areas of land disturbance and changes in operation resulting from the Project and ensure implementation of

BMPs through inspections and monitoring. This mitigation also includes managing the discharge such that the water quality meets the requirements for Total Suspended Solids and Specific Conductance presented in Table 4.8-2 of the DEIR. This mitigation ensures that there is no increased risk of violating water quality standards, and the Project's incremental contribution to water quality impacts is not cumulatively considerable.

Mitigation Measure 4.8-1: Implementation of Mitigation Measure 4.8-1 would reduce the potential impact on water quality to less than significant because it requires updating the existing Industrial SWPPP to account for the additional areas of land disturbance and changes in operation resulting from the Project and ensures implementation of BMPs through inspections and monitoring. This mitigation also includes managing the discharge such that the water quality meets the requirements for Total Suspended Solids and Specific Conductance presented in Table 4.8-2. This mitigation ensures that there is no increased risk of violating water quality standards, and the Project's incremental contribution to water quality impacts would not be cumulatively considerable.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measure 4.8-1 found on pages 4.8-25 through 4.8-25 of the DEIR as COA Nos. 2 (L)(2), 2(L)(3) and 11(S) on Syar's SMP No. P08-0037-SMP. Because the Applicant is required to update its SWPPP to account for the proposed Project, there is no increased risk of violating water quality standards, and the proposed Project's incremental contribution to water quality impacts is not cumulatively considerable and therefore the impact would be less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these cumulative water quality impacts would be further reduced

9) Impact 4.8-10: The Project could contribute to depletion of groundwater supplies or interfere substantially with groundwater recharge in the vicinity of Arroyo Creek in the cumulative scenario.

Mitigation Measure 4.8-2: Implementation of Mitigation Measure 4.8-2 would maintain existing levels of groundwater extraction and ensure no significant impact to Arroyo Creek and Arroyo Creek's onsite and offsite recharge into the regional groundwater aquifer. This mitigation ensures that there is no increase in groundwater use above existing conditions and no substantial interference to groundwater recharge, such that the Project's incremental contribution to groundwater impacts is not cumulatively considerable.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation

Measure 4.8-2 found on pages 4.8-26 through 4.8-27 of the DEIR as COA Nos. 2(D) and 11(T)on Syar's SMP No. P08-0037-SMP. Because the proposed Project cannot exceed the existing levels of groundwater extraction, there is no increase in groundwater use above existing conditions and no substantial interference to groundwater recharge; the proposed Project's incremental contribution to groundwater impacts is not cumulatively considerable and therefore would be less than significant.

10) Impact 4.8-11: The proposed Project could contribute to depletion of groundwater supplies or interfere substantially with groundwater recharge in the vicinity of State Blue and State Grey Pits in the cumulative scenario.

Mitigation Measures 4.8-2 and 4.8-3: With the implementation of Mitigation Measures 4.8-2 and 4.8-3, neither the groundwater recharge nor the groundwater elevations in the Lake Camille area of the MST would be impacted by quarry operations. This mitigation ensures that there is no increase in groundwater use above existing conditions and no substantial interference to groundwater recharge, such that the Project's incremental contribution to groundwater impacts is not cumulatively considerable.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measures 4.8-2 and 4.8-3 found on page 4.8-26 and pages 4.8-28 through 4.8-29 of the DEIR as COA Nos. 2(D), 11(T) and 11(U) on Syar's SMP No. P08-0037-SMP. Because there is no increase in groundwater use above existing conditions and no substantial interference to groundwater recharge, the proposed Project's incremental contribution to groundwater impacts is not cumulatively considerable and therefore would be less than significant.

11) Impact 4.8-12: The Project could contribute to depletion of groundwater supplies or interfere substantially with groundwater recharge in the vicinity of the Quarry Well and Sand Plant in the cumulative scenario.

Mitigation Measure 4.8-4: Implementation of Mitigation Measure 4.8-4 ensures that the effect of the proposed Project is less than significant by maintaining the use of onsite water resources at existing condition levels. This mitigation ensures that there is no increase in groundwater use above existing conditions and no substantial interference to groundwater recharge, such that the Project's incremental contribution to groundwater impacts is not cumulatively considerable.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation

Measure 4.8-4 found on pages 4.8-29 through 4.8-30 of the DEIR as COA Nos. 2(D) and 11(V) on Syar's SMP No. P08-0037-SMP. Because there is no increase in groundwater use above existing conditions and no substantial interference to groundwater recharge, the proposed Project's incremental contribution to groundwater impacts is not cumulatively considerable and therefore would be less than significant.

12) Impact 4.8-13: The proposed Project could contribute to substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or to a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite in the cumulative scenario.

Mitigation Measure 4.8-5: Implementation of Mitigation Measure 4.8-5 requires preparation of a hydrologic and hydraulic analysis for the design of specific drainage and detention facilities on an annual basis as implementation of the Project progresses and ensures that the Project's incremental contribution to potential flooding is not cumulatively considerable.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measure 4.8-5 found on page 4.8-34 of the DEIR as COA No. 11(W) on Syar's SMP No. P08-0037-SMP. The Applicant is required to prepare a hydrologic and hydraulic analysis for the design of specific drainage and detention facilities on an annual basis as implementation of the Project progresses. This measure ensures that the proposed Project's incremental contribution to potential flooding is not cumulatively considerable and would be less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these cumulative drainage impacts would be further reduced.

13) Impact 4.8-14: The Project could create or contribute to sources of polluted runoff or otherwise substantially degrade water quality in the cumulative scenario.
Implementation of Mitigation Measures 4.8-1 and 4.8-6 would avoid potentially significant impacts to surface water quality by requiring the Applicant to amend the existing Industrial SWPPP to reflect additional areas of land disturbance and changes in operation resulting from the Project, thus ensuring that the Project's incremental contribution to water quality impacts is not cumulatively considerable.

Mitigation Measures: Implementation of Mitigation Measures 4.8-1 and 4.8-6 would avoid potentially significant impacts to surface water quality by requiring the Applicant to amend the existing Industrial SWPPP to reflect additional areas of land disturbance and changes in operation resulting from the Project, thus ensuring that the Project's incremental contribution to water quality impacts is not cumulatively considerable.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in,

or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential hydrology and water quality resources impact is mitigated by adoption of Mitigation Measures 4.8-1 and 4.8-6 found on page 4.8-25 and pages 4.8-35 through 4.8-36 of the DEIR as COA Nos. 2(L)(2), 2(L)(3), 11(S) and 11(X) on Syar's SMP No. P08-0037-SMP. The Applicant is required to amend the existing Industrial SWPPP to reflect additional areas of land disturbance and changes in operation resulting from the proposed Project. Implementation of this measure would ensure that the proposed Project's incremental contribution to water quality impacts is not cumulatively considerable and impacts would be less than significant. Furthermore, because the Syar Modified Project Plus Area C has an approximately 19 acre smaller footprint than the 2008 Syar Project, these cumulative water quality impacts would be further reduced.

G) NOISE AND VIBRATION

1) Impact 4.11-1: Noise generated by mining activities on the ridgelines in the expansion areas would exceed allowable noise levels as established in the Napa County General Plan and Napa County Noise Ordinance. Sensitive receptors (i.e., residences and the Skyline Wilderness Park) located north and east of the quarry would have unobstructed line-of-sight to the expanded mining area north and east of the State Blue Pit. This unobstructed line-of-sight allows noise from mining to reach the sensitive receptors without being attenuated by intervening topography or barriers.

The Project would use the same mining techniques as currently used and approved under existing entitlements. The existing onsite support facilities, including the aggregate processing equipment, would not be expanded or modified for the processing of the additional material. However, some existing facilities would be modified with new technology or equipment replaced to meet market demand. The RAP handling equipment will be added to the asphalt mix at the asphalt batch plant. The RAP equipment includes dual hoppers, transfer conveyor belt, screen conveyor belt, vibrating screen, feed conveyor belt, holding hopper, and pug mill feed conveyor. Syar proposes that up to 20 percent of the total asphalt production, i.e., up to 60,000 tons per year, will come from recycled pavement sources, but in no case would recycled pavement sources cause the truck trips entering or leaving the plant to increase above the baseline period. As a result, there would be no increase in the number of trucks entering the plant with recycled asphalt or leaving the plant with asphalt, and there would be a decrease in aggregate mined on site as up to 60,000 tons per year of virgin aggregate would be replaced with imported recycled asphalt. The minor modifications to equipment proposed as part of the Project would be in well-shielded areas and would replace other noise-generating activities. There would be a no-net change in noise levels from the proposed equipment modification in the processing areas. In addition, over time the existing equipment may need to be replaced with newer equipment due to age or new technologies that are not fully developed or known at this time.

Noise levels from mining are summarized in DEIR Table 4.11-8. Worst-case noise contours for unshielded mining activities at various receptor locations on the Project Site are shown in Figures 4.11-34 to 4.11-36 of the DEIR. These receptors are mapped on Figures 4.11-1, 4.11-34, 4.11- 35, and 4.11-36. The contours assume that receptors would have direct line of sight to the mining activities and assume neutral weather conditions.

TABLE 4.11-8 WORST-CASE NOISE LEVELS FOR UNSHIELDED MINING ACTIVITIES AT NEAREST RECEPTORS

Facility or Operation	Receptor/ Distance	Attenuation with Distance	Attenuation due to Atmospheric Absorption	Resultant Noise Level (L_{50})
Aggregate Mining near north boundary of State Blue Pit	North – 1,280 ft (Skyline Wilderness Park and Schools)	-22 dBA	-1 dBA	57 dBA
Aggregate Mining near north boundary of State Blue Pit	North – 1,900 ft (Imola Avenue residences)	-26 dBA	-2 dBA	52 dBA
Aggregate Mining near south boundary of Snake Pit	South – 7,000 ft (Residence ~2,400 feet east of SR 29/12/221 interchange)	-37 dBA	-7 dBA	36 dBA
Aggregate Mining near north or east boundaries of Snake Pit	North and East – 100 ft (Skyline Wilderness Park)	-6 dBA	0 dBA	80 dBA

Source: Illingworth & Rodkin, Inc., July 2012.

Mitigation Measure 4.11-1: Noise Restrictions in Expansion Area North and East of the State Blue Pit and Snake Pit (Pasini Parcel): To reduce noise impacts of mining, quarrying, and associated operations the Applicant shall adhere to the following:

1. No aggregate mining operations shall occur between the hours of 6:00 PM and 7:00 AM in mining expansion areas to the north and east of the State Blue Pit where there are residences not shielded by intervening terrain.
2. With the exception of blasting and the removal of overburden the Applicant shall:
   a) Limit daytime aggregate mining operations to between the hours of 7:00 AM and 12:00 PM in unshielded areas to the north and east of the State Blue Pit or Snake Pit areas within 2,500 feet of the nearest sensitive receptors (residences, schools, or trails within Skyline Park);
   b) Ensure that noise levels at the nearest receptor locations north or east of the quarry shall not exceed 50 dBA L50 from 7:00 AM to 10:00 PM and 45 dBA L50 from 10:00 PM to 7:00 AM.
3. The Applicant shall utilize the following measures or equivalent:
   a) Maintain acoustical shielding for receivers north or east of the quarry so that existing terrain features provide the maximum amount of shielding for the longest time possible.
   b) Use the quietest available equipment when removing topsoil and overburden (e.g., well-maintained, modern equipment such as higher tier engines, having sufficient engine insulation and mufflers, electric or hydraulic powered equipment, or equipment operation settings at the lowest possible power levels).
   c) Conduct noise monitoring and maintain noise monitoring reports to ensure that daytime noise levels from aggregate mining and operations do not exceed 50 dBA L_{50} at the nearest receptor locations north and east of the quarry (i.e., along the northern and eastern property lines in the vicinity of the State Blue Pit or Snake Pit areas), which are areas where monitoring sites should be located. Noise monitoring shall be conducted daily for the first five years of the Permit: thereafter the Planning Commission shall determine the extent of ongoing noise monitoring as part of their Project and Permit review required by COA No. 1(F). Noise monitoring reports shall be

submitted monthly to the County Environmental Health and Engineering and Conservation Divisions, or upon request, to verify compliance. If and as necessary the County will either hire a consultant (at the Applicant's expense) to assess compliance or provide 3rd party independent noise monitoring of the Project.

d) Noise monitoring results shall also be submitted to the County in the Annual Compliance Report required by COA No. 2(L), or as necessary to demonstrate compliance. If the County finds during annual compliance review that noise levels of quarry operations are excessive, the Applicant shall modify quarry operations or the Mining and Reclamation Plan so that the noise limits identified herein are not exceeded.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential noise and vibration impact is mitigated by adoption of Mitigation Measure 4.11-1 found on page 4.11-17 of the DEIR as COA Nos. 2(F)and 11(Y) on Syar's SMP No. P08-0037-SMP. Restrictions on the hours and location of noise production such that the proposed Project would not violate noise standards would reduce this impact to less than significant. Furthermore, because the Syar Modified Project Plus Area C has less annual production than the 2008 Syar Project and includes more restrictive limits on the hours of blasting, these noise and vibration impacts would be further reduced.

2) Impact 4.11-2: Vibration levels generated by blasting may result in excessive vibration at sensitive receptors north and south of the quarry and sensitive structures north and west of the quarry. Blasting could cause excessive vibration levels at sensitive receptors and sensitive structures in the vicinity.

Mitigation Measure 4.11-2: Blasting Vibration Reduction Measures. To reduce vibration impacts, the Applicant shall:

1. Monitor peak particle velocity and peak sound pressure during each blast event to ensure that vibration levels are under 0.20 in/sec PPV and air-blast overpressures are under 133 dB(L) at sensitive land uses (residences and schools). Monitoring sites shall be located along the northern property boundary and along Imola Avenue adjacent to sensitive land uses. Blasts shall be modified to reduce the charge weight per delay. The charge weight per delay shall not exceed 175 lbs. for blasting near the northernmost property boundary (i.e. within 1,000 feet) to maintain vibration levels below 0.20 in/sec PPV and air-blast overpressures below 133 dB(L) at sensitive land uses.

2. The effectiveness of this measure shall be demonstrated to the County by Applicant's submittal of vibration calculations/measurements and monitoring records for each blast event that are satisfactory to the County for effectiveness review. Monitoring records shall be provided to the County Environmental Health and Engineering and Conservation Divisions monthly, or as necessary at the request of the County, to demonstrate and verify compliance with this measure. If the County finds that the Applicant has not maintained the required vibration levels

during blasting events, the Applicant shall immediately lower charge weights as necessary, below the limits identified above, until required reductions have been achieved.

3. Conduct stemming and burdening (filling the drilled holes with dirt and rock above the explosive charge) of the blast holes to confine the blast charges into the ground and to minimize acoustic overpressure levels.

4. To ensure that surrounding residence and sensitive receptors are aware of blasting events, Syar shall notify the County, sensitive receptors, and surrounding residences prior to blasting. The following uses/facilities shall be included in this notification: Skyline Wilderness Park, Napa County Office of Education, Chamberlain High School, Liberty High School, Creekside Middle School, the Napa Preschool Program, the Napa Child Development Center, and the Napa State Hospital. The Applicant shall request contact information from residences and sensitive receptors that wish to be notified and provide notification at least 48 hours in advance of the blast. This provision will be included as a condition of approval should the Project be approved.

5. Vibration monitoring records shall also be submitted to the County in the Annual Compliance Report required by COA No. 2(L) to demonstrate compliance. If the County finds during annual compliance review the Applicant has not maintained the required vibration levels during blasting events, the Applicant shall reduce charge weights as necessary to ensure specified vibration levels are not exceeded. As necessary the County may hire a qualified professional (at the Applicant's expense) to assess compliance.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential noise and vibration impact is mitigated by adoption of Mitigation Measure 4.11-2 found on page 4.11-20 of the DEIR as COA Nos. 2(F)and 11(Z) on Syar's SMP No. P08-0037-SMP. Vibration impacts would be reduced to less than significant by maintaining acceptable levels of blasting vibration such that sensitive structures and sensitive receptors north of the quarry would not experience excessive or damaging vibration. Furthermore, because the Syar Modified Project Plus Area C has less annual production than the 2008 Syar Project, vibration impacts would be further reduced.

H) RECREATION

1) Impact 4.14-2: Trail Abandonment, Fence Construction, and Relocation of Segments of Skyline, Buckeye, Lower Skyline and Access Road Trails would require construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Implementation of the proposed Project would alter portions of the existing Skyline, Lower Skyline, Access Road and Buckeye Trails located on the quarry property as shown in Figure 4.14-1 and in Table 4.14-1 of the DEIR, but would not cause a substantial change in the use of Skyline Wilderness Park. The proposed Project includes the immediate relocation of approximately 1,900 feet of the existing Skyline Ridge Trail, located in the northeast corner of the Project Site, from quarry property back onto the park. In addition, the proposed Project includes the

future relocation of up to approximately 2,000 additional feet of existing encroaching Skyline Ridge Trail and Buckeye Trail segments. The trails to be moved in the future would receive a temporary easement or lease agreement (or the like) in the near term to allow their continued use until such time that quarrying would impact the trails and their use. At such time, the trails would be relocated back onto the park lands. Following trail relocation, the Syar Napa Quarry would be fenced off to prevent future unauthorized use.

Relocation of the encroaching trails and removing access to the Syar Napa Quarry property would effectively reduce the overall acreage of open space in the Skyline Ridge area of the park, which may lead to a perceived increase in use of the nearby areas of the park. The area currently accessible via all of the existing encroaching trails is estimated at approximately ten (10) acres, or just over 1 percent of the total area of the park. Although the existing trail encroachments are located on the private quarry property and not park property, users of the proposed relocated trail would experience a change in the trail configuration in the Skyline Ridge area, including loss of an area on Syar Napa Quarry property that is identified as a Vista in the Skyline Wilderness Park Master Plan. There would be an approximately 1 percent reduction in total area available following Project implementation.

Under the proposed Project, the existing trails currently encroaching on quarry property would be relocated within the Skyline Wilderness Park property. The trail relocation would provide access to areas of the park not currently accessible by an established trail system. The portion of the park made more accessible as a result of trail relocation would approximately equal the area of the quarry currently encroached upon by existing trails. Thus, a net loss of available area accessed by established trail systems is not expected in the Skyline Wilderness Park as a result of Project implementation. There may also be a slight improvement in user enjoyment in the area of Skyline Ridge, because the relocated trail would allow greater separation from the quarrying operations while continuing to allow access and enjoyment of the Skyline Ridge area. The proposed Project would also establish a 50 foot oak woodland and grassland buffer area on the quarry side of the property boundary. The buffer would help to maintain users' experience of open space in the Skyline Ridge area as future quarrying operations approach the park boundary.

Activities involved with relocating a portion of the Skyline Trail from Syar Napa Quarry onto park property also have the potential to cause adverse impacts, which may include disturbance of plants, wildlife, or habitat, or disturbance of cultural resources.

Mitigation Measures 4.4-6 and 4.5-3: Reference Mitigation Measure 4.4-6 (Biological Resources) for avoidance of impacts to biological resources in trail relocation areas. Reference Mitigation Measure 4.5-3 (Cultural Resources) for mitigation to avoid any potentially significant impacts to archaeological and historical resources within Skyline Wilderness Park.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Under the Syar Modified Project Plus Area C, the trail would not be relocated, this potential recreational impact would not occur and therefore Mitigation Measures 4.4-6 and 4.5-3 are not needed.

I) TRANSPORTATION

1) Impact 4.15-1: The proposed Project would increase traffic volumes on roadways and at intersections in the area. The Traffic Impact Study estimated that the proposed Project would add 510 total daily truck trips based on 2 million tons of aggregate products sold per year (see Appendix G of the DEIR). Of this total, approximately 51 additional truck trips would be generated during the AM peak hour and three truck trips would be generated during the PM peak hour (see DEIR Table 4.15-12). The 2008 Syar Project would add an estimated 51 peak hour truck trips (approximately 29 exiting and 22 entering) to unsignalized Intersection No. 3 during the AM peak hour. This is a significant impact. The 2008 Syar Project would add fewer than 50 peak hour trips to all other study intersections, therefore based on the standards of significance, impacts are considered less than significant at all other study intersections during the AM and PM peak hours.

Mitigation Measure 4.15-1: Transportation Demand Management Program. To reduce cumulative traffic impacts, Syar shall operate its sales activities to limit the number of new truck trips entering and exiting the quarry during the AM peak hour to no more than 50. A dedicated Syar staff coordinator shall monitor truck trips in accordance with this limit and report to the County annually regarding compliance. Additionally, it is recommended that permanent traffic count and classifiers be installed within the public right-of-way so that reported trip information can be verified.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Under the Syar Modified Project Plus Area C, production would be reduced by 700,000 tons per year resulting in AM peak hour truck trips being reduced from 51 to 16 which is below the standards of significance. Since the traffic impact would be less significant, Mitigation Measure 4.15-1 is not needed. (Appendix C to the FEIR at page 34.)

2) Impact 4.15-2: The proposed Project would increase traffic volumes on roadways and at intersections in the area under cumulative conditions. The Traffic Impact Study determined that all intersections at future (cumulative) conditions operate at LOS E or worse during the peak hours. The proposed Project would add 51 peak hour truck trips (approximately 29 exiting and 22 entering) to Intersection No. 3 during the AM peak hour. This is a significant impact. The Project adds fewer than 50 peak hour trips to all other study intersections during the AM or PM peak hours. The distribution of these trips is shown on Figure 3-1 of the traffic study (Appendix G) of the DEIR. Since the proposed Project would not increase traffic volumes at a signalized intersection operating at LOS F in the cumulative scenario by more than 50 vehicles per hour in the AM or PM peak hours, the proposed Project's contribution to cumulative traffic volumes at the study intersections are not considered cumulatively considerable. This is a less than significant impact.

Mitigation Measure 4.15-1: To reduce cumulative traffic impacts, Syar shall operate its sales activities to limit the number of new truck trips entering and exiting the quarry during the AM peak hour to no more than 50. A dedicated Syar staff coordinator shall monitor truck trips in

accordance with this limit and report to the County annually regarding compliance. Additionally, it is recommended that permanent traffic count and classifiers be installed within the public right-of-way so that reported trip information can be verified.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Under the Syar Modified Project Plus Area C, production would be reduced by 700,000 tons per year resulting in AM peak hour truck trips being reduced from 51 to 16 which is below the standards of significance. Since the traffic impact would be less significant, Mitigation Measure 4.15-1 is not needed. (Appendix C to the FEIR at page 34.)

J) GREENHOUSE GASES

1) Impact 4.17-1: The proposed Project would conflict with Napa County General Plan policies adopted for the purpose of reducing GHG emissions. This would be a potentially significant impact. An impact is considered significant if the proposed Project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Policy CON-65(b) of the Napa County General Plan seeks to reduce and offset GHG emissions and strives to maintain and enhance the County's current level of carbon sequestration functions by preserving and enhancing the values of Napa County's plant life as carbon sequestration systems. In addition, the CAP, if adopted, includes measure PL-1, which encourages the offset of emissions related to land use change. The Project would remove four acres of oak woodlands and .02 acre of California bay land cover thus removing a portion of the County's carbon sequestration system.

Because implementation of the proposed Project would have a potentially negative effect on the County's current level of carbon sequestration functions, the Project would conflict with Policy CON-65(b). This impact is considered potentially significant.

Mitigation Measures:

In addition to implementation of the mitigation measures regarding transportation, air quality, and related resource issues, Mitigation Measure 4.4-8 requires oak woodlands to be compensated at a 2:1 ratio, and Mitigation Measure 4.17-2 requires a Greenhouse Gas Reduction Plan (see below). Implementation of these mitigation measures would reduce Impact 4.17-1 to a less than significant level. Mitigation Measure 4.4-8 would require compensation for loss of oak woodland. Compensation would include a mix of preservation (either on or offsite), onsite replacement, and contribution to an in-lieu fee program. Implementation of this measure would enhance the values of Napa County's plant life as carbon sequestration systems to recycle greenhouse gases, and therefore would eliminate the Project's potential conflict with Policy CON-65(b).

Mitigation Measure 4.17-2 would monitor GHG emissions as the Project is implemented and identify measurable reduction strategies to reduce emissions when emissions exceed the established baseline (7,200 metric tons per year) and approach the threshold (1,100 metric tons per

year for land use emissions). Implementation of this measure would consider and implement methods to reduce GHG emissions in conformance with identified performance criteria, and therefore would eliminate the Project's potential conflict with Policy CON 65(e). The Syar Modified Project Plus Area C would be consistent with the Napa County General Plan, and Impact 4.17-1 therefore would be considered less than significant.

Finding: Pursuant to Public Resources Code Section 21081 (a) and CEQA Guidelines Section 15091 (a), the Commission hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to a **less than significant** level.

Rationale: Based on the Final EIR (October 2015) and the administrative record, this potential greenhouse gasses impact is mitigated by adoption of Mitigation Measure 4.17-2 found on page 4.17-2 of the DEIR as COA No. 11(AA) on Syar's SMP No. P08-0037-SMP. Furthermore, because the Syar Modified Project Plus Area C would result in 700,000 tons less annual production than the 2008 Syar Project, greenhouse gas emissions would be reduced substantially below the 2008 Syar Project emissions of 9,058 MT of CO2E in year 2020 and would avoid the significant and unavoidable impact associated with the 2008 Syar Project.

SECTION 7. Project Alternatives.

A) Legal Requirements.

Section 15126.6 (f) of the CEQA Guidelines requires that an EIR include a "reasonable range of alternatives to the project, or to the location of the project, which would avoid or substantially lessen any significant effects of the project." Public Resources Code section 21081(b)(3) provides that when approving a project for which an EIR has been prepared, a public agency may find that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

B) Range of Alternatives.

Chapter 5 of the DEIR (pages 5-1 through 5-20) describes the alternatives considered and compares their impacts to the 2008 Syar Project. The DEIR evaluated three alternatives: (1) the No Project (No Expansion) Alternative; (2) the Reduced Production Alternative; and (3) the Reduced Footprint/Conservation Alternative. (DEIR, pgs. 5-3 through 5.7) Additional alternatives were considered during the preliminary stages of the Project but ultimately rejected for further evaluation. (DEIR, pg. 5-7)

C) The No Project (No Expansion) Alternative.

Description: CEQA Guidelines Section 15126.6 (e)(1) states that a "no project" alternative shall be analyzed. The purpose of describing a "no project" alternative is to allow decision makers to compare the impacts of approving a proposed Project with the impacts of not approving the proposed Project. The "no project" alternative analysis is not the baseline for determining whether

the environmental impacts of a proposed Project may be significant, unless the analysis is identical to the environmental setting analysis, which does establish that baseline.

The No Project Alternative is discussed on pages 5-3 through 5-4 of the DEIR. Under this alternative, the Project Site would continue to operate as a surface mining operation under its current entitlements. Approximately 497 acres would continue to be mined and aggregate processing would continue. Annual production could remain at an average of approximately 810,363 tons per year but would not be limited and therefore, increased production could occur. After mining of the mineral resources had been exhausted, reclamation would commence on the entirety of the site per the existing Mining and Reclamation Plan. Current measures implemented to reduce environmental impacts such as watering the unpaved roads to control fugitive dust, would continue to be implemented. No changes to the existing facilities or the authorized mining footprint would occur; and operations would continue as they are currently. The No Project Alternative would not achieve the objectives of SMP No. P08-00337-SMP, including providing a long term local, reliable, affordable, and consistent source of aggregate and aggregate-related materials to customers in the Napa region due to the limited volume of high quality aggregate located within the current analyzed mining footprint.

Through continued aggregate mining and processing under current entitlements, approximately 114 acres of oak woodland, grassland, and chamise that have not been disturbed by current mining activities could be mined based on the current entitlements. Most of this undisturbed acreage occurs in isolated patches within the larger 497 acre quarry, except for an approximate 30 acre area along the eastern property line adjacent to the Pasini Parcel. In addition, deeper mining could occur below the regional groundwater table. Effects of mining under current conditions could remain the same with on-going air pollutant emissions, noise, disturbances to biological resources, storm water runoff, traffic, and greenhouse gas emissions. Mining would continue to comply with state and federal permitting requirements that influence mining activities, such as ongoing air permits issued though the Bay Area Air Quality Management District for stationary equipment and ongoing implementation of the Storm Water Pollution Prevention Plan (SWPPP) that would address potential water quality issues over time.

Under the No Project Alternative the following impacts would be reduced as compared to the proposed Project:

- *Aesthetics*: Existing views of the quarry and the existing visual character of the area would continue to change over time as mining continued under the existing entitlements. However, mining would not expand beyond present boundaries (in particular within the Pasini Parcel and adjacent to the northwest portion of Skyline Wilderness Park (SWP)).

- *Air Quality*: Air pollutant emissions associated with existing mining and processing activities would continue under the No Project Alternative as identified for the existing physical conditions. Increases in pollutant emissions resulting from the proposed Project would not occur.

- *Biological Resources*: The direct and indirect impacts to approximately 130 acres of oak woodlands under the proposed Project (a potentially significant impact) would be avoided, eliminating the need for mitigation measures identified in Chapter 4.0. As noted above, there are

approximately 114 acres of undisturbed areas within the current mining area that could still be affected with continued mining under the No Project alternative.

- *Cultural Resources*: With the No Project Alternative, approximately 350 feet of rock wall located on APN 046-390-003 at the northern end of the Snake Pit could be removed in the course of mining activities, and other unidentified cultural resources could be encountered. Other areas of the site, identified as part of the Project, would remain un-mined, avoiding impacts associated with rock wall removal, and unidentified cultural resources, eliminating the need for mitigation for those resources.

- *Greenhouse Gases*: Mining, processing, and transport would remain the same as existing conditions while the quarry is mined under current entitlements. Therefore, GHG emissions would remain largely the same. The projected 2008 Syar Project annual emissions of 10,155 MT CO2e (a significant impact) would not occur.

- *Land Use*: Less than significant land use impacts of the proposed Project would be avoided under the No Project Alternative. However the No Project Alternative may not be consistent with County General Plan land use policies and goals, since it would not provide for a long term local source of aggregate products. Therefore, the No Project Alternative could conflict with adopted land use policies.

- *Noise*: Noise effects of the No Project Alternative would remain the same as existing conditions. In addition, mining would not extend closer to sensitive receptors, as it would under the Project.

- *Traffic*: Transport would remain the same as existing conditions; therefore, no impacts to traffic would occur under existing entitlements.

Under the No Project Alternative, impacts to air quality, greenhouse gas emissions, and traffic congestion could increase after operation of the quarry has ceased under current entitlements because the demand for local aggregate would continue. Without the Syar Quarry, local construction projects would need to find an alternative source of aggregate products. The quarry primarily serves several cities in the immediate area, such as: Napa, American Canyon, Yountville, St. Helena, Calistoga, and Vallejo. These service areas are between one and 26 miles from the Syar Quarry. Depending on the location of a particular construction projects and its aggregate product need, the next closest source of supply could be a quarry in Solano County (Lake Herman Quarry) located approximately 15 miles to the southeast, or a quarry in Contra Costa County located approximately 40 miles to the southeast. This would potentially increase the distance between quarry and service areas from one to 26 miles, to a range of 16 to 66 miles. The No Project Alternative could ultimately increase traffic congestion in another area and increase vehicle miles traveled, and therefore potentially increase air pollutant and GHG emissions, as aggregate resources are depleted and customers are forced to travel greater distances.

Finding: Pursuant to Public Resources Code Section 21081 (b)(3) and CEQA Guidelines Section 15091 (a), the Commission finds that the No Project Alternative is less desirable than the Syar Modified Project Plus Area C and infeasible because of specific economic, legal, social, technological, or other considerations, and is rejected for the following reasons:

1) Under the No Project Alternative, the existing mining permit has no term or expiration date, and no production level limits. The Syar Modified Project Plus Area C has a 35 year term and limits the production level to 1.3 million tons per year. (See Syar PowerPoint Presentations to Planning Commission from Thomas Adams, Esq. on August 12, 2015 and October 21, 2015, Planning Commission Agenda Letters from Donald Barrella dated August 12, 2015 and October 21, 2015, and letter from Syar Vice President John Perry to Don Barrella dated March 17, 2015, all of which are incorporated here by reference.)

2) Under the No Project Alternative mining can occur below groundwater elevations thereby creating greater hydrological impacts on the groundwater basin. The Syar Modified Project Plus Area C prohibits mining below groundwater elevations and places a cap of 140.6 acre-feet per year on the amount of groundwater than can be extracted. (See Syar's PowerPoint Presentations to the Planning Commission from Thomas Adams, Esq. on August 12, 2015 and October 21, 2015 incorporated here by reference.)

3) Under the No Project Alternative, no mining on the eastern portion of the quarry, which has the largest amount of high quality basalt with the least amount of overburden, would occur. The State of California Department of Conservation has found that the average demand for the North Bay Region, which includes Napa County, is 8.9 tons of aggregate per person per year to maintain its current infrastructure and planned growth. According to a 2013 report prepared by the State Department of Conservation, currently permitted reserves of all construction aggregate are projected to last only through 2023. The Napa Syar Quarry is running out of high quality aggregate required to maintain Napa County's roads, infrastructure and economy. Without this local source of aggregate materials, each local construction or development project, including critical infrastructure improvement projects, could face increased costs from the need to import materials. The importation of aggregate from sources outside of Napa County to fulfill future demands would also result in increased truck trips and concomitant increases in air pollution and greenhouse gas emissions. Having a local source in Napa County would reduce the risk of interruptions in supply, reduce long haul heavy truck trips and the potential for increased accidents, reduce air emissions and GHG emissions, and reduce deterioration of County roads. (See Letter from Syar Assistant General Counsel Michael Corrigan dated December 10, 2014, to Deputy County Counsel Laura J. Anderson incorporated here by reference; Syar's PowerPoint Presentations to the Planning Commission from Thomas Adams, Esq. on August 12, 2015 and October 21, 2015; and the California Geologic Survey's Special Report 205 "Update of Mineral Land Classification: Aggregate Materials in the North San Francisco Bay Production-Consumption Region, Sonoma, Napa, Marin and Southwestern Solano Counties (2013)." All of these documents are incorporated here by reference.)

4) The importation of aggregate from sources outside of the County to meet the needs of Napa County would not satisfy one of Syar's primary project objectives of providing a local, reliable, affordable and consistent source of aggregate and aggregate related materials to customers in the Napa region and its secondary project objective of increasing production of high quality aggregate and aggregate products. (See DEIR, pp. 3-2)

5) Under the No Project Alternative, Syar would not increase its level of employment. The Syar Modified Project Plus Area C will allow Syar to continue to maintain a significant level of employment, currently 55 employees at a total annual payroll of $3,439,000 and to expand its work

force by an additional 20 employees. Employment and payroll would increase with additional production at the quarry. The Syar Modified Project Plus Area C will create a direct economic benefit to the County by increasing the number of living wage jobs, and indirectly in creating and preserving employment in the County in construction and related industries by ensuring a continuing supply of local aggregate materials. (See Letter from Syar Assistant General Counsel Michael Corrigan dated December 10, 2014, to Deputy County Counsel Laura J. Anderson and testimony of Jim Riley, Bob Schwab, Ken Miller, Dan Kruger and others to the Planning Commission on August 12, 2015, and incorporated here by reference.)

6) Under the No Project Alternative, Syar's existing mining permit does not allow recycling of asphalt materials or the use of Reclaimed Asphalt Pavement (RAP) handling equipment and therefore Syar imports grinding and other materials for use in aggregate products. The Syar Modified Project Plus Area C would result in a decrease of aggregate mined on site by up to 60,000 tons per year of virgin aggregate which would be replaced with recycled asphalt. (See DEIR, pp, 3-6.)

D) <u>The Reduced Production Alternative.</u>

<u>Description:</u> The Reduced Production Alternative is discussed on pages 5-5 through 5-6 of the DEIR and is considered the Environmentally Superior Alternative. Under the Reduced Production Alternative, development of Project features and the project footprint would be the same as the 2008 Syar Project. However, overall annual average production would be limited to approximately 1.3 million tons per year, a number designed to reduce impacts associated with air pollutants, greenhouse gas emissions and traffic.

- *Aesthetics, Biological Resources, Cultural Resources & Land Use*: Less than significant and potentially significant impacts of the proposed Project requiring mitigation would be the same under this alternative to the extent those impacts are related to the use of land, or existing views, natural resources, and cultural resources. This is because the footprint of the Reduced Production Alternative would be the same as the proposed Project. The reduced annual production may mean that some of these impacts occur later in time, but they would still be reasonably foreseeable impacts, and related mitigation would still apply.

- *Air Quality*: The reduction in annual production to approximately 1.3 million tons per year would roughly correlate to a 58 percent reduction in the proposed production (i.e. from a proposed Project increase of 1.2 million tons per year above existing conditions, to a proposed increase of 0.5 million tons per year above existing conditions). This reduced production would also reduce the emissions of criteria pollutants, toxic air contaminants, and dust associated with production, and would reduce the levels of mitigation required to avoid significant impacts. For example, if emission reductions were roughly proportional to the reductions in production, annual emissions of NOx would be approximately 34 tons per year, closer to the significance threshold of ten (10) tons per year.

- *Greenhouse Gas Emissions*: The Reduced Production Alternative would result in fewer miles traveled on and offsite, and less use of processing equipment such that GHG reductions would be reduced substantially below the projected Project emissions of 9,058 MT of CO2e in 2020 (see Table 4.17-2). Emission reductions with the Reduced Production Alternative would not

eliminate the need for mitigation proposed in association with the Project, but would increase the likelihood that mitigation would be effective, avoiding the significant and unavoidable impact associated with the Project.

- *Hydrology and Water Quality*: With reduced production, this alternative would use less water than the proposed Project; however, increases in water use over existing conditions would still occur. Water use for dust control on haul roads would increase somewhat due to potential increases in distances between mining and processing areas as the footprint expands, and water use necessary to process aggregate materials would increase as annual production increases. Potentially significant impacts identified for the Project would still occur, requiring mitigation to limit groundwater extraction, limit the depth of excavation, and address other potential hydrologic issues (see Mitigation Measures 4.8-1 through 4.8- 13.).

- *Traffic*: Daily truck trips associated with the proposed Project would be reduced under this alternative, due to the reduced production levels. Traffic increases would still occur when compared to existing conditions, but would remain below the threshold of significance, avoiding the need for mitigation (Mitigation Measure 4.15-1 would not be needed).

Finding: The Syar Modified Project Plus Area C incorporates and captures all of the Project features that are contained in the Reduced Project Alternative with some operational changes and additional tree plantings plus an additional four acre buffer area to protect the Pasini Pond which can be viewed from Skyline Wilderness Park in Area C. Overall, the Reduced Production Alternative (which is incorporated into the Syar Modified Project Plus Area C) is expected to have less impacts than the 2008 Syar Project due to the reduced production, smaller footprint, and would be perceived as similar by those visiting the adjacent park or the general vicinity. As described above, the Reduced Production Alternative, which is incorporated into the Syar Modified Project Plus Area C, would mean fewer GHG emissions.

E) The Reduced Footprint/Conservation Alternative.

Description: This Alternative is discussed on pages 5-6 and 5-7 of the DEIR. Under the Reduced Footprint/Conservation Alternative less mining acreage would be developed than is proposed under the 2008 Syar Project, while proposed production would remain the same (i.e. up to two million tons per year). The objective of the Reduced Footprint/Conservation Alternative would be to further reduce "footprint" impacts beyond the mitigated Project, conserving and maintaining more environmental characteristics of the site. Impacts that derive from the amount of production (i.e. air emissions, noise, traffic, greenhouse gases, water use) would remain the same as with the 2008 Syar Project, but the less than significant and potentially significant impacts related to visual changes, biological resources, cultural resources, and land use change would be reduced.

- *Aesthetics, Biological Resources, Cultural Resources & Land Use*: While the Project would not have significant impacts related to aesthetics, it would result in visual changes, as topographic and vegetative features adjacent to SWP are removed, reducing buffering between some of the more remote areas of SWP and mining activities. These changes would not occur under the Reduced Footprint/Conservation Alternative, and the knoll and associated vegetation on the northern portions of the Pasini Parcel would remain, shielding mining activities from portions of the park.

In addition, less than significant impacts to rock walls and potentially significant impacts to (unidentified) cultural resources would be reduced. Regarding rock walls, the rock wall that runs in a north-south direction located adjacent to the eastern property line in proximity of the State Blue Pit and the Skyline Trail, would remain in place, forming the foreground of views from the Skyline Trail. Mitigation would continue to address unidentified, subsurface cultural resources, although the areas of site disturbance would be reduced.

The Reduced Footprint/Conservation Alternative would preserve approximately 25 acres of oak woodland on the northern portion of the Pasini Parcel and increase Exclusion Areas in the following areas:

- Increase the buffer (or Exclusion Area) at the interface between SWP and the quarry in the vicinity of the State Blue Pit (i.e. along the eastern property line of APN 046- 370-012) to preserve that portion of the rock wall and provide it with a ten (10) foot buffer from adjacent mining activities. This Exclusion Area increase would remove approximately 1.5 acres from the Project and retain approximately 0.75 acre of oak woodland.

- Increase the Exclusion Area to remove the knoll located within the northern portion of the Pasini Parcel (APN 046-390-002) from the mining and reclamation area. The modified Exclusion Area would extend out to approximately the 800 foot elevation line so that mining in this area is at or below elevations within SWP. As noted above, this Exclusion Area increase would remove approximately 30 acres from the Project and retain approximately 25 acres of oak woodland.

- Increase the Exclusion Area in the southeast corner of the Project area (i.e. along the property lines in the southeast corner of the Pasini Parcel – APN 046-390-002) to retain the drainage channel and associated oak woodland supplying the Pasini Pond. This Exclusion Area increase would remove approximately 3.5 acres from the Project and retain approximately two acres of oak woodland.

Overall the Reduced Footprint/Conservation Alternative would remove approximately 35 acres from the Project, and retain approximately 28 acres of oak woodland, reducing the acreages proposed for avoidance and preservation in the biological resources mitigation measures (i.e. Mitigation Measure 4.4-9).

- *Air Quality, Traffic, Greenhouse Gases and other impacts*: Air pollutant and GHG emissions associated with the Reduced Footprint/Conservation Alternative would be essentially the same as with the proposed Project, since annual production activity would be the same. (The only minor difference would result from retention of vegetation that contributes to carbon sequestration.) Mitigation measures developed to reduce emissions from the Project would apply to this alternative, and would effectively moderate the pace of mining and operational increases over time. Traffic impacts and mitigation would also be the same as with the proposed Project.

Overall, this alternative would require less mitigation for "footprint" related impacts than the proposed Project, increasing the preservation of oak woodlands on site, and minimizing visual

changes. However this alternative would not noticeably reduce or eliminate the significant and unavoidable GHG emissions associated with the Project, and would not reduce other operational impacts of the Project (air, noise, traffic, water use), thus requiring the same mitigation regime as the proposed Project. This alternative also would not meet all of the objectives of the Project, and would reduce the operator's flexibility when it comes to determining areas of the site to mine.

Finding: Pursuant to Public Resources Code Section 21081 (b)(3) and CEQA Guidelines Section 15091 (a), the Commission finds that the Reduced Footprint/Conservation Alternative is less desirable than the Syar Modified Project Plus Area C and is infeasible because of specific economic, legal, social, technological, or other considerations, and is rejected for the following reasons:

1) The Reduced Footprint/Conservation Alternative would reduce the Project footprint by approximately 35 acres and limit access to high quality basalt material located on both State Blue Pit and the Pasini parcel. The high quality basalt material is primarily found on the eastern portion of the quarry. (See DEIR Figure 4.8-7 Geologic Map of Napa Quarry Area and Letter to County of Napa from Thomas Adams, Esq. dated December 29, 2014 incorporated here by reference.)

2) Reducing the footprint of the expansion area limits the feasibility of mining in the remaining areas by limiting not only the surface acreage but also the volume due to elevation differentiation. This reduction of volume is further reduced due to the unknown slope stability constraints in the area. At a minimum slopes must be maintained with 25 foot benches cut every 50 feet with some slopes requiring slopes graded at a 2 to 1 slope based on stability of the geology encountered. This significantly limits the ability to access tight spaces or irregularly shaped mining areas. (See DEIR pp. 3-7 to 3-9 Project Description and DEIR Appendix H, Napa Quarry Surface Mining and Reclamation Plan, Figure 14a, Final Grading Plan; See also Letter to County of Napa from Thomas Adams, Esq. dated December 29, 2014, incorporated here by reference.)

3) The geology within the Sonoma Volcanics is variable and therefore requires flexibility in mining to follow the high quality veins of basalt. Not every acre is equal when it comes to rock quality and economic feasibility. A reduction in acreage does not translate into a 1:1 change in volume because mining is done in a triangular manner. (See Letter to County of Napa from Thomas Adams, Esq. dated December 29, 2014; and testimony of Syar General Counsel Michael Corrigan to Planning Commission on October 21, 2105 incorporated here by reference.)

4) Out of all the proposed expansion areas, the Pasini area is particularly crucial for the future of the Napa Quarry. Syar estimates that the Pasini area contains close to two-thirds of the volume of aggregate available in the expansion areas. Geologic testing performed by Syar and its predecessors, including drilled test holes, seismic tests, and field observations indicate that the Pasini area has the largest amount of high quality basalt with the least amount of overburden and lower quality, non-basaltic materials. The remainder of the expansion areas have limited volumes of basalt intermixed with lower quality, non-basaltic materials and contain higher proportions of overburden, and would not provide an economical and sustainable supply of high quality basalt. The high quality basaltic aggregate is necessary for asphalt paving materials, Portland cement concrete, and other high strength aggregate products with strict quality specifications. These are the materials required by Napa for crucial road, infrastructure, and construction projects. (See Letter dated August 7, 2015, to Planning Commission from James Syar and testimony of Thomas Adams,

Esq., to Planning Commission on August 12, 2015, and October 21, 2015, incorporated here by reference.)

5) The importation of aggregate from sources outside of the County to meet the needs of Napa County beyond the year 2023 would not satisfy one of Syar's primary project objectives of providing a local, reliable, affordable and consistent source of aggregate and aggregate related materials to customers in the Napa region and its secondary project objective of increasing production of high quality aggregate and aggregate products. (See DEIR, pp. 3-2)

F) The Environmentally Superior Alternative.

Description: The DEIR discusses the Environmentally Superior Alternative at page 6-2. The DEIR identifies the No Project Alternative as the Environmentally Superior Alternative because it would not have any new impacts beyond current permitted activity. Under CEQA, if the No Project Alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative among the other alternatives. (CEQA Guidelines Section 15126.6 (e)(2).) While the No Project Alternative would be the environmentally superior alternative in the technical sense in that no new impacts would occur when compared to the environmental baseline, the No Project Alternative would also fail to meet the any of the project objectives. Overall, the Reduced Project Alternative which is incorporated into the Syar Modified Project Plus Area C would be the environmentally superior alternative because it would reduce the significant and unavoidable GHG impact to a less than significant level with mitigation measures and have less impacts on biological resources, cultural resources, air quality and traffic over the 2008 Syar Project.

Finding: The Syar Modified Project Plus Area C incorporates and captures all of the Project features that are contained in the Reduced Project Alternative with some operational changes and additional tree plantings plus an additional four acre buffer area to protect the Pasini Pond which can be viewed from Skyline Wilderness Park in Area C. Overall, the Reduced Production Alternative (which is incorporated into the Syar Modified Project Plus Area C) is expected to have less impacts than the 2008 Syar Project due to the smaller increase in production, smaller footprint, and would be perceived as similar by those visiting the adjacent park or the general vicinity. As described above, the Reduced Production Alternative (which is incorporated into the Syar Modified Project Plus Area C) would mean fewer GHG emissions. As such, the Syar Modified Project Plus Area C is the environmentally superior Project which the Commission desires to approve.

SECTION 8. Findings for Approval of Surface Mining Permit (Napa County Code Chapter 16.12).

Pursuant to Napa County Code Section 16.12.360, the Commission must make the following findings before issuing a surface mining permit:

A) The application is complete and the plans and reports submitted therewith adequately describe the proposed operation.

Analysis: By way of the CEQA process in conjunction with the duly noticed public hearing associated with the SMP the planning director has certified that the application is

complete, in that it contains all necessary information and data required by Public Resources Code Sections 2772 and NCC Chapter 16.12, and to complete required environmental assessment pursuant to CEQA (SCH No. 2009-9062045). Additionally, the record for the SMP contains the names and addresses of all property owners listed on the most recent update of the equalized assessment roll as owning property situated within three thousand feet of the mining property, that have been duly notified of all application processing events associated with the Project.

B) The Project is supported by adequate environmental documents that comply with the provisions of CEQA.

Analysis: On October 21, 2015, the Planning Commission adopted Resolution No. 2015-02 certifying that the EIR prepared for Permit No. SMP P08-00337-SMP complied with CEQA, the State CEQA Guidelines, and Napa County's Local Procedures for Implementing CEQA.

C) The mining operation to be conducted and subsequent reclamation of the site provide for specific changes or alterations which avoid or mitigate the significant environmental effects of the Project as identified in the recommended negative declaration or final EIR, or if an EIR was prepared that specifically identified economic, social or other considerations make infeasible the mitigation measures or Project alternatives identified therein.

Analysis: The Syar Napa Quarry Mining and Reclamation Plan through its Annual Mining Plan with incorporation of the Syar Modified Project Plus Area C and Mitigation Measures identified in the Final EIR (October 2015) results in mining operations and reclamation activities that provide for site and condition specific changes and alterations that mitigate significant environmental effect. Particularly, the Syar Modified Project Plus Area C in conjunction with applicable Mitigation Measures would reduce the Significant Unavoidable Greenhouse Gas Emissions Impacts associated with the proposed Project to a less than significant level.

Furthermore implementation of the Syar Modified Project Plus Area C would: i) reduce the anticipated water demand of the proposed Project by approximately 30 acre-feet per year (from 50 acre-feet per year to approximately 20 acre-feet per year) and the implementation of mitigation would result in no net increase in water use above historic use; ii) reduce anticipated daily trips to the site by approximately 300 trips per day (from 500 to 200) and AM peak hour trips by approximately 30 trips (from approximately 51 to less than 20 trips) per day, thereby reducing potentially significant Project specific and cumulative transportation impacts associated with the proposed Project; and iii) further reduce air quality impacts associated with the Project.

D) The application as approved demonstrates that the proposed operation will be conducted in compliance with the provisions of the Surface Mining and Reclamation Act, State Board Reclamation Regulations including, but not limited to, Sections 2502, 3503 and 3700-3713 of Title 14 of the California Code of Regulations, and Chapter 16.12.

Analysis: The proposed Mining and Reclamation Plan includes all necessary components and information per state and local regulations and guidelines. The Mining and Reclamation Plan has been reviewed by the California Department of Conservation (August 2012), no components of the plan have been identified to be inconsistent with the Surface Mining and Reclamation Act (SMARA) or State Reclamation Regulations. The certified complete application pursuant to

NCC Section 16.12.310 demonstrates that the application is consistent with NCC Chapter 16.12. Ongoing annual inspections of the operation pursuant to Surface Mining and Reclamation Act and NCC would ensure compliance with applicable regulations.

Implementation of the Syar Modified Project Plus Area C, and incorporation of Mitigation Measures identified in the Final EIR (October 2015) would further result in compliance of the application with NCC Chapter 16.12 and applicable General Plan goals and policies (See also General Plan Analysis for the Reduced Production Alternative attached as Exhibit "A" and incorporated here by reference.)

E) Any comments received from the Department of Conservation (DOC) pursuant to Section 16.12.350(C) have been reviewed and considered by the Commission.

Analysis: The Mining and Reclamation Plan has been reviewed by the DOC, and their comments have been incorporated into the proposed Mining and Reclamation Plan. The DOC has not identified any components of the Plan that are inconsistent with SMARA and DOC recommendations have been incorporated into the Plan (DOC comment letter dated August 31, 2012 and Syar Response letter dated September 20, 2012). Furthermore, mitigation measures will be incorporated into the Plan as required by the DOC. Therefore, consideration of the Plan results in consideration of DOC comments by the Commission.

F) The mining operation and reclamation plans, as approved, are consistent with the objectives, policies and general land uses and programs set forth in the general plan, any specific plan applicable to the area of operations, and the zoning of the site.

Analysis: The Project Site has the following zoning designations: Agricultural Watershed (AW), Agricultural Watershed Airport Compatibility (AW:AC), and Industrial (I). Pursuant to NCC Section 16.12.040 the surface mining provisions of NCC Chapter 16.12 (Surface Mining and Reclamation) apply to all unincorporated land within the County, therefore the Project is consistent with AW, AW:AC, and I zoning district regulations, which allow for aggregate mining and processing activities with a surface mining permit (SMP).

The Project Site, and portions thereof, are also mapped or classified by, i) the State Geologist as Resource Sector H and Sector MM, Mineral Resource Zone MRZ-2 (a) which indicates that significant deposits are present, and ii) by the County Land Use Map as a Mineral Resource (MR) area which is applied to known mineral resources based on mapping prepared by the State of California. These designations recognize the presence of mineral resources of the quarry while maintaining the validity of underlying land use designations. This site constitutes the only identified Napa County MR area in the General Plan. The Syar Modified Project Plus Area C complies with these overlay designations/classifications.

The mining operation and mining and reclamation plan are consistent with applicable Napa County General Plan policies as identified in the General Plan Consistency Analysis for the Reduced Production Alternative. (See Exhibit "A" attached and incorporated here by reference.)

G) The reclamation to be undertaken will restore the mined lands to a usable condition which is readily adaptable for alternative land uses which are consistent with the general plan and any specific plan applicable to the area of operations.

Analysis: The end use specified for the quarry within the Mining and Reclamation Plan is open space. This end use is consistent with portion of the quarry property that has an Agricultural, Watershed and Open Space general plan land use designation. For portions of the quarry that are designated Industrial, the open space end use specification would not ultimately preclude development of industrial uses therein; however, depending on reclamation status of the quarry at the time industrial development is considered (or prior to closure of the quarry) the reclamation plan may need to be amended to accommodate industrial uses. The County recognizes the open space benefits provided by agricultural uses. Therefore the open space end use would be consistent with the Quarry's zoning designations.

The quarry is covered by both the Agricultural Watershed (AW) and Industrial (I) zoning districts. The open space end use specification is considered to be consistent with the intent of these districts as they both allow agricultural uses, which as described above, are valued for open space quality. Furthermore the open space end use would not ultimately preclude development of agricultural or industrial uses; however, depending on reclamation status of the quarry at the time agricultural or industrial development is considered (i.e. prior to closure of the quarry) the reclamation plan may need to be amended to accommodate such uses.

H) Appropriate conditions have been imposed to ensure that the site, during and after reclamation, will not cause a public hazard, will not impair the character of the surrounding neighborhood, nor be detrimental to the public health, safety or general welfare, considering the degree and type of present and probable future exposure of the public to the site.

Analysis: The Syar Modified Project Plus Area C, with implementation of the Mitigation Measures identified in the Final EIR (October 2015) would reduce present and probable future detrimental public health effects of the proposed Project during mining and reclamation activities, by substantially reducing adverse air quality and associated health risk effects associated with the operation, as well as reduce the Project's water demand, and Project specific and cumulative transportation impacts to less than significant levels. Furthermore, implementation of the Syar Modified Project Plus Area C would reduce the significant unavoidable Greenhouse Gas impact proposed to a less than significant level.

I) The proposed timing for reclamation requires reclamation to be fully completed as soon as it is feasible, considering the particular circumstances of the site to be reclaimed, and provides for appropriate incremental reclamation at the earliest feasible time, considering the particular circumstances of the site to be reclaimed.

Analysis: The proposed Mining and Reclamation Plan would implement interim and final reclamation incrementally throughout the quarry as mining progresses and is completed in given mining areas. Furthermore, the Adaptive Management and Mining Strategy and associated Annual Mining Plan specified within the Mining and Reclamation Plan, which limits active mining areas to 25 percent would foster initiation and implementation of reclamation activities at the earliest opportunity feasible.

J) The estimated cost of the reclamation reasonably approximates the probable costs of performing the reclamation work proposed in the reclamation plan approved, the

operator/permittee will be financially able to complete the reclamation, and the security to be posted will be sufficient to ensure completion of the required reclamation.

Analysis: Currently the operation has a financial assurance mechanism in place in the amount of $2,705,638.21 (Surety Bond 57BSBCQ7705) to perform reclamation work associated with current mining and reclamation activities. Because the proposed Mining and Reclamation Plan employs similar reclamation techniques to the current reclamation plan, the estimated cost of reclamation and associated financial assurance reasonably estimate the cost of reclamation based on current conditions. The Surety Bond demonstrates that the operator/permittee is able to sufficiently complete quarry reclamation.

Furthermore, the annual update of the reclamation financial assurance cost estimate and of the financial assurance mechanism required pursuant to SMARA and NCC Section 16.12.415 will ensure that the estimated cost of reclamation and associated financial assurance is continually adequate to ensure that site can be reclaimed in accordance with the Mining and Reclamation Plan and that the operator/permittee is financially capable of carrying out required reclamation.

K) The applicant has a public liability policy in force for both the mining and reclamation operation which provides for personal injury and property protection in an amount adequate to compensate all persons injured or for property damaged as a result of such operations.

Analysis: Syar has a public liability policy (i.e. commercial general liability policy) through Insurance Brokers of California Inc., which is in full force and effect for the mining operation. The policy has a minimum coverage in the amount of $2,000,000 for each occurrence and twice the amount ($4 million) for the general aggregate, and an umbrella coverage of $5 million. Generally the County considers a minimum limit of $2 million as adequate.

SECTION 9. Recirculation is Not Required.

In the course of responding to comments received during the public review and comment period on the Draft EIR, certain portions of the Draft EIR have been modified and some new information amplifying and clarifying information in the Draft EIR has been added to the Final EIR.

Adoption and implementation of the Syar Modified Project Plus Area C will not result in any significant environmental impacts not identified in the Draft EIR or result in a substantial increase in the severity of a significant environmental impact identified in the Draft EIR. The Syar Modified Project Plus Area C has impacts that would be equal to or less than what was analyzed and considered in the DEIR under the Reduced Production Alternative. There are no substantial changes in the proposed Project or the circumstances under which the Project is being undertaken that necessitate revisions of the Draft EIR, nor has significant new information become available. "Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR." (14 Cal Code Regs. Section 15088.5(b).) The Planning Commission hereby determines, based on the standards provided in Public Resources Code Section 21092.1 and Section 15088.5 of the CEQA Guidelines, that recirculation of the Draft EIR is not required prior to approval of the Syar Modified Project Plus Area C.

SECTION 10. General Plan Consistency.

The Planning Commission hereby finds that implementation of the Syar Modified Project Plus Area C is consistent with the Napa County General Plan and concurs with the analysis, findings and conclusions set forth in the "General Plan Consistency Analysis for the Reduced Production Alternative" attached as Exhibit "A" and incorporated here by reference.

SECTION 11. Record of Proceedings.

A) The Record of Proceedings (record) upon which the Commission bases these Findings and its actions and determinations regarding the proposed Project includes, but is not limited to:

1) The NOP, comments received on the NOP and all other public notices issued by the County in relation to the Syar Project (e.g., Notice of Availability);

2) The Draft EIR, the Final EIR and the appendices and technical reports cited in and/or relied upon in preparing the Draft and Final EIRs;

3) The Final EIR, including comment letters, oral testimony and technical materials cited in the document;

4) All non-draft and/or non-confidential reports and memoranda prepared by the County and consultants related to the EIR, its analysis and findings;

5) All staff reports, County files and records and other documents, prepared for and/or submitted to the Planning Commission and/or the County relating to the Final EIR and/or the SMP No. P08-00337-SMP;

6) The evidence, facts, findings and other determinations set forth in this Resolution;

7) Minutes and transcripts of the discussions regarding the Syar Project SMP No. P08-00337-SMP and/or Project components at public hearings or scoping meetings held by the PBES Department and/or the Planning Commission;

8) The Napa County General Plan;

9) The Napa County Code;

10) All applications, designs, plans, studies, data and correspondence submitted by Syar in connection with the Final EIR and/or SMP No. P08-00337-SMP;

11) All documentary and oral evidence received at public hearings or submitted to the County during the comment periods relating to the Final EIR and the Syar Project SMP No. P08-00337-SMP;

12) All files, documents and records related to the SMP No. P08-00337-SMP; and

13) All other matters of common knowledge to the Commission including, but not limited to, County, state, and federal laws, policies, rules, regulations, reports, records and projections related to development within the County of Napa and its surrounding areas.

B) The Final EIR (October 2015) is on file with the PBES Department and, along with the related planning and other County records, minutes and files constituting the record of proceedings, are incorporated herein by this reference.

SECTION 12. Location and Custodian of Records.

The documents and other materials that constitute the record of proceedings on which the Commission's findings regarding the mitigation measures and alternatives are based are located at the office and in the custody of the Napa County PBES Department, at 1195 Third Street, Suite 210, Napa, California. The location and custodian of these documents is provided in compliance with Public Resources Code Section 21081.6(a)(2) and 14 Cal. Code of Regulations section 15091(e).

SECTION 13. Mitigation Monitoring and Reporting Program.

The Commission hereby adopts the Mitigation Monitoring and Reporting Program attached as Exhibit "B."

SECTION 14. Adoption of the Project and Related Actions.

The Commission hereby:

A) Adopts the findings of facts and rationales as set forth in this Resolution;

B) Adopts the Syar Modified Project Plus Area C shown as Figure 3f on Exhibit "C" attached and incorporated here by reference and rejects all of the other alternatives;

C) Approves Surface Mining Permit No. P08-00337-SMP subject to the attached Conditions of Approval attached as Exhibit "D" and incorporated here by reference.

SECTION 15. Filing Notice of Determination.

The Commission hereby directs the Director of the PBES Department to file a Notice of Determination regarding the Syar Modified Project Plus Area C Permit No. P08-00337-SMP within five business days of adoption of this Resolution.

SECTION 16. Effective Date.

This Resolution shall take effect immediately upon its adoption.

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The foregoing resolution was read, considered, and adopted at a regular meeting of the Napa County Planning Commission on the _____ day of November, 2015 by the following vote:

AYES: COMMISSIONERS _____

_____

NOES: COMMISSIONERS _____

ABSENT: COMMISSIONERS _____

_____

HEATHER PHILLIPS, Chair
Napa County Planning Commission

APPROVED AS TO FORM Office of County Counsel By: *Laura J. Anderson* County Counsel Date: November 10, 2015	APPROVED BY THE NAPA COUNTY PLANNING COMMISSION Date: Processed By: Clerk of the Commission	

Attachments:

- Exhibit "A" – General Plan Consistency Analysis
- Exhibit "B" – Mitigation Monitoring and Reporting Program
- Exhibit "C" – Syar Modified Project Plus Area C shown in Figure 3f
- Exhibit "D" – Conditions of Approval

A Tradition of Stewardship
A Commitment to Service

Planning, Building & Environmental Services

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

David Morrison
Director

To:	Chair Phillips and Members of the Planning Commission	From:	Donald Barrella Planner III
Date:	August 4 , 2015	Re:	Syar Napa Quarry Surface Mining Permit P08-00337 General Plan and Zoning Designation Consistency Analysis

I. PURPOSE:

The Syar Napa Quarry Site is located in unincorporated Napa County, approximately two miles southeast of downtown Napa. The site currently contains mining activities and associated operations, conducted by Syar Industries Inc. A review of the Reduced Production and Reduced Footprint (Hybrid) Alternative's (identified in the County's Alternative Analysis, July 2015) consistency with the Napa County General Plan is provided below. Prior to taking action on the Surface Mining Permit (SMP) to allow an expansion to the Syar Napa Quarry including an increase in production, the Commission must consider whether the Project is consistent with the Napa County General Plan. This memorandum provides a basis upon which the Commission could find consistency.

This memorandum also details the zoning designations covering the quarry including mineral resource designations and provides a discussion and analysis of zoning consistency.

III. GENERAL PLAN CONSISTENCY ANALYSIS:

This memorandum outlines the relevant goals and policies of the County's General Plan, and analyzes whether the Reduced Production and Reduced Footprint (Hybrid) Alternative is consistent with the General Plan. It also details the zoning designations covering the quarry including mineral resource designations and provides a discussion and analysis of zoning consistency as it relates to mineral resource production and conservation.

The parcels within the Syar holding have the following General Plan Designations: Parcels 045-360-005, 046-370-012, -013, -015, 046-390-002, -003, Agriculture, Watershed and Open Space (AWOS); Parcel 046-370-022 Industrial (I); Parcel 046-370-025 AWOS and I; Parcel 046-450-071 AWOS and Public-Institutional (PI). A majority of the surface mining activities, both existing and proposed, would occur in AWOS designated areas: the proposed expansion areas would occur exclusively within AWOS designated areas. Mining and associated operations would also continue to occur in areas that have already been disturbed by past and on-going operations in the following land use designations: AWOS where facilities such as the State Blue Pit, Snake Pit and the Aggregate Base

Plant (A/B Plant) are located; PI where the State Grey Pit is located; and, I where facilities such as the quarry office, Blue Rock processing plant, Asphalt plan, sand plant, quarry shop, weigh station/scale house, and surplus equipment storage are located.

A. **The Agricultural Preservation and Land Use Element**:

Within the Introduction section of the Agricultural Preservation and Land Use (AG/LU) Element of the General Plan it is stated that "The *County's long history of, and close attention to, agricultural preservation and land use planning makes this a critically important Element of this General Plan. In the pages of this Element, you will find the County's polices on a wide range of issues related to the use of land, the continued viability of agriculture, and coordination with other agencies. For additional policies regarding conservation of natural areas, open space and recreation use, see the Conservation and Recreation and Open Space Elements*." (Page AG/LU-3). See the discussion under these respective element sections below.

- **Policy AG/LU-9:** The County shall evaluate discretionary development projects, re-zonings, and public projects to determine their potential for impacts on farmlands mapped by the State Farmland Mapping and Monitoring Program, while recognizing that the state's farmland terminology and definitions are not always the most relevant to Napa County, and shall avoid converting farmland where feasible.

- **Policy AG/LU-51:** The following standards shall apply to lands designated as Industrial on the Land Use Map of this General Plan.

  Intent: To provide an environment exclusively for and conducive to the development and protection of a variety of industrial uses such as warehouses, manufacturing, wineries and food processing facilities that are industrial in character, and research and development. Administrative facilities, research institutions, limited office and commercial uses and related facilities which are ancillary to the primary industrial uses may also be accommodated.

- **Policy AG/LU-55:** The County shall ensure that the special features in each geographic area shown in this General Plan shall be retained or enhanced and shall consider these features in its review of any proposed development project.

- **Policy AG/LU-56:** The policies set forth for each geographic area are extensions or refinements of County-wide policy. The role of these local policies is to identify more specific land uses and local conditions within the general parameters established by the County-wide goals and policies.

- **Policy AG/LU-93:** The County supports the continued concentration of industrial uses in the South County area as an alternative to the conversion of agricultural land for industrial use elsewhere in the county.

Analysis: The holding and project area are not within any areas that have been mapped by the State as farmland: undisturbed areas within the holding have been mapped as Grazing Land by the

State (*Napa County Important Farmland 2012* Map, California Department of Conservation, Division of Land Resource Protection). Industrial activities associated with the quarry operations, including aggregate crushing and processing, and asphalt production is primarily located in the industrial designated portions of the property. Within the overall General Plan Land Use Map (General Plan Land Use Map, Figure AG/LU-3) and within the specified South County Industrial geographic area (General Plan page AG/LU-53), a majority of the holding and project area is designated a Mineral Resource Area. The proposed project and associated surface mining permit will retain this feature. Furthermore, the South County Industrial Areas (page AG/LU-54) represents the largest urbanized (non-agricultural) area in the unincorporated county and contains a verity of uses including Syar rock quarry operations. Consistent with Policy AG/LU55 and 56, one of the special features in the South County Industrial Area (i.e. the Mineral Resource area) would be enhanced through the project.

The Project would not displace agriculture or remove agricultural lands from agricultural use. The Project will be located in an area that is already been disturbed or experiences the effects of mining and related activities. The Project proposes continued operation of quarry and aggregate related operations including aggregate processing and asphalt production, which occurs on lands zoned Industrial, the intent of which allows for industrial uses. While the Project itself does not support agricultural land uses, is not anticipated that the Project will result in adverse effects to those parcels that currently or in the foreseeable future to support agriculture.

Conclusion: Consistent.

B. **The Circulation Element**:

- GOAL CIR-2: The County's transportation system shall provide for safe and efficient movement on well-maintained roads throughout the County, meeting the needs of Napa County residents, businesses, employees, visitors, special needs populations, and the elderly.

- Policy CIR-16: The County shall seek to maintain an adequate level of service on roads and at intersections as follows. The desired level of service shall be measured at peak hours on weekdays.
    - The County shall seek to maintain an arterial LOS D or better on all county roadways, except where maintaining this desired level of service would require the installation of more travel lanes than shown on the Circulation Map.
    - The County shall seek to maintain a LOS D or better at all signalized intersections, except where the level of service already exceeds this standard (i.e., LOS E or F) and where increased intersection capacity is not feasible within the existing right-of-way.
    - No single level of service standard is appropriate for unsignalized intersections, which shall be evaluated on a case-by case basis to determine if signal warrants are met.

- Policy CIR-19: Applicants proposing new discretionary development projects with the potential to significantly affect traffic operations shall be required to prepare a traffic analysis

prior to consideration of their project by the County and shall be required to mitigate project impacts and to pay their fair share of countywide cumulative traffic improvements based on their contribution to the need for these improvements.

- GOAL CIR-3: The County's transportation system shall encompass the use of private vehicles, local and regional transit, paratransit, walking, bicycling, air travel, rail, and water transport.
- Policy CIR-25: Preserve rail corridors and the navigable sections of the Napa River as regional transportation assets, encouraging and not precluding their future use for recreational travel as well as for the movement of passengers and goods.

Analysis: A traffic analysis has been prepared for the Project and associated Environmental Impact Report, in which the finding has been presented to the Commission for its consideration. The traffic levels associated with intersections studied in the traffic analysis are expected to continue to operate at the same level of service as they do under existing conditions, with implementation of the Reduced Production and Reduced Footprint (Hybrid) Alternative. Operation of the quarry would continue to utilize rail and barge transportation systems to effectively, economically, and safely move products to and from the facility, thereby preserving existing alternative transportation systems as assets.

Furthermore, the Project is consistent with goals and policies related to the safe and efficient movement of goods via rail and water transport.

Conclusion: Consistent.

C. **The Community Character Element:**

Cultural Resources

- Goal CC-4: Identify and preserve Napa County's irreplaceable cultural and historic resources for present and future generation to appreciate and enjoy.
- Policy CC-19: The County supports the identification and preservation of resources from the County's historic and prehistoric periods.
- Policy CC-21: Rock walls constructed prior to 1920 are important reminders of the County's agricultural past. Rock walls which follow property lines or designated scenic roadways shall be retained to the extent feasible and modified only to permit required repairs and allow for openings necessary to provide for access.
- Policy CC-23: The County supports continued research into and documentation of the county's history and prehistory, and shall protect significant cultural resources from inadvertent damage during grading, excavation, and construction activities.

Analysis: Based on specific on-site studies, cultural and historic resources have been identified both within the quarry property and project area. However, the project as designed would avoid

a majority of the cultural and historic resources identified within the quarry, in particular, the sites exhibiting homestead activities and rock walls located along property lines. Additionally, mitigation measures have been incorporated into the project, as well as the incorporation of standard conditions to ensure any discovered resources during operations are protected (Impact Action Item CC-23.1), to protect retained rock walls from ongoing quarry activities.

Furthermore, implementation of the Reduced Production and Reduced Footprint (Hybrid) Alternative, more of the cultural features within the project site, in particular rock walls associated with the "Pasini Ranch" and along a property located immediately east of the State Blue Pit would be preserved. While some of the rock walls associated on the Pasini Ranch are not located on property lines they are considered historical resources of the County.

Conclusion: Consistent.

Noise

- Goal CC-8: Place compatible land uses where high noise levels already exist and minimize noise impacts by placing new noise-generating uses in appropriate areas.
- Policy CC-38: The following are the County's standards for maximum exterior noise levels for various types of land uses established in the County's Noise Ordinance. Additional standards are provided in the Noise Ordinance for construction activities (i.e., intermittent or temporary noise).
-

EXTERIOR NOISE LEVEL STANDARDS
(LEVELS NOT TO BE EXCEEDED MORE THAN 30 MINUTES IN ANY HOUR)

Land Use Types	Time Period	Noise Level (dBA) by Noise Zone Classification		
		Rural	Suburban	Urban
Single-Family Homes and Duplexes	10 p.m. to 7 a.m.	45	45	50
	7 a.m. to 10 p.m.	50	55	60
Multiple Residential 3 or More Units Per Building (Triplex +)	10 p.m. to 7 a.m.	45	50	55
	7 a.m. to 10 p.m.	50	55	60
Office and Retail	10 p.m. to 7 a.m.	60		
	7 a.m. to 10 p.m.	65		
Industrial and Wineries	Anytime	75		

Exhibit A

a) For the purposes of implementing this policy, standards for residential uses shall be measured at the housing unit in areas subject to noise levels in excess of the desired levels shown above.
b) Industrial noise limits are intended primarily for use at the boundary of industrial zones rather than for noise reduction at the industrial use.
c) Where projected noise levels for a given location are not included in this Element, site-specific noise modeling may need to be conducted in order to apply the County's Noise policies.

- Policy CC-39: The following are noise compatibility guidelines for use in determining the general compatibility of planned land uses:

NOISE COMPATIBILITY GUIDELINES
(EXPRESSED AS A 24-HOUR DAY-NIGHT AVERAGE OR LDN)

Land Use	*Completely Compatible*	*Tentatively Compatible*	*Normally Incompatible*	*Completely Incompatible*
Residential	*Less than 55 dBA*	*55-60 dBA*	*60-75 dBA*	*Greater than 75 dBA*
Commercial	*Less than 65 dBA*	*65-75 dBA*	*75-80 dBA*	*Greater than 80 dBA*
Industrial	*Less than 70 dBA*	*70-80 dBA*	*80-85 dBA*	*Greater than 85 dBA*

See Policy CC-43 for the definitions of these four levels of compatibility.

- Policy CC-42: The following are the County's standards for acceptable indoor intermittent noise levels for various types of land uses. These standards should receive special attention when projects are considered in "Tentatively Compatible" or "Normally Incompatible" areas as determined by Policies CC-39 and CC-43, and new uses shall incorporate design features to ensure that these standards are met.

INTERIOR NOISE LEVEL CRITERIA FOR INTERMITTENT NOISE

Land Use Type	Acceptable Noise Level (dBA CNEL)
Residential (Single- and Multi-Family)	
Living Areas, Daytime	60 dBA
Living Areas, Nighttime	55 dBA
Sleeping Areas	45 dBA
School Classrooms or Library	55 dBA
Church Sanctuary	45 dBA
Commercial, Educational, Office, Light and Heavy Industrial, Warehousing	Conform with applicable state and federal workplace safety standards

Note: Standards for public schools are set and enforced by the State of California and are not regulated by the County.

Exhibit A

- Policy CC-43: The following definitions shall be used in combination with the standards in the Noise Compatibility Guidelines shown above.

  a) "Completely Compatible" means that the specified land use is satisfactory and both the indoor and outdoor environments are pleasant.

  b) "Tentatively Compatible" means that noise exposure may be of concern, but common building construction practices will make the indoor living environment acceptable, even for sleeping quarters, and the outdoor environment will be reasonably pleasant.

  c) "Normally Incompatible" means that noise exposure warrants special attention, and new construction or development should generally be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. Careful site planning or exterior barriers may be needed to make the outdoor environment tolerable.

  d) "Completely Incompatible" means that the noise exposure is so severe that new construction or development should generally not be undertaken.

- Policy CC-48: Where proposed commercial or industrial land uses are likely to produce noise levels exceeding the standards contained in this Element at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Analysis: The quarry is already located in an area of the County that experiences higher noise levels. There are a variety of surrounding uses, including industrial, office/warehouse, public institutional, and agriculture, in addition to State Highway 221, that contribute substantially to the environment that make up the areas ambient noise characteristics. Noise studies have been conducted as part of the environmental review of the project and mitigation measures have been included to reduce potential noise impacts on adjacent uses so that long-term operational noise, including mobile equipment related noises, would not result in the exposure of persons to or generate noise levels in excess of applicable standards, or substantial temporary increases in ambient noise levels in the vicinity of the Project. It is anticipated that noise levels associated with the operation would not typically exceed 50dBA L_{50} within the surrounding community, which would be consider compatible with surrounding uses and within the interior noise level criteria.

Additionally, implementation of the Reduced Production and Reduced Footprint (Hybrid) Alternative would locate the limits of mining further from adjacent uses and maintain more screening topography and vegetation which would further reduce noise from the facility.

Conclusion: Consistent.

Odors

- Goal CC-51: Place compatible land uses where unacceptable odors already exist and minimize any new uses that generate such odors.

Exhibit A

- **Policy CC-53**: Odors associated with industrial and commercial uses – in particular, those generated by chemical or industrial processes – are considered generally unacceptable, and shall be required to mitigate their effects on nearby businesses and residences in accordance with standards of the Bay Area Air Quality Management District (BAAQMD).

Analysis: The operations primary industrial components (i.e. asphalt plant, sand plant, and blue rock plant, and scale house and office) are within the western portion of the site in close proximity to other industrial uses and State Highway 221, as well as, more intensive agricultural uses (i.e. cultivated crops) to the south. These existing facilities are not proposed to be relocated. Additionally, no new odor producing sources are proposed as part of the project. Therefore, the Project is not anticipated to result in adverse odor impacts because the facilities odor causing uses are in an area where odors already exist and no new odor sources are proposed.

Additionally, through mitigation and project specific conditions the facility will need to be operated in accordance with BAAQMD standards and permitting consistent with regulatory requirements.

Conclusion: Consistent.

D. The Conservation Element:
Within the Conservation (CON) Element of the General Plan the managed production of resources is specifically identified and addressed through specific Goals and Policies. On Pages CON-17 and CON-18 of the General Plan under **Managed Production of Resources** it states that, "*Preserving **open space** resources to meet the community's conservation goals while also addressing local needs for productive raw natural materials (e.g. primarily aggregate/gravel, sand, and stone, and to a lesser extent merchantable timber) requires a balanced approach.*". It is further indicated under **Mineral Resources** that "*This Element contains specific goals and policies that address open space as it pertains to the conservation of natural resources, agricultural land, and rangeland. Additionally, this Element stresses the preservation of forests and woodlands and conservation and prudent management of the County's mineral resources for current and future generations*."

Specific Goals and Policies that address open space as it pertains to the conservation of natural resources, include Goal CON-7 which states "*Identify and conserve areas containing significant mineral deposits for future use and promote reasonable safe and orderly operation of mining and extraction and management activities where environmental aesthetic and adjacent land use compatibility can be adequately addressed.*" Conservation Policies CON-37, CON-39 and CON-40, in general: encourage the identification, improvement, and conservation of areas containing significant mineral deposits to ensure the long-term production and supply; promote the reasonable operation of mining and extraction activities, while considering and addressing the environmental implications thereof; and, encourage the ongoing reclamation of mining areas through reclamation plans. Furthermore, Policy CON-37(e) "*Encourages compatible use of resource areas such as low density recreation, wildlife habitat or agriculture and protect resource areas form incompatible use*."

Exhibit A

Therefore, the Project would be consistent with applicable County Land Use designations with the granting of a SMP. Further evidence that quarrying activities have been contemplated in open space and agricultural areas, and that these goals and policies would apply, is due to the Mineral Resource Designations covering a majority of the quarry property (as discussed below in Mineral Resource Designations), in addition to the zoning designation discussion below.

Open Space Conservation

- **Goal CON-1:** The County of Napa will conserve resources by determining the most appropriate use of land, matching land uses and activities to the land's natural suitability, and minimizing conflicts with the natural environment and the agriculture it supports.

- **Policy CON-1:** The County will preserve land for greenbelts, forest, recreation, flood control, adequate water supply, air quality improvement, habitat for fish, wildlife and wildlife movement, native vegetation, and natural beauty. The County will encourage management of these areas in ways that promote wildlife habitat renewal, diversification, and protection.

Analysis: A majority of the subject holding and project site has been identified as a Mineral Resource area in the General Plan. The industrial identified areas of the site are utilized for the primary industrial facilities of the operation. Therefore, the County has conserved suitable lands for mineral production and associated activities.

Through project design, mitigation measures, and project specific conditions, which include protections for air quality, water quality and use, and biological resources the projects potential conflicts with the natural environment or agricultural would be minimize. The project has been designed to avoid the northeast corner and the southern portion of the holding, thereby preserving these areas in their existing condition to provide visual buffering of the project. Additionally, other exclusion areas within the quarry operation, such as in between the State Blue and State Grey pits, and knoll south of the Eagles Nest area, have been preserved to maintain some natural visual elements within the quarry.

Furthermore, within implementation of the Reduce Production and Reduced Footprint (Hybrid) Alternative approximately 47-acres of open space land (containing approximately 30-acres of oak woodland) would be preserved.

Conclusion: Consistent.

Natural Resources

- **Goal CON 2:** Maintain and enhance the existing level of biodiversity.

- **Goal CON-3:** Protect the continued presence of special status species, including special-status plants, special-status wildlife, and their habitats, and comply with all applicable state, federal, or local laws or regulations.

Exhibit A

- Goal CON-5: Protect connectivity and continuous habitat areas for wildlife movement.

- Policy CON-11: The County shall maintain and improve fisheries habitat through a variety of appropriate measures, including: Control sediment production from mines, roads, development projects, agricultural activities, and other potential sediment sources.

- Policy CON-13: The County shall require that all discretionary residential, commercial, industrial, recreational, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special-status species to the extent feasible. Where impacts to wildlife and special-status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:

- Policy CON-16: The County shall require a biological resources evaluation for discretionary projects in areas identified to contain or potentially contain special-status species based upon data provided in the Baseline Data Report (BDR), California Natural Diversity Database (CNDDB), or other technical materials. This evaluation shall be conducted prior to the approval of any earthmoving activities. The county shall also encourage the development of programs to protect special-status species and disseminate updated information to state and federal resource agencies.

- Policy CON-17: Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The county, in its discretion, shall require mitigation that results in the following standards:

- Policy CON-18: To reduce impacts on habitat conservation and connectivity: The county shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.

- Policy CON-24: Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including one or more of the following:

    a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agricultural projects.

    c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.

Exhibit A

- Policy CON-30: All public and private projects shall avoid impacts to wetlands to the extent feasible. If avoidance is not feasible, projects shall mitigate impacts to wetlands consistent with state and federal policies providing for no net loss of wetland function.

Analysis: Because of the historic surface mining use of the site, and its location at the interface between more intensive urban uses located to the north and west within both the City and County of Napa (including State Highway 221) as well as more intensive agriculture uses including cultivated crops to the south, the biological characteristics and resources of the site and surrounding areas have been augmented. Biological surveys have been conducted for the site and mitigation has been incorporated to protect and replace special-status species that have been identified within the project area or have the potential to occur within or adjacent to the project area. Potential native grasslands occurring in the property have been avoided through project design. Avoiding and maintaining Arroyo Creek and areas south of Arroyo Creek in its current condition would maintain an existing wildlife movement and use areas that have not experience historic disturbances through surrounding development and mining activities. Mitigation has been included to preserve and replace oak woodlands at a 2:1 ratio.

Impacts to fisheries habitat will be minimized through ongoing maintenance of a Storm Water Pollution Prevention Plan (SWPPP) required by the San Francisco Regional Water Quality Control Board (SFRWQCB), mitigation, conditions, and the County's Stormwater Ordinance. The SWPPP utilizes specific site design and treatment control Best Management Practices (BMPs) to control on-site erosion and protect water quality. Furthermore, the SWPPP will be updated as necessary as part of the annual mining plan to take into account changing conditions of the site and operations as a result of ongoing mining.

Impacts to riparian areas have been minimized through a project design that provides a minimum 50 foot setback from Arroyo Creek, and the implementation of mitigation that results in larger setbacks from Arroyo Creek of 85 feet. Extensive wetlands have not been identified in the project area. Although approximately 0.5-acres of wetland would be removed with project design, mitigation has been included that would result in the replacement of removed wetland so that there is no net loss of wetlands as a result of the project.

Conclusion: Consistent.

Mineral Resources

- Goal CON-7: Identify and conserve areas containing significant mineral deposits for future use and promote the reasonable, safe, and orderly operation of mining and extraction and management activities, where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately addressed.

- Policy CON-37: The County shall identify, improve, and conserve mineral and aggregate resources and ensure the long-term production and supply as follows:

Exhibit A

d) Fulfill the County's responsibilities under the Surface Mining and Reclamation Act (SMARA).

e) Encourage compatible use of resource areas such as low density recreation, wildlife habitat, or agriculture and protect resource areas from incompatible uses.

- **Policy CON-39:** Resource extraction activities (e.g., mining and geothermal development) shall fully address environmental implications, such as air pollution, visual distractions, siltation of nearby streams, increase in surface runoff, removal of underground water by pumping, increase in erosion or landslide hazard, disposal of chemical wastes, creation of impervious layers and surface compaction, extent of vegetation removal, and site rehabilitation procedures.

- **Policy CON-40:** Encourage the ongoing reclamation of sand and gravel mining areas through the implementation of reclamation plans. In conformance with state law, all mining operations shall have up-to-date reclamation plans and adequate financial assurances to the satisfaction of the County.

Analysis: The County has previously identified this area as containing mineral resources through the General Plan Mineral Resource designation that covers a majority of the holding and project area. Through this Surface Mining Permit (SMP), with incorporation of the Reduced Production Alternative, mitigation, and conditions of approval, the County will be promoting the reasonable and orderly extraction and processing of aggregate resources. Furthermore, the County and operator would continue to fulfill their responsibilities under the Surface Mining and Reclamation Act (SMARA) and maintain an up to date reclamation plan and financial assurances. Additionally, the associated environmental review of the SMP takes into consideration potential environmental affects and incorporates mitigation where necessary to reduce impacts.

Furthermore, pursuant to Public Contract Code Sections 10295.5 and 20676 mining operations that are not being operated to meet provisions set forth under the Surface Mining and Reclamation Act ((SMARA – specifically California's Public Resources Code, Section 2717(b)) are precluded from selling sand, gravel, aggregates or other mined materials to state or local agencies. Facilities that are operated in compliance with SMARA are included on what is typically referred to as the AB3089 List, for the legislation that established it. The next closest operations to Napa on the AB 3089 List are located in Sonoma and Solano Counties. Therefore, maintaining this operation in compliance with SMARA is beneficial to both the County and local cities by providing and maintaining a local source of aggregate for public projects: also see Section E (Economic Development).

Conclusion: Consistent.

Water Resources

- **Goal CON-9:** Control urban and rural storm water runoff and related non-point source pollutants, reducing to acceptable levels pollutant discharges from land-based activities throughout the County.

- **Goal CON-10:** Conserve, enhance and manage water resources on a sustainable basis to attempt to ensure that sufficient amounts of water will be available for the uses allowed by this General Plan, for the natural environment, and for future generations.

- **Goal CON-11:** Prioritize the use of available groundwater for agricultural and rural residential uses rather than for urbanized areas and ensure that land use decisions recognize the long term availability and value of water resources in Napa County.

- **Policy CON-47:** The County shall comply with applicable Water Quality Control/Basin Plans as amended through the Total Maximum Daily Load (TMDL) process to improve water quality. In its efforts to comply, the following may be undertaken:

  e) Ensuring continued effectiveness of the National Pollution Discharge Elimination System (NPDES) program and storm water pollution prevention.

- **Policy CON-48:** Proposed developments shall implement project-specific sediment and erosion control measures (e.g., erosion control plans and/or stormwater pollution prevention plans) that maintain pre-development sediment erosion conditions or at minimum comply with state water quality pollution control (i.e., Basin Plan) requirements and are protective of the County's sensitive domestic supply watersheds. Technical reports and/or erosion control plans that recommend site-specific erosion control measures shall meet the requirements of the County Code and provide detailed information regarding site specific geologic, soil, and hydrologic conditions and how the proposed measure will function.

- **Policy CON-50:** The County will take appropriate steps to protect surface water quality and quantity, including the following:

  a) Preserve riparian areas through adequate buffering and pursue retention, maintenance, and enhancement of existing native vegetation along all intermittent and perennial streams through existing stream setbacks in the County's Conservation Regulations

  c) The County shall require discretionary projects to meet performance standards designed to ensure peak runoff in 2-, 10-, 50-, and 100-year events following development is not greater than predevelopment conditions.

  e) In conformance with National Pollution Discharge Elimination System (NPDES) requirements, prohibit grading and excavation unless it can be demonstrated that such activities will not result in significant soil erosion, silting of lower slopes or waterways, slide damage, flooding problems, or damage to wildlife and fishery habitats

Exhibit A

- Policy CON-53: The County shall ensure that the intensity and timing of new development are consistent with the capacity of water supplies and protect groundwater and other water supplies by requiring all applicants for discretionary projects to demonstrate the availability of an adequate water supply prior to approval. Depending on the site location and the specific circumstances, adequate demonstration of availability may include evidence or calculation of groundwater availability via an appropriate hydrogeologic analysis or may be satisfied by compliance with County Code "fair-share" provisions or applicable State law. In some areas, evidence may be provided through coordination with applicable municipalities and public and private water purveyors to verify water supply sufficiency.

- Policy CON-55: The County shall consider existing water uses during the review of new water uses associated with discretionary projects, and where hydrogeologic studies have shown that the new water uses will cause significant adverse well interference or substantial reductions in groundwater discharge to surface waters that would alter critical flows to sustain riparian habitat and fisheries or exacerbate conditions of overdraft, the County shall curtail those new or expanded water uses.

- Policy CON-62: As stated in Policy AG/LU-74, the County supports the extension of recycled water to the Coombsville area to reduce reliance on groundwater in the MST groundwater basin and exploration of other alternatives. Also, the County shall identify and support ways to utilize recycled water for irrigation and non-potable uses to offset dependency on groundwater and surface waters and ensure adequate wastewater treatment capacity through the following measures:

  d) Encourage the use of non-potable/recycled water wherever recycled water is available and require the use of recycled water for golf courses where feasible.

Analysis: ***Water Quality*** - The Project will comply with requirements of the San Francisco Regional Water Quality Control Board (SFRWQCB) through preparation and maintenance of a Stormwater Pollution Prevention Plan (SWPPP) that includes the incorporation of source control, site design, and treatment control Best Management Practices (BMPs) to control on-site erosion and pollutants to protect water quality. The operator/permittee will be required through the SWPPP and County Stormwater Management Ordinance to implement BMPs and best available control stormwater management principles during project operations and subsequent reclamation. The SWPPP will be annually reviewed and updated as necessary to control stormwater runoff and maintain water quality. Furthermore, with project specific standards and incorporation of mitigation, the annually maintained and updated SWPPP for the site will be designed and prepared to demonstrate that project runoff flow characteristics following mining and reclamation activities are not greater than predevelopment conditions.

Analysis: ***Water Supply*** – Groundwater use and protections measures include a maximum allowable annual groundwater use provision for the project and permit, and provisions to avoid

mining into the groundwater table. These measures are expected to protect groundwater resources and allow for continued groundwater infiltration. Furthermore, these measures in conjunction with the site's and operator/permittee's ability to access recycled water will encourage the operator/permittee to minimize groundwater use while encouraging the use of recycled water. Incorporation of these measures and the Reduced Production Alternative are also anticipated to reduce potential impacts to agricultural water sources located to the south.

Conclusion: Consistent.

Climate Protection and Environmental Health

- Goal CON-15: Reduce emissions of local greenhouse gases that contribute to climate change.

- Goal CON-17: Reduce air pollution and reduce local contributions to regional air quality problems, achieving and maintaining air quality in Napa County which meets or exceeds state and federal standards.

- Policy CON-65: The County shall support efforts to reduce and offset GHG emissions and strive to maintain and enhance the County's current level of carbon sequestration functions through the following measures:

  b. Preserve and enhance the values of Napa County's plant life as carbon sequestration systems to recycle greenhouse gases.

  e. Consider GHG emissions in the review of discretionary projects. Consideration may include an inventory of GHG emissions produced by the traffic expected to be generated by the project, any changes in carbon sequestration capacities caused by the project, and anticipated fuel needs generated by building heating, cooling, lighting systems, manufacturing, or commercial activities on the premises. Projects shall consider methods to reduce GHG emissions and incorporate permanent and verifiable emission offsets.

- Policy CON-66: The County shall promote the implementation of sustainable practices and green technology in agriculture, commercial, industrial, and residential development through the following actions:

  a.2) Minimize, reuse, and recycle construction-related waste.

  a.3) Utilize alternative fuels in construction equipment and require construction equipment to utilize the best available technology to reduce emissions.

- Policy CON-77: All new discretionary projects shall be evaluated to determine potential significant project-specific air quality impacts and shall be required to incorporate appropriate design, construction, and operational features to reduce emissions of criteria pollutants regulated by the state and federal governments below the applicable significance standard(s)

or implement alternate and equally effective mitigation strategies consistent with BAAQMD's air quality improvement programs to reduce emissions.

- Policy CON-80: The County shall seek to reduce particulate emissions and avoid exceedances of state particulate matter (PM) standards by:
  e. Requiring implementation of dust control measures during construction and grading activities and enforcing winter grading deadlines.

Analysis: The Project is anticipated to result in Greenhouse Gas (GHG) and other emissions, including particulate matter, which affects air quality through project operations and transport of materials. Through implementation of the Reduced Production and Reduced Footprint (Hybrid) Alternative, mitigation measures, and project specific conditions, operational emissions that contribute to GHG and other emissions, including particulate matter, which are detrimental to air quality and associated health risks would be substantially reduced to less than significant levels. Additionally, measures are included to require mining and processing equipment to utilize the best available technology to reduce GHG and other emissions detrimental to air quality in order to reduce associated health risks.

Mitigation to preserve and replace oak woodlands would assist in preserving and enhancing carbon sequestration systems. Furthermore the project would continue ongoing construction material recycling and reuse, including the increased ability to utilize recycled materials through introduction of the Reclaimed Asphalt Pavement handling equipment to the operations asphalt plant.

Conclusion: Consistent.

E. Recreation and Open Space

The Recreation and Open Space (ROS) Element describes the **Use of Open Space** as follows: "*The term 'open space' as used in Napa County does not denote a single land use, nor is it a designation for empty, unused, or not-yet-developed places. Rather, open space is best understood as lands that support an array of activities and amenities, both measurable and intangible, which both derive from and directly depend on the lands sustainable natural resources. Other open space benefits include the preservation of natural resources, the managed production of resources including forestlands, rangelands, and agricultural lands, the recharge of groundwater supplies, and protection of the public health and safety. More information on other uses and benefits of open space can be found in other elements of this General Plan as outlined as follows*". One of which states that "*Large, connected open space areas allows for a range of natural communities that offer habitat necessary to sustain wildlife and plan biodiversity. These open space benefits are addressed primarily in the Conservation Element, which contains policies and actions intended to conserve open space lands that contain important natural resources*." (pages ROS-1 through ROS-3).

While recreation is one of the appropriate and desirable uses of open space, this element also identifies other open space benefits which include: the preservation of natural resources, the managed

production of resources including forestlands, rangelands, and agricultural lands, the recharge of groundwater supplies, and protection of public health and safety. Because this Element primarily focuses on the recreational uses of open space other uses more information and benefits of open space are found in other Elements of this General Plan, as noted above.

- Goal ROS-1: To ensure an extensive landscape of open spaces in which recreation, the protection of natural, cultural, and archaeological resources, agricultural production, and private property are mutually supportive and complementary.
- Goal ROS-2: To create and maintain a high-quality system of parks, trails, and recreational, interpretive, and environmental education facilities.

Analysis: The modified project would maintain existing Skyline Wilderness Park (SWP) trails and allow for continued use. Implementation of the Reduced Production and Reduced Footprint (Hybrid) Alternative would also maintain existing park trails for continued public use as well as further protect cultural resources. Furthermore, this alternative would increase buffers/exclusion areas adjacent to SWP and associated trails to further reduce potential effects of mining adjacent to the park. While the extent of Goals and Policies in the ROS Element are specific to designated parks and parklands the Goals identified above are also construed to (or interpreted to) include potential effects of surrounding uses on the County's parks. In particular how those uses may affect the ability of the County to maintain high-quality park and trial systems.

Conclusion: Mostly consistent - As indicated the project with implementation of the Reduced Production and Reduced Footprint (Hybrid) Alternative would maintain existing SWP trails and provide for increased buffer from the park as well as maintain additional cultural resources; however given the proximity of mining to SWP the quality of the park and trails could be negatively affected. Because the quality of a park or trails is somewhat subjective and the Hybrid Alternative would maintain trails and provide for greater buffers staff has determined that the project would be mostly consistent with these ROS goals.

F. **Economic Development**:

- GoalE-2: Develop and promote a diversity of business opportunities which do not conflict with agriculture.

Analysis: The project and associated surface mining permit would maintain and promote a diversity of business and provide for a local long term local source of aggregate. This source will continue to support local and regional private and public development, including a local source to maintain existing infrastructure, in particular roadways of the County and its incorporated cities.

Furthermore, pursuant to Public Contract Code Sections 10295.5 and 20676 mining operations that are not being operated to meet provisions set forth under the Surface Mining and Reclamation Act ((SMARA – specifically California's Public Resources Code, Section 2717(b)) are precluded from selling sand, gravel, aggregates or other mined materials to state or local agencies. Facilities that

Exhibit A

are operated in compliance with SMARA are included on what is typically referred to as the AB3089 List, for the legislation that established it. The next closest operations to Napa on the AB 3089 List are located in Sonoma and Solano Counties. Therefore, maintaining this operation in compliance with SMARA promotes business diversity that is beneficial to both the County and surrounding cities by providing and maintaining a local source of aggregate for public projects.

Conclusion: Consistent.

G. **The Safety Element:**

- **Policy SAF-8:** Consistent with County ordinances, require a geotechnical study for new projects and modifications of existing projects or structures located in or near known geologic hazard areas, and restrict new development atop or astride identified active seismic faults in order to prevent catastrophic damage caused by movement along the fault. Geologic studies shall identify site design (such as setbacks from active faults and avoidance of on-site soil-geologic conditions that could become unstable or fail during a seismic event) and structural measures to prevent injury, death and catastrophic damage to structures and infrastructure improvements (such as pipelines, roadways and water surface impoundments not subject to regulation by the Division of Safety of Dams of the California Department of Water Resources) from seismic events or failure from other natural circumstances.

- **Policy SAF-30:** Potential hazards resulting from the release of liquids (wine, water, petroleum products, etc.) from the possible rupture or collapse of aboveground tanks should be considered as part of the review and permitting of these projects.

Analysis: A Geotechnical study has been prepared for the project and associated environmental review. The Syar Napa Quarry maintains a Hazardous Materials Business Plan as part of current operations to address potential hazards occurring at the site. The project's EIR reviewed potential damage to infrastructure as a result of blasting and found that surrounding infrastructure is not expected to experience damage due to blasting. Additionally, specific mitigation and conditions of approval have been incorporated to further reduce potential geologic and stability impacts associated with mining, and protect the public and environment from potential hazardous materials utilized and transported to and from the site as part of mining operations.

Conclusion: Consistent.

H. **Measure P (Formally Measure J)**

For the reasons detailed above the proposed project would be consistent with the properties General Plan Land Use and Zoning Designations, and therefore a general plan land use and/or a zoning designation change is not necessary to accommodate the Project. As such, the provisions of Measure P are not triggered and do not apply.

Exhibit A

I. Mineral Resource Designations

All parcels within the holding except for 046-390-002 (the Pasini Parcel) and 046-370-022 (a 5-acre parcel at the entrance of the quarry) have been designated in the Napa General Plan as a Mineral Resource (MR) area. This is the only area in the County that has a MR designation. The County MR Designation generally follows the 1987 State Mineral Resource Designation which is described in greater detail below.

In 1987 the Syar Napa Quarry was designated by the state as a Mineral Resource Zone (Sector H, MRZ-2), which identified the quarry site as a known mineral resource of regional and economic significance. As indicated this MRZ-2 zone was generally consistent with the County MR Designation. In November of 2013 the State Mining and Geology Board accepted the *Update of Mineral Land Classification: Aggregated Materials in the north San Francisco Bay Production-Consumption Region, Sonoma, Napa, Marin, and Southwestern Solano Counties, California: Special Report 205*, prepared by California Geological Survey (California Geological Survey, 2013). This report classified an additional 513-acres of land located immediately east of the quarry (Sector MM) as MRZ-2 for construction aggregates. This expanded zone generally extends from the north and south ends of the quarry to Marie Creek, covering portions of Skyline Wilderness Park, the entirety of the Pasini Parcel, and a small portion of the Suscol Mountain Vineyard property. Mineral Resource Sectors identified by the State Geologist are those portions of land that have been classified as an MRZ-2 and that have current land uses deemed compatible with mining based on criteria provided by the State Mining and Geology Board, which include: non-urbanized or very low-density residential developments; land without high-cost improvements; and land used for agriculture, grazing, or open space.

Pursuant to Public Resources Code Section 2762(d) any areas classified by the State Geologist as having important minerals to be protected, whether or not it has been formally identified the Lead Agency's general plan as a mineral resource zone, requires the Lead Agency, prior to permitting a use that could threaten the potential to extract minerals in that area, to prepare a statement specifying its reasons for permitting the proposed use.

With regard to the County MR Zone designation, as provided for in Conservation Goal CON-7 and Policy CON-37 the County recognizes that the extraction of minerals is important to the continued economic well-being of the County and that surface mining takes place in diverse areas where environmental and social conditions are significantly different, which is why these provisions stress the identification and conservation of significant mineral resources to ensure long-term production and supply. Specifically Policy CON-37(b) specifies that know mineral resources, based on State of California mapping, be identified on the General Plan Land Use Map, and Policy CON-37(c) encourages the application of zoning for mineral resources areas and appropriate surrounding areas to allow for resource management and future resource availability.

In short the Local and State MR Designation do not require or otherwise obligate the County to approve mineral extraction uses in these areas, but it does obligate the County to consider the

underlying mineral resource when considering uses that could inhibit its future extraction. Furthermore, for the reasons detailed in the General Plan and Zoning discussion above, an area does not need to be designated as a mineral resource area, either by the State or the County, for mining operations to be conducted.

Because the project is not proposing a use that would threaten the potential to extract mineral resources (such as residential, commercial, or industrial) either within the County's identified MR Zone or the newly identified State Mineral Resource Zone, the proposed project is consistent with these designations.

Special Report 146, Part III, Mineral Land Classification: Aggregate Materials in the San Francisco - Monterey Bay Area Bay (California Department of Conservation Division of Mines and Geology, 1987) included a 50-year forecast of aggregate needs, which estimated that the per capita aggregate demand/consumption would be approximately 8.8 tons annually for the region. In a 2013 update to Special Report 146 (*Special Report 205, Update of Mineral Land Classification: Aggregate Materials in the North San Francisco Bay Production-Consumption Region, Sonoma, Napa, Marin, and Southwestern Solano Counties, California,* California Geological Survey, 2013) increased this anticipated annual demand to 8.9 tons per capita.

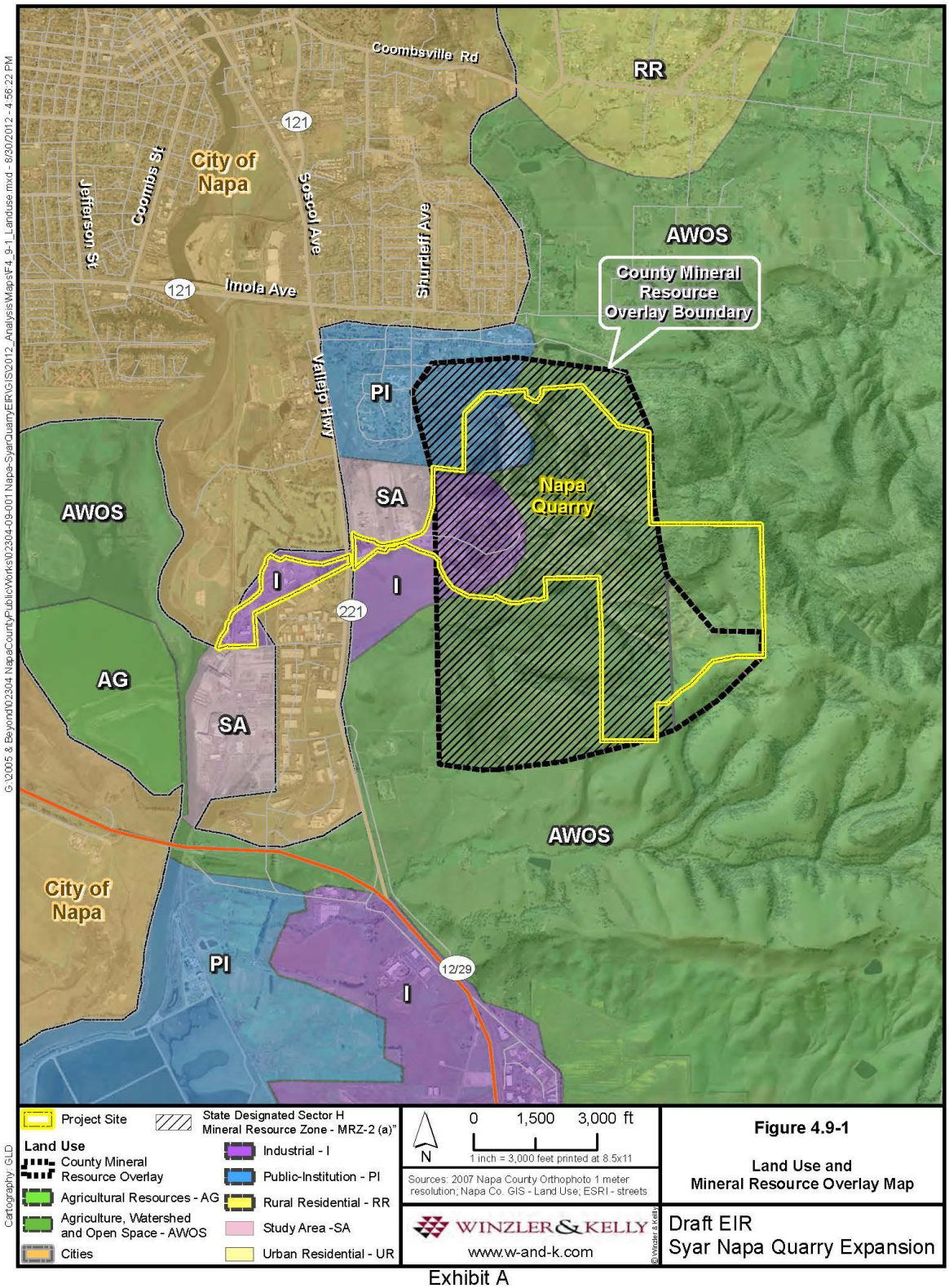
IV. ZONING CONSISTENCY

There are two zoning districts that cover the Napa Quarry, Industrial (I) which predominately occurs in the western end of the holding (APNs 046-370-022 and -025) that contains the facility's office, processing, and manufacturing functions (i.e. the Quarry Office and Materials Testing Lab, Maintenance and Service Buildings, and Scale House including truck wheel wash, the Blue Rock Plant, Sand Plant and the Asphalt Plant), the remainder of the holding is Agricultural Watershed (AW). The proposed expansion areas would occur exclusively on AW designated parcels.
The intent of the Industrial designation is to provide an environment exclusively for and conducive to the development and protection of a variety of industrial uses such as administrative facilities, research institutions, and specialized manufacturing organizations (Napa County Code Section 18.36.010.). The intent of the Agricultural Watershed designation is to provide in those areas of the county where the predominant use is agriculturally oriented, where watershed areas, reservoirs and floodplain tributaries are located, where development would adversely impact on all such uses (Napa County Code Section 18.20.010.).

The most southern parcel in the Syar holding (APN 045-360-005) is also covered by an Airport Compatibility (AC) Combining District. Zone E of the Napa County Airport Land Use Compatibility Plan only extends far enough to cover the very southwestern corner of this parcel where no mining activities are proposed. Zone E has a limited risk of accident potential and allows for any permitted use: examples of uses not normally acceptable in this zone include schools, libraries, hospitals, shopping malls or those uses where large assemblages of people may occur or that are hazardous to

flight, such as landfills. Therefore, the project does not need a consistency determination from the Airport Land Use Commission.

Pursuant to Napa County Code (NCC) Section 18.120.010(B)(3) (Exceptions to use limitations) the commercial excavation or extraction of natural materials may be permitted in any zoning district upon the granting of a use permit. Pursuant to NCC Chapter 16.12 (Surface Mining and Reclamation) and more specifically Section 16.12.040, mining may occur in any zoning district provided a Surface Mining Permit (SMP) is obtained to do so. Furthermore NCC Section 18.108.050(P) (Conservation Regulations - Exemptions) exempts earthmoving activities associated with mining and mining-related activities conducted pursuant to and in compliance with and approved surface mining and reclamation permit pursuant to Chapter 16.12. Therefore, surface mining operations including the proposed expansion of mining and reclamation activities of the Syar Quarry, can occur within the zoning districts that currently cover the holding. See also Attachment F (of the August 12 Commission meeting report) which contains the draft findings in support of grant of an SMP.


Coombsville Rd
RR
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City of Napa
Coombs St
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Soscol Ave
Shurtleff Ave
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County Mineral Resource Overlay Boundary
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Imola Ave
Vallejo Hwy
PI
SA
Napa Quarry
AWOS
I
I
221
AG
SA
AWOS
City of Napa
PI
I
12/29
Project Site
State Designated Sector H Mineral Resource Zone - MRZ-2 (a)"
Land Use
County Mineral Resource Overlay
Agricultural Resources - AG
Agriculture, Watershed and Open Space - AWOS
Cities
Industrial - I
Public-Institution - PI
Rural Residential - RR
Study Area -SA
Urban Residential - UR
N
0 1,500 3,000 ft
1 inch = 3,000 feet printed at 8.5x11
Sources: 2007 Napa County Orthophoto 1 meter resolution; Napa Co. GIS - Land Use; ESRI - streets
WINZLER & KELLY
www.w-and-k.com
Figure 4.9-1
Land Use and Mineral Resource Overlay Map
Draft EIR
Syar Napa Quarry Expansion
Cartography: GLD
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Exhibit A

SYAR NAPA QUARRY EXPANSION

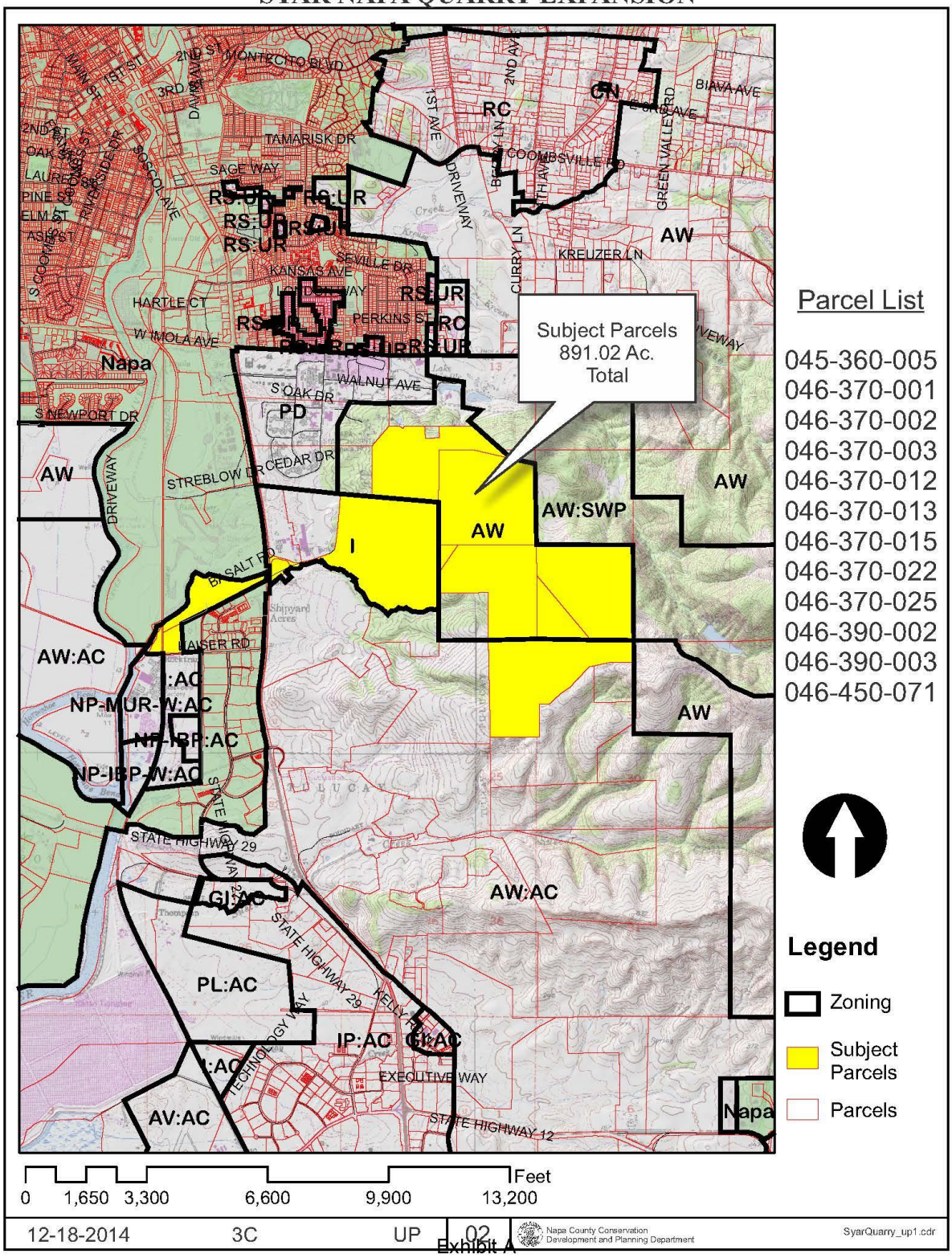


Exhibit A

EXHIBIT "B"

MITIGATION MONITORING AND REPORTING PROGRAM SYAR NAPA QUARRY SURFACE MINING PERMIT #P08-00337-SMP

In order to mitigate or avoid significant effects resulting from the proposed project, Public Resources Code Section 21081.6 requires that monitoring and reporting procedures take place through a Mitigation Monitoring and Reporting Program (MMRP). **Table A-1** provides the MMRP for the proposed project in accordance with those guidelines. Clarifications to the mitigation identified in the response to comments on the Draft EIR have been incorporated into this MMRP.

TABLE A-1
MITIGATION MONITORING AND REPORTING PROGRAM

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
4.3	Air Quality					
4.3-2A	**Reduce NOx.** Any time production of 810,363 tons (i.e. the Baseline Condition) of Aggregate or Aggregate-related Materials has been achieved within the previous 12-month period, the Permittee shall demonstrate that Project NOx emissions are less than 10 tons per year. Activity levels of offroad vehicle engines, which contribute a majority of Project NOx emissions, shall be logged to document operational emissions from that source. The Permittee shall prepare a Horsepower-Hour Log ("Log") of monthly horsepower-hours for offroad vehicles operated within the previous 12-month period. The Log shall include the rolling 12-month total horsepower-hours. Low use equipment operated less than 20 hours per year shall be excluded. The Log shall sum the horsepower-hours for each tier of engine and calculate the percent of horsepower-hours operated by engines in each tier category. The Log shall be updated by the Permittee no less than semi-annually (i.e. every six months) or with greater frequency as necessary to ensure compliance with this mitigation measure. The Permittee shall implement one or more the following options to reduce NOx emissions increase to less than 10 tons per year above baseline. 1. Operating cleaner offroad vehicle engines as conditioned below: a). Baseline conditions are established at 810,363 tons with a fleet mix of 39% Tier 0, 49% Tier 1, 10% Tier 2 and 2% Tier 3. b) Production up to 945,000 tons per year shall be allowed upon continued demonstration that 12% of horsepower-hours operated are Tier 2 or better. c) Production up to 1,100,000 tons per year shall be allowed upon continued demonstration that 44% of the horsepower-hours are Tier 2 or better. d) Production up to 1,300,000 tons per year shall be allowed	Permittee / County	Napa County Department of Planning, Building and Environmental Services; Bay Area Air Quality Management District	Initiation of Project operation	Annually throughout Project operation	County/State standards

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
upon continued demonstration that 5% of horsepower-hours are Tier 3 or better and 72% of the horsepower-hours are Tier 2 or better. Consistency with Condition 1.a through 1.d above demonstrates that NOx emissions are consistent with those calculated in the EIR and have increased by an amount less than 10 tons per year. 2. Reduce NOx emissions from locomotive and/or barge engines by employing units with Tier 1 or better engines. 3. Reduce on- and/or off-site emissions by some other approved means. On-site reductions may include, but are not limited to, source controls at the asphalt plants, electrifying processes that require offroad equipment (such as automated loadout conveyor systems to reduce haul truck emissions), or using alternate fuels such as biodiesel or electric motors. Off-site may include purchasing offsets. The purchase of any offsets shall be real, surplus, permanent, quantifiable, and enforceable. If Options 2 or 3 are used, then the effectiveness of the actions to be taken shall be demonstrated to the County by submittal of an Emissions Calculations report prepared by a qualified professional (at the Permittee's expense). In that case, the Horsepower-Hours Log and/or documented historical fuel used in each vehicle shall be used to calculate NOx emissions from offroad vehicle engines. Project NOx emissions from other sources not affected by proposed mitigations (e.g., on-road vehicle engines, asphalt plant burners, and blasting) shall be included in the Emissions Calculations to demonstrate that, in total, the combined NOx emissions increase from all Project sources is less than 10 tons per year above baseline. Both the Log and Emissions Calculations report shall be submitted to the County for review semi-annually and in the Annual Compliance Report required by Condition of Approval #2L, or as requested by the County to demonstrate compliance. If the County finds that operations have not achieved the required reductions, the Permittee shall immediately update the					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	Horsepower-Hours Log and scale back to a monthly production rate that will achieve the appropriate limit identified in Option 1 within the next two months as determined based on the percentages and tier of offroad vehicle engines in use during the three month period prior to the County's finding that operations have not achieved the required reductions. Thereafter reduced production levels shall be maintained until the Permittee provides documentation demonstrating the mitigation options chosen have been implemented and that increased production levels will result in NOx emissions increase of less than 10 tons per year. As necessary the County will either hire a consultant (at the Permittee's expense) or enlist the BAAQMD to assess and determine compliance.					
4.3-2B:	**Reduce Fugitive Dust (PM_{10} and $PM_{2.5}$).** Any time production of 810,363 tons (i.e. the Baseline condition) has been achieved within the previous 12-month period, the Permittee shall demonstrate that PM_{10} and $PM_{2.5}$ emissions have not increased above baseline levels. If the County finds that PM_{10} or $PM_{2.5}$ emissions have increased then monthly production shall be scaled back immediately to the level that will reduce the rolling 12-month PM_{10} and/or $PM_{2.5}$ emissions to less than baseline level within two months. Reduced production levels that result in emission compliance shall be maintained as long as necessary until the Permittee provides documentation demonstrating that increased production levels would result in no increase of PM_{10} and $PM_{2.5}$ emissions above baseline levels. The Permittee shall reduce PM_{10} and $PM_{2.5}$ through compliance with Items 1 through 4 below, and one or more of the methods listed in 5 through 6, below: 1. The Permittee shall clean internal paved roads daily using a particulate matter efficient street sweeper. 2. Blasting shall be prohibited during high wind conditions. High wind conditions means when two-minute average wind speed exceeds 20 miles per hour as measured using the methods described by South Coast Air Quality Management District in Attachment A to the Rule 403 Implementation Handbook.	Permittee / County	Napa County Department of Planning, Building and Environmental Services	Initiation of Project operation	Annually throughout Project operation	As identified.

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	3. The Permittee shall apply water to blast sites where and when feasible prior to detonation. 4. The Permittee shall limit speeds on unpaved areas to less than 15 MPH. 5. The Permittee shall maintain chemical dust suppressant, equivalent dust suppressant that achieves similar control, on the unpaved road surfaces as described in the manufacturer's specifications. 6. The Permittee shall reduce on-site emissions by some other means (e.g. surface moisture content performance standard, watering frequency, installing or utilizing water spray systems), or electrifying processes that require off-road equipment (such as automated load-out conveyor systems to reduce haul truck emissions). Stationary source emissions of particulates can be reduced by: installing baghouses to aggregate processing equipment; installing bags with higher removal efficiencies in existing baghouses (such as the asphalt plants); installing scrubbers; or, installing water spray systems. The effectiveness of this measure shall be demonstrated to the County by submittal of an Emissions Calculations report that has been prepared by a qualified professional (at the expense of the Permittee). The Emissions Calculations report shall be submitted to the County for review in the Annual Compliance Report required by Condition of Approval #2L, or as requested by the County to demonstrate compliance. As necessary the County will either hire a consultant (at the operator's/permittee's expense) or enlist the BAAQMD to assess compliance.					
4.3-3	**Reduce Health Risk.** The Permittee shall implement the following mitigations to reduce health risk at sensitive receptors: 1. Using the Log described in Mitigation Measure 4.3-2a and blasting activity or other records that substantiate the relative amount of activity in each pit, the following tiered approach shall be followed: a) Production up to 810,363 tons per year shall be allowed	Permittee / County	Napa County Department of Planning, Building and Environmental Services	Initiation of Project operation	Annually throughout Project operation	As identified.

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
upon the Permittee's continued demonstration that at least 12% of horsepower-hours operated are Tier 2 or better (i.e. Baseline fleet activity as described in Mitigation Measure 4.3-2a Option 1.a). b) Production up to 950,000 tons per year shall be allowed upon the Permittee's continued demonstration that that one of the following conditions is met: i) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 427,500 tons per year (45%) and at least 12% of horsepower-hours operated are Tier 2 or better (i.e., Baseline); or ii) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 570,000 tons per year (60%) and at least 44% of horsepower-hours operated are Tier 2 or better as described in Mitigation Measure 4.3-2a, Option 1.b. c) Production up to 1,100,000 tons per year shall be allowed upon the Permitttee's continued demonstration that one of the following conditions is met: i) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 495,000 tons per year (45%) and at least 12% of horsepower-hours operated are Tier 2 or better (i.e., Baseline); or ii) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 660,000 tons per year (60%) and at least 56% of horsepower-hours operated are Tier 2 or better. d) Production up to 1,300,000 tons per year shall be allowed upon the Permitttee's continued demonstration that 5% of horsepower-hours operated are Tier 3 or better and 72% of horsepower-hours operated are Tier 2 or better as described in Mitigation Measure 4.3-2a, Option 1.c.. 2. Reduce on-site emissions by some other means such as, control of particulates by installation of verified diesel emissions control systems (VDECS) on engines that operate					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	within the Quarry to reduce emissions from the overall fleet. VDECS are defined by the California Air Resources Board and listed on the CARB website. The effectiveness of this measure shall be demonstrated to the County by submittal of the Horsepower-Hour Log described in Mitigation Measure 4.3-2a and blasting activity or other records that substantiate the relative amount of excavation in the Blue and Grey Pits as compared to the total excavation amount. The Horsepower-Hour Log shall be submitted to the County for review semi-annually and in the Annual Compliance Report required by Condition of Approval #2L, or as necessary to demonstrate compliance. As necessary the County will either hire a consultant (at the Permittee's expense) or enlist the BAAQMD to assess compliance.					
4.4	Biological Resources					
4.4-1a	**Holly-leaf ceanothus (*Ceanothus purpereus)* impact reduction.** 1. Avoidance and Preservation. Prior to initiation of any vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion areas), the Permittee shall revise the Mining and Reclamation Plan (at the permittee's expense) to clearly delineate and show the 5-acre "Ceonothus Preservation and Replanting Area" required by this measure. The revised plan shall be submitted to the Engineering and Conservation Division for review and concurrence to demonstrate compliance with this measure. Avoidance and Preservation areas shall also be established and identified in the field through the placement of signage that clearly identifies the area(s) to be avoided so that accidental encroachment or removal of vegetation does not occur. Sign design and locations shall be included in the revised the Mining and Reclamation Plan. 2. Plant Replacement. Each holly-leaf ceanothus plant shall be replaced at a 3:1 ratio within the 5-acre "Ceonothus	Permittee	Napa County Department of Planning, Building and Environmental Services	Avoidance and Preservation: Pre-project operation d Planting Plan and Plant Replacement: Prior to initiation of vegetation removal	Prior to initiation of Project If/when Holy-leaf ceanothus plants removed, annually until success criteria are met	80% success/ survival rate after three years

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
Preservation and Replanting" area for the impact to approximately 32 plants. No less than 96 individual holly-leaved ceanothus plants shall be planted to provide replacement and compensation for direct and potential indirect impacts. 3. Planting Plan. A qualified biologist shall prepare a Planting Plan for holly-leaf ceanothus for review and approval by the Napa County PBES Department 12 months prior to any vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion area) where Ceonothus plants would be removed. The Planting Plan shall specify plant sizes and protection measures identified in item #4 below, methods of plant propagation/procurement (i.e., plant salvage, propagation plan, etc.), habitat enhancement of replanted area, appropriate planting densities, watering protocol (duration/quantity/schedule), maintenance requirements, and monitoring and success criteria identified in Item #5 below. The Planting Plan also shall address avoidance and conservation methods (i.e., fencing, etc.) for existing individual plants that are avoided by the mining footprint and designated processing area, or that occur in the "Ceonothus Preservation and Replanting Area". 4. Additional Planting Specifications. Replacement plants shall be from one-gallon size or larger containers and shall be planted in the fall in clusters of 3 to 20 individual plants, based on details provided in the Planting Plan. Mesh shelters or other equally effective measures shall be installed around the plants to protect them from rodent damage and deer browsing. Plants shall be mulched to enhance moisture retention and discourage weeds during the plant establishment period, and the area immediately surrounding the plants shall be weeded to reduce competition. 5. Monitoring and Success Criteria. A qualified biologist shall monitor the enhanced habitat and plantings on an annual			earthmoving activities that would remove Holy-leaf ceanothus plants.		

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
basis to ensure the re-plantings achieve a minimum of 80% success/survival rate after three years, and to ensure habitat conditions remain adequate to support target species. If the success criterion has not been met after three years, supplemental plantings shall be made at the direction of a qualified biologist, and the plant establishment period shall be extended for an additional two-year period, with additional annual monitoring events. The Permittee shall submit documentation of monitoring to the County on an annual basis, in conjunction with the Annual Compliance Report required by Condition of Approval #2L, for a minimum of three years or until success criteria are achieved, including survival rates, photographs, and a description of any maintenance or other pertinent issues identified by the monitoring biologist. The monitoring report shall also include information to illustrate the condition and location of any failed plantings.					
4.4-1b **Special-status plant species protection.** 1. The Permittee shall have a qualified biologist prepare (at the Permittee's expense) update seasonally-appropriate plant surveys prior to initiation of any vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying mining activities in undisturbed areas (including expansion areas) that contain potential habitat for special-status plant species. Since plant surveys are typically considered valid for a two- to three-year period, updated plant surveys shall be conducted on a phased basis as necessary within areas anticipated for new mining and quarrying activities no greater than three years prior to planned ground-disturbing activities. 2. If new or expanded California Native Plant Society (CNPS) sensitive-listed plant species populations (i.e. List 1 or 2) are identified within areas planned for project ground vegetation-disturbing activities, a plant replacement plan shall be prepared by a qualified biologist. The plant replacement plan shall specify a replant/replacement area, a 3:1 replacement ratio, methods of plant propagation/procurement (i.e., plant	Permittee	Napa County Department of Planning, Building and Environmental Services/ CDFW	<u>Plant Survey:</u> Prior to initiation of vegetation removal earthmoving activities in undisturbed areas.	<u>Plant Surveys:</u> As necessary prior to initiation of vegetation removal earthmoving activities in undisturbed areas.	Success criteria achieved if replacement planting are necessary.

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
salvage if feasible, propagation plan, etc.), habitat enhancement of replanted area, planting densities, watering protocol (including duration, quantity and schedule), planting schedule, protective measures such as mesh shelters or other equally effective measures (and/or fencing) to protect plant establishment from rodent damage or deer browsing, maintenance requirements, success criteria, and monitoring to ensure success criteria are achieved. The plant replacement plan shall be prepared and submitted for approval by the County prior to conducting any mining or quarrying activities within the area of identified plant population(s). 3. A qualified biologist shall monitor the enhanced habitat and plantings on an annual basis to ensure the replantings achieve a minimum of 80 percent success/survival rate after three years, and to ensure habitat conditions remain adequate to support target species. If the success criterion has not been met after three years, supplemental plantings shall be made at the direction of a qualified biologist, and the plant establishment period shall be extended for an additional two-year period, with additional annual monitoring events. The Permittee shall submit documentation of monitoring to the County on an annual basis for a minimum of three years or until success criteria are achieved, including survival rates, photographs, and description of any maintenance or other pertinent issues identified by the monitoring biologist. The monitoring report shall also include information to illustrate the condition and location of any failed plantings. 4. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by Condition of Approval #2L, and as necessary to demonstrate compliance.					
4.4-2 American Badger protection measures. 1. The Permittee shall retain a qualified biologist (at the Permittee's expense) to perform pre-construction surveys for	Permittee	Napa County Department of	Prior to initiation of vegetation	As necessary prior to initiation	Avoidance

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
American badger prior to initiation of Project activities including vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion areas) that occur in potential badger habitat (grassland and low density woodland areas with less than 2 trees per acre). 2. No more than two weeks before earthmoving activities begin within areas determined to be potential badger habitat (grassland and low density woodland with less than 2 trees per acre) and that have not previously been disturbed, a qualified biologist shall conduct a survey for burrows/dens and American badgers of onsite areas within 500 feet of new quarrying or earthmoving activities. Surveys shall be submitted to the County for review prior to the removal of vegetation or overburden, and earthmoving or earth-disturbing activities. The purpose of the survey will be to determine whether burrows/dens exist within the area considered for disturbance within that construction year. Surveys shall not be required for areas already disturbed and/or where there is not American badger habitat present. 3. If occupied burrows are found during pre-construction surveys, the biologist shall consult with CDFW and the County to determine whether the Project activities would adversely disrupt the breeding activity of the badger. 4. If the biologist determines that construction activities would disrupt breeding activity, the Permittee shall ensure that occupied areas are avoided from March through August. Implementation of project activities within 500 feet of onsite occupied burrows during this time shall be delayed until a qualified biologist can determine that juvenile badgers are self-sufficient enough to move from their natal burrow and avoid project activities. Documentation shall be provided to the County Department of Planning, Building and Environmental Services. 5. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance		Planning, Building and Environmental Services / CDFW	removal earthmoving activities in undisturbed areas containing habitat.	of vegetation removal earthmoving activities in undisturbed areas containing habitat.	

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	Report required by Condition of Approval #2L, and as necessary to demonstrate compliance.					
4.4-3	**Special-status bird species protection.** The Permittee shall not disturb active bird nests without a permit or other authorization from the County, USFWS and/or CDFW. Prior to commencement of vegetation or overburden removal, earthmoving or earth-disturbing activities, or quarrying activities within any undisturbed areas, the Permittee shall retain a qualified biologist to conduct pre-construction surveys for raptors and passerine birds for Project activities occurring during the nesting season (i.e. February 1st through August 31st). 1. For vegetation or overburden removal, earthmoving, earth-disturbing activities, or quarrying activities within previously undisturbed areas (including areas of grassland, shrubs, and trees) occurring between February 1st through August 31st, a qualified wildlife biologist shall conduct preconstruction surveys for passerine bird and raptor nests (including off-site areas with public access, excluding off-site private property) as follows: i) for areas that are not adjacent to lands within the Skyline Wilderness Park Combining District (NCC Chapter 18.90) surveys shall be conducted within a 300 foot radius of earth-disturbing activities; and, ii) for areas that are adjacent to Skyline Wilderness Park designated lands surveys shall be conducted within a 0.25 mile radius of earth-disturbing activities. Because raptor nests may be difficult to identify during the egg laying, incubation, or chick brooding periods (late April to early June), an early season survey is required if Project activity areas are known prior to late April. The biologist shall conduct the preconstruction surveys within the 14-day period prior to vegetation removal and ground-disturbing activities (a minimum of three separate days of surveys shall occur within that 14-day period). 2. In the event that nesting passerine birds and/or raptors are found, the biologist shall consult with CDFW and the County to obtain approval for specific nest-protection buffers as	Permittee	Napa County Department of Planning, Building and Environmental Services, USFW, CDFW	Prior to initiation of vegetation removal earthmoving activities in undisturbed areas	As necessary prior to initiation of vegetation removal earthmoving activities in undisturbed areas	Avoidance

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	appropriate based on the species. Generally, a minimum 150-foot buffer is required around active passerine bird nests and a minimum 300-foot buffer is required around active raptor nests during the breeding and nesting season, or until it is determined by a qualified biologist that all young have fledged. Nest protection measures shall apply to both onsite and offsite active nests that are located within 300 feet of Project activities. These buffer zones may be modified in coordination with CDFW based on existing conditions at the Project site. Buffer zones shall be fenced with temporary construction fencing, which shall remain in place until the end of the breeding season or until young have fledged. 3. If Project-related work lapses for 15 days or longer during the breeding season, a qualified biologist shall conduct another bird and raptor preconstruction survey and consult with CDFW as set forth above in sections (a) and (b) before project work may be reinitiated. 4. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by Condition of Approval #2L, and as necessary to demonstrate compliance, commencing one year from the date of approval of permit.					
4.4-5	**Special-Status Bat Species protection and avoidance.** Prior to commencement of any vegetation or overburden removal, or project or quarrying activities within any undisturbed areas that contain trees, the Permittee shall implement, at the Permittee's expense, the following measures: 1. The Permittee shall retain a qualified biologist to conduct a habitat assessment for special-status bat habitat within 14 days of Project initiation or tree removal. 2. If the habitat assessment identifies suitable special-status bat habitat and/or habitat trees, the biologist shall submit an avoidance plan for review and approval by the County, who	Permittee	Napa County Department of Planning, Building and Environmental Services	Prior to initiation of vegetation removal or earthmoving activities in undisturbed areas that contain habitat	As necessary prior to initiation of vegetation removal earthmoving activities in undisturbed areas that contain habitat	Avoidance

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
may consult with CDFW if determined to be necessary. The avoidance plan shall identify and evaluate the type of habitat present at the Project site and specify methods for habitat and/or habitat tree removal. Trees with cavities, crevices and deep bark fissures shall be avoided. Bat habitat/tree removal shall occur in two phases conducted over two days under the supervision of a qualified biologist. In the afternoon on day one, limbs and branches of habitat trees without cavities, crevices and deep bark fissures would be removed by chainsaw. On day two, the entire tree can be removed. 3. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by Condition of Approval #2L, and as necessary to demonstrate compliance, commencing one year from the date of approval of permit					
4.4-7 Wetlands and riparian communities. To reduce potential wetland impacts, the Permittee shall: 1. Prior to initiation of Project activities (i.e. vegetation and overburden removal within any undisturbed areas) that may affect the areas identified as C1 and C2 in the USACE-jurisdictional determination (USACE File Number 2009-00284N) through direct removal, the Permittee shall obtain a Clean Water Act Section 404 permit from the USACE. If a 404 permit is obtained, then the Permittee shall also obtain a water quality certification from the RWQCB under Clean Water Act Section 401. The Permittee shall compensate for the loss of wetland habitat in these areas to ensure no net loss of habitat functions and values. If mitigation is determined by the County to be infeasible due to lack of areas suitable for wetland creation, the County may approve a suitable offsite location(s). A detailed wetland mitigation plan (subject to approval by the USACE) to provide compensation wetlands shall be required that includes a 5-year monitoring program and reporting requirements, responsibilities, performance success criteria, and	Permittee	Napa County Department of Planning, Building and Environmental Services; USACE; RWQCB	Prior to initiation of vegetation removal or earthmoving in undisturbed areas containing wetland.	As necessary prior to initiation of vegetation removal or earthmoving in undisturbed areas containing wetland.	County and Federal standards

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
contingency requirements. At the end of each monitoring year, an annual report shall be submitted to the USACE, RWQCB, and the Napa County Engineering and Conservation Division. The report shall document the hydrological and vegetative conditions of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies. The compensation wetlands shall be located within the same watershed as project impacts. In lieu of creating compensation wetlands, the Permittee may purchase mitigation credits from an approved mitigation bank at a ratio of 2:1, or as otherwise approved by the USACE. 2. Prior to initiation of Project activity (including vegetation and overburden removal) that may affect sensitive wetland habitats in non-USACE-jurisdictional areas, the Permittee shall obtain permits as may be required by the RWQCB, CDFW, and the County, and shall replace wet areas, at a 2:1 ratio or as directed by the RWQCB, CDFW, and/or the County, to ensure no net loss of habitat functions and values. If onsite mitigation is determined by the County to be infeasible due to lack of areas suitable for wetland creation that are not already planned for project activities, a detailed wetland mitigation plan to provide compensation wetlands shall be required (subject to approval by applicable state and/or local jurisdictions) that includes a 5- year monitoring program and reporting requirements, responsibilities, performance success criteria, and contingency requirements. At the end of each monitoring year, an annual report shall be submitted to the regulatory agencies. The report shall document the hydrological and vegetative conditions of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies. The compensation wetlands shall be located within the same watersheds (i.e. the Arroyo Creek or Cayetano Creek watersheds/drainages) as Project impacts or other suitable areas as determined by Napa County. 3. As part of the proposed Project, a 50-foot setback is included from the main stem of Arroyo Creek for new Project					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	elements beyond the extent of existing roads and development, thus avoiding impact to the riparian corridor along the main stem Arroyo Creek. The 50-foot setback will be determined by mapping the Ordinary High Water Mark (OHWM) of the main stem (below 300-foot elevation) of Arroyo Creek on the Project site. The OHWM and 50-foot setback shall be flagged in the field for review and approval by state and/or local jurisdictions. In two small areas, located in the southwest corner of the property south of the former Grey Rock Plant (as shown on DEIR Figure 4.4- 4), the 50-foot setback shall be increased to approximately 60 feet to avoid two small riparian areas (0.07 acres) that extend beyond the 50-foot setback. The drip-line of this additional vegetation shall be flagged in the field for review and approval by state and/or local jurisdictions. 4. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by Condition of Approval #2L, and as necessary to demonstrate compliance, commencing one year from the date of approval of permit.					
4.4-8	**Invasive Species Management within Preservation /Replanting Areas.** 1. The Permittee, at their expense, shall retain a qualified biologist to prepare an Invasive Species Management Plan (ISMP) for protected native perennial grassland areas (Purple Needlegrass Series) and replanted mitigation areas (i.e., the Ceonothus Preservation/Replanting Area described by Mitigation Measure 4.4-1). The ISMP shall be submitted to the County Department of Planning, Building and Environmental Services for review and approval within 12 months of the effective date of this Permit. The ISMP shall target invasive plant species either existing on the Project site or that could colonize in the future, and shall specify methods of early detection, management, and control of invasive plant species to improve and protect onsite habitats.	Permittee	Napa County Department of Planning, Building and Environmental Services	Within 12 months of the effective date of the Permit	Annually	Consistent with Mining and Reclamation Plan (Section 6.3)

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	The ISMP shall provide a list of target invasive species to be managed at the site with Cal- IPC rating of moderate or higher for the Napa and Mt. George quadrangles and specify success criteria for managed invasive species. Star thistle, medusa head grass, and french broom are known to occur on a nearby vineyard property and shall be included on the list of target invasive species identified in the ISMP. 2. The ISMP shall be implemented by the Permittee within 12 months of approval of the ISMP by PBES to control infestations of invasive species onsite as needed to minimize impacts of such species on remaining protected sensitive habitat areas. Targeted invasive species identified in the ISMP may be managed by handpulling, local application of herbicide, and/or light grazing, or other techniques recommended by the ISMP. Guidance through managed grazing helps reduce fire fuel loads and, if timed properly, can favor the maintenance and expansion of native plant species. Selective control of invasive species shall be employed using best-management practices (BMPs) to minimize soil erosion, water contamination, or non-target herbicide effects that could occur during implementation of invasive species management techniques. 3. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance Report required by Condition of Approval #2L, and as necessary to demonstrate compliance, commencing one year from the date of approval of permit.					
4.4-9	**Oak woodland avoidance, replacement, and preservation.** The Permittee shall, at the Permittee's expense, compensate for direct and indirect impacts to approximately 121 acres of native oak woodlands at a total mitigation ratio of 2:1, including combination of onsite avoidance and preservation (see DEIR Figure 4.4-3 exclusion areas and 50 foot buffer zone along property lines), onsite replacement (see DEIR Figure 4.4-4), and offsite as summarized in the table below.	Permittee	Napa County Department of Planning, Building and Environmental Services	<u>Avoidance:</u> Prior to initiation of project	Prior to project initiation through duration of project	As identified

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
All documentation associated with on and off-site oak woodland mitigation shall be submitted to the County in accordance with the timeframes identified herein and shall be included in the Annual Compliance Report required by Condition of Approval #2L, and as necessary at the request of the County to demonstrate compliance. **Summary of Oak Avoidance, Replacement, and Preservation** **Row / Type / Acres** A – Coast Live Oaks Impact (108.3-acres direct and 12.4-acres indirect) – 121 B – 2:1 Ratio Mitigation Package Total – 242 C – Avoidance and Preservation (Onsite) – 145 D – Net Additional Mitigation Required (Rows B-C) – 97 E – Replacement and Preservation (Onsite) – 12 F – Additional Replacement and/or Preservation (offsite) – 85 G – Total Replacement and Preservation (Rows E+F) – 97 Project mitigation shall be accomplished through a combination of onsite avoidance and preservation, partial onsite replacement and preservation, and additional off-site preservation (as necessary) in accordance with a plan prepared by a qualified biologist. 1. Avoidance. The proposed Project would avoid 136 acres of onsite oak woodlands in the Exclusion areas shown on Figure 4.4-3 of the DEIR and as modified by the Permittee. These areas shall be protected via deed restriction in a form acceptable to the County and shall be recorded prior to the commencement of any mining activities in any previously undisturbed area or any new vegetation or overburden removal activities within the Project area.			Replacement: Prior to initiation of Project Off-site Preservation: Prior to the removal of more than 78-acres of oak woodland		

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
2. Replacement. A site evaluation of oak woodlands on the Project site prepared by an ecologist mapped out areas that appeared suitable for initiating oak replacement plantings (see DEIR Figure 4.4-4), and these activities would provide added benefit of enhancing the age structure of oak woodland at the site. These areas amount to approximately 12 acres of suitable area for potential onsite replacement for partial mitigation of impacts to oaks (additional onsite suitable area may be available upon additional investigation). The oak woodlands evaluation also concluded that planting and/or management practices could be conducted on site to enhance seedling establishment, improve the age structure of the oak woodlands, and increase the sustainability of the oak stands, although these activities can be a challenge to implement due to long term commitment requirement, cost and labor intensive management techniques, and remote nature of some of the onsite areas for access for maintenance. A qualified biologist shall prepare an oak woodland establishment and restoration plan subject to County approval. Prior to the commencement of any mining activities in any previously undisturbed area or any new vegetation or overburden removal activities within the Project area the Oak Woodland Establishment and Restoration Plan shall be initiated and completed (i.e. all replacement trees identified in the Plan shall be planted). Once the success criteria identified in the plan (as described below) is achieved the Plan will be considered finaled. The plan shall specify the location of a minimum of 12 acres onsite for oak replacement/restoration (generally as shown in Figure 4.4-4 of the DEIR), methods of implementation, plants or propogule source(s), watering (schedule/amounts/duration), and maintenance of the oak woodland replacement areas, including measures to avoid deer browsing, as well as a monitoring protocol. The plan shall also specify minimum success criteria consistent with those identified in Section 6.3.2 (Planting Success Criteria)					

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
of the Syar Napa Quarry Mining and Reclamation Plan and Condition of Approval #3C. The Plan and documentation demonstrating planting and survival and success shall be included in the Annual Compliance Report required by Condition of Approval #2L, and as requested by the County to demonstrate compliance. 3. Off-site Preservation. An additional 85 acres off-site shall be permanently preserved via easement or deed restriction. Off-site preservation shall be phased in as part of the Project. Based on implementation of provisions H1 and H2 above the removal of approximately 78-acres of oak woodland could occur before off-site mitigation is necessary. Prior to the commencement of mining operations, or vegetation or overburden removal within any undisturbed areas (including expansions areas), that would remove in total more than 78-acres of on-site oak woodlands (i.e. those areas beyond oak woodland acreage covered by the deed restriction avoidance and replacement on-site) the Permittee shall provide the County with an Off-site Oak Woodlands Preservation Plan containing no less than 85-acres of oak woodlands for review and approval by the County. Off-site location(s) shall be located within the Napa River watershed and be of like quality and habitat value as those being removed, as determined by a qualified biologist and the County. So that offsite mitigation provides the maximum benefit to the area most affected by the project and occurs within the geographic context of the Project, preference shall be given to comparable oak woodlands that are located within the close proximity of the quarry (i.e. within 3.5 miles of the outer portion of the project boundary). In the event offsite preservation areas are determined to be of lesser quality and habitat value relative to the areas removed from the project site, the County may consider an increase in preserved acreage beyond the required 85 acres to offset the inequity in quality and biological value. The PBES Director will make final determinations related to					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	quality of oak woodlands and any increases in preserved acreage to offset any inequities in quality of the preserved woodland. If off-site mitigation is determined by the County to be infeasible due to lack of areas suitable for oak woodland replacement or preservation, the County may approve, provided all other replacement and preservation means are exhausted, additional preservation through an in-lieu fee payment. In-lieu fee payments shall be made to the County for the purpose of purchasing and preserving oak woodlands within the Napa River Watershed or to provide payment to the Oak Woodlands Conservation Fund consistent with Public Resources Code section 21083.4 as developed and approved by the County.					
4.4-10	**Creek Buffer Establishment.** The Permittee shall provide a setback of a minimum of 85 feet from the upper reaches of Arroyo Creek and provide a setback of a minimum of 60 feet from the lower reach of Arroyo Creek (as shown in Figure 4.4-4 of the Project's DEIR) to reduce potential impacts on biological resources and functions consistent with the measurement requirements contained in Chapter 18.108.025 of the Napa County Code.	Permittee	Napa County Department of Planning, Building and Environmental Services	Prior to initiation of vegetation removal or earthmoving in specified areas.	Pre-construction through construction	County standards
4.5	Cultural Resources					
4.5-4	**Avoid or Minimize Impacts to Unknown Historical or Archaeological Resources.** In accordance with CEQA Guidelines Section 15064.5(f), should any previously unknown prehistoric or historic archaeological resources, such as, but not limited to, obsidian and chert flaked-stone tools or toolmaking debris, shellfish remains, stone milling equipment, concrete or stone footings, filled wells or privies, or deposits of metal, glass, or ceramic refuse be encountered during vegetation or overburden removal or other ground disturbing activities, work within 100 feet of these materials shall be stopped, and the Permittee shall, at the Permittee's expense, consult with a professional archaeologist. The Permittee shall	Permittee	Napa County Department of Planning, Building and Environmental Services	Prior to initiation of vegetation removal or earthmoving in undisturbed areas.	As necessary prior to initiation of vegetation removal or earthmoving in undisturbed areas.	State standards

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	notify the County within 24 hours of encountering any cultural resources as a result of mining and quarrying activities and operations, and the County shall inspect the site immediately thereafter to ensure the find is adequately protected. The archaeologist shall prepare an assessment report and recovery plan to evaluate the significance of the find and identify appropriate mitigation measures as may be necessary if the deposit contains significant archaeological materials. The Permittee shall provide the assessment report and recovery plan to the County Engineering and Conservation Division for review and approval, and those mitigation measures shall be carried out prior to any resumption of related ceased earthwork or quarrying activities. The archaeologist shall also undertake data recovery of the deposit unless the Project can be modified to allow the materials to be left in place. Data recovery efforts must follow standard archaeological methods and all significant cultural resource materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards, and the report shall be provided to the County Engineering and Conservation Division as necessary. In the event that the cultural resources identified within the Project area results in a reduction or modification of mining/quarrying boundaries due to avoidance, the Mining and Reclamation Plan shall be revised by the Permittee and submitted to the County for review and approval. Documentation of any occurrence that triggers the provisions above shall be included in the Annual Compliance Report required by Condition of Approval #2L, and as necessary to demonstrate compliance. The County Engineering and Conservation Division shall monitor this requirement.					
4.5-5	**Avoid or Minimize Impacts to Unknown Human Remains.** Should human remains, associated grave goods, or items of cultural patrimony be encountered during quarry or other ground-disturbing activities, the Permittee shall comply with the following procedures as required by Public Resources Code	Permittee	Napa County Department of Planning, Building and	Prior to initiation of vegetation removal or earthmoving in	As necessary prior to initiation of vegetation removal or	State standards

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	section 5097.9 and Health and Safety Code section 7050.5. In the event of discovery or recognition of any human remains, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the Napa County Coroner has determined that the remains are not subject to his or her authority. If the coroner determines the human remains to be Native American, he or she shall contact, by telephone within 24 hours, the State Native American Heritage Commission (NAHC). The NAHC shall assign a Most Likely Descendent (MLD). The MLD may provide recommendations regarding the treatment of the human remains and any associated cultural materials. If the Applicant rejects the recommendations and the mediation by NAHC fails to provide acceptable measures, then the Applicant shall rebury the Native American remains and associated grave goods with appropriate dignity on the property, in a location not subject to further subsurface disturbance. Furthermore, the permittee shall notify the County within 24 hours of encountering any human remains as a result of mining and quarrying activities and operations that the County Coroner determines to be Native American. The County shall inspect the site immediately thereafter to ensure the find is adequately protected. Prior to any further mining or quarrying activities in areas where human remains have been encountered, the Permittee shall provide documentation that they have consulted with the NAHC regarding the treatment of the human remains. In the event that the human remains identified within the Project area result in a reduction or modification of mining/quarrying boundaries, the Mining and Reclamation Plan shall be revised by the Permittee and submitted to the County for review and approval. Documentation of any occurrence that triggers these provisions above shall be included in the Annual Compliance Report required by Condition of Approval #2L, and as requested by the County, to demonstrate compliance.		Environmental Services	undisturbed areas.	earthmoving in undisturbed areas.	
4.5-6	**Evaluation and Treatment of Paleontological Resources.**					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	If paleontological resources (e.g., vertebrate bones, teeth, or abundant and well-preserved invertebrates or plants) are encountered during Project activities, work in the immediate vicinity shall be diverted away from the find and protective fencing shall be installed a minimum of 50 feet from the exterior bounds of the find to protect it until a professional paleontologist assesses and salvages the resource, if necessary. The Permittee shall notify the County within 24 hours of encountering any paleontological resources as a result of mining and quarrying activities and operations, and the County shall inspect the site immediately thereafter to ensure the find is adequately protected. Prior to any further mining or quarrying activities in areas where paleontological resources have been encountered, the Permittee shall provide an assessment report and salvage plan prepared by professional paleontologist for review and approval by the County. In the event that the paleontological resources are identified within the project area that result in a reduction or modification of mining/quarrying boundaries, the Mining and Reclamation Plan shall be revised by the Permittee and submitted to the County for review and approval.	Permittee	Napa County Department of Planning, Building and Environmental Services	Prior to initiation of vegetation removal or earthmoving in undisturbed areas.	As necessary prior to initiation of vegetation removal or earthmoving in undisturbed areas.	State standards
4.6	Geology and Soils					
4.6-2a	**Supplemental Geotechnical Design Criteria.** The Permittee shall not locate facilities on unstable slopes, to the extent feasible. Prior to construction of any roads, berms or dams associated with detention/sedimentation basins, or related structures, the Permittee shall, at the Applicant's expense, retain a licensed geotechnical engineer and, when appropriate, a structural engineer to conduct a construction-level geotechnical investigation for the facility(ies). The slope stability inspection reports required by Mitigation Measure 4.6-2b may be included in this report. The geotechnical investigation shall evaluate seismic hazards and provide recommendations to mitigate the effect of strong ground shaking and unstable soils and slopes to avoid structural failure. The geotechnical study shall provide design criteria to	Permittee	Napa County Department of Planning, Building and Environmental Services	Prior to initiation of vegetation removal or earthmoving in undisturbed areas.	As necessary prior to initiation of vegetation removal or earthmoving in undisturbed areas.	As identified.

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
mitigate strong seismic ground shaking. The seismic design criteria shall take into account the active faults in the Napa area**.** The geotechnical study shall include an evaluation of unstable land in the areas of stormwater improvements and road construction, including any areas susceptible to liquefaction or settlement, and any areas that may contain expansive soils. The study shall provide measures to repair, stabilize, or avoid such soils or slopes, and may include, but not be limited to: • Removal and replacement of unstable materials in an existing landslide or in an actively eroding area with a stronger material; • Grading to remove loose material and provide an acceptably stable topographic configuration by terracing, reducing slope angles, and reducing the height of cut and fill slopes; • Installation of drainage facilities, such as subdrains and dewatering wells to reduce pore water pressure and reduce the risk of slope failure; • Covering steep slopes with concrete or vegetation; • Buttressing the slope or the toe of slopes to provide additional support to the slope. Where buttressing is not feasible, internal reinforcement such as a pinning system or lattice grid can be incorporated into the slope design to strengthen the slope; • Retaining walls or other external applications to strengthen slopes; • Placement of slope fencing or other material to stabilize rock fall from cut slope and mitigate hazards from falling rocks; • Removal of native soils and replacement with engineered fill materials not prone to seismically-induced liquefaction or shrinking and swelling; • Soil stabilization, such as lime treatment to alter soil properties to reduce shrink-swell potential to an acceptable level; and/or, • Deepening support structures to a depth where unstable soils are no longer present. Project facilities shall be designed and constructed in conformance with the specific recommendations contained in					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	design-level geotechnical studies, including recommendations for grading and ground improvement. The geotechnical investigations and any associated documents or reports required by this measure shall be submitted within 12 month s approval of this permit and shall be included in the Annual Compliance Report required by Condition of Approval #2L, and as requested by the by the County, to demonstrate compliance. As necessary the County will either hire a consultant (at the Permittee's expense) assess geotechnical investigations and compliance.					
4.6-2b	**Slope Stability Criteria.** A California registered Geotechnical Engineer, retained and paid by the Applicant, shall conduct slope stability inspections during excavation of undisturbed areas including the expansion areas. Inspections shall be completed on an annual basis, at a minimum, as well as after heavy rain events (precipitation falling with an intensity in excess of 0.30 inches per hour) or earthquakes with a magnitude of 6.0 or greater. Inspections shall include mapping and movement monitoring of the slopes to assess the potential for project excavation, grading, and overburden storage to trigger movement of debris flow and landslides. If a slope condition presents a risk to safety or the potential for mass movement, repair measures shall be recommended and promptly implemented by the Permittee. This may include repair, stabilization, or avoidance of landslides and areas of soil creep or possible debris flow. A memorandum summarizing the findings of the inspections and any recommendations shall be prepared and submitted to the Napa County Engineering and Conservation Division and Syar each year. Engineering recommendations for slope repair or stabilization shall be approved by Napa County and incorporated into the Syar Napa Quarry Mining and Reclamation Plan as necessary. Slope stability inspection reports/memorandums and any associated documents or reports required by this measure shall be submitted within 12 months of approval of this permit and	Permittee	Napa County Department of Planning, Building and Environmental Services	Prior to initiation of vegetation removal or earthmoving in undisturbed areas.	As necessary prior to initiation of vegetation removal or earthmoving in undisturbed areas.	As identified

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	shall be included in the Annual Compliance Report required by Condition of Approval #2L, and as requested by the County, to demonstrate compliance. As necessary the County will hire a consultant (at the permittee's expense) to assess slope stability memorandums/reports and compliance.					
4.7	Hazardous Materials					
4.7-2	**Standard operating procedures (SOPs).** SOPs shall be used during the handling of hazardous materials for the operation and maintenance of vehicles and equipment; and an approved Hazardous Material Business Plan shall be maintained for the project site. 1. Syar shall develop SOPs for the use of hazardous materials including fuels and lubricants used onsite prior to implementation of the Project including any vegetation or overburden removal, mining or quarrying activities, or earth-disturbing occurring in undisturbed areas. Quarry personnel shall follow written SOPs during onsite operation and maintenance of all equipment. The SOPs, which are designed to reduce the potential for incidents involving hazardous materials, shall include the following information and protocols: • Refueling shall be conducted only with approved pumps, hoses, and nozzles. • Catch-pans shall be placed under equipment to catch potential spills during servicing. • All disconnected hoses shall be placed in containers to collect residual fuel from the hose. • Vehicle engines shall be shut down during refueling. • No smoking, open flames, or welding shall be allowed in refueling or service areas. • All refueling, maintenance of vehicles and other equipment, handling of hazardous materials, and staging areas shall occur at least 100 feet from water	Permittee	Napa County Department of Planning, Building and Environmental Services	Within 12 months of the effective date of this Permit.	Annually as necessary.	County standards

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
courses, existing groundwater wells, and any other water resource to avoid the potential for risk of surface and groundwater contamination. • Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents. • A spill containment kit that is recommended by the Napa County Environmental Health Division (EHD) or local fire department shall be onsite and available to staff if a spill occurs. • A rinse water containment area shall be established outside the proposed creek setbacks and away from any areas that could potentially drain off site or potentially affect surface and groundwater quality. When quarry equipment is cleaned, only rinse water that is free of gasoline residues, other chemicals, and waste oils is allowed to diffuse back into the quarry area. No rinse water shall be drained to a septic system or discharged to ground or surface water to prevent the release of hazardous materials into the environment during operation and maintenance of the proposed Project. • To prevent the accidental discharge of fuel or other fluids associated with vehicles and other equipment, all workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. In the event that contaminated soil and/or groundwater or other hazardous materials are generated or encountered during quarry operations, all work shall be halted in the affected area and the type and extent of the contamination shall be determined by the County Environmental Health Division. Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with federal, state, and local regulations. If containment and size of the spill is beyond the scope of the attending personnel, proper authorities shall be notified. The Permittee shall notify the County Engineering and Conservation Division and the Environmental Health Division within 24 hours of any					

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
potential soil or groundwater contamination that has occurred or is a result of quarry operations. 2. Syar's Hazardous Materials Business Plan (HMBP) shall be updated annually as required by law. Syar shall amend the existing HMBP inventory form for the Syar Napa Quarry, in accordance with state law, in the following instances if warranted as a result of the Project: • A 100 percent or more increase in the quantity of a previously disclosed material; or, • Any handling of a previously undisclosed hazardous material above the reportable quantity thresholds of 500 pounds of solid, 55 gallons of liquid or 200 cubic feet of gas. 3. The Permittee's HMBP shall also meet the standards of the *Hazardous Material Business Plan and Emergency Action Plan* (Napa County Department of Environmental Management, 2008 or as amended) and shall be subject to approval by Napa County. The amended HMBP shall include: an inventory of the type and quantity of hazardous materials stored onsite; a site map; risks of using the hazardous materials; spill prevention methods; emergency response plan; employee training and emergency contact information. 4. The HMBP shall also include a review of each chemical used onsite and a determination on whether any substitution with less hazardous chemicals can be made. Changes shall be made as appropriate. The hazardous materials inventory, site map, emergency response plan, business owner form, and business activities form must be submitted to the County Environmental Health Division (EHD). The Permittee shall notify the EHD within 30 days of any change in storage of a hazardous material or if there is a 100 percent increase in quantity of a hazardous material previously disclosed in the HMBP. An employee training record shall be filed onsite and may be inspected by the EHD once every three years. 5. Waste oil containers shall be stored in secondary					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	containments that include oil-impervious bermed areas or liners, retaining walls, and/or are stored on impervious concrete floors. Waste oil containers shall be covered during rain events and shall not be stored within any buffers, creek setback, or other exclusion areas. Waste oil containers shall be labeled "waste oil". The containers shall also be labeled with the following information: accumulation start date; the hazardous properties of the waste (ex. flammable, corrosive, reactive, toxic, etc.) and the name and address of the facility generating the waste. All waste oil containers shall be transported offsite by a licensed transporter and taken to a waste oil recycling facility. 6. The SOPs, amended/updated HMBP, and any associated documents or reports required by this measure shall be submitted within 12 month s of approval of this permit and shall be included in the Annual Compliance Report required by Condition of Approval #2L, and as requested by the County, to demonstrate compliance					
4.8	Hydrology and Water Quality					
4.8-1	**Update Industrial Storm Water Pollution Prevention Plan to address new land disturbance and operations changes**. Prior to initiation of any vegetation removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion areas) and annually as necessary, the Permittee shall update Syar Napa Quarry's existing Industrial SWPPP (WDID#228I005111) to reflect additional areas of land disturbance and changes in operation resulting from the Project. The Permittee shall modify the SWPPP as the project progresses and as conditions warrant to remain consistent and compliant with SWRCB Order No. 2014-0057-DWQ, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities. The updated SWPPP shall identify the sources of pollution that may affect the quality of industrial stormwater discharges and	Permittee	Napa County Department of Planning, Building and Environmental Services	Within 12 months of the effective date off this Permit.	Annually as necessary for the life of the permit.	County, State, and Federal standards

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
authorized non-storm water discharges, and describe and ensure the implementation of BMPs to reduce or prevent pollutants in industrial stormwater discharges. The updated SWPPP shall also include monitoring measures and other requirements contained in Order No. 2014-0057-DWQ. Implementation of the SWPPP shall include reviews, inspections or monitoring by the County Engineering and Conservation Division on a quarterly basis. The Permittee shall continue to compare quarterly monitoring results to current and future EPA suggested benchmark levels ((i.e. Numeric Action Levels (NAL) identified in Order No. 2014-0057-DWQ)) to determine the effectiveness of onsite control measures and make adjustments accordingly. No discharges from the site shall exceed 100 mg/l of Total Suspended Solids or 200 umho/cm (i.e. micromhos per centimeter) of Specific Conductance. In addition the Project shall not result in a net increase in sediment load. Quarterly monitoring reports shall be submitted to the County for review to determine compliance and corrective actions to achieve benchmarks and assess the effectiveness of previously implemented BMPs. Should ongoing oversight by the County Engineering and Conservation Division or the Environmental Health Division show any exceedances of EPA Benchmarks that have persisted for more than 12 months (that are not attributed to naturally occurring environmental conditions, or background conditions), the Permittee shall, within 30 days of notification by the County, implement additional or new BMPs to adequately address the exceedances. The updated SWPPPs and any associated documentation, including annual monitoring reports submitted to the RWQCB shall be submitted within 12 months of approval of this permit and shall be included in the Annual Compliance Report required by Condition of Approval #2L, or as requested by the County to demonstrate compliance. Updated SWPPPs will be appended to the Mining and Reclamation Plan as necessary in order to satisfy the erosion and sediment control of SMARA.					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
4.8-2	**Avoid depleting groundwater supplies or interfering with groundwater recharge mechanisms including maintaining a 10-foot vertical separation between final grade and regional groundwater potentiometric elevation.** The Permittee shall maintain existing volumes of groundwater recharge and shall ensure that a vertical buffer of undisturbed native soil/rock remains in place which maintains the final grade elevation no closer than 10 feet above the spring season regional groundwater potentiometric elevation. The Permittee shall not excavate and/or mine material within 10 feet of the regional groundwater potentiometric surface to prevent the creation or expansions of open water bodies subject to evaporation or springs which can drain regional groundwater to surface drainages or creeks. To avoid depleting groundwater supplies in all mined areas within the Syar Napa Quarry the grade of the excavation shall be maintained at a minimum of 10 feet above the elevation of the regional groundwater potentiometric elevation. This mitigation will preclude regional groundwater from discharging as surface water. To ensure that groundwater infiltration/recharge volumes are maintained, pre-project (baseline) infiltration volumes shall be compared with project groundwater infiltration volumes. If there is a deficit, BMPs shall be adjusted or consumptive use of water shall be curtailed until groundwater recharge volumes are greater than or equal to pre-project volumes. Pre-project infiltration volumes were calculated at 685 acre-feet in the Arroyo Creek watershed/drainage and 442 acre-feet in the State Blue watershed/drainage, totaling 1,067 acre-feet (see Figure 4.8-2). For the upper reaches of the site, this mitigation measure shall be achieved through a combination of best management practices (BMP's) that entail: managing recharge areas [or detention/infiltration ponds] so that pre-project (baseline) groundwater infiltration volumes are maintained, limiting the depths of excavation and or mining to 10 feet above the regional groundwater table and, limiting the depths of excavation and or mining near Arroyo Creek so as to not change the flow path of the creek.	Permittee	Napa County Department of Planning, Building and Environmental Services	Prior to initiation of vegetation removal or earthmoving in undisturbed areas or increases in depth of mining beyond existing conditions.	Annually and as necessary Prior to initiation of vegetation removal or earthmoving in undisturbed areas for the life of the permit.	As identified and State standards

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
For the lower reaches of the site (and any offsite interactions), this mitigation measure shall be achieved by maintaining pre-project flow conditions in Arroyo Creek. These conditions include the flow rates, timing of peak runoff, and volume of water in the creek. This mitigation measure requires the monitoring of stream flow in the lower reach of Arroyo Creek. Impacts to the amount of water and timing of peak flows entering the creek are managed through the use of surface grading, surface cover, and detention basins. It is expected that the actual elevation of regional groundwater potentiometric elevation will vary from the estimates provided in Figure 4.8-6. Adherence with this mitigation measure requires accurate and contemporary understanding of the regional groundwater potentiometric elevation under the Syar Napa Quarry. This understanding is necessary in order to avoid excavating into the 10-foot vertical buffer zone. To accomplish this and to obtain the data necessary to comply with this mitigation measure, the Permittee shall provide the County with an Annual Groundwater Elevation Monitoring and Use Report, prepared under the direction of a qualified Professional Engineer or Professional Geologist, that quantifies the groundwater potentiometric elevations during spring of each year (when groundwater elevations are expected to be highest at the Syar Napa Quarry) and through the following means: 1. The Permittee shall monitor stream flow and pond elevation throughout every year the Quarry is in operation. This information, along with publicly available climactic data, shall be used to calculate the groundwater infiltration volumes quarterly, in a manner consistent with Appendix J. The results of the monitoring and water balance infiltration analysis shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report. 2. The Permittee shall install piezometers or monitoring wells as required to quantify the regional groundwater potentiometric elevation in areas of active mining prior to					

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
any mining excavation that will cause an increase in mining depth beyond existing conditions and/or is likely to extend to within 50 feet of the groundwater elevations presented on Figure 4.8-6. The results of groundwater potentiometric elevation monitoring shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report which is required by this Mitigation Measure. All excavation activity at the Syar Napa Quarry shall be conducted to maintain a 10-foot separation of undisturbed native soil/rock between the finished grade and the underlying groundwater potentiometric elevation as determined by the most recent Annual Groundwater Elevation Monitoring and Use Report. Increased mining depth in areas that are already at or below the groundwater potentiometric elevation, including but not limited to the State Blue Pit, shall not occur. a) To determine the location, number, and timing of piezometer or monitoring well installation that are necessary to accurately determine the groundwater potentiometric elevation in areas of active mining, the Permittee shall provide a monitoring piezometer/well plan prepared by a qualified Professional Engineer, Professional Geologist, or Professional Hydrogeologist to the County for review and approval prior to commencing any mining activities that would increase the depth of mining beyond existing conditions. The monitoring piezometer/well plan shall also be included in the Annual Groundwater Elevation Monitoring and Use Report. 3. To avoid interfering with the groundwater recharge mechanisms, the Permittee shall also ensure that any subsurface flow in fractures or soil that is exposed or intercepted by the excavation shall be reinfiltrated within the same watershed boundaries. Any surface water that is not the direct result of surface water runoff during rain events shall be infiltrated or directed to areas that provide groundwater infiltration onsite (such as project detention ponds/basins) and within the same watershed and as					

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
depicted on Figure 4.8-10. Surface water which is the direct result of rain events shall be infiltrated to groundwater or directed to the existing channels. Spring season monitoring shall be conducted by the Permittee concurrent with SWPPP monitoring (required by Mitigation Measure 4.8-1) to verify that springs and subsurface flow exposed as a result of mining activities is infiltrated back into the subsurface before reaching the surface flow channels. If persistent springs are formed by mining activities the Permittee shall hire a qualified professional to assess springs and provide an evaluation to the County to determine if the elevation of these springs are part of the regional groundwater potentiometric surface; if so, mining shall not advance further below this elevation. 4. While no direct groundwater extraction has been proposed or approved in the Arroyo Creek vicinity, existing Well #4 could be activated for extraction or an additional well could be installed. The extraction of groundwater from Well #4 or from any additional well at the project site, including in the Arroyo Creek vicinity, shall be subject to the groundwater extraction limitation of 140.6 acre-feet per year pursuant to Mitigation Measure 4.4-8 and Condition of Approval #2D.. Any new groundwater extraction wells shall subject to additional environmental review pursuant to CEQA and modification of this surface mining permit. Any monitoring reports, including annual documentation of groundwater infiltration/recharge volumes and mining elevations in relation to the estimated regional groundwater potentiometric elevations (presented in DEIR Figure 4.8-6), and documentation of any exploratory borings and/or monitoring wells required to be installed or that have been installed, shall be submitted within 12 months of approval of this permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required by this measure. Additionally, any documentation required by this mitigation measure shall also be included in the Annual Compliance Report required by Condition of Approval #2L, or as requested by the County to demonstrate compliance.					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
4.8-3	**Avoid reducing the groundwater potentiometric elevation by increasing consumptive use of surface water or surface occurrence of regional groundwater as a result of quarry activities.** The Permittee shall ensure that all water extracted from open bodies of water that are at the regional groundwater potentiometric elevation shall be reinfiltrated in surface detention/infiltration basins within the same watershed from which the extraction occurs (i.e. the State Blue or Arroyo Creek watersheds) or it will be considered a consumptive use of groundwater. This will prevent depletion of the groundwater resource by consumptive use of water derived from open bodies of water such as State Blue Pit. This Mitigation Measure 4.8-3 shall not apply to the draining of ponded surface water which is at an elevation higher than the underlying regional groundwater potentiometric elevation, provided the water is not used outside of the watershed it was derived from. Ponded surface water which occurs in temporary low areas in active mining areas may be pumped to detentions ponds within the same watershed for reinfiltration purposes. As part of quarry activities, water may be pumped from open water bodies such as State Blue Pit for consumptive quarry activities such as dust control and other uses where the water is not reinfiltrated. The volume of groundwater that is pumped from those water bodies where the water surface elevation is effectively the same as the regional groundwater potentiometric elevation (i.e. State Blue Pit) shall be considered part of the maximum allowable annual groundwater use allocation of 140.6 acre-feet per year for the Project. Consumptive use from open water bodies such as State Blue Pit shall be recorded and considered a part of the groundwater allocation in the same manner as the groundwater pumping from the Quarry Well. The volume of water used to wash materials shall not be included in the quantification of groundwater use if it is returned to the aquifer by reinfiltration. The volume of wash water returning to detention ponds for infiltration is not considered in quantifying groundwater use because it is not a consumptive use of groundwater.	Permittee	Napa County Department of Planning, Building and Environmental Services	Within 12 month of the effective date of this Permit.	Annually and as necessary prior to initiation of vegetation removal or earthmoving in undisturbed areas or that would increase mining depth beyond existing conditions, for the life of the permit.	As identified and County and State standards.

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	To help ensure that groundwater infiltration volumes are not decreased, pre-project infiltration volumes shall be compared with project groundwater infiltration volumes. If there is a deficit, BMP shall be adjusted or consumptive use of water shall be curtailed until groundwater recharge volumes are greater than or equal to pre-project volumes. Pre-project infiltration volumes were calculated at 685 acre-feet in the Arroyo Creek drainage and 442 acre-feet in the State Blue drainage, totaling 1,067 acre-feet. Maintaining groundwater recharge volume shall be addressed by routing stormwater runoff to existing ponds or new surface detention/infiltration basins that shall be constructed on recharge areas to ensure that groundwater infiltration volumes are equal or greater than pre-project groundwater infiltration volumes. To ensure that existing volumes of groundwater recharged are maintained the Permittee shall monitor pond elevation throughout the year. This information, along with publicly available climactic data, shall be used to calculate the groundwater infiltration volumes quarterly, in a manner consistent with Appendix J. The results of the monitoring and water balance infiltration analysis shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report. Monitoring reports required by this measure shall be submitted within 12 months of approval of this permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required pursuant to Mitigation Measure 4.8-2. Additionally, reports required by this mitigation measure shall also be included in the Annual Compliance Report required by Condition of Approval #2L, and as necessary or requested by the County to demonstrate compliance.					
4.8-4	**Avoid depleting groundwater supplies by water reuse and obtaining new supplies of additional water for operations.** No additional groundwater from existing sources is available to accommodate the additional water demand of the proposed Project. The Permittee's maximum allowable annual	Permittee	Napa County Department of Planning, Building and	Within 12 months of the effective date of this permit.	Annually for the life of the permit.	As Identified: Use not to exceed 140.6 acre-feet per

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
groundwater usage for all quarry operation and associated activities shall not exceed 45.8 million gallons (or 140.6 acre-ft) per year. This mitigation measure includes metering to verify that demands upon water resources are not exceeded. This mitigation measure also includes accommodating any additional water demands with a combination of water reuse, new water sources or water conservation methods. In order to document the use of the existing water sources, the Permittee shall continuously monitor, meter and maintain records of all water use at the Quarry site. These monitored sources shall include: 1. Groundwater from the Quarry Well, or any other groundwater well related to the project that could have a similar impact (i.e. Well #4 and/or the Latour Court well); 2. Water collected from open water bodies in contact with the regional groundwater potentiometric elevation (as identified in Mitigation Measures 4.8-2 and 4.8-3); and/ or 3. Impounded surface water that would otherwise infiltrate to groundwater. Monitoring reports required by this measure shall be submitted within 12 months of approval of this permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required pursuant to Mitigation Measure 4.8-2. Additionally, reports required by this mitigation measure shall also be included in the Annual Compliance Report required by Condition of Approval #2L, and as requested by the County to demonstrate compliance. If new wells are installed and/or if existing wells (i.e. Well #4) are brought into production the extraction from these wells shall be included in the annual usage total. The total of groundwater/surface water used for quarry operations shall be totaled and reported monthly to the County. Any new groundwater well shall subject to additional environmental review pursuant to CEQA and modification of this surface mining permit.		Environmental Services			year.

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	On-site water that is used which can be used non-consumptively such as a controlled process were the water is used for sand washing and then recharged to the groundwater through a detention basin would not be included in the total of water used for the Quarry if it can be demonstrated through monitoring and reporting as part of the annual water usage report that it is recharged to groundwater. The Permittee shall also off-set additional water demands by reusing water and increasing processing efficiencies. This could include gravel application to roadways and production areas to reduce dust generation and the need for dust suppression by water application. It could also include process revisions to reuse sand wash water rather than allow the water to drain off as surface water or to allow it to evaporate in shallow ponds that have low infiltration benefit. If additional water is required for the Project, the additional water shall be obtained from offsite sources such as new wells outside of the MST. Off-site sources of recycled water are available and water can be purchased from public or private sources. If additional water sources are not available then the Permittee shall reduce its production volume to a level that the water use does not exceed the maximum allowable annual usage of 45.8 million gallons (140.6 acre-feet) per year. Any new or additional water sources for Quarry operations shall subject to additional environmental review pursuant to CEQA and modification of this surface mining permit. The County Engineering and Conservation Division shall monitor this requirement. Compliance of this measure shall be subject to Article VI (Enforcement) of Napa County Code Chapter 16.12 (Surface Mining and Reclamation).					
4.8-5	**Reduce Potential for Offsite Runoff.** The Permittee shall design and construct detention ponds in the mined watersheds to reduce stormwater runoff volume, rates and sedimentation in addition to maintaining infiltration to groundwater. The specific locations of these detention ponds	Permittee	Napa County Department of Planning, Building and	Within 12 months of the effective date of this permit.	Annually and as necessary through the life of the permit	County and State standards

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
shall be determined during the development of the grading and drainage plans, as required by the County's Surface Mining and Reclamation Ordinance (Napa County Code Chapter 16.12). The Permittee shall submit a final detailed design-level hydrologic and hydraulic analysis within 12 months of approval of this permit as part of the annual mining plan (that is a component of the Project's Mining and Reclamation Plan) to the Napa County Engineering and Conservation Division detailing the implementation of the proposed drainage plans, including detention pond facilities that shall conform to the following standards and includes the following components: 1. Peak runoff in 2-, 10-, 50-, and 100-year storm events during the years of active mining and at the end of mining shall not exceed existing conditions. The final grading and drainage plan, including detention pond designs, shall be prepared by a California licensed Professional Engineer. All design and construction details shall be depicted on the grading and drainage plans (or SWPPP) and shall include, but not be limited to, inlet and outlet water control structures, grading, designated maintenance access, and connection to existing drainage facilities. 2. The Napa County Engineering and Conservation Division shall review and approve the grading and drainage plans prior to implementation to ensure compliance with Napa County standards. The Permittee shall implement any additional improvements deemed necessary by the County. 3. Once constructed, the drainage components, including detention ponds designed for the watersheds, shall be inspected by the County's Engineering and Conservation Division annually to ensure they are maintained per the guidelines outlined in the Sediment Basin BMPs found in the Napa Quarry SWPPP. The Permittee shall ensure that all disturbed areas of the quarry are graded and maintained in conformance with the approved grading and drainage plans or SWPPP, and are designed in such a manner as to direct stormwater runoff to a properly sized detention pond.		Environmental Services			

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	4. All calculations, plans, and reports required by this mitigation measure shall also be included in the Annual Compliance Report required by Condition of Approval #2L, or as requested by the County to demonstrate compliance.					
4.8-6	**Update Industrial Storm Water Pollution Prevention Plan to address hazardous materials spill response actions.** The Permittee shall revise its Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan as necessary to directly address the potential for a spill or release of hazardous material near or into a water body that is directly connected to the regional aquifer. The revision shall include provisions for training in spill response and containment and maintaining access to the needed equipment to respond to a spill. The revisions to the plan will also contain provisions to eliminate or minimize the storage of hazardous materials in areas which drain to portions of the project site where the regional groundwater is exposed. These revisions shall then be incorporated into the SWPPP by summary and reference. The Permittee shall provide the revised Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan to the County for review and approval within 12 months of approval of this permit. Thereafter, any time the Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan is revised or updated it shall also be submitted to the County in the Annual Compliance Report required by Condition of Approval #2L, or as necessary to demonstrate compliance. If the County finds that the Permittee has not revised and updated the plan as necessary the Permittee shall have 30 days to submit the plans to the County for review and approval. Compliance with this measure shall be subject to Napa County Code Sections 16.12.600 through 16.12.660 (Surface Mining and Reclamation – Enforcement).	Permittee	Napa County Department of Planning, Building and Environmental Services	Within 12 months of the effective date of this permit	Annually and as necessary through the life of the permit	County and State standards
4.11	Noise and Vibration					

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
4.11-1	**Noise Restrictions in Expansion Area North and East of the State Blue Pit and Snake Pit (Pasini Parcel):** To reduce noise impacts of mining, quarrying, and associated operations the Permittee shall adhere to the following: • No aggregate mining operations shall occur between the hours of 6:00 PM and 7:00 AM in mining expansion areas to the north and east of the State Blue Pit where there are residences not shielded by intervening terrain. • With the exception of blasting and the removal of overburden the Permittee shall: 1) Limit daytime aggregate mining operations to between the hours of 7:00 AM and 12:00 PM in unshielded areas to the north and east of the State Blue Pit or Snake Pit areas within 2,500 feet of the nearest sensitive receptors (residences, schools, or trails within Skyline Park); 2) Ensure that noise levels at the nearest receptor locations north or east of the quarry shall not exceed 50 dBA L50 from 7:00 AM to 10:00 PM and 45 dBA L50 from 10:00 PM to 7:00 AM. • The Permittee shall utilize the following measures or equivalent: a) Maintain acoustical shielding for receivers north or east of the quarry so that existing terrain features provide the maximum amount of shielding for the longest time possible. b) Use the quietest available equipment when removing topsoil and overburden (e.g., well-maintained, modern equipment such as higher Tier engines, having sufficient engine insulation and mufflers, electric or hydraulic powered equipment, or equipment operation settings at the lowest possible power levels). c) Conduct noise monitoring and maintain noise monitoring reports to ensure that daytime noise levels from aggregate mining and operations do not exceed 50 dBA L50 at the nearest receptor locations north and east of the quarry (i.e. along the norther and eastern property lines in the vicinity of the State Blue Pit or Snake Pit areas), which are areas where monitoring sites should be located. Noise monitoring shall be conducted daily for the first five years of the Permit: thereafter the Planning Commission shall determine the extent of ongoing noise monitoring as part of their Project	Permittee	Napa County Department of Planning, Building and Environmental Services	Within 3 months of the effective date of this permit	Annually and as necessary for the first 5 years after the permit is issued, TBD thereafter	County standards

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
and Permit review required by Condition of Approval #1F. Noise monitoring reports shall be submitted monthly to the County Environmental Health and Engineering and Conservation Divisions, or upon request, to verify compliance. If and as necessary the County will either hire a consultant (at the Permittee's expense) to assess compliance or provide 3rd party independent noise monitoring of the Project. d) Noise monitoring results shall also be submitted to the County in the Annual Compliance Report required by Condition of Approval #2L, or as necessary to demonstrate compliance. If the County finds during annual compliance review that noise levels of Quarry Operations are excessive, the Permittee shall modify Quarry Operations or the Mining and Reclamation Plan so that the noise limits identified herein are not exceeded.					
4.11-2 Blasting Vibration Reduction Measures. To reduce vibration impacts, the Permittee shall: 1. Monitor peak particle velocity and peak sound pressure during each blast event to ensure that vibration levels are under 0.20 in/sec PPV and air-blast overpressures are under 133 dB(L) at sensitive land uses (residences and schools). Monitoring sites shall be located along the northern property boundary and along Imola Avenue adjacent to sensitive land uses. Blasts shall be modified to reduce the charge weight per delay. The charge weight per delay shall not exceed 175 lbs. for blasting near the northernmost property boundary (i.e. within 1,000 feet) to maintain vibration levels below 0.20 in/sec PPV and air-blast overpressures below 133 dB(L) at sensitive land uses. 2. The effectiveness of this measure shall be demonstrated to the County by submittal of vibration calculations/measurements and monitoring records for each blast event that are satisfactory to the County for effectiveness review. Monitoring records shall be provided to the County Environmental Health and Engineering and Conservation Divisions monthly, or as necessary at the request of the County, to demonstrate and verify compliance	Permittee	Napa County Department of Planning, Building and Environmental Services	Upon the effective date of this permit	Annually throughout the life of the permit	As indicated.

	Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
	with this measure. If the County finds that the Permittee has not maintained the required vibration levels during blasting events, the Permittee shall immediately lower charge weights as necessary, below the limits identified above, until required reductions have been achieved. 3. Conduct stemming and burdening (filling the drilled holes with dirt and rock above the explosive charge) of the blast holes to confine the blast charges into the ground and to minimize acoustic overpressure levels. 4. To ensure that surrounding residence and sensitive receptors are aware of blasting events, Syar shall notify the County, sensitive receptors, and surrounding residences prior to blasting. The following uses/facilities shall be included in this notification: Skyline Wilderness Park, Napa County Office of Education, Chamberlin High School, Liberty High School, Creekside Middle School, the Napa Preschool Program, the Napa Child Development Center, and the Napa State Hospital. The Permittee shall request contact information from residences and sensitive receptors that wish to be notified and provide notification at least 48-hours in advance of the blast. This provision will be included as a condition of approval should the project be approved. 5. Vibration monitoring records shall also be submitted to the County in the Annual Compliance Report required by Condition of Approval #2L to demonstrate compliance. If the County finds during annual compliance review the Permittee has not maintained the required vibration levels during blasting events, the Permittee shall reduce charge weights as necessary to ensure specified vibration levels are not exceeded. As necessary the County may hire a qualified professional (at the Permittee's expense) to assess compliance.					
4.11	Greenhouse Gas Emissions					
4.11-1	**Greenhouse Gas Emission Reduction:** To reduce greenhouse gas emissions, the Applicant shall prepare a Greenhouse Gas Reduction Plan (GHG Reduction Plan).	**Permittee**	Napa County Department of Planning, Building and	Upon the effective date of this permit	Annually throughout the life of the permit	As identified

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
The GHG Reduction Plan shall identify the measures to be used to reduce the GHG emissions associated with the proposed project below the 1,100 MT CO2e annual land use threshold (or increase of 1,100 MT CO2e over baseline conditions). The effectiveness of each measure in the GHG Reduction Plan shall be quantified, indicating its contribution to the reduction of GHG emissions. The Applicant shall choose from, but not be limited to, the following measures to incorporate into the GHG Reduction Plan: • Fuel on-road and off-road vehicles with alternative fuels (such as hybrid, biodiesel, and electric); • Plant native trees and vegetation that have low emissions of volatile organic compounds species for carbon sequestration in locations at the project site not to be disturbed by quarrying activities; • Replace diesel-powered vehicles with newer model, low-emission vehicles or replace diesel engines with higher fuel efficiency engines or use retrofit emission control devices, such as diesel oxidation catalyst, verified by the California Air Resources Board as old vehicles or engines no longer become operable; • Develop a monitoring program that reduces diesel-fueled idling times beyond that required under the California Air Resources Board Heavy-Duty Vehicle Idling Emission Reduction Program; • Require that on-road haul trucks that are under contract with the quarry operator use 2003 model or newer trucks; • Establish an on-site renewable energy system (such as solar); • Install a conveyor system to move raw material; • Install an automated load out system; • Contribute to a State or County offset mitigation program. The GHG Reduction Plan shall be reviewed and approved by Napa County and shall be updated as necessary to address changing conditions and regulations. Prior to implementing the GHG Reduction Plan, the Applicant		Environmental Services			

Mitigation Measure	Monitoring and/or Reporting Responsibility	Compliance Verification Responsibility	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria
shall monitor GHG emissions bi-annually in a GHG inventory submitted to the County for review. The first inventory shall be calculated as a three-year average after issuance of the use permit (for example, if the use permit is issued in 2014, then the first inventory shall be performed in 2018 for years 2015 through 2017). A three-year average would accommodate the variability in aggregate sales from year to year. The inventory shall follow the most recent version of the General Reporting Protocol of the California Climate Action Registry or other protocol as appropriate and approved by the County (CCAR 2007). The Applicant, however, is not required to report the inventory to the Climate Action Registry Reporting Online Tool (CARROT) (CCAR 2011). The purpose of the inventory is to compare emissions from project operations to the baseline emissions established in this EIR, which is approximately 7,200 MT CO2e per year (if new baseline emissions are established as a result of refined reporting methods, the use of a different baseline is acceptable with approval by the County). At such time as the inventory indicates GHG emissions are at or over baseline conditions (7,200 MT CO2e per year), then the Applicant shall implement measures in the GHG Reduction Plan as necessary to avoid emissions above the 1,100 metric ton threshold (i.e.: 8,300 MT CO2e per year – baseline plus threshold).					

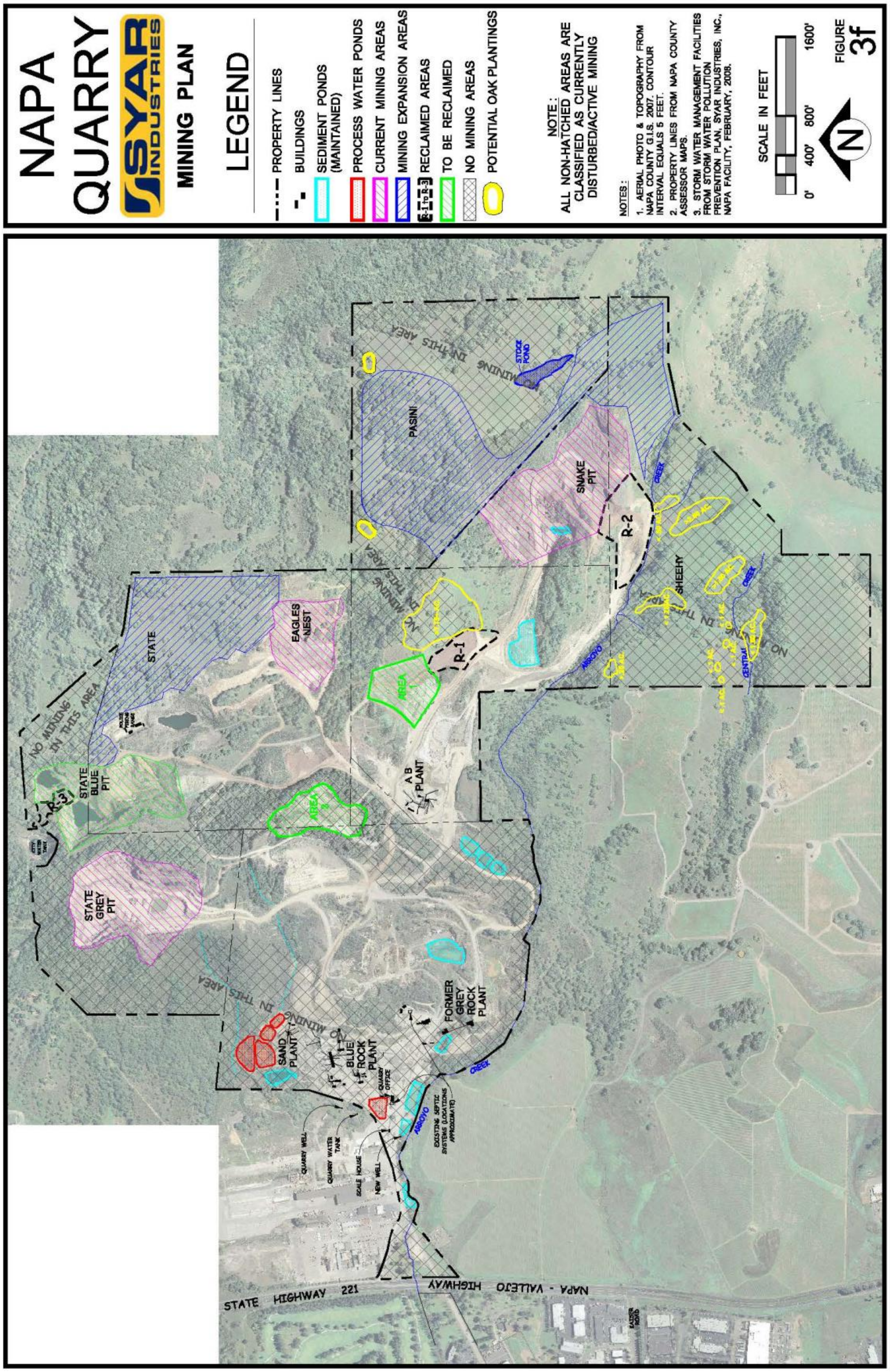

NAPA QUARRY
SYAR INDUSTRIES
MINING PLAN
LEGEND
PROPERTY LINES
BUILDINGS
SEDIMENT PONDS (MAINTAINED)
PROCESS WATER PONDS
CURRENT MINING AREAS
MINING EXPANSION AREAS
RECLAIMED AREAS
TO BE RECLAIMED
NO MINING AREAS
POTENTIAL OAK PLANTINGS
NOTE: ALL NON-HATCHED AREAS ARE CLASSIFIED AS CURRENTLY DISTURBED/ACTIVE MINING
NOTES:
1. AERIAL PHOTO & TOPOGRAPHY FROM NAPA COUNTY G.I.S. 2007. CONTOUR INTERVAL EQUALS 5 FEET.
2. PROPERTY LINES FROM NAPA COUNTY ASSESSOR MAPS.
3. STORM WATER MANAGEMENT FACILITIES FROM STORM WATER POLLUTION PREVENTION PLAN, SYAR INDUSTRIES, INC., NAPA FACILITY, FEBRUARY, 2008.
SCALE IN FEET
0' 400' 800' 1600'
N
FIGURE 3f
NO MINING IN THIS AREA
PASINI
STOCK POND
SNAKE PIT
R-2
SHEEHY
CREEK
ARROYO
CENTRAL
STATE
EAGLES NEST
R-1
AREA 1
AREA 2
A B PLANT
STATE BLUE PIT
R-3
STATE GREY PIT
FORMER GREY ROCK PLANT
SAND PLANT
BLUE ROCK PLANT
QUARRY OFFICE
QUARRY WELL
QUARRY WATER TANK
SCALE HOUSE
NEW WELL
EXISTING SEPTIC SYSTEMS (LOCATIONS APPROXIMATE)
STATE HIGHWAY 221
NAPA - VALLEJO HIGHWAY

EXHIBIT D

CONDITIONS OF APPROVAL
Planning Commission Date: November 18, 2015

Syar Napa Quarry
Surface Mining Permit No. P08-00337
2301 Napa Vallejo Highway
APNs: 045-360-005,046-370-012, -013, -015, -022, -025,
046-390-002, -003, and 046-450-071

1. SCOPE:

A. The Permittee is authorized to operate the Syar Napa Quarry (the Quarry) facility in accordance with the scope of this Surface Mining Permit (or SMP or Permit) which shall be limited to the mining, associated aggregate processing and production activities, aggregate and asphalt sales, and reclamation of the Quarry as follows:

1. The excavation, production, processing, and sales of up to a maximum of 1.3 million tons of aggregate and related aggregate materials (including recycled concrete, asphalt, and reclaimed asphaltic product) from the Quarry annually for the next 35 years beginning on the Effective Date of this Permit;
2. Annual production levels shall not exceed one million three hundred thousand (1.3 million) tons per year (tpy) for aggregate and aggregate-related materials, and asphalt production shall not exceed 300,000 tpy which shall be inclusive of the overall 1.3 million tpy limitation;
3. An approximate 106-acre expansion of the current surface mining and reclamation areas and continued mining and associated operations within the mining areas identified in the "Syar Industries Inc., Napa Quarry Mining and Reclamation Plan dated September 20, 2012" (the 2012 Mining and Reclamation Plan) and Excavation Limits identified in Figure 3-5 (Limits of Vertical Excavation) of the Project's EIR (attached as Figure 1) as modified by these conditions of approval and mitigation measures of this Permit including but not limited to the following:
   a) by increasing the Exclusion Areas of Figure 3-5 to include the areas as shown in Exhibits 1 and 2 of Syar's March 17, 2015 project modification letter (attached as Figure 2); and,
   b) by increasing the Exclusion Areas of Figure 3-5 to include the approximate 4-acre Pasini Pond Area (i.e., Area C in Figures A1b and A2b and same area also referenced as Area C in Figure A2b of the Commission's Alternatives Analysis Memo - July 10, 2015).
4. An increase in mining depth from approximately 300 feet and 150 feet above mean sea level (msl) to no greater than 50 feet above msl;
5. Installation and operation of Reclaimed Asphaltic Product (RAP) handling equipment at the facility's existing asphaltic batch plant;
6. Provide additional visual screening in the Pasini Parcel expansion area by planting oak trees as shown in Exhibit 1 of Syar's March 17, 2015 project modification letter (attached as Figure 2). A qualified biologist shall prepare a

planting plan subject to County approval that describes the methods of implementation, planting details including tree species to be planted and container size, propagule source(s), watering (schedule/amounts/duration), maintenance including measures to avoid deer browsing, and monitoring protocol. The planting plan shall also specify minimum success criteria consistent with those identified in Section 6.3.2 (Planting Success Criteria) of the Syar Napa Quarry Mining and Reclamation Plan and Condition of Approval (COA) No. 3(C). These trees shall be planted within 24 months of the effective date of this Permit;

7. Ongoing operation of existing aggregate processing support facilities as identified in Section 3.5.4 of the Project EIR (incorporated herein by reference) and attached as Figure 3, including the placement and utilization of portable equipment necessary for mining operations and reclamation); and the installation, maintenance and realignment of internal access and mine roads on the site including those shown on Figure 3-5 of the Project's EIR (attached as Figure 1);
8. Reclamation of all areas disturbed both henceforth and in the past in conformance with and identified in the 2012 Mining and Reclamation Plan, as modified by these conditions of approval and mitigation measures of this Permit. In the event there is a conflict between the 2012 Mining and Reclamation Plan and the Conditions of Approval (COA) or Project Mitigation Measures the COA shall control); and
9. An increase in Quarry Operation employees from approximately 55 to a maximum of approximately 75 total Quarry employees.

B. The mining operation and reclamation shall be carried out in substantial conformance with the 2012 Mining and Reclamation Plan as modified by these conditions and/or required Project mitigation measures, including but not limited to, maximum production amounts and identified excavation limits (both vertically and horizontally). It is the responsibility of the Permittee to communicate the requirements of these conditions and all mitigation measures to all contractors, employees, and customers of the Quarry (as applicable) to ensure compliance is achieved.

   Any expansion or change in excavation limits, any increase in production amounts, and/or expansion or change in use of the Quarry (including aggregate production and processing support facilities) shall require modification to the approved SMP, pursuant to Chapter 16.12 of the Napa County Code (NCC), the Surface Mining and Reclamation Act (Public Resources Code (PRC) Section 2710 et seq.), and the State Mining and Geology Board Regulations (California Code of Regulations (CCR), Title 14, Division 2, Chapter 8, Subchapter 1). Any deviation or modification of the 2012 Mining and Reclamation Plan or to the "Quarry Operations" identified in this Permit shall be subject to the permit revision or amendment process in NCC Sections 16.12.520 and 16.12.530.

C. Within 12 months of the effective date of this Permit and prior to the initiation of any vegetation or Overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion areas), the Permittee shall provide the County PBES Department with an updated/revised Mining and Reclamation Plan that incorporates these conditions of approval and mitigation measures. The updated/revised plan shall also include a minimum 50 foot buffer from the existing rock wall that defines the mining boundary located in the northeast corner of the Quarry (i.e., the rock wall adjacent to the State Blue Pit). The County shall review the updated/revised Mining and Reclamation Plan to confirm that it is in substantial conformance with project conditions and mitigation measures.

D. Within 12 months of the effective date of this Permit and prior to the initiation of any vegetation or Overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion area), the Permittee shall develop and execute a License Agreement with the County (in cooperation with the Napa County Parks and Open Space District and the Skyline Park Citizens Association) that shall allow all the existing trails currently located on Syar holdings to remain in place for the life of this Permit and to allow continued public access. The County shall review the License Agreement as to form prior to its approval and prior to the Permittee's recordation.

E. The Permittee shall protect all lands identified as "Exclusion Areas" (including areas that overlap oak woodland protection areas) as identified within Figure 3f of the 2012 Mining and Reclamation Plan (as amended by these conditions and Project specific mitigation measures) via a deed restriction in a form acceptable to County Counsel. The deed restriction shall be recorded within 12 months of the effective date of this Permit and prior to the initiation of any vegetation or Overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion area) of the Quarry property. (Also see DEIR Figure 3-4 (Project Activities/Areas) and Figure 3-5 (Limits of Vertical Excavation) attached as Figure 1 for details of the Exclusion Areas.)

F. This Project and Permit shall be reviewed by the Planning Commission every five (5) years at a noticed public hearing to determine compliance with the conditions of approval, Project mitigation measures, and the approved Mining and Reclamation Plan. The Commission may impose additional conditions as necessary to address compliance issues. A fee for said review and public hearing shall be charged consistent with the fees in effect at the time of the hearing and shall be paid by the Permittee. Said hearings shall commence in April 2020.

   If after conducting inspections required by NCC Section 16.12.500, review of the Annual Compliance and Assurance Update Report required pursuant to COA No.

2(L) (below), or other inspections as may be undertaken, or upon the receipt of a verified complaint, the Planning Director finds that Quarry Operations are not in substantial compliance with this Permit, NCC Chapter 16.12 (Surface Mining and Reclamation) and/or the Surface Mining and Reclamation Act (SMARA), the procedures prescribed in Article VI (Enforcement) (NCC Section 16.12.600 et seq.) shall be immediately commenced so that any significant compliance issues can be brought before the Planning Commission at the earliest opportunity provided Permittee has failed to timely cured the violation.

G. All prior mining-related discretionary permits on the Property including, but not limited to, UP-128182 and UP-27374 authorizing current mining, quarrying, associated operation of the Quarry, and reclamation shall be superseded and replaced by this Permit.

2. PROJECT SPECIFIC CONDITIONS:

The following project specific conditions of approval shall apply to all operational activities and subsequent reclamation of the facility. The Permittee shall comply with all County, Division, Departments and Agency requirements including all applicable building codes, zoning standards, and requirements. The determination as to whether or not the Permittee has substantially complied with the requirements of other County Divisions, Departments and Agencies shall be determined by those Divisions, Departments or Agencies. The inability of Permittee to substantially comply with the requirements of other County Divisions, Departments and Agencies may result in the need to modify the approved SMP.

A. Permit Compliance:
The Permittee shall comply with all of the conditions of approval of this Permit and the mitigation measures and mitigation monitoring and reporting program adopted in connection with the Project.

The Permittee shall also comply with the provisions of NCC Chapter 16.12, the Surface Mining and Reclamation Act (PRC Section 2710 et seq.), and the State Mining and Geology Board Regulations (CCR, Title 14, Division 2, Chapter 8) throughout mining and reclamation activities at the Quarry site.

B. Permit Term:
All mining operations, related material processing and production, storage, sales and shipping, including asphalt production and sales shall permanently cease onsite and reclamation shall begin upon expiration of this Permit, unless continued mining and/or mine-related activities after that time are authorized by a separate surface mining permit approved by the County or a modification to this Permit approved by the County.

C. Permit Limitation:
The introduction of additional uses, production of products other than those specified in this Permit, expansion of the area to be mined/excavated into other

areas of the site (including the parking, stockpiling, or storage of vehicles, equipment, and materials), installation of equipment or construction of facilities including roads and access ways outside of the identified excavation areas shown in the 2012 Mining and Reclamation Plan and Figure 3-5 (Limits of Vertical Excavation) in areas other than those identified in the Project site plans of the Project's EIR, or other changes to Quarry Operations shall be prohibited, unless such modification(s) to this Permit are approved by the County pursuant to the permit revision or amendment process in NCC Sections 16.12.520 and 16.12.530.

D. Groundwater Supply and Use:
Groundwater use and pumping for all Quarry Operations and reclamation shall not exceed 140.6 acre-feet per year.

The Permittee shall monitor groundwater levels continuously at all Quarry wells with automated pressure transducers and at least semi-annually (i.e., in spring and fall) by manual measurement to confirm the transducer data. Groundwater levels shall be measured to record the annual range of levels typically observed in aquifer systems in the region and to develop a record of groundwater conditions at the Quarry over time. The Permittee shall also record annual groundwater usage/pumpage with flow meters at all wells in production for the Quarry and create an annual summary report based on this data. All monitoring reports and data specified herein shall be submitted to the Planning Building and Environmental Services (PBES) Department as prescribed pursuant to COA No. 2(L) (below) and as necessary to demonstrate compliance.

the Permittee shall implement the following monitoring, data collection, and reporting measures within three (3) months of the Effective Date of this Permit continuing for the duration of the Permit. These data will enable evaluation of groundwater levels to identify trends associated with seasonal weather patterns and precipitation totals, water year types, and groundwater use by the Permittee.

1. Monitoring devices, protocol and reporting shall be done in accordance with the recommendations of a qualified hydrogeologist and as specified in Mitigation Measures 4.8-2 and 4.8-3. The hydrogeologist referenced in this condition of approval shall be selected and contracted to the County and paid for by the Permittee.
2. Permittee shall monitor groundwater levels continuously at all Quarry wells with automated pressure transducers and at least quarterly (and including spring and fall measurements) by manual measurement to confirm the transducer data. When measured manually at the Quarry wells, groundwater levels will be recorded no sooner than 48 hours after the well last operated in order to collect data representative of aquifer conditions (static groundwater levels).
3. Monitor precipitation onsite or compile precipitation data records from the nearest publically available source.

4. Record annual groundwater pumpage with flow meters at all wells in production at the Quarry and any other consumptive use of groundwater (such as water collected from open water bodies in contact with the regional groundwater potentiometric elevation). Groundwater pumpage and use shall not exceed 140.6 af/yr.
5. Create an annual summary report of groundwater conditions at the Quarry based on the data described above.

If the monitoring data and reports referenced in this condition show an ongoing impact on spring and fall season groundwater levels (continual lowering regardless of water year types) due to groundwater use at the Quarry, a qualified hydrogeologist (paid for by the Permittee) shall recommend ways, or demand reduction measures, in which water usage can be reduced to stabilize groundwater levels. The Permittee shall implement recommended demand reduction measures such that groundwater levels show stable conditions on a multi-year basis: all recommendations shall be immediately implemented to the satisfaction of the PBES Director.

No new onsite or offsite wells or other water sources for Quarry Operations or portions thereof, including but not limited to the installation of new groundwater wells, the use of surface water, or imported water shall be permitted without additional environmental review and modification of this Permit. Recycled water obtained from the Napa County Sanitation District shall not be subject to this condition.

E. Hours of Operation (See Section 12 below for Definitions of the activities specified below):
   1. Aggregate Mining Operations:
      a) Construction Season, Monday through Friday only from 6:00 AM to 6:00 PM
      b) Off Season, Monday through Friday only from 7:00 AM to 3:30 PM
      c) Aggregate Mining Operations shall be prohibited on weekends and recognized Major Holidays.
      d) Within 400 feet of the Project's common property lines with Skyline Wilderness Park (or SWP) and where vegetation and Overburden removal are visible from SWP or Skyline Wilderness Park Trails, said activities shall be limited to 7:00 AM to 12:00 PM (noon) on weekdays only.

   2. Aggregate Processing Operations:
      a) Construction Season, Monday through only from Friday 6:00 AM to 6:00 PM
      b) Off Season, Monday through Friday only from 7:00 AM to 3:30 PM
      c) As necessary to accommodate customer requirements and market conditions, aggregate processing operations may occur seven (7) days a week 24 hours per day provided the Permittee informs the PBES Department at least 48 hours in advance of these activities occurring to

ensure said activities are conducted in accordance with this Permit and do not unduly disrupt surrounding sensitive receptors.

3. Asphalt Plant Operations:
   a) Year-round, Monday through Friday only from 7:00 AM to 3:30 PM
   b) As necessary to accommodate customer requirements and market conditions, asphalt plant operations, including the production, transport and loading of asphalt, located within the asphalt plant area of the facility, may occur 7 days a week 24 hours per day provided the Permittee informs the PBES Department at least 48 hours in advance of these activities occurring, to ensure said activities are conducted in accordance with this Permit and do not unduly disrupt surrounding sensitive receptors.

4. Aggregate Sales and Asphalt Sales:
   a) Year-round, Monday-Friday only 7:00 AM to 3:30 PM

5. For Quarry Operations occurring during non-traditional hours of operation (i.e., between 6:00 PM and 7:00 AM) equipment shall utilize discriminating back-up alarms, night silent back-up alarms, or other back-up alarm system (as opposed to conventional back-up alarms) to minimizes noise emissions from this source.

6. Maintenance and repair work may be conducted outside of identified hours and days provided that noise levels do not exceed 50dBA at northern and eastern property lines.

7. The limitations on operational hours and days specified above may, in case of an emergency, be temporarily waived by the PBES Director.

F. Blasting:
   Blasting operations shall be conducted as specified below and in accordance with Syar's Blasting Procedures (see Figure 4 attached and incorporated here by reference):
   1. Year-round, Monday through Friday only from 10:00 AM to 3:00 PM (for areas within 400 feet of common property lines with Skyline Wilderness Park from 12:00 PM to 3:00 PM): blasting shall not occur outside of these hours, or on the weekends, or on any Major Holidays.
   2. Blasting shall be prohibited during high wind conditions. High wind conditions are deemed to occur when the two-minute average wind speed exceeds 20 miles per hour as measured using the methods described by the South Coast Air Quality Management District in Attachment A to the Rule 403 Implementation Handbook.
   3. The Permittee shall measure and record wind speeds continually throughout the day during blast events to ensure compliance with this COA. Wind speed measurements, including average wind speeds shall be included in required blasting logs.

4. The Permittee shall notify via e-mail the PBES Department, Skyline Wilderness Park, Napa County Office of Education, Chamberlain High School, Liberty High School, Creekside Middle School, the Napa Preschool Program, the Napa Child Development Center, Napa State Hospital, and any agencies, businesses, and local residents requiring or requesting such notice via e-mail, at least 48 hours in advance of any blasting events.
5. The Permittee shall record each blast event and maintain blasting logs for five (5) years. Blasting logs/records shall be submitted to the PBES Department annually as required by COA No. 2(L) below.

G. Safety and Security:
1. The Permittee shall install fencing along the perimeter of Quarry boundaries and/or exclusion areas to the extent necessary to prevent the public from accessing active Quarry areas. The location of said fencing shall not prevent use of existing Skyline Wilderness Park trails.
   a) The fencing shall generally consist of three strand wire with metal and/or wood fence stakes.
   b) "No Trespassing" signs shall be appropriately posted around the perimeter of the Quarry in association with security fencing.
   c) The precise locations and design of security fencing shall be inspected and approved by the Planning Division prior to the installation of any new or relocated security fencing.

H. Contact List:
Within 30 days of the effective date of this Permit, the Permittee shall mail a Quarry contact list with Quarry contact names and phone numbers to the following: each property owner within a 3,000 foot radius of the exterior boundary of the Project site as listed on the most recent tax roll listing, the PBES Department, Skyline Wilderness Park, Napa County Office of Education, Chamberlain High School, Liberty High School, Creekside Middle School, the Napa Preschool Program, the Napa Child Development Center, the Napa State Hospital, and those persons or organizations who have requested a copy of the Quarry contact list. The contact list shall have at least two Quarry Operation contacts that include the name, local phone number, and email address that can be contacted regarding Quarry Operations and compliance. It shall be the responsibility of the Permittee and Quarry contact to respond to any inquires within 24 hours of receiving them. The Permittee shall update the Quarry contact list every five (5) years (to coincide with the monitoring report required pursuant to COA No. 1(F)) and any time there are changes in personnel and/or contact information listed in Quarry contact list, and re-send the contact list to all property owners within a 3,000 foot radius of the Project site and entities identified herein.

I. Site Maintenance:
All trash, unnecessary or un-useable equipment, scrap, and installations of the Quarry operation shall be removed as necessary in a timely manner, and properly disposed of to maintain a neat and orderly site.

J. Public Roads:
All loaded trucks leaving the site shall be properly trimmed, maintain the required 2 feet of freeboard, and/or secured so as to prevent spillage of materials onto the public roadway. In the event that spillage onto the road does occur, Permittee shall immediately remove said spillage.

K. Other Regulatory Permits:
The Permittee shall obtain and maintain permits from State, Federal, and local regulatory agencies as applicable to the activities authorized herein, including but not limited to permits and approvals from: the Napa County Building Division; the Napa County Public Works Department; the Napa County Engineering and Conservation Division; the U.S. Army Corps of Engineers; the California Department of Fish and Wildlife; the Bay Area Air Quality Management District; the Regional Water Quality Control Board; and the U.S. Fish and Wildlife Service.

L. Annual Compliance and Assurance Update Report:
During the life of this Permit, the Permittee shall annually prepare and submit a written report to the PBES Department, as part of the Quarry Operation's annual inspection reporting requirements pursuant to NCC Section 16.12.500, Public Resources Code Section 2774, and the Project's Annual Mining Plan demonstrating compliance with all of the conditions of approval and mitigation measures for this Permit. Said report shall also include an updated Financial Assurance Cost Estimate (FACE) as required pursuant to NCC Section 16.12.415 and PRC Section 2773.1(a)(3) for review and approval by the County and verification of the following from the Permittee:

1. That the operation has maintained an adequate FACE pursuant to NCC Sections 16.12.400 and 16.12.435 in the amount of the most recently approved FACE.
2. That the operation is in compliance with Napa County's Stormwater Management and Discharge Control Program (NCC Chapter 16.28).
3. That the Storm Water Pollution Prevention Plan (SWPPP – WDID No. 228I005111) under which the facility operates has been updated as necessary to accommodate changing conditions and is in compliance with National Pollutant Discharge Elimination System (NPDES) requirements.
4. That mining operations and practices are conducted in compliance with the safety requirements of the Mine Safety and Health Administration, the California Division of Occupational Safety and Health (Cal-OSHA), the State Division of Industrial Safety, and California Mine Safety Orders.
5. That the operation has maintained a public liability policy for both the mining and reclamation operations which provides for personal injury and property protection to compensate all persons injured or for property damaged as a result of such operations and that has a minimum $2 million coverage for

each occurrence and a minimum umbrella coverage of $5 million or as required by the County's Risk Manager.

The Annual Compliance and Assurance Update Report shall accompany the Annual Mining Plan specified in the Project's Mining and Reclamation Plan (Yolano Engineers, September 2012) as revised or modified by these conditions and mitigation measures.

The first Annual Compliance and Assurance Update Report shall be submitted to the County within 12 months of the effective date of this Permit. Thereafter the compliance report shall be submitted annually, and as necessary at the request of the County, to demonstrate compliance.

If and as necessary the County, as determined by the Planning Director, may either hire a consultant (at the Permittee's expense) to prepare this Annual Compliance and Assurance Update Report and/or provide 3rd party independent review of the report in assessing and determining compliance with this Permit, conditions of approval, mitigation measures, or NCC Chapter 16.12.

M. Air Quality:
The Permittee shall implement the following Air Quality Best Management Practices (BMPs) during Quarry operational activities and reclamation in addition to Mitigation Measures 4.3-2a, 4.3-2b, and 4.3-3:

1. All exposed surfaces (graded areas, staging areas, stockpiles, and unpaved roads) shall be covered, vegetated, or watered as necessary to minimize particulate (dust) emissions.
2. Ensure that all trucks hauling soil, sand and other loose materials from the site shall be covered in accordance with Vehicle Code Section 23114 or maintain at least two (2) feet of freeboard.
3. The site access road, adjacent public roads, and paved areas within the proximity of the scale house and Quarry office shall be swept daily with a high efficacy or wet power vacuum street sweepers at least twice per day and if visible soil material is carried/tracked out onto roadways.
4. Traffic on unpaved areas and roads shall be limited to 15 mph. Speed limit signs shall be placed as necessary on unpaved roads to adequately identify and control speeds within the Quarry. The locations and spacing of such signs shall be at the discretion of the County.
5. Grading and earthmoving activities shall be suspended when two-minute average wind speed exceeds 20 mph.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five (5) minutes, as required by the California airborne toxics control measure - Title 13, Section 2485 of CCR. Signs clearly indicating this provision shall be installed at all access points or appropriate facility locations.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be

checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. A sign with the telephone numbers and persons to contact at Napa County and the Bay Area Air Quality Management District regarding dust complaints shall be visibly posted at the site. This sign shall be posted within 30 days of approval of this Permit.
9. Within five (5) years of the effective date of this Permit, the Permittee shall replace and retire at least three (3) pieces of mobile quarrying equipment from the Quarry fleet that have Tier 0 motors with Quarry equipment that has higher Tier motors (i.e., Tiers 1, 2, 3, or 4), and as necessary to comply with applicable Project Mitigation Measures. Preference shall be given to equipment that is utilized the most in on-going aggregate mining and processing operations as identified in the "Horsepower-Hour Log" required pursuant to COA No. 11(A) (Mitigation Measure 4.3-2a). Thereafter, Tier 0 motors will be replaced as necessary to comply with Project specific Mitigation Measures and/or State requirements.

N. Creek Protection:
The Permittee shall implement the following measures to prevent the inadvertent encroachment into specified creek setbacks during mining operations and reclamation:

1. Prior to any earthmoving or mining activities adjacent to Arroyo Creek, the location of the 60 foot creek setback for Lower Arroyo Creek and the 85 foot creek setback for Upper Arroyo Creek (as specified pursuant to Mitigation Measures 4.4-7 and 4.4-10, and as shown in Figure 4.4-4 of the Project EIR), shall be clearly demarcated in the field with temporary construction fencing, which shall be placed at the outermost edge of required setbacks shown on the Project plans. The precise locations of said fences shall be inspected and approved by the Planning Division prior to any earthmoving and/or mining activities occurring adjacent to creeks. No disturbance, including vegetation or Overburden removal, grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of mining operations and reclamation activities. The protective fencing shall remain in place for the duration of Quarry Operations and reclamation, and shall be removed upon completion of reclamation.
2. In accordance with NCC Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) trees that are inadvertently removed that are not within the Project boundary (or footprint) and/or not identified for removal as part of this Permit shall be replaced onsite with fifteen-gallon trees at a ratio of 2:1 at locations approved by the PBES Director.

O. Tree and Woodland Protection:
The Permittee shall implement the following Tree/Woodland Protection measures:

1. Prior to any vegetation or Overburden removal, or mining activities occurring adjacent to trees or woodlands to be retained, the Permittee shall install temporary fencing at the edge of the dripline of the trees to be retained that are located within 50-feet of the Project area. The precise locations of said fences shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of mining operations and reclamation activities. Protective fencing shall be removed upon completion of reclamation.
2. The Permittee shall refrain from severely trimming trees and vegetation which is to be retained and is adjacent to mining and quarrying activities.

P. Because this Permit supersedes prior surface mining approvals, the Permittee shall cooperate with the County in terminating Napa County Agreement No. 2225 to the extent such action is deemed necessary by the County.

3. RECLAMATION

A. Applicability:
Reclamation of all mined and quarried areas shall be in conformance with the 2012 Mining and Reclamation Plan as modified by these conditions of approval and the mitigation measures adopted for this Permit.

B. Timing:
Commencement of reclamation in areas where mining is complete shall be initiated by the Permittee within 12 months of completion of aggregate mining operations within that area. Said areas shall be identified in the Mining and Reclamation Plan and/or the Project's Annual Mining Plan specified within the 2012 Mining and Reclamation Plan as amended. For the purpose of this Permit the Completion of Mining shall mean when identified or active Aggregate Mining Operational areas have reached the Limits of Vertical Excavation identified in the MRP and/or where they have reached the minimum ten (10) feet vertical separation from the regional groundwater potentiometric elevation prescribed by Mitigation Measure 4.8-2. The determination that Aggregate Mining Operations are complete in any given operational area of the Quarry shall be at the discretion of the Planning Director. Aggregate Mining Operations areas that have been determined to be complete shall be identified in the Operations Annual Mining Plan.

Final reclamation shall commence in the following areas within the identified timeframes:

1. Short-term (i.e., within 12 months of the effective date of this Permit) - areas north and west of the State Blue Pit including the area identified as R-4 in the 2012 Mining and Reclamation Plan and any surrounding areas that are within ten (10) feet of the groundwater potentiometric elevation, and the area occupied by the "Former Grey Rock Plant" including areas immediately to the

south and west. The interim reclamation area identified as R-1 in the 2012 Mining and Reclamation Plan as it is located within a no mining exclusion area.

2. Midterm - Aggregate Mining Operation areas that have reached the Limits of Vertical Excavation and have reached the minimum ten (10) feet vertical separation from the regional groundwater potentiometric elevation, including any areas identified through the annual compliance and assurance review procedures identified pursuant to COA No. 2(L) or through annual inspections conducted pursuant NCC Section 16.12.500 and PRC Section 2774.
3. Long-term (i.e., generally occurring within the last five years of the Permit term and/or as identified in the Annual Mining Plan) - the Processing Area shown on the MRP including any areas identified through the Annual Compliance and Assurance Update Review procedures pursuant to COA No. 2(L) or through annual inspections conducted pursuant NCC Section 16.12.500 and PRC Section 2774.

For any other mined/disturbed areas within the Quarry that have already not been reclaimed, reclamation shall be initiated by the Permittee on or before the expiration of the Permit term.

Interim reclamation of the areas identified as R-2 and R-3 in the 2012 Mining and Reclamation Plan shall commence within 12 months of the effective date of this Permit. Future areas of interim reclamation and within the Quarry Facility as mining operations progress, and associated timing, shall be identified in the Annual Mining Plan, the Annual Compliance and Assurance Update Report pursuant to COA No. 2(L), or within the annual inspection reports prepared pursuant NCC Section 16.12.500 and PRC Section 2774.

C. Completion:
Reclamation of an area shall not be considered complete until the performance standards established in the 2012 Mining and Reclamation Plan identified below have been met and thereafter consistently maintained for at least three (3) years without irrigation, supplemental seeding, fertilizing, or other human intervention.

The determination that reclamation is complete in any given operational area or of the Quarry Facility shall be at the determination of the Planning Director.

PLANTING SUCCESS CRITERIA

No.	SITE LOCATION	TREE/SHRUB COVERAGE[3]	TREE/SHRUB DENSITY[2]	TREE and SHRUB / GRASSLAND SPECIES RICHNESS[1]
1	Benches w/ Oak Woodland	47%	20 / 222	75% / 80%
2	Benches w/ Chamise Chaparral	36%	333 / 222	75% / 80%
3	Benches w/ Coyote Brush Chaparral	24%	0 / 222	80% / 80%
4	2:1 Cut Slopes w/ Oak	47%	18 / 2,150	75% / 80%

	Woodland			
5	2:1 Cut Slope w/ Chamise Chaparral	36%	4,840 / 2,150	75% / 80%
6	2:1 Cut Slope w/ Coyote Brush Chaparral	24%	0 / 2,150	80% / 80%
7	2:1 Cut Slope w/ Grassland	80%	Not Applicable	80%
8	Fill Slopes w/ Oak Woodland	47%	18 / 2,150	75% / 80%
9	Fill Slopes w/ Chamise Chaparral	36%	4,840 / 2,150	75% / 80%
10	Fill Slopes w/ Coyote Brush Chaparral	24%	0 / 2,150	80% / 80%
11	Fill Slopes w/ Grassland	80%	Not Applicable	80%
12	Valley Floor w/ Grassland and Oaks	47%	18 / 222	75% / 80%

Notes: *Tables 5 and 6 of the 2012 Mining and Reclamation Plan identifies the tree/shrub types to be used for each community. The tables also shows the specific seed mix to be used for each community. In addition, the grassland seed mixes identified on Table 6 will be used as follows: oak woodland (OW) communities will use the oak woodland grassland mix; the chaparral (coyote bush (CBC) and chamise (CC)) will use the chaparral grassland seed mix; and the grassland (GL) community will use the grassland seed mix.*

1 Species richness % is derived from the tree and seed mix identified on Tables 5 and 6 of the 2012 Mining and Reclamation Plan. Communities with trees and/or shrubs the % does not include the grassland. The species richness is shown as (tree and shrub % / grassland %). For the OW community only one or two of the oak types identified will be used in any given area (to be determined by a biologist). There are five (5) tree/shrub species in the OW community; five (5) species in the CC; 6 species in the CBC. For the grassland seed mixes there are eight (8) seed types in the GL mix; five (5) seed types in the OW mix; and 11 seed types in the CC and CBC mix.

2 The plant density on the benches (Nos. 1-3) are shown as 25,000 square feet or .57 acres. The remaining densities (Nos. 4-12) are for one acre. The density does not include the grassland mixes for the respective areas. The densities given are (tree number / shrub number) derived from Table 5.

3 For plantings on the benches (Nos. 1-3) the % is that of a 1,000 linear foot bench, 25 feet wide. For the remaining (Nos. 4-12) the % is for one acre coverage. Baseline coverage for the OW is 95%, CC is 60%, CBC is 40% and GL is 100%. The coverage % given in Table 12 is an anticipated successful coverage % after revegetation. The % does not include grasslands in the OW, CC or CBC communities.

As necessary through the term of this Permit, the Permittee shall, in conjunction with the County Conservation Division and the Napa County Resource Conservation District, review and supplement/augment the reclamation species and seed mixes and application rates as necessary so that native species, which are appropriate for reclamation and erosion control of the project site are included in the reclamation efforts. Seed mixes shall be noxious weed free and shall include seed from locally propagated plant species to the maximum extent practical.

4. ENFORCEMENT

Enforcement of the provisions of this Permit, ongoing Quarry Operations and activities, and site reclamation shall be governed by Article VI (Enforcement) of Napa County Code Chapter 16.12 (Surface Mining and Reclamation), in addition to any other remedies (civil or criminal) as may be available to the County.

5. SIGNS

Prior to installation of any new Quarry identification or directional signs, detailed plans, including elevations, materials, color, and lighting, shall be submitted to the PBES Department for administrative review and approval. All signs shall meet the design standards as set forth in NCC Chapter 18.116.

6. LIGHTING

All exterior lighting, including Quarry Operations and support facility lighting, shall be shielded and directed downward, located as low to the ground as possible, the minimum necessary for security, safety, or operations, and shall incorporate the use of motion detection sensors to the greatest extent practical. No flood-lighting or sodium lighting of the buildings is permitted, including architectural highlighting and spotting. Low-level lighting shall be utilized in parking and operational areas as opposed to elevated high-intensity light standards.

Prior to installation of any new lighting and issuance of any necessary building permits (including electrical permits) at the Quarry Facility and pursuant to this approval, two copies of a detailed lighting plan showing the location and specifications for all lighting fixtures to be installed on the Property shall be submitted for Planning Division review and approval. All lighting shall comply with the California Building Code.

7. COLORS

The colors used for any new Quarry and mining facilities and structures shall be limited to earth tones that will blend the facility into the colors of the surrounding site specific vegetation and the Permittee shall obtain the written approval of the PBES Department prior to painting the facility structures. Highly reflective surfaces are prohibited.

8. INDEMNIFICATION

If an indemnification agreement has not already been signed and submitted, one shall be signed and returned to the County within twenty (20) days of the granting of this approval using the PBES Department's standard form.

9. AFFORDABLE HOUSING MITIGATION

To the extent applicable, prior to County issuance of any building permits necessary for the Project, the Permittee shall pay the Napa County Affordable Housing Mitigation Fee in accordance with the requirements of Napa County Code Chapter 18.107 or as may be amended by the Board of Supervisors.

10. MONITORING COSTS

All staff costs associated with monitoring compliance with these conditions, permit conditions, and project revisions shall be borne by the Permittee. Costs associated with conditions and mitigation measures that require monitoring, including investigation of complaints, other than those costs related to investigation of complaints of non-compliance that are determined to be unfounded, shall be

charged. Costs shall be as established by resolution of the Board of Supervisors in accordance with the hourly consulting rate established at the time of the monitoring and shall include maintenance of $500 deposit for Project compliance monitoring that shall be retained until mining and reclamation are complete. Violations of conditions of approval or mitigation measures caused by the Permittee's contractors, employees, and/or guests are the responsibility of the Permittee.

The Planning Commission may implement an audit program if compliance deficiencies are noted. If evidence of compliance deficiencies is found to exist by the Commission at some time in the future, the Commission may institute the program at the Permittee's expense (including requiring a deposit of funds in an amount determined by the Commission) as needed until compliance assurance is achieved. The Planning Commission may also use the data, if so warranted, to commence enforcement actions in accordance with NCC Chapter 16.12.

11. MITIGATION MEASURES:

The Permittee shall comply with the following mitigation measures:

A. Mitigation Measure 4.3-2a: Reduce NOx: Any time production of 810,363 tons (i.e., the Baseline Condition) of Aggregate or Aggregate-related Materials has been achieved within the previous 12-month period, the Permittee shall demonstrate that Project NOx emissions are less than ten (10) tons per year.

Activity levels of offroad vehicle engines, which contribute a majority of Project NOx emissions, shall be logged to document operational emissions from that source. The Permittee shall prepare a Horsepower-Hour Log ("Log") of monthly horsepower-hours for offroad vehicles operated within the previous 12-month period. The Log shall include the rolling 12-month total horsepower-hours. Low use equipment operated less than 20 hours per year shall be excluded. The Log shall sum the horsepower-hours for each tier of engine and calculate the percent of horsepower-hours operated by engines in each tier category. The Log shall be updated by the Permittee no less than semi-annually (i.e., every six months) or with greater frequency as necessary to ensure compliance with this mitigation measure.

The Permittee shall implement one or more the following options to reduce NOx emissions increase to less than ten (10) tons per year above baseline.

Option 1. Operating cleaner offroad vehicle engines as conditioned below:

a) Baseline conditions are established at 810,363 tons with a fleet mix of 39 percent Tier 0, 49 percent Tier 1, 10 percent Tier 2 and 2 percent Tier 3.
b) Production up to 945,000 tons per year shall be allowed upon continued demonstration that 12 percent of horsepower-hours operated are Tier 2 or better.

c) Production up to 1,100,000 tons per year shall be allowed upon continued demonstration that 44 percent of the horsepower-hours are Tier 2 or better.
d) Production up to 1,300,000 tons per year shall be allowed upon continued demonstration that 5 percent of horsepower-hours are Tier 3 or better and 72 percent of the horsepower-hours are Tier 2 or better.

Consistency with Condition 1(a) through 1(d) above demonstrates that NOx emissions are consistent with those calculated in the EIR and have increased by an amount less than ten (10) tons per year.

Option 2. Reduce NOx emissions from locomotive and/or barge engines by employing units with Tier 1 or better engines.

Option 3. Reduce on and/or offsite emissions by some other approved means. Onsite reductions may include, but are not limited to, source controls at the asphalt plants, electrifying processes that require offroad equipment (such as automated loadout conveyor systems to reduce haul truck emissions), or using alternate fuels such as biodiesel or electric motors. Offsite may include purchasing offsets. The purchase of any offsets shall be real, surplus, permanent, quantifiable, and enforceable.

If Options 2 or 3 are used, then the effectiveness of the actions to be taken shall be demonstrated to the County by submittal of an Emissions Calculations report prepared by a qualified professional (at the Permittee's expense). In that case, the Horsepower-Hours Log and/or documented historical fuel used in each vehicle shall be used to calculate NOx emissions from offroad vehicle engines. Project NOx emissions from other sources not affected by proposed mitigations (e.g., on-road vehicle engines, asphalt plant burners, and blasting) shall be included in the Emissions Calculations to demonstrate that, in total, the combined NOx emissions increase from all Project sources is less than ten (10) tons per year above baseline.

Both the Log and Emissions Calculations report shall be submitted to the County for review semi-annually and in the Annual Compliance and Assurance Update Report required by COA No. 2(L), or as requested by the County to demonstrate compliance. If the County finds that operations have not achieved the required reductions, the Permittee shall immediately update the Horsepower-Hours Log and scale back to a monthly production rate that will achieve the appropriate limit identified in Option 1 within the next two months as determined based on the percentages and tier of offroad vehicle engines in use during the three month period prior to the County's finding that operations have not achieved the required reductions. Thereafter reduced production levels shall be maintained until the Permittee provides documentation demonstrating the mitigation options chosen have been implemented and that increased production levels will result in NOx emissions increase of less than ten (10) tons per year. As necessary the

County will either hire a consultant (at the Permittee's expense) or enlist the BAAQMD to assess and determine compliance.

B. Mitigation Measure 4.3-2b: Reduce Fugitive Dust (PM_{10} and $PM_{2.5}$): Any time production of 810,363 tons (i.e., the Baseline condition) has been achieved within the previous 12-month period, the Permittee shall demonstrate that PM_{10} and $PM_{2.5}$ emissions have not increased above baseline levels. If the County finds that PM_{10} or $PM_{2.5}$ emissions have increased then monthly production shall be scaled back immediately to the level that will reduce the rolling 12-month PM_{10} and/or $PM_{2.5}$ emissions to less than baseline level within two months. Reduced production levels that result in emission compliance shall be maintained as long as necessary until the Permittee provides documentation demonstrating that increased production levels would result in no increase of PM_{10} and $PM_{2.5}$ emissions above baseline levels. The Permittee shall reduce PM_{10} and $PM_{2.5}$ through compliance with Items 1 through 4 below, and one or more of the methods listed in 5 through 6, below:

1. The Permittee shall clean internal paved roads daily using a particulate matter efficient street sweeper.

2. Blasting shall be prohibited during high wind conditions. High wind conditions means when two-minute average wind speed exceeds 20 miles per hour as measured using the methods described by South Coast Air Quality Management District in Attachment A to the Rule 403 Implementation Handbook.

3. The Permittee shall apply water to blast sites where and when feasible prior to detonation.

4. The Permittee shall limit speeds on unpaved areas to less than 15 MPH.

5. The Permittee shall maintain chemical dust suppressant or equivalent dust suppressant that achieves similar control on the unpaved road surfaces as described in the manufacturer's specifications.

6. The Permittee shall reduce onsite emissions by some other means (e.g. surface moisture content performance standard, watering frequency, installing or utilizing water spray systems), or electrifying processes that require off-road equipment (such as automated load-out conveyor systems to reduce haul truck emissions). Stationary source emissions of particulates can be reduced by: installing baghouses to aggregate processing equipment; installing bags with higher removal efficiencies in existing baghouses (such as the asphalt plants); installing scrubbers; or, installing water spray systems.

The effectiveness of this measure shall be demonstrated to the County by submittal of an Emissions Calculations report that has been prepared by a

qualified professional (at the expense of the Permittee). The Emissions Calculations report shall be submitted to the County for review in the Annual Compliance and Assurance Update Report required by COA No. 2(L), or as requested by the County to demonstrate compliance. As necessary the County will either hire a consultant (at the Permittee's expense) or enlist the BAAQMD to assess compliance.

C. Mitigation Measure 4.3-3: Reduce Health Risk: The Permittee shall implement the following mitigations to reduce health risk at sensitive receptors:

1. Using the Log described in COA No. 1(A) (Mitigation Measure 4.3-2a) and blasting activity or other records that substantiate the relative amount of activity in each pit, the following tiered approach shall be followed:
   a) Production up to 810,363 tons per year shall be allowed upon the Permittee's continued demonstration that at least 12 percent of horsepower-hours operated are Tier 2 or better (i.e., Baseline fleet activity as described in Mitigation Measure 4.3-2a Option 1(a).

   b) Production up to 950,000 tons per year shall be allowed upon the Permittee's continued demonstration that one of the following conditions is met:
      (i) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 427,500 tons per year (45 percent) and at least 12 percent of horsepower-hours operated are Tier 2 or better (i.e., Baseline); or
      (ii) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 570,000 tons per year (60 percent) and at least 44 percent of horsepower-hours operated are Tier 2 or better as described in Mitigation Measure 4.3-2a, Option 1(b).

   c) Production up to 1,100,000 tons per year shall be allowed upon the Permittee's continued demonstration that one of the following conditions is met:
      (i) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 495,000 tons per year (45 percent) and at least 12 percent of horsepower-hours operated are Tier 2 or better (i.e., Baseline); or
      (ii) The amount of products made from material excavated in the Blue and Grey Pits combined during the previous rolling 12-month period does not exceed 660,000 tons per year (60 percent) and at least 56 percent of horsepower-hours operated are Tier 2 or better.

   d) Production up to 1,300,000 tons per year shall be allowed upon the Permittee's continued demonstration that 5 percent of horsepower-hours operated are Tier 3 or better and 72 percent of horsepower-hours

operated are Tier 2 or better as described in COA No. 11(A) (Mitigation Measure 4.3-2a, Option 1(c)).

2. Reduce onsite emissions by some other means such as control of particulates by installation of verified diesel emissions control systems (VDECS) on engines that operate within the Quarry to reduce emissions from the overall fleet. VDECS are defined by the California Air Resources Board and listed on the CARB website.

The effectiveness of this measure shall be demonstrated to the County by submittal of the Horsepower-Hour Log described in Mitigation Measure 4.3-2a and blasting activity or other records that substantiate the relative amount of excavation in the Blue and Grey Pits as compared to the total excavation amount. The Horsepower-Hour Log shall be submitted to the County for review semi-annually and in the Annual Compliance and Assurance Update Report required by COA No. 2(L), or as necessary to demonstrate compliance. As necessary the County will either hire a consultant (at the Permittee's expense) or enlist the BAAQMD to assess compliance.

D. Mitigation Measure 4.4-1a: Holly-leaf Ceanothus (Ceanothus purpereus) impact reduction:

1. Avoidance and Preservation. Prior to initiation of any vegetation or Overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion areas), the Permittee shall revise the Mining and Reclamation Plan (at the Permittee's expense) to clearly delineate and show the 5-acre "Ceanothus Preservation and Replanting Area" required by this measure. The revised plan shall be submitted to the Engineering and Conservation Division for review and concurrence to demonstrate compliance with this measure. Avoidance and Preservation areas shall also be established and identified in the field through the placement of signage that clearly identifies the area(s) to be avoided so that accidental encroachment or removal of vegetation does not occur. Sign design and locations shall be included in the revised the Mining and Reclamation Plan.

2. Plant Replacement. Each holly-leaf ceanothus plant shall be replaced at a 3:1 ratio within the 5-acre "Ceanothus Preservation and Replanting" area for the impact to approximately 32 plants. No less than 96 individual holly-leaved ceanothus plants shall be planted to provide replacement and compensation for direct and potential indirect impacts.

3. Planting Plan. A qualified biologist shall prepare a Planting Plan for holly-leaf ceanothus for review and approval by the Napa County PBES Department 12 months prior to any vegetation or Overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any

undisturbed areas (including any expansion area) where ceanothus plants would be removed. The Planting Plan shall specify plant sizes and protection measures identified in Item No. 4 below, methods of plant propagation/procurement (i.e., plant salvage, propagation plan, etc.), habitat enhancement of replanted area, appropriate planting densities, watering protocol (duration/quantity/schedule), maintenance requirements, and monitoring and success criteria identified in Item No. 5 below. The Planting Plan also shall address avoidance and conservation methods (i.e., fencing, etc.) for existing individual plants that are avoided by the mining footprint and designated processing area, or that occur in the "Ceanothus Preservation and Replanting Area."

4. Additional Planting Specifications. Replacement plants shall be from one gallon size or larger containers and shall be planted in the fall in clusters of three (3) to twenty (20) individual plants, based on details provided in the Planting Plan. Mesh shelters or other equally effective measures shall be installed around the plants to protect them from rodent damage and deer browsing. Plants shall be mulched to enhance moisture retention and discourage weeds during the plant establishment period, and the area immediately surrounding the plants shall be weeded to reduce competition.

5. Monitoring and Success Criteria. A qualified biologist shall monitor the enhanced habitat and plantings on an annual basis to ensure the replantings achieve a minimum of 80 percent success/survival rate after three years, and to ensure habitat conditions remain adequate to support target species. If the success criterion has not been met after three years, supplemental plantings shall be made at the direction of a qualified biologist, and the plant establishment period shall be extended for an additional two-year period, with additional annual monitoring events. The Permittee shall submit documentation of monitoring to the County on an annual basis, in conjunction with the Annual Compliance and Assurance Update Report required by COA No. 2(L), for a minimum of three years or until success criteria are achieved, including survival rates, photographs, and a description of any maintenance or other pertinent issues identified by the monitoring biologist. The monitoring report shall also include information to illustrate the condition and location of any failed plantings.

E. Mitigation Measure 4.4-1b: Special-status plant species protection:

1. The Permittee shall have a qualified biologist prepare (at the Permittee's expense) updated seasonally-appropriate plant surveys prior to initiation of any vegetation or Overburden removal, earthmoving or earth-disturbing activities, or quarrying mining activities in undisturbed areas (including expansion areas) that contain potential habitat for special-status plant species. Since plant surveys are typically considered valid for a two to three year period, updated plant surveys shall be conducted on a phased basis as

necessary within areas anticipated for new mining and quarrying activities no greater than three years prior to planned ground-disturbing activities.

2. If new or expanded California Native Plant Society (CNPS) sensitive-listed plant species populations (i.e., List 1 or 2) are identified within areas planned for project ground vegetation-disturbing activities, a plant replacement plan shall be prepared by a qualified biologist. The plant replacement plan shall specify a replant/replacement area, a 3:1 replacement ratio, methods of plant propagation/procurement (i.e., plant salvage if feasible, propagation plan, etc.), habitat enhancement of replanted area, planting densities, watering protocol (including duration, quantity and schedule), planting schedule, protective measures such as mesh shelters or other equally effective measures (and/or fencing) to protect plant establishment from rodent damage or deer browsing, maintenance requirements, success criteria, and monitoring to ensure success criteria are achieved. The plant replacement plan shall be prepared and submitted for approval by the county prior to conducting any mining or quarrying activities within the area of identified plant population(s).

3. A qualified biologist shall monitor the enhanced habitat and plantings on an annual basis to ensure the replantings achieve a minimum of 80 percent success/survival rate after three years, and to ensure habitat conditions remain adequate to support target species. If the success criterion has not been met after three years, supplemental plantings shall be made at the direction of a qualified biologist, and the plant establishment period shall be extended for an additional two-year period, with additional annual monitoring events. The Permittee shall submit documentation of monitoring to the County on an annual basis for a minimum of three years or until success criteria are achieved, including survival rates, photographs, and description of any maintenance or other pertinent issues identified by the monitoring biologist. The monitoring report shall also include information to illustrate the condition and location of any failed plantings.

4. All surveys, plans, and reports required by this mitigation measure shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary to demonstrate compliance.

F. Mitigation Measure 4.4-2: American Badger protection measures:

1. The Permittee shall retain a qualified biologist (at the Permittee's expense) to perform pre-construction surveys for American badger prior to initiation of Project activities including vegetation or Overburden removal, earthmoving or earth-disturbing activities, or quarrying or mining activities occurring in any undisturbed areas (including any expansion areas) that occur in potential badger habitat (grassland and low density woodland areas with less than 2 trees per acre).

2. No more than two weeks before earthmoving activities begin within areas determined to be potential badger habitat (grassland and low density woodland with less than two (2) trees per acre) and that have not previously been disturbed, a qualified biologist shall conduct a survey for burrows/dens and American badgers of onsite areas within 500 feet of new quarrying or earthmoving activities. Surveys shall be submitted to the County for review prior to the removal of vegetation or Overburden, and earthmoving or earth-disturbing activities. The purpose of the survey will be to determine whether burrows/dens exist within the area considered for disturbance within that construction year. Surveys shall not be required for areas already disturbed and/or where there is not American badger habitat present.

3. If occupied burrows are found during pre-construction surveys, the biologist shall consult with CDFW and the County to determine whether the Project activities would adversely disrupt the breeding activity of the badger.

4. If the biologist determines that construction activities would disrupt breeding activity, the Permittee shall ensure that occupied areas are avoided from March through August. Implementation of project activities within 500 feet of onsite occupied burrows during this time shall be delayed until a qualified biologist can determine that juvenile badgers are self-sufficient enough to move from their natal burrow and avoid project activities. Documentation shall be provided to the County Department of Planning, Building and Environmental Services.

5. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary to demonstrate compliance.

G. Mitigation Measure 4.4-3: Special-status bird species protection: The Permittee shall not disturb active bird nests without a permit or other authorization from the County, USFWS and/or CDFW. Prior to commencement of vegetation or Overburden removal, earthmoving or earth-disturbing activities, or quarrying activities within any undisturbed areas, the Permittee shall retain a qualified biologist to conduct pre-construction surveys for raptors and passerine birds for Project activities occurring during the nesting season (i.e., February 1st through August 31st).

1. For vegetation or Overburden removal, earthmoving, earth-disturbing activities, or quarrying activities within previously undisturbed areas (including areas of grassland, shrubs, and trees) occurring between February 1st through August 31st, a qualified wildlife biologist shall conduct preconstruction surveys for passerine bird and raptor nests (including offsite areas with public access, excluding offsite private property) as follows: i) for areas that are not adjacent to lands within the Skyline Wilderness Park Combining District (NCC Chapter 18.90) surveys shall be conducted within a

300 foot radius of earth-disturbing activities; and, ii) for areas that are adjacent to Skyline Wilderness Park designated lands surveys shall be conducted within a 0.25 mile radius of earth-disturbing activities. Because raptor nests may be difficult to identify during the egg laying, incubation, or chick brooding periods (late April to early June), an early season survey is required if Project activity areas are known prior to late April. The biologist shall conduct the preconstruction surveys within the 14-day period prior to vegetation removal and ground-disturbing activities (a minimum of three (3) separate days of surveys shall occur within that 14-day period).

2. In the event that nesting passerine birds and/or raptors are found, the biologist shall consult with CDFW and the County to obtain approval for specific nest-protection buffers as appropriate based on the species. Generally, a minimum 150-foot buffer is required around active passerine bird nests and a minimum 300-foot buffer is required around active raptor nests during the breeding and nesting season, or until it is determined by a qualified biologist that all young have fledged. Nest protection measures shall apply to both onsite and offsite active nests that are located within 300 feet of Project activities. These buffer zones may be modified in coordination with CDFW based on existing conditions at the Project site. Buffer zones shall be fenced with temporary construction fencing, which shall remain in place until the end of the breeding season or until young have fledged.

3. If Project-related work lapses for 15 days or longer during the breeding season, a qualified biologist shall conduct another bird and raptor preconstruction survey and consult with CDFW as set forth above before Project work may be reinitiated.

4. All surveys, plans, and reports required by this mitigation measure shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary to demonstrate compliance, commencing one year from the date of approval of this Permit.

H. Mitigation Measure 4.4-5: Special-Status Bat Species protection and avoidance: Prior to commencement of any vegetation or Overburden removal, or project or quarrying activities within any undisturbed areas that contain trees, the Permittee shall implement, at the Permittee's expense, the following measures:

1. The Permittee shall retain a qualified biologist to conduct a habitat assessment for special-status bat habitat within 14 days of Project initiation or tree removal.

2. If the habitat assessment identifies suitable special-status bat habitat and/or habitat trees, the biologist shall submit an avoidance plan for review and approval by the County, who may consult with CDFW if determined to be

necessary. The avoidance plan shall identify and evaluate the type of habitat present at the Project site and specify methods for habitat and/or habitat tree removal. Trees with cavities, crevices and deep bark fissures shall be avoided. Bat habitat/tree removal shall occur in two phases conducted over two days under the supervision of a qualified biologist. In the afternoon on day one, limbs and branches of habitat trees without cavities, crevices and deep bark fissures would be removed by chainsaw. On day two, the entire tree can be removed.

3. All surveys, plans, and reports required by this mitigation measure in shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary to demonstrate compliance, commencing one year from the date of Permit approval.

I. Mitigation Measure 4.4-7: Wetlands and riparian communities: To reduce potential wetland impacts, the Permittee shall:

1. Prior to initiation of Project activities (i.e., vegetation and Overburden removal within any undisturbed areas) that may affect the areas identified as C1 and C2 in the USACE-jurisdictional determination (USACE File Number 2009-00284N) through direct removal, the Permittee shall obtain a Clean Water Act Section 404 permit from the USACE. If a 404 permit is obtained, then the Permittee shall also obtain a water quality certification from the RWQCB under Clean Water Act Section 401. The Permittee shall compensate for the loss of wetland habitat in these areas to ensure no net loss of habitat functions and values. If mitigation is determined by the County to be infeasible due to lack of areas suitable for wetland creation, the County may approve a suitable offsite location(s). A detailed wetland mitigation plan (subject to approval by the USACE) to provide compensation wetlands shall be required that includes a 5-year monitoring program and reporting requirements, responsibilities, performance success criteria, and contingency requirements. At the end of each monitoring year, an annual report shall be submitted to the USACE, RWQCB, and the Napa County Engineering and Conservation Division. The report shall document the hydrological and vegetative conditions of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies. The compensation wetlands shall be located within the same watershed as project impacts. In lieu of creating compensation wetlands, the Permittee may purchase mitigation credits from an approved mitigation bank at a ratio of 2:1, or as otherwise approved by the USACE.

2. Prior to initiation of Project activity (including vegetation and Overburden removal) that may affect sensitive wetland habitats in non-USACE-jurisdictional areas, the Permittee shall obtain permits as may be required by the RWQCB, CDFW, and the County, and shall replace wet areas, at a 2:1 ratio or as directed by the RWQCB, CDFW, and/or the County, to ensure no

net loss of habitat functions and values. If onsite mitigation is determined by the County to be infeasible due to lack of areas suitable for wetland creation that are not already planned for project activities, a detailed wetland mitigation plan to provide compensation wetlands shall be required (subject to approval by applicable state and/or local jurisdictions) that includes a 5-year monitoring program and reporting requirements, responsibilities, performance success criteria, and contingency requirements. At the end of each monitoring year, an annual report shall be submitted to the regulatory agencies. The report shall document the hydrological and vegetative conditions of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies. The compensation wetlands shall be located within the same watersheds (i.e., the Arroyo Creek or Cayetano Creek watersheds/drainages) as Project impacts or other suitable areas as determined by the County.

3. A 50-foot setback is included from the main stem of Arroyo Creek for new Project elements beyond the extent of existing roads and development, thus avoiding impact to the riparian corridor along the main stem of Arroyo Creek. The 50-foot setback will be determined by mapping the Ordinary High Water Mark (OHWM) of the main stem (below 300-foot elevation) of Arroyo Creek on the Project site. The OHWM and 50-foot setback shall be flagged in the field for review and approval by state and/or local jurisdictions.

   In two small areas, located in the southwest corner of the property south of the former Grey Rock Plant (as shown on DEIR Figure 4.4- 4), the 50-foot setback shall be increased to approximately 60 feet to avoid two small riparian areas (0.07 acres) that extend beyond the 50-foot setback. The drip-line of this additional vegetation shall be flagged in the field for review and approval by state and/or local jurisdictions.

4. All surveys, plans, and reports required by this mitigation measure shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary to demonstrate compliance, commencing one year from the date of Permit approval.

J. Mitigation Measure 4.4-8: Invasive Species Management within Preservation/Replanting Areas:

1. The Permittee, at their expense, shall retain a qualified biologist to prepare an Invasive Species Management Plan (ISMP) for protected native perennial grassland areas (Purple Needlegrass Series) and replanted mitigation areas (i.e., the Ceanothus Preservation/Replanting Area described by Mitigation Measure 4.4-1). The ISMP shall be submitted to the County Department of Planning, Building and Environmental Services for review and approval within 12 months of the effective date of this Permit. The ISMP shall target invasive plant species either existing on the Project site or that could colonize in the

future, and shall specify methods of early detection, management, and control of invasive plant species to improve and protect onsite habitats.

The ISMP shall provide a list of target invasive species to be managed at the site with Cal-IPC rating of moderate or higher for the Napa and Mt. George quadrangles and specify success criteria for managed invasive species. Star thistle, medusa head grass, and french broom are known to occur on a nearby vineyard property and shall be included on the list of target invasive species identified in the ISMP.

2. The ISMP shall be implemented by the Permittee within 12 months of approval of the ISMP by PBES to control infestations of invasive species onsite as needed to minimize impacts of such species on remaining protected sensitive habitat areas. Targeted invasive species identified in the ISMP may be managed by handpulling, local application of herbicide, and/or light grazing, or other techniques recommended by the ISMP. Guidance through managed grazing helps reduce fire fuel loads and, if timed properly, can favor the maintenance and expansion of native plant species. Selective control of invasive species shall be employed using best-management practices (BMPs) to minimize soil erosion, water contamination, or non-target herbicide effects that could occur during implementation of invasive species management techniques.

3. All surveys, plans, and reports required by this mitigation measure shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary to demonstrate compliance, commencing one year from the date of Permit approval.

K. Mitigation Measure 4.4-9: Oak Woodland Avoidance, Replacement, and Preservation: The Permittee shall, at the Permittee's expense, compensate for direct and indirect impacts to approximately 121 acres of native oak woodlands at a total mitigation ratio of 2:1, including combination of onsite avoidance and preservation (see DEIR Figure 4.4-3 exclusion areas and 50 foot buffer zone along property lines), onsite replacement (see DEIR Figure 4.4-4), and offsite as summarized in the table below.

All documentation associated with on and offsite oak woodland mitigation shall be submitted to the County in accordance with the timeframes identified herein and shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary at the request of the County to demonstrate compliance.

Summary of Proposed Oak Avoidance, Replacement, and Preservation

Row	Type	Acres	Notes
A	Coast Live Oaks Impact	121	108.3 direct plus 12.4 indirect for root impacts

B	2:1 Ratio Mitigation Package Total	242	
C	Avoidance and Preservation (Onsite)	145	Buffer and exclusion areas onsite
D	Net Additional Mitigation Required	97	Rows B-C
E	Replacement and Preservation (Onsite)	12	Onsite plantings adjacent to existing oaks
F	Additional Replacement and/or Preservation	85	Offsite
G	Total Replacement and Preservation	97	Rows E+F

Project mitigation shall be accomplished through a combination of onsite avoidance and preservation, partial onsite replacement and preservation, and additional offsite preservation (as necessary) in accordance with a plan prepared by a qualified biologist.

1. Avoidance. The proposed Project would avoid 136 acres of onsite oak woodlands in the Exclusion areas shown on Figure 4.4-3 of the DEIR and as modified by the Permittee. These areas shall be protected via deed restriction in a form acceptable to the County and shall be recorded prior to the commencement of any mining activities in any previously undisturbed area or any new vegetation or Overburden removal activities within the Project area.

2. Replacement. A site evaluation of oak woodlands on the Project site prepared by an ecologist mapped out areas that appeared suitable for initiating oak replacement plantings (see DEIR Figure 4.4-4), and these activities would provide added benefit of enhancing the age structure of oak woodland at the site. These areas amount to approximately 12 acres of suitable area for potential onsite replacement for partial mitigation of impacts to oaks (additional onsite suitable area may be available upon additional investigation). The oak woodlands evaluation also concluded that planting and/or management practices could be conducted onsite to enhance seedling establishment, improve the age structure of the oak woodlands, and increase the sustainability of the oak stands, although these activities can be a challenge to implement due to the long term commitment requirement, cost and labor intensive management techniques, and remote nature of some of the onsite areas for access for maintenance.

   A qualified biologist shall prepare an oak woodland establishment and restoration plan subject to County approval. Prior to the commencement of any mining activities in any previously undisturbed area or any new vegetation or Overburden removal activities within the Project area the Oak

Woodland Establishment and Restoration Plan shall be initiated and completed (i.e., all replacement trees identified in the Plan shall be planted). Once the success criteria identified in the plan (as described below) is achieved the Plan will be considered finaled.

The plan shall specify the location of a minimum of 12 acres onsite for oak replacement/restoration (generally as shown in Figure 4.4-4 of the DEIR), methods of implementation, plants or propagule source(s), watering (schedule/amounts/duration), and maintenance of the oak woodland replacement areas, including measures to avoid deer browsing, as well as a monitoring protocol. The plan shall also specify minimum success criteria consistent with those identified in Section 6.3.2 (Planting Success Criteria) of the Syar Napa Quarry Mining and Reclamation Plan and COA No. 3(C).

The Plan and documentation demonstrating planting, survival and success shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as requested by the County to demonstrate compliance.

3. Offsite Preservation. An additional 85 acres offsite shall be permanently preserved via easement or deed restriction. Offsite preservation shall be phased in as part of the Project. Based on implementation of provisions H1 and H2 above the removal of approximately 78-acres of oak woodland could occur before offsite mitigation is necessary. Prior to the commencement of mining operations, or vegetation or Overburden removal within any undisturbed areas (including expansions areas), that would remove in total more than 78-acres of onsite oak woodlands (i.e., those areas beyond oak woodland acreage covered by the deed restriction avoidance and replacement onsite) the Permittee shall provide the County with an offsite Oak Woodlands Preservation Plan containing no less than 85-acres of oak woodlands for review and approval by the County.

   Offsite location(s) shall be located within the Napa River watershed and be of like quality and habitat value as those being removed, as determined by a qualified biologist and the County. So that offsite mitigation provides the maximum benefit to the area most affected by the project and occurs within the geographic context of the Project, preference shall be given to comparable oak woodlands that are located within the close proximity of the Quarry (i.e., within 3.5 miles of the outer portion of the project boundary).

   In the event offsite preservation areas are determined to be of lesser quality and habitat value relative to the areas removed from the project site, the County may consider an increase in preserved acreage beyond the required 85 acres to offset the inequity in quality and biological value. The PBES Director will make final determinations related to quality of oak woodlands and

any increases in preserved acreage to offset any inequities in quality of the preserved woodland.

If offsite mitigation is determined by the County to be infeasible due to lack of areas suitable for oak woodland replacement or preservation, the County may approve, provided all other replacement and preservation means are exhausted, additional preservation through an in-lieu fee payment. In-lieu fee payments shall be made to the County for the purpose of purchasing and preserving oak woodlands within the Napa River Watershed or to provide payment to the Oak Woodlands Conservation Fund consistent with PRC Section 21083.4 as developed and approved by the County.

L. Mitigation Measure 4.4-10: Creek Buffer Establishment: The Permittee shall provide a setback of a minimum of 85 feet from the upper reaches of Arroyo Creek and provide a setback of a minimum of 60 feet from the lower reach of Arroyo Creek (as shown in Figure 4.4-4 of the Project's DEIR) to reduce potential impacts on biological resources and functions consistent with the measurement requirements contained in NCC Chapter 18.108.025.

M. Mitigation Measure 4.5-4: Avoid or Minimize Impacts to Unknown Historical or Archaeological Resources: In accordance with CEQA Guidelines Section 15064.5(f), should any previously unknown prehistoric or historic archaeological resources, such as, but not limited to, obsidian and chert flaked-stone tools or toolmaking debris, shellfish remains, stone milling equipment, concrete or stone footings, filled wells or privies, or deposits of metal, glass, or ceramic refuse be encountered during vegetation or Overburden removal or other ground disturbing activities, work within 100 feet of these materials shall be stopped, and the Permittee shall, at the Permittee's expense, consult with a professional archaeologist. The Permittee shall notify the County within 24 hours of encountering any cultural resources as a result of mining and quarrying activities and operations, and the County shall inspect the site immediately thereafter to ensure the find is adequately protected.

The archaeologist shall prepare an assessment report and recovery plan to evaluate the significance of the find and identify appropriate mitigation measures as may be necessary if the deposit contains significant archaeological materials. The Permittee shall provide the assessment report and recovery plan to the County Engineering and Conservation Division for review and approval, and those mitigation measures shall be carried out prior to any resumption of related ceased earthwork or quarrying activities. The archaeologist shall also undertake data recovery of the deposit unless the Project can be modified to allow the materials to be left in place. Data recovery efforts must follow standard archaeological methods and all significant cultural resource materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional

standards, and the report shall be provided to the County Engineering and Conservation Division as necessary.

In the event that the cultural resources identified within the Project area results in a reduction or modification of mining/quarrying boundaries due to avoidance, the Mining and Reclamation Plan shall be revised by the Permittee and submitted to the County for review and approval.

Documentation of any occurrence that triggers the provisions above shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary to demonstrate compliance. The County Engineering and Conservation Division shall monitor this requirement.

N. Mitigation Measure 4.5-5: Avoid or Minimize Impacts to Unknown Human Remains: Should human remains, associated grave goods, or items of cultural patrimony be encountered during Quarry or other ground-disturbing activities, the Permittee shall comply with the following procedures as required by Public Resources Code section 5097.9 and Health and Safety Code section 7050.5. In the event of discovery or recognition of any human remains, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the Napa County Coroner has determined that the remains are not subject to his or her authority. If the coroner determines the human remains to be Native American, the Permittee shall contact by telephone within 24 hours, the State Native American Heritage Commission (NAHC). The NAHC shall assign a Most Likely Descendent (MLD). The MLD may provide recommendations regarding the treatment of the human remains and any associated cultural materials. If the Permittee rejects the recommendations and the mediation by NAHC fails to provide acceptable measures, then the Permittee shall rebury the Native American remains and associated grave goods with appropriate dignity on the property, in a location not subject to further subsurface disturbance.

Furthermore, the permittee shall notify the County within 24 hours of encountering any human remains as a result of mining and quarrying activities and operations that the County Coroner determines to be Native American. The County shall inspect the site immediately thereafter to ensure the find is adequately protected. Prior to any further mining or quarrying activities in areas where human remains have been encountered, the Permittee shall provide documentation that they have consulted with the NAHC regarding the treatment of the human remains. In the event that the human remains identified within the Project area result in a reduction or modification of mining/quarrying boundaries, the Mining and Reclamation Plan shall be revised by the Permittee and submitted to the County for review and approval.

Documentation of any occurrence that triggers these provisions above shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance.

O. Mitigation Measure 4.5-6: Evaluation and Treatment of Paleontological Resources: If paleontological resources (e.g., vertebrate bones, teeth, or abundant and well-preserved invertebrates or plants) are encountered during Project activities, work in the immediate vicinity shall be diverted away from the find and protective fencing shall be installed a minimum of 50 feet from the exterior bounds of the find to protect it until a professional paleontologist assesses and salvages the resource, if necessary.

The Permittee shall notify the County within 24 hours of encountering any paleontological resources as a result of mining and quarrying activities and operations, and the County shall inspect the site immediately thereafter to ensure the find is adequately protected. Prior to any further mining or quarrying activities in areas where paleontological resources have been encountered, the Permittee shall provide an assessment report and salvage plan prepared by professional paleontologist for review and approval by the County. In the event that the paleontological resources are identified within the project area that result in a reduction or modification of mining/quarrying boundaries, the Mining and Reclamation Plan shall be revised by the Permittee and submitted to the County for review and approval.

Documentation of any occurrence that triggers the provisions above shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance.

P. Mitigation Measure 4.6-2a: Supplemental Geotechnical Design Criteria: The Permittee shall not locate facilities on unstable slopes, to the extent feasible. Prior to construction of any roads, berms or dams associated with detention/sedimentation basins, or related structures, the Permittee shall, at the Permittee's expense, retain a licensed geotechnical engineer and, when appropriate, a structural engineer to conduct a construction-level geotechnical investigation for the facility(ies). The slope stability inspection reports required by Mitigation Measure 4.6-2b may be included in this report.

The geotechnical investigation shall evaluate seismic hazards and provide recommendations to mitigate the effect of strong ground shaking and unstable soils and slopes to avoid structural failure. The geotechnical study shall provide design criteria to mitigate strong seismic ground shaking. The seismic design criteria shall take into account the active faults in the Napa area.

The geotechnical study shall include an evaluation of unstable land in the areas of stormwater improvements and road construction, including any areas susceptible to liquefaction or settlement, and any areas that may contain

expansive soils. The study shall provide measures to repair, stabilize, or avoid such soils or slopes, and may include, but not be limited to:

- Removal and replacement of unstable materials in an existing landslide or in an actively eroding area with a stronger material;
- Grading to remove loose material and provide an acceptably stable topographic configuration by terracing, reducing slope angles, and reducing the height of cut and fill slopes;
- Installation of drainage facilities, such as subdrains and dewatering wells to reduce pore water pressure and reduce the risk of slope failure;
- Covering steep slopes with concrete or vegetation;
- Buttressing the slope or the toe of slopes to provide additional support to the slope. Where buttressing is not feasible, internal reinforcement such as a pinning system or lattice grid can be incorporated into the slope design to strengthen the slope;
- Retaining walls or other external applications to strengthen slopes;
- Placement of slope fencing or other material to stabilize rock fall from cut slope and mitigate hazards from falling rocks;
- Removal of native soils and replacement with engineered fill materials not prone to seismically-induced liquefaction or shrinking and swelling;
- Soil stabilization, such as lime treatment to alter soil properties to reduce shrink-swell potential to an acceptable level; and/or,
- Deepening support structures to a depth where unstable soils are no longer present.

Project facilities shall be designed and constructed in conformance with the specific recommendations contained in design-level geotechnical studies, including recommendations for grading and ground improvement.

The geotechnical investigations and any associated documents or reports required by this measure shall be submitted within 12 months of approval of this Permit and shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as requested by the by the County, to demonstrate compliance. As necessary the County will either hire a consultant (at the Permittee's expense) assess geotechnical investigations and compliance.

Q. Mitigation Measure 4.6-2b: Slope Stability Criteria: A California registered Geotechnical Engineer, retained and paid by the Permittee, shall conduct slope stability inspections during excavation of undisturbed areas including the expansion areas. Inspections shall be completed on an annual basis, at a minimum, as well as after heavy rain events (precipitation falling with an intensity in excess of 0.30 inches per hour) or earthquakes with a magnitude of 6.0 or greater. Inspections shall include mapping and movement monitoring of the slopes to assess the potential for project excavation, grading, and Overburden storage to trigger movement of debris flow and landslides. If a slope condition presents a risk to safety or the potential for mass movement, repair measures shall be recommended and promptly implemented by the Permittee. This may

include repair, stabilization, or avoidance of landslides and areas of soil creep or possible debris flow. A memorandum summarizing the findings of the inspections and any recommendations shall be prepared and submitted to the Napa County Engineering and Conservation Division and Syar each year. Engineering recommendations for slope repair or stabilization shall be approved by Napa County and incorporated into the Syar Napa Quarry Mining and Reclamation Plan as necessary.

Slope stability inspection reports/memorandums and any associated documents or reports required by this measure shall be submitted within 12 months of approval of this Permit and shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance. As necessary the County will hire a consultant (at the permittee's expense) to assess slope stability memorandums/reports and compliance.

R. Mitigation Measure 4.7-2: Standard operating procedures (SOPs) shall be used during the handling of hazardous materials for the operation and maintenance of vehicles and equipment; and an approved Hazardous Material Business Plan shall be maintained for the Project site:

1. Syar shall develop SOPs for the use of hazardous materials including fuels and lubricants used onsite prior to implementation of the Project including any vegetation or Overburden removal, mining or quarrying activities, or earth-disturbing occurring in undisturbed areas. Quarry personnel shall follow written SOPs during onsite operation and maintenance of all equipment. The SOPs, which are designed to reduce the potential for incidents involving hazardous materials, shall include the following information and protocols:

    - Refueling shall be conducted only with approved pumps, hoses, and nozzles.
    - Catch-pans shall be placed under equipment to catch potential spills during servicing.
    - All disconnected hoses shall be placed in containers to collect residual fuel from the hose.
    - Vehicle engines shall be shut down during refueling.
    - No smoking, open flames, or welding shall be allowed in refueling or service areas.
    - All refueling, maintenance of vehicles and other equipment, handling of hazardous materials, and staging areas shall occur at least 100 feet from water courses, existing groundwater wells, and any other water resource to avoid the potential for risk of surface and groundwater contamination.
    - Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.

- A spill containment kit that is recommended by the Napa County Environmental Health Division (EHD) or local fire department shall be onsite and available to staff if a spill occurs.
- A rinse water containment area shall be established outside the proposed creek setbacks and away from any areas that could potentially drain offsite or potentially affect surface and groundwater quality. When Quarry equipment is cleaned, only rinse water that is free of gasoline residues, other chemicals, and waste oils is allowed to diffuse back into the Quarry area. No rinse water shall be drained to a septic system or discharged to ground or surface water to prevent the release of hazardous materials into the environment during operation and maintenance of the proposed Project.
- To prevent the accidental discharge of fuel or other fluids associated with vehicles and other equipment, all workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

In the event that contaminated soil and/or groundwater or other hazardous materials are generated or encountered during Quarry Operations, all work shall be halted in the affected area and the type and extent of the contamination shall be determined by the County Environmental Health Division. Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with federal, state, and local regulations. If containment and size of the spill is beyond the scope of the attending personnel, proper authorities shall be notified. The Permittee shall notify the County Engineering and Conservation Division and the Environmental Health Division within 24 hours of any potential soil or groundwater contamination that has occurred or is a result of Quarry Operations.

2. Syar's Hazardous Materials Business Plan (HMBP) shall be updated annually as required by law. Syar shall amend the existing HMBP inventory form for the Syar Napa Quarry, in accordance with state law, in the following instances if warranted as a result of the Project:
   - A 100 percent or more increase in the quantity of a previously disclosed material; or,
   - Any handling of a previously undisclosed hazardous material above the reportable quantity thresholds of 500 pounds of solid, 55 gallons of liquid or 200 cubic feet of gas.

3. The Permittee's HMBP shall also meet the standards of the *Hazardous Material Business Plan and Emergency Action Plan* (Napa County Department of Environmental Management, 2008 or as amended) and shall be subject to approval by Napa County. The amended HMBP shall include: an inventory of the type and quantity of hazardous materials stored onsite; a site map; risks of using the hazardous materials; spill prevention methods;

emergency response plan; employee training and emergency contact information.

4. The HMBP shall also include a review of each chemical used onsite and a determination on whether any substitution with less hazardous chemicals can be made. Changes shall be made as appropriate. The hazardous materials inventory, site map, emergency response plan, business owner form, and business activities form must be submitted to the County Environmental Health Division (EHD). The Permittee shall notify the EHD within 30 days of any change in storage of a hazardous material or if there is a 100 percent increase in quantity of a hazardous material previously disclosed in the HMBP. An employee training record shall be filed onsite and may be inspected by the EHD once every three years.

5. Waste oil containers shall be stored in secondary containments that include oil-impervious bermed areas or liners, retaining walls, and/or are stored on impervious concrete floors. Waste oil containers shall be covered during rain events and shall not be stored within any buffers, creek setback, or other exclusion areas. Waste oil containers shall be labeled "waste oil". The containers shall also be labeled with the following information: accumulation start date; the hazardous properties of the waste (ex. flammable, corrosive, reactive, toxic, etc.) and the name and address of the facility generating the waste. All waste oil containers shall be transported offsite by a licensed transporter and taken to a waste oil recycling facility.

6. The SOPs, amended/updated HMBP, and any associated documents or reports required by this measure shall be submitted within 12 months of approval of this Permit and shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as requested by the County, to demonstrate compliance.

S. Mitigation Measure 4.8-1: Update Industrial Storm Water Pollution Prevention Plan to address new land disturbance and operations changes: Prior to initiation of any vegetation removal, earthmoving or earth-disturbing activities, or quarrying or mining activities **occurring** in any undisturbed areas (including any expansion areas) and annually as necessary, the Permittee shall update Syar Napa Quarry's existing Industrial SWPPP (WDID No. 228I005111) to reflect additional areas of land disturbance and changes in operation resulting from the Project. The Permittee shall modify the SWPPP as the project progresses and as conditions warrant to remain consistent and compliant with SWRCB Order No. 2014-0057-DWQ[1], Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities.

[1] Industrial General Permit (IGP) adopted by the SWRCB April 1, 2014, effective date July 1, 2015: replaces IGP Order no. 97-03-DWQ that expires June 30, 2015.

The updated SWPPP shall identify the sources of pollution that may affect the quality of industrial stormwater discharges and authorized non-storm water discharges, and describe and ensure the implementation of BMPs to reduce or prevent pollutants in industrial stormwater discharges. The updated SWPPP shall also include monitoring measures and other requirements contained in Order No. 2014-0057-DWQ. Implementation of the SWPPP shall include reviews, inspections or monitoring by the County Engineering and Conservation Division on a quarterly basis. The Permittee shall continue to compare quarterly monitoring results to current and future EPA suggested benchmark levels (i.e., Numeric Action Levels (NAL) identified in Order No. 2014-0057-DWQ) to determine the effectiveness of onsite control measures and make adjustments accordingly. No discharges from the site shall exceed 100 mg/l of Total Suspended Solids or 200 umho/cm (i.e., micromhos per centimeter) of Specific Conductance[2]. In addition the Project shall not result in a net increase in sediment load. Quarterly monitoring reports shall be submitted to the County for review to determine compliance and corrective actions to achieve benchmarks and assess the effectiveness of previously implemented BMPs.

Should ongoing oversight by the County Engineering and Conservation Division or the Environmental Health Division show any exceedances of EPA Benchmarks that have persisted for more than 12 months (that are not attributed to naturally occurring environmental conditions, or background conditions), the Permittee shall, within 30 days of notification by the County, implement additional or new BMPs to adequately address the exceedances.

The updated SWPPPs and any associated documentation, including annual monitoring reports submitted to the RWQCB shall be submitted within 12 months of approval of this Permit and shall be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), or as requested by the County to demonstrate compliance. Updated SWPPPs will be appended to the Mining and Reclamation Plan as necessary in order to satisfy the erosion and sediment control of SMARA.

T. Mitigation Measure 4.8-2: Avoid depleting groundwater supplies or interfering with groundwater recharge mechanisms including maintaining a 10-foot vertical separation between final grade and regional groundwater potentiometric elevation: The Permittee shall maintain existing volumes of groundwater recharge and shall ensure that a vertical buffer of undisturbed native soil/rock remains in place which maintains the final grade elevation no closer than ten (10) feet above the spring season regional groundwater potentiometric elevation. The Permittee shall not excavate and/or mine material within ten (10) feet of the regional groundwater potentiometric surface to prevent the creation or expansions of open water bodies subject to evaporation or springs which can drain regional groundwater to surface drainages or creeks.

[2] Source: Table 4.8-2 of the Draft Environmental Impact Report.

To avoid depleting groundwater supplies in all mined areas within the Syar Napa Quarry the grade of the excavation shall be maintained at a minimum of ten (10) feet above the elevation of the regional groundwater potentiometric elevation. This mitigation will preclude regional groundwater from discharging as surface water. To ensure that groundwater infiltration/recharge volumes are maintained, pre-project (baseline) infiltration volumes shall be compared with project groundwater infiltration volumes. If there is a deficit, BMPs shall be adjusted or consumptive use of water shall be curtailed until groundwater recharge volumes are greater than or equal to pre-project volumes. Pre-project infiltration volumes were calculated at 685 acre-feet in the Arroyo Creek watershed/drainage and 442 acre-feet in the State Blue watershed/drainage, totaling 1,067 acre-feet (see Figure 4.8-2 of the DEIR).

For the upper reaches of the site, this mitigation measure shall be achieved through a combination of best management practices (BMP's) that entail: managing recharge areas [or detention/infiltration ponds] so that pre-project (baseline) groundwater infiltration volumes are maintained, limiting the depths of excavation and or mining to ten (10) feet above the regional groundwater table and, limiting the depths of excavation and or mining near Arroyo Creek so as to not change the flow path of the creek.

For the lower reaches of the site (and any offsite interactions), this mitigation measure shall be achieved by maintaining pre-project flow conditions in Arroyo Creek. These conditions include the flow rates, timing of peak runoff, and volume of water in the creek. This mitigation measure requires the monitoring of stream flow in the lower reach of Arroyo Creek. Impacts to the amount of water and timing of peak flows entering the creek are managed through the use of surface grading, surface cover, and detention basins.

It is expected that the actual elevation of regional groundwater potentiometric elevation will vary from the estimates provided in Figure 4.8-6 of the DEIR. Adherence with this mitigation measure requires accurate and contemporary understanding of the regional groundwater potentiometric elevation under the Syar Napa Quarry. This understanding is necessary in order to avoid excavating into the 10-foot vertical buffer zone. To accomplish this and to obtain the data necessary to comply with this mitigation measure, the Permittee shall provide the County with an Annual Groundwater Elevation Monitoring and Use Report, prepared under the direction of a qualified Professional Engineer or Professional Geologist, that quantifies the groundwater potentiometric elevations during spring of each year (when groundwater elevations are expected to be highest at the Quarry) and through the following means:

1. The Permittee shall monitor stream flow and pond elevation throughout every year the Quarry is in operation. This information, along with publicly available climactic data, shall be used to calculate the groundwater infiltration volumes quarterly, in a manner consistent with Appendix J. The results of the

monitoring and water balance infiltration analysis shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report.

2. The Permittee shall install piezometers or monitoring wells as required to quantify the regional groundwater potentiometric elevation in areas of active mining prior to any mining excavation that will cause an increase in mining depth beyond existing conditions and/or is likely to extend to within 50 feet of the groundwater elevations presented on Figure 4.8-6. The results of groundwater potentiometric elevation monitoring shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report which is required by this Mitigation Measure. All excavation activity at the Syar Napa Quarry shall be conducted to maintain a 10-foot separation of undisturbed native soil/rock between the finished grade and the underlying groundwater potentiometric elevation as determined by the most recent Annual Groundwater Elevation Monitoring and Use Report. Increased mining depth in areas that are already at or below the groundwater potentiometric elevation, including but not limited to the State Blue Pit, shall not occur.
   a) To determine the location, number, and timing of piezometer or monitoring well installation that are necessary to accurately determine the groundwater potentiometric elevation in areas of active mining, the Permittee shall provide a monitoring piezometer/well plan prepared by a qualified Professional Engineer, Professional Geologist, or Professional Hydrogeologist to the County for review and approval prior to commencing any mining activities that would increase the depth of mining beyond existing conditions. The monitoring piezometer/well plan shall also be included in the Annual Groundwater Elevation Monitoring and Use Report.

3. To avoid interfering with the groundwater recharge mechanisms, the Permittee shall also ensure that any subsurface flow in fractures or soil that is exposed or intercepted by the excavation shall be reinfiltrated within the same watershed boundaries. Any surface water that is not the direct result of surface water runoff during rain events shall be infiltrated or directed to areas that provide groundwater infiltration onsite (such as project detention ponds/basins) and within the same watershed and as depicted on Figure 4.8-10. Surface water which is the direct result of rain events shall be infiltrated to groundwater or directed to the existing channels. Spring season monitoring shall be conducted by the Permittee concurrent with SWPPP monitoring (required by COA No. 11(S) - Mitigation Measure 4.8-1) to verify that springs and subsurface flow exposed as a result of mining activities is infiltrated back into the subsurface before reaching the surface flow channels. If persistent springs are formed by mining activities the Permittee shall hire a qualified professional to assess springs and provide an evaluation to the County to determine if the elevation of these springs are part of the regional

groundwater potentiometric surface; if so, mining shall not advance further below this elevation.

4. While no direct groundwater extraction has been proposed or approved in the Arroyo Creek vicinity, existing Well No. 4 could be activated for extraction or an additional well could be installed. The extraction of groundwater from Well No. 4 or from any additional well at the project site, including in the Arroyo Creek vicinity, shall be subject to the groundwater extraction limitation of 140.6 acre-feet per year pursuant to Mitigation Measure 4.4-8 and COA No. 2(D) and 11(V). Any new groundwater extraction wells shall subject to additional environmental review pursuant to CEQA and modification of this surface mining permit.

Any monitoring reports, including annual documentation of groundwater infiltration/recharge volumes and mining elevations in relation to the estimated regional groundwater potentiometric elevations (presented in DEIR Figure 4.8-6), and documentation of any exploratory borings and/or monitoring wells required to be installed or that have been installed, shall be submitted within 12 months of approval of this Permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required by this measure. Additionally, any documentation required by this mitigation measure shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), or as requested by the County to demonstrate compliance.

U. Mitigation Measure 4.8-3: Avoid reducing the groundwater potentiometric elevation by increasing consumptive use of surface water or surface occurrence of regional groundwater as a result of Quarry activities: The Permittee shall ensure that all water extracted from open bodies of water that are at the regional groundwater potentiometric elevation shall be reinfiltrated in surface detention/infiltration basins within the same watershed from which the extraction occurs (i.e., the State Blue or Arroyo Creek watersheds) or it will be considered a consumptive use of groundwater. This will prevent depletion of the groundwater resource by consumptive use of water derived from open bodies of water such as State Blue Pit. This Mitigation Measure 4.8-3 shall not apply to the draining of ponded surface water which is at an elevation higher than the underlying regional groundwater potentiometric elevation, provided the water is not used outside of the watershed it was derived from. Ponded surface water which occurs in temporary low areas in active mining areas may be pumped to detentions ponds within the same watershed for reinfiltration purposes.

As part of Quarry activities, water may be pumped from open water bodies such as State Blue Pit for consumptive Quarry activities such as dust control and other uses where the water is not reinfiltrated. The volume of groundwater that is pumped from those water bodies where the water surface elevation is effectively the same as the regional groundwater potentiometric elevation (i.e., State Blue Pit) shall be considered part of the maximum allowable annual groundwater use

allocation of 140.6 acre-feet per year for the Project. Consumptive use from open water bodies such as State Blue Pit shall be recorded and considered a part of the groundwater allocation in the same manner as the groundwater pumping from the Quarry Well. The volume of water used to wash materials shall not be included in the quantification of groundwater use if it is returned to the aquifer by reinfiltration. The volume of wash water returning to detention ponds for infiltration is not considered in quantifying groundwater use because it is not a consumptive use of groundwater.

To help ensure that groundwater infiltration volumes are not decreased, pre-project infiltration volumes shall be compared with project groundwater infiltration volumes. If there is a deficit, BMP shall be adjusted or consumptive use of water shall be curtailed until groundwater recharge volumes are greater than or equal to pre-project volumes. Pre-project infiltration volumes were calculated at 685 acre-feet in the Arroyo Creek drainage and 442 acre-feet in the State Blue drainage, totaling 1,067 acre-feet.

Maintaining groundwater recharge volume shall be addressed by routing stormwater runoff to existing ponds or new surface detention/infiltration basins that shall be constructed on recharge areas to ensure that groundwater infiltration volumes are equal or greater than pre-project groundwater infiltration volumes. To ensure that existing volumes of groundwater recharged are maintained the Permittee shall monitor pond elevation throughout the year. This information, along with publicly available climactic data, shall be used to calculate the groundwater infiltration volumes quarterly, in a manner consistent with Appendix J of the DEIR. The results of the monitoring and water balance infiltration analysis shall be provided to the County quarterly and be included in the Annual Groundwater Elevation Monitoring and Use Report.

Monitoring reports required by this measure shall be submitted within 12 months of approval of this Permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required pursuant to COA No. 11(T) (Mitigation Measure 4.8-2). Additionally, reports required by this mitigation measure shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as necessary or requested by the County to demonstrate compliance.

V. **Mitigation Measure 4.8-4: Avoid depleting groundwater supplies by water reuse and obtaining new supplies of additional water for operations:** No additional groundwater from existing sources is available to accommodate the additional water demand of the proposed Project. The Permittee's maximum allowable annual groundwater usage for all Quarry operations and associated activities shall not exceed 140.6 acre-ft or 45.8 million gallons per year. This mitigation measure includes metering to verify that demands upon water resources are not exceeded. This mitigation measure also includes

accommodating any additional water demands with a combination of water reuse, new water sources or water conservation methods.

In order to document the use of the existing water sources, the Permittee shall continuously monitor, meter and maintain records of all water use at the Quarry site. These monitored sources shall include:

1. Groundwater from the Quarry Well, or any other groundwater well related to the project that could have a similar impact (i.e., Well No. 4 and/or the Latour Court well);
2. Water collected from open water bodies in contact with the regional groundwater potentiometric elevation (as identified in Mitigation Measures 4.8-2 and 4.8-3); and/or
3. Impounded surface water that would otherwise infiltrate to groundwater.

Monitoring reports required by this measure shall be submitted within 12 months of approval of this Permit and shall be included within the Annual Groundwater Elevation Monitoring and Use Report required pursuant to COA NO. 11(T) (Mitigation Measure 4.8-2). Additionally, reports required by this mitigation measure shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), and as requested by the County to demonstrate compliance.

If new wells are installed and/or if existing wells (i.e., Well No. 4) are brought into production the extraction from these wells shall be included in the annual usage total. The total of groundwater/surface water used for Quarry Operations shall be totaled and reported monthly to the County. Any new groundwater well shall subject to additional environmental review pursuant to CEQA and modification of this surface mining permit.

Onsite water that is used which can be used non-consumptively such as a controlled process where the water is used for sand washing and then recharged to the groundwater through a detention basin would not be included in the total of water used for the Quarry if it can be demonstrated through monitoring and reporting as part of the annual water usage report that it is recharged to groundwater.

The Permittee shall also off-set additional water demands by reusing water and increasing processing efficiencies. This could include gravel application to roadways and production areas to reduce dust generation and the need for dust suppression by water application. It could also include process revisions to reuse sand wash water rather than allow the water to drain off as surface water or to allow it to evaporate in shallow ponds that have low infiltration benefit.

If additional water is required for the Project, the additional water shall be obtained from offsite sources such as new wells outside of the MST. Offsite

sources of recycled water are available and water can be purchased from public or private sources. If additional water sources are not available then the Permittee shall reduce its production volume to a level that the water use does not exceed the maximum allowable annual usage of 140.6 acre-feet (or 45.8 million gallons) per year. Any new or additional water sources for Quarry Operations shall subject to additional environmental review pursuant to CEQA and modification of this surface mining permit.

The County Engineering and Conservation Division shall monitor this requirement. Compliance of this measure shall be subject to Article VI (Enforcement) of Napa County Code Chapter 16.12 (Surface Mining and Reclamation).

W. Mitigation Measure 4.8-5: Reduce Potential for Offsite Runoff: The Permittee shall design and construct detention ponds in the mined watersheds to reduce stormwater runoff volume, rates and sedimentation in addition to maintaining infiltration to groundwater. The specific locations of these detention ponds shall be determined during the development of the grading and drainage plans, as required by the County's Surface Mining and Reclamation Ordinance (Napa County Code Chapter 16.12). The Permittee shall submit a final detailed design-level hydrologic and hydraulic analysis within 12 months of approval of this Permit as part of the annual mining plan (that is a component of the Project's Mining and Reclamation Plan) to the Napa County Engineering and Conservation Division detailing the implementation of the proposed drainage plans, including detention pond facilities that shall conform to the following standards and includes the following components:

1. Peak runoff in 2, 10, 50, and 100 year storm events during the years of active mining and at the end of mining shall not exceed existing conditions. The final grading and drainage plan, including detention pond designs, shall be prepared by a California licensed Professional Engineer. All design and construction details shall be depicted on the grading and drainage plans (or SWPPP) and shall include, but not be limited to, inlet and outlet water control structures, grading, designated maintenance access, and connection to existing drainage facilities.
2. The Napa County Engineering and Conservation Division shall review and approve the grading and drainage plans prior to implementation to ensure compliance with Napa County standards. The Permittee shall implement any additional improvements deemed necessary by the County.
3. Once constructed, the drainage components, including detention ponds designed for the watersheds, shall be inspected by the County's Engineering and Conservation Division annually to ensure they are maintained per the guidelines outlined in the Sediment Basin BMPs found in the Napa Quarry SWPPP. The Permittee shall ensure that all disturbed areas of the Quarry are graded and maintained in conformance with the approved grading and

drainage plans or SWPPP, and are designed in such a manner as to direct stormwater runoff to a properly sized detention pond.

4. All calculations, plans, and reports required by this mitigation measure shall also be included in the Annual Compliance and Assurance Update Report required by COA No. 2(L), or as requested by the County to demonstrate compliance.

X. Mitigation Measure 4.8-6: Update Industrial Storm Water Pollution Prevention Plan to address hazardous materials spill response actions: The Permittee shall revise its Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan as necessary to directly address the potential for a spill or release of hazardous material near or into a water body that is directly connected to the regional aquifer. The revision shall include provisions for training in spill response and containment and maintaining access to the needed equipment to respond to a spill. The revisions to the plan will also contain provisions to eliminate or minimize the storage of hazardous materials in areas which drain to portions of the project site where the regional groundwater is exposed. These revisions shall then be incorporated into the SWPPP by summary and reference. The Permittee shall provide the revised Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan to the County for review and approval within 12 months of approval of this Permit.

Thereafter, any time the Spill Prevention and Countermeasure Plan, Hazardous Materials Business Plan, and Emergency Response Plan is revised or updated it shall also be submitted to the County in the Annual Compliance and Assurance Update Report required by COA No. 2(L), or as necessary to demonstrate compliance. If the County finds that the Permittee has not revised and updated the plan as necessary the Permittee shall have 30 days to submit the plans to the County for review and approval. Compliance with this measure shall be subject to NCC Sections 16.12.600 through 16.12.660 (Surface Mining and Reclamation – Enforcement).

Y. Mitigation Measure 4.11-1: Noise Restrictions in Expansion Area North and East of the State Blue Pit and Snake Pit (Pasini Parcel): To reduce noise impacts of mining, quarrying, and associated operations the Permittee shall adhere to the following:

1. No aggregate mining operations shall occur between the hours of 6:00 PM and 7:00 AM in mining expansion areas to the north and east of the State Blue Pit where there are residences not shielded by intervening terrain.

2. With the exception of blasting and the removal of Overburden the Permittee shall:
   a) Limit daytime aggregate mining operations to between the hours of 7:00 AM and 12:00 PM in unshielded areas to the north and east of the State

Blue Pit or Snake Pit areas within 2,500 feet of the nearest sensitive receptors (residences, schools, or trails within Skyline Park);

b) Ensure that noise levels at the nearest receptor locations north or east of the Quarry shall not exceed 50 dBA L50 from 7:00 AM to 10:00 PM and 45 dBA L50 from 10:00 PM to 7:00 AM.

3. The Permittee shall utilize the following measures or equivalent:
   a) Maintain acoustical shielding for receivers north or east of the Quarry so that existing terrain features provide the maximum amount of shielding for the longest time possible.
   b) Use the quietest available equipment when removing topsoil and Overburden (e.g., well-maintained, modern equipment such as higher Tier engines, having sufficient engine insulation and mufflers, electric or hydraulic powered equipment, or equipment operation settings at the lowest possible power levels).
   c) Conduct noise monitoring and maintain noise monitoring reports to ensure that daytime noise levels from aggregate mining and operations do not exceed 50 dBA L50 at the nearest receptor locations north and east of the Quarry (i.e., along the northern and eastern property lines in the vicinity of the State Blue Pit or Snake Pit areas), which are areas where monitoring sites should be located. Noise monitoring shall be conducted daily for the first five years of this Permit: thereafter the Planning Commission shall determine the extent of ongoing noise monitoring as part of their Project and Permit review required by COA No. 1(F). Noise monitoring reports shall be submitted monthly to the County Environmental Health and Engineering and Conservation Divisions, or upon request, to verify compliance. If and as necessary the County will either hire a consultant (at the Permittee's expense) to assess compliance or provide 3rd party independent noise monitoring of the Project.
   d) Noise monitoring results shall also be submitted to the County in the Annual Compliance and Assurance Update Report required by COA No. 2(L), or as necessary to demonstrate compliance. If the County finds during annual compliance review that noise levels of Quarry Operations are excessive, the Permittee shall modify Quarry Operations or the Mining and Reclamation Plan so that the noise limits identified herein are not exceeded.

Z. Mitigation Measure 4.11-2: Blasting Vibration Reduction Measures: To reduce vibration impacts, the Permittee shall:

1. Monitor peak particle velocity and peak sound pressure during each blast event to ensure that vibration levels are under 0.20 in/sec PPV and air-blast overpressures are under 133 dB(L) at sensitive land uses (residences and schools). Monitoring sites shall be located along the northern property boundary and along Imola Avenue adjacent to sensitive land uses. Blasts shall be modified to reduce the charge weight per delay. The charge weight

per delay shall not exceed 175 lbs. for blasting near the northernmost property boundary (i.e., within 1,000 feet) to maintain vibration levels below 0.20 in/sec PPV and air-blast overpressures below 133 dB(L) at sensitive land uses.

2. The effectiveness of this measure shall be demonstrated to the County by submittal of vibration calculations/measurements and monitoring records for each blast event that are satisfactory to the County for effectiveness review. Monitoring records shall be provided to the County Environmental Health and Engineering and Conservation Divisions monthly, or as necessary at the request of the County, to demonstrate and verify compliance with this measure. If the County finds that the Permittee has not maintained the required vibration levels during blasting events, the Permittee shall immediately lower charge weights as necessary, below the limits identified above, until required reductions have been achieved.
3. Conduct stemming and burdening (filling the drilled holes with dirt and rock above the explosive charge) of the blast holes to confine the blast charges into the ground and to minimize acoustic overpressure levels.
4. Vibration monitoring records shall also be submitted to the County in the Annual Compliance and Assurance Update Report required by COA No. 2(L) to demonstrate compliance. If the County finds during annual compliance review the Permittee has not maintained the required vibration levels during blasting events, the Permittee shall reduce charge weights as necessary to ensure specified vibration levels are not exceeded. As necessary the County may hire a qualified professional (at the Permittee's expense) to assess compliance.

AA. Mitigation Measure 4.17-2: Greenhouse Gas Emission Reduction: To reduce greenhouse gas emissions, the Permittee shall prepare a Greenhouse Gas Reduction Plan (GHG Reduction Plan).

The GHG Reduction Plan shall identify the measures to be used to reduce the GHG emissions associated with the Project below the 1,100 MT CO2e annual land use threshold (or increase of 1,100 MT CO2e over baseline conditions). The effectiveness of each measure in the GHG Reduction Plan shall be quantified, indicating its contribution to the reduction of GHG emissions. The Permittee shall choose from, but not be limited to, the following measures to incorporate into the GHG Reduction Plan:

- Fuel on-road and off-road vehicles with alternative fuels (such as hybrid, biodiesel, and electric);
- Plant native trees and vegetation that have low emissions of volatile organic compounds species for carbon sequestration in locations at the project site not to be disturbed by quarrying activities;
- Replace diesel-powered vehicles with newer model, low-emission vehicles or replace diesel engines with higher fuel efficiency engines or use retrofit emission control devices, such as diesel oxidation catalyst, verified by the

California Air Resources Board as old vehicles or engines no longer become operable;

- Develop a monitoring program that reduces diesel-fueled idling times beyond that required under the California Air Resources Board Heavy-Duty Vehicle Idling Emission Reduction Program;
- Require that on-road haul trucks that are under contract with the Quarry operator use 2003 model or newer trucks;
- Establish an onsite renewable energy system (such as solar);
- Install a conveyor system to move raw material;
- Install an automated load out system; and
- Contribute to a State or County offset mitigation program.

The GHG Reduction Plan shall be reviewed and approved by Napa County and shall be updated as necessary to address changing conditions and regulations. Prior to implementing the GHG Reduction Plan, the Permittee shall monitor GHG emissions bi-annually in a GHG inventory submitted to the County for review. The first inventory shall be calculated as a three-year average after issuance of the use permit (for example, if the use permit is issued in 2014, then the first inventory shall be performed in 2018 for years 2015 through 2017). A three (3) year average would accommodate the variability in aggregate sales from year to year. The inventory shall follow the most recent version of the General Reporting Protocol of the California Climate Action Registry or other protocol as appropriate and approved by the County (CCAR 2007). The Permittee, however, is not required to report the inventory to the Climate Action Registry Reporting Online Tool (CARROT) (CCAR 2011). The purpose of the inventory is to compare emissions from project operations to the baseline emissions established in this EIR, which is approximately 7,200 MT CO2e per year (if new baseline emissions are established as a result of refined reporting methods, the use of a different baseline is acceptable with approval by the County). At such time as the inventory indicates GHG emissions are at or over baseline conditions (7,200 MT CO2e per year), then the Permittee shall implement measures in the GHG Reduction Plan as necessary to avoid emissions above the 1,100 metric ton threshold (i.e.: 8,300 MT CO2e per year – baseline plus threshold).

12. DEFINITIONS:

The definitions of those words or phrases found in Section 16.12.030 of the Napa County Code are incorporated herein by reference. In addition, unless context otherwise requires, the words and phrases below shall have the following meanings related to this Permit:

“Aggregate” or aggregate materials shall mean basalt and rhyolite which are the primary mineral resources mined at the facility.

“Aggregate-Related Materials” shall include; asphalt, sand, recycled concrete, reclaimed asphaltic product, materials that are used as a component in the production of other materials, and onsite and interplant transfers.

"Aggregate Mining Operations" shall mean those activities associated with aggregate extraction and harvesting including removal of vegetation and Overburden, blasting, sorting and transport of aggregate and aggregate-related materials, and/or Overburden to aggregate processing facilities or stockpile locations.

"Aggregate Processing Operations" shall mean those activities associated with aggregate crushing, sorting and processing occurring only at the Primary Aggregate Processing plant (i.e., the Blue Rock Plant), the Aggregate Base (AB)/Recycling plant, and the Sand Plant.

"Aggregate Sales" shall mean those activities associated with the sale of aggregate materials.

"Asphalt" shall mean asphaltic concrete (AC) produced at the facilities two existing hot mix AC plants.

"Asphalt Plant Operations" shall include those activities associated with processing and manufacturing of asphalt concrete at the facility's two AC plants.

"Asphalt Sales" shall mean those activities associated with the sale of asphalt.

"Blasting" and "blasting operations" or "events" shall mean the component of Aggregate Mining Operations that utilizes explosives to dislodge and extract aggregate materials.

"Completion of Mining" in areas of identified and/or active Aggregate Mining Operations, shall mean when Aggregate Mining Operations have reached the Limits of Vertical Excavation identified in the Mining and Reclamation Plan and/or has reached the minimum ten (10) feet of vertical separation from the regional groundwater potentiometric elevation prescribed by Mitigation Measure 4.8-2, and/or that have not been actively mined for three (3) years. The determination that Aggregate Mining Operations are complete in any give operational area of the Quarry Facility shall be at the discretion of the Planning Director.

"Construction Season" shall mean activities occurring from June 1st to November 30th.

"Effective Date of this Permit" shall mean the later of the date of approval or resolution of appeal and/or litigation.

"MRP" shall mean the Syar Industries Napa Quarry Mining and Reclamation Plan (September 2012) and as revised and updated pursuant to the conditions of approval and mitigation measures of Permit No. P08-00337-SMP.

"Off Season" shall mean activities occurring from December 1st to May 31st.

"Overburden" means soil, rock or other materials that lie above a mineral deposit or in between mineral deposits, before or after their removal by aggregate or surface mining operations.

"Permittee" means the Applicant, owner, the operator, or any duly authorized representative of the owner or operator, and/or any successor in interest.

"Permit" shall mean Surface Mining Permit No. P08-00337-SMP.

"Quarry Operations" shall include all Aggregate Mining, Aggregate Processing, and Asphalt Plant Operations (as defined) including operational components associated with the Quarry support facilities identified in Figure 3.

"Quarry Facility" shall include all mining/quarry areas as identified in the Mining and Reclamation Plan and associated support facilities identified in Figure 3.

"NCC" means the Napa County Code.

"tpy" means tons per year.

"Project" shall be the project authorized and regulated under this Permit.

"Pasini Parcel" shall mean the project parcel identified as Assessor's Parcel Number 046-390-002-000.

"Property" shall mean the parcels within the project area holding identified as Assessor's Parcels Numbers: 045-360-005, 046-370-012, 046-370-013, 046-370-015, 046-370-022, 046-370-025, 046-390-002, 046-390-003 and 046-450-071.

"Major Holidays" shall mean all federally recognized holidays

Attachments

Figure 1 – Draft Environmental Impact Report Figure 3-4 (Project Activities/Areas) and Figure 3-5 (Limits of Vertical Excavation)
Figure 2 – Syar project modification letter dated March 17, 2015
Figure 3 – Syar Napa Quarry: Aggregate Processing, Sales, and Office Facilities
Figure 4 – Syar Industries, Inc. Blasting Procedures

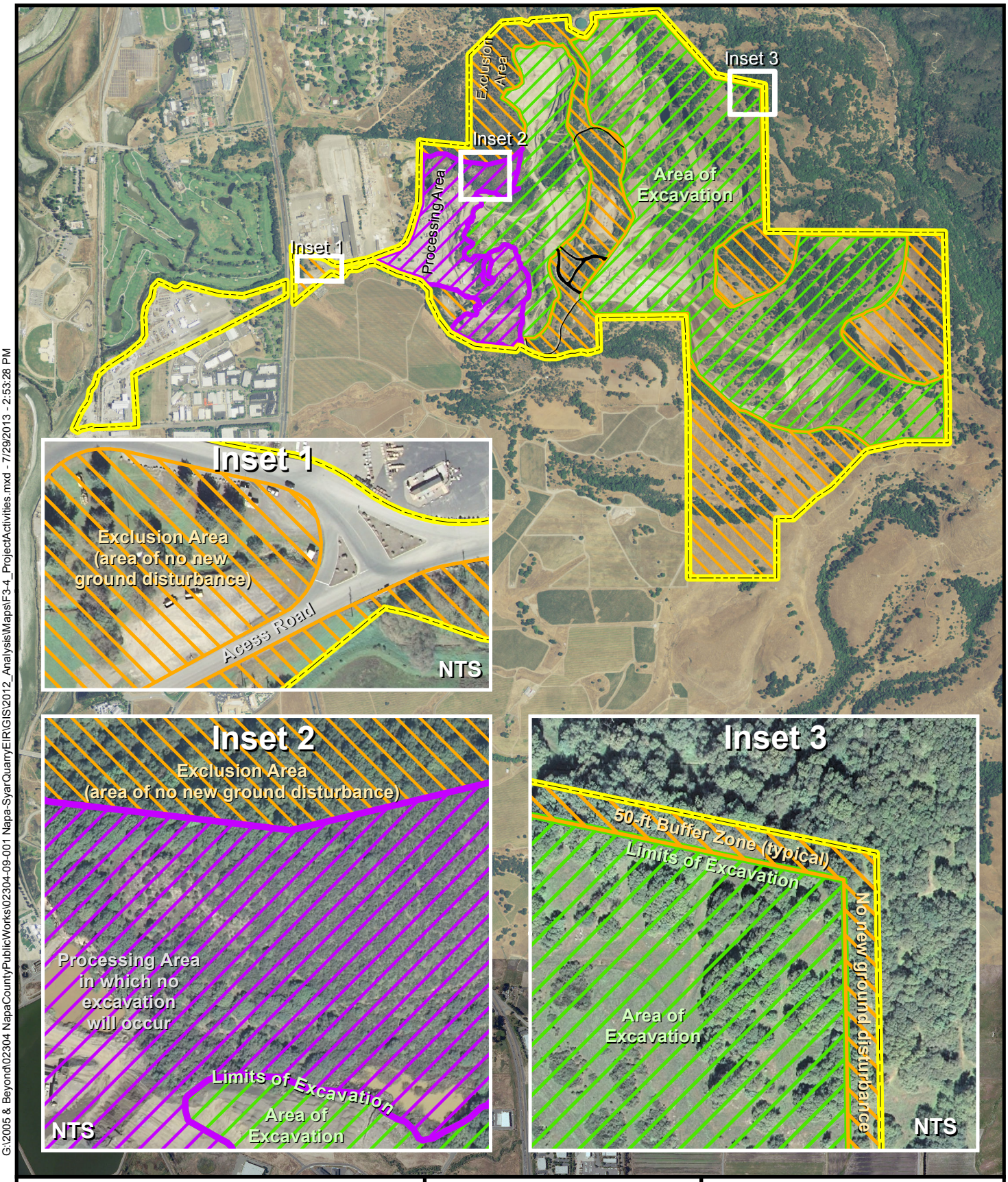
cc\D\Pl\EIRs\Syar\COAs\COA Clean 11.10.15.docx

FIGURE 1

Draft Environmental Impact Report

Figures 3-4 (Project Activities/Areas) and

Figure 3-5 (Limits of Vertical Excavation)



G:\2005 & Beyond\02304 NapaCountyPublicWorks\02304-09-001 Napa-SyarQuarryEIR\GIS\2012_AnalysisMaps\F3-4_ProjectActivities.mxd - 7/29/2013 - 2:53:28 PM

Cartography: RCH/AF

- Project Site
- Exclusion Area and Buffer Zone (no new disturbance)
- Processing Area
- Excavation Limits
- Existing Roads (to be maintained)

N

0 1,000 2,000 Feet

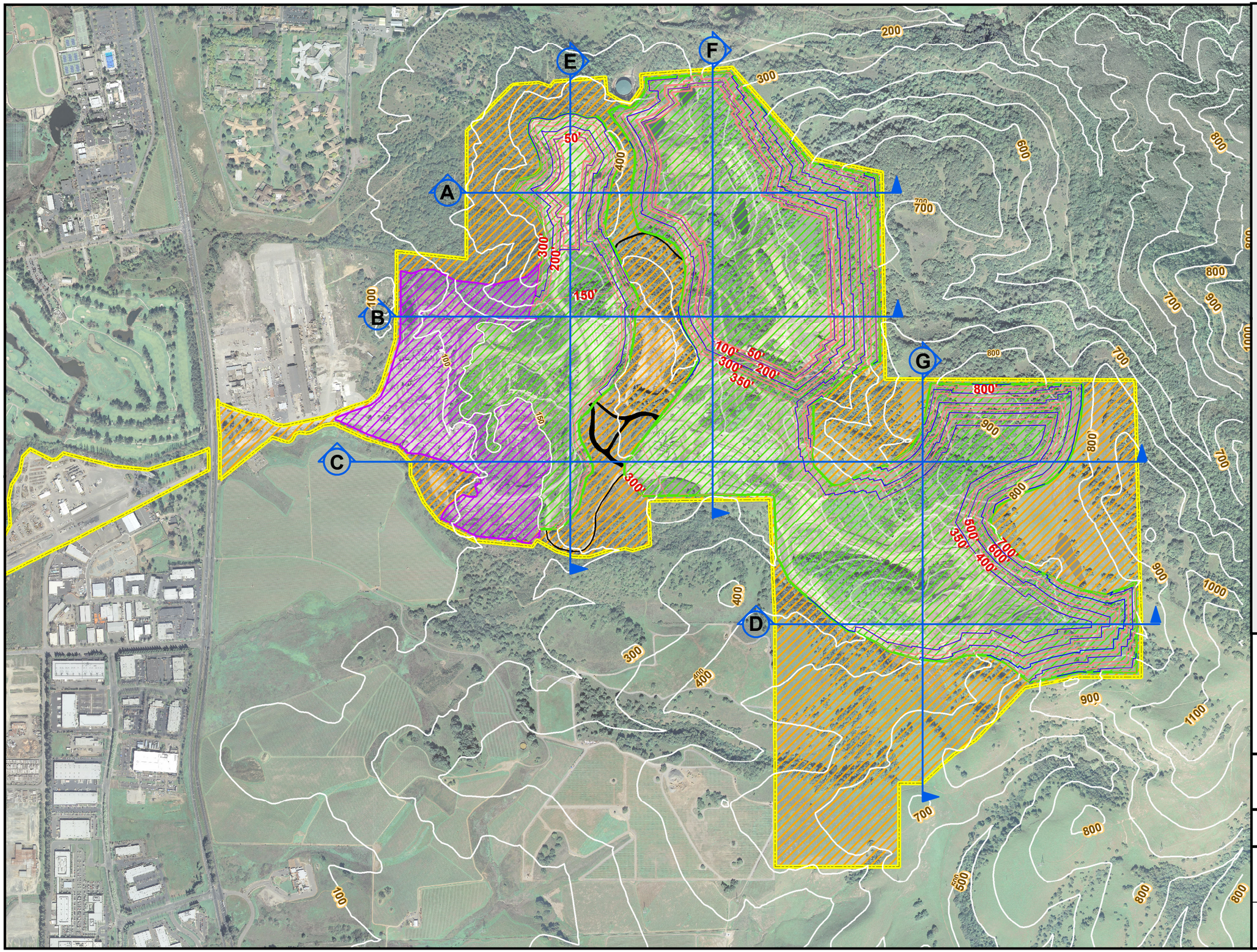
1 inch = 2,000 feet printed at 8.5 x 11

Sources: ESRI - tele atlas

WINZLER & KELLY
www.w-and-k.com

Figure 3-4
Project Activities/Areas

Draft EIR
Syar Napa Quarry Expansion



Project Site

Exclusion Area
(See Figure 3-4)

Excavation Limits

Processing Area

Existing Road
(to be maintained)

Proposed Finished
Grade Contours

Existing Surface
Contours

Profile Cut Line
(see Figure 3-6 for Profiles)

0 500 1,000 2,000 ft

1 inch = 1,000 feet printed at 11x17

N

Sources: Napa County GIS: 2007 Napa County Orthophoto 0.5 ft resolution.

WINZLER & KELLY

www.w-and-k.com

Cartography	Date	Project #
BFV/AF/GLD	7/29/2013	02304-09-001

Figure 3-5
Limits of Vertical Excavation

Draft EIR
Syar Napa Quarry Expansion

G:\2005 & Beyond\02304 NapaCountyPublicWorks\02304-09-001 Napa-SyarQuarryEIR\GIS\2012_AnalysisMaps\F3-5_Vertical_Excavation_Limits.mxd 5:20:10 PM

FIGURE 2

SYAR INDUSTRIES, INC.

March 17, 2015

Mr. Don Barrella, Planner III
Napa County
Conservation, Development & Planning Department
1195 Third Street, Suite 210
Napa, California 94559

Subject: Syar Industries, Inc. - Napa Quarry Permit

Dear Don:

As you have requested, I am sending this letter to formally request the following modifications be made to the Syar Industries, Inc. (Syar) Napa Quarry Project. We first want to acknowledge that Syar is agreeable to the Reduced Production Alternative being the County's recommendation to the County Planning Commission. Also, as stated in our E-Mail to you on February 13, 2015, Syar is making these modifications to their project in response to the concerns raised at the January 7th Planning Commission hearing on the Napa Quarry Project. These proposed revisions are intended to balance public concerns regarding potential impacts, with the project objectives of providing a local, reliable, affordable, and consistent source of high quality aggregate and aggregate-related materials to customers in the Napa region for the next 35 years. Syar proposes to make the following modifications:

- Reduce the size of the expansion areas as shown on the attached maps. In the Pasini area, this includes doubling the size of the setback from the property line, as shown in Exhibit 1, attached. This would reduce the mineable area by approximately 5 acres. In the northeast area of State Blue, this change consists of removing the northern-most 10 acres of the expansion area, as shown in Exhibit 2. These modifications to the expansion areas should reduce potential noise, vibration, and visual impacts of the project. It also reduces the impacts on oak woodlands, particularly in the northeast area. Along with this modification to Syar's project, Syar is willing to develop a license agreement, with the County of Napa, that will allow the existing trails, currently located on Syar property, to remain.

- We suggest the County clarify Mitigation Measure 4.11-1 to indicate: (1) the mitigations will be applied in both expansion areas, and (2) clearing of topsoil and overburden are limited to the hours of operation stated in Section 3.5.7. As additional mitigation in the expansion areas, we will also: (1) limit blasting to the hours of 10:00 am to 4:00 pm weekdays, with no blasting on Saturdays, Sundays, or holidays, and (2) within 400 feet of the property line, and where such activities are visible from the trails in Skyline Park, limit

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topsoil and overburden removal activities to the hours of 7:00 am to noon on weekdays, with no such activities on Saturdays, Sundays, or holidays.

- To provide additional visual screening, Syar will plant oak trees in the setback of the Pasini expansion area, in the general location shown on Exhibit 1, within the first 2 years of the permit term.

- Syar will provide 48 hours notice of blasting via our website, in addition to providing a 48 hour notice via email/phone call to anyone who requests to receive a notice.

- To address the potential dust concerns expressed by Cakebread, we agree to not blast when sustained wind speeds at the quarry exceed 20 mph.

Please let me know if you have any further questions with respect to these changes to the project. You can call me at 707-259-5826 or email me at jperry@syar.com.

Sincerely,

John F. Perry
Vice President, Engineering

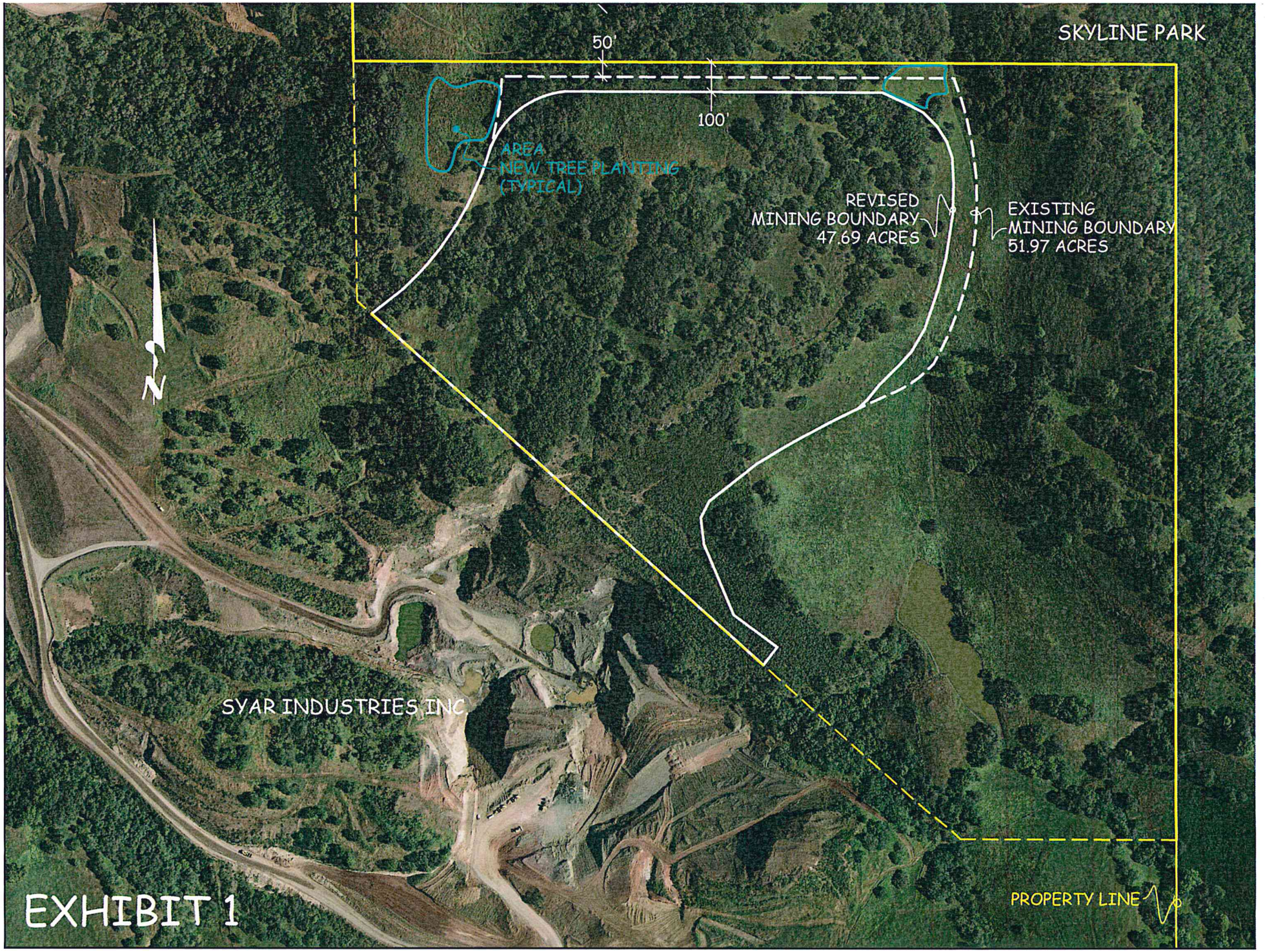
SKYLINE PARK
50'
100'
AREA
NEW TREE PLANTING
(TYPICAL)
REVISED
MINING BOUNDARY
47.69 ACRES
EXISTING
MINING BOUNDARY
51.97 ACRES
N
SYAR INDUSTRIES INC
PROPERTY LINE
EXHIBIT 1


EXHIBIT 2
10.7 +/- ACRES
EXISTING
MINING BOUNDARY
SKYLINE PARK
EXISTING
ROCK WALL
&
REVISED
MINING BOUNDARY
50'
SYAR INDUSTRIES INC.
N
PROPERTY LINE

FIGURE 3

Syar Napa Quarry
Aggregate Processing, Sales, and Office Facilities

The proposed project includes the continued operation of the existing Syar Napa Quarry facilities listed below. These facilities are all located in the western portion of the quarry property within the main processing area, west of SR 221. No area expansion and no increased capacity demands are proposed for the following facilities:

- Main Quarry Office - quarry operation offices and restrooms.
- Material and equipment storage yards - located primarily in the western portion of the quarry near the main processing area.
- Maintenance and service buildings – area used for the purpose of storing and maintenance equipment and materials used in maintenance activities. Minor maintenance of vehicles and equipment are completed on the quarry property in designated areas. Large scale maintenance is completed at the maintenance shop located on the west side of SR 221.
- Scale house - located at the entrance of the quarry, used to weigh loaded and unloaded on-road highway trucks.
- Aggregate and aggregate products testing laboratory - testing is done on aggregate and aggregate products to ensure compliance with required specifications.
- Stockpiles of overburden and topsoil – existing overburden and topsoil piles are located in multiple areas of the quarry. These stockpiles are stored for use as engineered fill or used in interim and final reclamation activities.

The proposed project includes the continued operation of the existing Syar Napa Quarry facilities listed below. No area expansion is proposed; however, increased throughput (i.e. an increase in production inputs and end-product yield) is expected in association with the project for the following facilities:

- Primary aggregate processing plant – located in the western portion of the quarry property. This is the main aggregate processing area for basalt and rhyolite rock.
- Sand plant - used primarily to wash sand. Secondarily this plant is used to sort an uneconomical aggregate material into aggregate products that can be crushed or sold.
- Two asphaltic concrete plants - located in the western portion of the quarry property within the main processing area. These facilities consist of the equipment used to manufacture asphaltic concrete (AC) and other asphalt products.
- Aggregate Base (AB)/recycling plant - located in the central portion of the quarry property. This area is used to store and process recycled concrete and asphalt. This area is also the main processing plant for rhyolite rock products.

- Haul Roads - are located throughout the quarry property. The haul roads are used primarily by on-highway trucks and off-highway trucks to transport aggregate materials from active mining sites to the appropriate processing areas.
- Railroad spur - located on the west side of SR 221. This area is used to rail in products used in the manufacturing of saleable products and to rail out aggregate products.
- Barge landing area located adjacent to the Napa River - located adjacent to the Napa River on the west side of SR 221. This area is connected to the main quarry property by a paved haul road. This area is used to barge in sand from the San Francisco Bay or to barge out rock products.

The proposed project includes the continued operation and an expected increase in throughput of the existing Syar Napa Quarry facilities listed below. Relocation and/or an increase in footprint area are also expected in association with the following facilities as a result of the project:

- Process water ponds - are located in the northwest corner of the quarry property. These ponds capture the water and fine sediment from the sand plant.
- Sediment control ponds - located throughout the quarry property. These ponds are used to capture surface water allowing the fine sediment from mining activities to settle out prior to the surface water either being released from the site from controlled location or to be absorbed into the groundwater.
- Haul Roads - used to haul material in both highway and off-road vehicles, and are used as the primary access routes throughout the quarry.
- Drainage swales - located throughout the quarry property. The drainage swales are used to convey surface water to the appropriate location.

FIGURE 4

Syar Industries, Inc. Blasting Procedures

Syar Industries (Syar) maintains all necessary Federal, State and local permits and licenses to receive, use and store explosives. It should be noted that the information outlined in this blasting procedure plan is not all inclusive but an outline of the required elements to blasting at a mine property. Syar adheres to all applicable laws and regulations outlined in the Department of Justice, Bureau of Alcohol, Tobacco and Firearms (ATF), Federal Explosives Law and Regulations, dated 2007. In addition to the Division of Occupational Safety and Health (DOSH), California Code of Regulations, Title 8, Section 5293 – Misfires, Subchapter 7, General Industry Safety Orders, Group 18, Explosives and Pyrotechnics, Article 116, Handling and Use of Explosives – Blasting Operations. All blasters at Syar's facilities have been trained by the United States Department of Labor, Mine Safety and Health Administration (MSHA) Blasting Training Program.

1 Storage of Explosive Materials

1.1 Types of Surface Magazines

The storage of explosives on a mine site requires the use of a building or structure, other than an explosives manufacturing building. This building or structure is described as a magazine. The MSHA only allows Type 1 or Type 2 magazines on mine properties. Syar Industries, Inc. (Syar) utilizes Type 1 magazines on all quarry properties where blasting occurs. A Type 1 magazine is a permanent structure: a building, an igloo or "Army-type structure", a tunnel, or a dugout. It is to be bullet-resistant, fire-resistant, weather-resistant, theft-resistant, and ventilated.

1.2 Placement

Outdoor magazines must comply with the minimum distances specified from inhabited buildings, railways, and highway, and, in addition, they should be separated from each other if two or more are located on one property. The magazine(s) shall be separated from the distances specified in the American Table of Distances (ATF, 2007).

1.3 Housekeeping

Magazines are to be kept clean, dry and free from grit, paper, empty packages and containers, and rubbish. Floors are to be regularly swept. Brooms and other utensils used in the cleaning and maintenance of magazines must have a no spark-producing metal parts, and may be kept in magazines. The area surrounding the magazines is to be kept clear of rubbish, brush, dry grass, or trees (except live trees more than 10 feet tall), for no less than 25 feet in all directions. Volatile materials are to be dept a distance of no less than 50 feet from outdoor magazines. Living foliage which is used to stabilize the earthen covering of a magazine need not be removed.

1.4 Smoking and Open Flames

Smoking, matches, open flames, and spark producing devices are not permitted in any magazine. These items are also not permitted within 50 feet of any outdoor magazine or within any room containing and indoor magazine.

2 Recordkeeping

2.1 Explosive Materials

Records of all explosives must be maintained. Tally sheets must show date and name of person making each transaction. In case of theft or loss of any explosive materials from stock shall, within 24 hours of discovery, report the theft or loss by telephoning 1-800-800-3855 and on ATF Form 5400.5 (formerly Form 4712) in accordance with the instruction on the form. The theft or loss shall also be reported to the appropriate local authorities.

2.2 Blasters Log

For every blast a complete log shall be created by the quarry manager or person in charge. The blaster's log shall include the following:

- Date and time blast occurred;
- Quarry name;
- Enter specific location of face (if applicable);
- Weather conditions, including wind speed and direction;
- Blaster's name;
- Number and depth of holes;
- Spacing of holes and burden;
- Enter amount of detonators, boosters, detonating cord and delays;
- Sketch drill pattern;
- Number of pounds per hole;
- Enter time of detonation
- Note any misfires.

3 Blasting

3.1 Loading Explosive Materials--General

Loading shall not commence until all drilling is completed and drill holes are cleaned or blown out, unless this procedure is impracticable under conditions encountered. When conditions justify simultaneous loading and drilling in the same area, such operations shall be separated as widely as practicable and in no case shall a drilling operation be closer than 50 feet to a hole being loaded. All drill holes shall be sufficiently large to

freely admit the insertion of the explosive materials. At least 5 foot candles illumination shall be provided to safely perform loading operations. Only approved lights shall be used within 50 feet of the loading area.

3.2 Shot Guarding

After the shot is loaded and ready to be fired, a complete check of the area must be made to determine that no one remains in any area that could prove hazardous.

No vehicle traffic shall be permitted over loaded holes.

Loading operations shall be carried on with the smallest practical number of persons and explosive materials loading equipment present and no one but the loading crew, inspection personnel, and authorized supervisory personnel shall be allowed within 50 feet of the loading area.

All blasting operations will be conducted using initiation systems which cannot be affected by stray current or radio frequency energy.

3.3 Lightning and Electrical Storms

Include provisions for a detection system capable of warning the loading crew when a storm is 100 miles away. When a storm is detected 50 miles from the loading operation, the storm's movement is to be monitored. When a storm is detected at 25 miles from the loading operation, loading operations will be discontinued and all persons in the blast area withdrawn to a safe location.

3.4 Work Practices

Though not all inclusive, work practices consist of the following:

- K-rails, barriers, traffic control systems and/or natural terrain shall be used to prevent entry by vehicular traffic into the loading site.
- The amount of explosive materials delivered into a loading area shall not exceed the amount estimated by the licensed blaster as necessary for the blasting.
- No holes shall be loaded except those to be fired in the next round of blasting.
- The detonator, if used, shall be properly encased in explosives when inserted into the drill hole.
- Tamping shall be by pressured or light blows only, and never by excessive ramming. The primer shall not be tamped.
- All blast holes in open work shall be stemmed to a point that will sufficiently confine the charge.
- Stacks of explosive materials shall be spaced and distributed in the loading area to prevent propagation of an explosion between any two piles or loaded holes in the event of a premature explosion in any portion of the blast area.
- No explosive materials shall be left unattended at the blast site.
- Loaded holes shall not be left unattended.

- Explosive materials shall be kept separated from detonators until charging is started.
- Capped primers shall be made up at the time of charging and as close to the blasting site as conditions allow.
- Only wooden or other non-sparking implements shall be used to punch holes in an explosive cartridge.
- Areas in which charged holes are awaiting firing shall be guarded or barricaded and posted or flagged against unauthorized entry.
- The double-trunk line or loop system shall be used in detonating-cord blasting.
- Trunk lines, in multiple-row blasts, shall make 1 or more complete loops, with crossties between loops at intervals of not over 200 feet.
- No one but the ATF approved attendant(s), the loading/detonation crew, inspection personnel, and authorized supervisory personnel shall be allowed within 50 feet of the loaded holes.

3.5 Firing of Explosives

The Blaster's Priorities:

- The safety of the blaster, blasting crew, and surrounding personnel.
- The prevention of damage to surrounding property.
- The accomplishment of the blasting tasks in an efficient manner.

Procedures:

The licensed blaster-in-charge shall fix the time of blasting.

Blasts are not to be fired without a warning signal/procedure. The signals, which may be given by a siren, air horn, whistle or other device, shall be loud enough to be heard clearly in areas that could possibly be affected by the blast or fly rock from the blast. In addition, blasts are not to be fired until the licensed blaster-in-charge verifies the following:

- All surplus explosive materials are in a safe place;
- All security personnel at the blast area are in the proper location; and
- All personnel are either outside of the blast area or under sufficient cover.

Precautions, such as the following, shall be taken to prevent unauthorized entry into the blast area: warning signs, barricades, or flaggers when necessary.

Warning signals shall be given by the use of a compressed air whistle, a horn, lights or equivalent means, such as flaggers or voice warning and shall be clearly audible at the most distant point in the blast area. Where other than flagger or other visible method or voice warning is used, the following signals are recommended:

- **Warning Signal** – 5 minutes prior to the blast, a 1 minute series of long audible signals;
- **Blasting Signal** – 1 minute prior to the blast a series of short audible signals;
- **All-Clear Signal** – Following inspection of the blast area a prolonged audible signal.

The type of warning signal or method shall be posted at one or more conspicuous locations and all employees shall be made familiar with the signals and instructed accordingly.

The “ALL CLEAR” signal shall not be given until the licensed blaster has made a thorough, visual inspection of the blast area for misfires. In the event of a misfire, the requirements of outlined in Section 4 (see below) shall be complied with before the “ALL CLEAR” signal is given.

Warning signs, indicating a blast area, shall be maintained at all approaches to the blast area. The warning sign lettering shall not be less than 4 inches in height on a contrasting background.

Whenever blasting is being conducted in the area immediately adjacent to gas pipelines, flammable liquid gas pipelines, electric, water, fire alarm, telephone, telegraph, and steam utilities, the licensed blaster shall notify the appropriate representatives of such pipelines or utilities at least 24 hours in advance of blasting. The notification shall specify the location and intended time of such blasting. Verbal notice shall be confirmed with written notice before the blast. In an emergency this time limit may be waived.

Employees shall be prohibited from entering the blast area after blasting until any toxic vapor/fumes, dust and gases have been reduced to safe limits.

After blasting, the blasting crew shall wait at least 5 minutes before returning to the point of blasting.

4 Misfires

After each shot the blast area shall be examined for misfires. If any are found, or suspected to exist, they shall be reported to the mine manager or person in charge. Steps shall be taken to eliminate all undetonated explosive materials. In the case of a detonator misfire, the shot area shall be made safe under competent supervision by one of the following means after a 30 minute wait following electric or non-electric shock tube blasting, or a 60 minute wait following fuse cap blasting:

- Where practical a new primer shall be inserted into the hole and the hold reblasted; or
- Where the hole cannot be reblasted, the stemming and explosive shall be washed out with water; or
- Where blasting agents are used, try to remove the detonator and cap sensitive explosive materials.

Where reblasting, washing, or removing explosive materials is unsafe or impracticable in a geophysical operation, DOSH and surface owners shall be notified within 24 hours. The notice shall include the location, depth, and the amount of the undetonated explosive material. Following the concurrence by DOSH that retrieval of the explosive material in a misfire is impractical or unsafe, a substantial concrete cap capable of containing the explosion shall be placed above the explosive material at least 3 feet below the ground surface, or other permanent protection shall be installed.

If explosive materials are suspected of burning in a hole, all persons in the endangered area shall move to a safe location and no one shall return to the hole until the danger has passed, but in no case within 1 hour.

No other work shall be performed in the danger area except that is necessary to remove the hazard of the misfire. No other employees except the licensed blaster and the necessary crew shall be in the danger area when a misfire hazard is being removed.