



Chapter 1A

Environmental Protection Measures Handbook

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

DATE: February 10, 2025

TO: City Departments
Interested Parties

FROM: Vincent P. Bertoni, AICP 
Director of Planning
Department of City Planning

SUBJECT: ADOPTION OF CHAPTER 1A ENVIRONMENTAL PROTECTION MEASURES

Pursuant to Div. 4C.13. (Environmental Protection Measures) of Chapter 1A of the LAMC, and Council action on December 4, 2024 through Council File 22-0617, the Environmental Protection Measure Handbook for Chapter 1A is hereby adopted for the following purposes:

1. To implement the Mitigation and Monitoring Program for Environmental Impact Report Case ENV-2017-433-EIR (State Clearinghouse No. 2017021024) for the Downtown Community Plan Update and New Zoning Code;
2. To implement certain environmental policies of the Citywide Housing Incentive Program (Council File 21-1230-S5) as adopted by City Council on February 7, 2025;
3. As stated in Sec. 4C.13.1.A. (Intent) of Chapter 1A of the LAMC, to:
 - a. Ensure that development in the City does not result in detrimental impacts to those residing or working in and around construction activities, and to abutting properties, and the public right-of-way, including the habitat, cultural resources, and historic or fragile buildings;
 - b. Provide a mechanism for mitigation measures adopted pursuant to CEQA for City plans, policies, or regulations to be made enforceable on future development projects consistent with CEQA Guidelines, California Code of Regulations, Sec. 15162.4. (Subsequent EIRs and Negative Declarations); and
 - c. Provide a flexible mechanism to adopt and amend uniformly applicable development standards to allow streamlined environmental review, including pursuant to CEQA Guidelines California Code of Regulations, Sec. 15183.3. (Streamlining for Infill Projects).

Pursuant to Div. 4C.13. (Environmental Protection Measures) of Chapter 1A of the LAMC, failure to comply with the environmental protection measures or any condition or commitments made in compliance with the environmental protection measures, or regulations adopted to implement environmental protection measures, is a violation of the Code, subject to all available administrative, criminal and civil remedies.

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SECTIONS



SECTION 1. ADMINISTRATIVE PROVISIONS

- A. **Authority.** These Environmental Protection Measures are adopted pursuant to Div. 4C.13 (Environmental Protection) of Chapter 1A of the LAMC.
- B. **Applicability.** An Environmental Protection Measure (EPM) applies to work involving New Construction, Major Remodel, Site Modification, or Demolition as defined in Sec. 14.2.15. (Project Activities) of Chapter 1A of the LAMC, that:
 - 1. Is subject to Chapter 1A of the LAMC; and
 - 2. Meets the applicability threshold for that specific EPM set forth in Section 3. (Environmental Protection Measures) of this Handbook.
- C. **Required Compliance with Environmental Protection Measures (EPM).** Failure to comply with any applicable EPM as required in Subsection B. (Applicability), above, will be subject to all remedies available pursuant to Sec. 4C.13.1.D (Noncompliance) of Chapter 1A of the LAMC.
- D. **Additional Requirements.** In addition to complying with any applicable EPM as required in Subsection B. (Applicability), above, an Applicant and Owner shall comply with all of the following:
 - 1. Imprint all Notices in Section 2. and all EPMs in Section 3. on all plans that are reviewed and approved by LADBS. An Applicant may also include in the Project description and/or plans described above any best practices from Appendix 1 (Best Practices) the Applicant intends to implement as part of the Project, as they deem them necessary and/or desirable to: (i) ensure compliance with applicable local, state, and federal laws; (ii) protect public health and safety; or (iii) meet other elective performance standards, such as LEED designation.
 - 2. Imprint and sign, on plans that are reviewed and approved by LADBS at Plan Check, prior to the issuance of any grading, excavation, or building permit, an affidavit that is substantially the same as the Statement of Compliance in Appendix 2, which acknowledges the requirements of the EPM standards and declares an intent to comply.
 - 3. Notify any contractor hired by the Applicant or Owner who is doing work subject to one or more EPM standards of the requirement to comply with the applicable EPM(s); and collect a signed acknowledgment of the notice from the contractor, consistent with the Contractor Acknowledgment in Appendix 3 attached to this EPM Handbook.
 - 4. Maintain a copy of all EPM(s) on the Project site at all times during construction.
 - 5. Obtain a qualifications sheet or statement demonstrating proof of qualifications for any Qualified Expert, as defined below in Section 1.G. (Definitions), who is required in the applicable EPMs and retained for purposes of preparing a survey, study or report; performing site monitoring activities; or otherwise ensuring compliance with the applicable EPM(s).
 - 6. Maintain a copy of all records documenting compliance with the EPM Handbook for a minimum of five years after the Certificate of Occupancy is issued. Records of compliance include but are not limited to any reports, studies, certifications, or surveys required in any

applicable EPM in Section 3 (Environmental Protection Measures); the qualifications sheet or statement for any retained Qualified Expert; and any acknowledgment, notice, or Statement of Compliance required in this Section 1 (Administrative Provisions) or Section 2 (Required Notices) of the EPM Handbook.

7. Upon request of a City inspector or officer, produce records of compliance, referenced in paragraph 6, above, for inspection as follows:
 - a. Immediately, while construction activities are on-going at the site.
 - b. At any other time, within 72 hours' notice.

E. Best Practices. Attached in Appendix 1 (Best Practices) to this EPM Handbook is a set of best practices to avoid or reduce adverse impacts to certain environmental resources. The best practices in Appendix 1 are intended to be used as guidelines but are not mandated.

F. Acronyms. For purposes of this EPM Handbook, the following acronyms used herein are defined as follows:

CEQA. California Environmental Quality Act, Public Resources Code Sections 21000–21189.57, and California Code of Regulations, Title 14, Chapter 3, Sections 15000–15387 (CEQA Guidelines).

DTSC. Department of Toxic Substances Control.

LADBS. City of Los Angeles Department of Building and Safety.

LADPW. City of Los Angeles Department of Public Works.

LAFD. City of Los Angeles Fire Department.

SCAQMD. South Coast Air Quality Management District.

USEPA. United States Environmental Protection Agency.

G. Definitions. For purposes of this EPM Handbook, the following words and phrases used herein are defined as follows:

Active Nest. An Active Nest is one that contains viable eggs and/or chicks. A nest becomes active when the first egg is laid and remains active until fledged young are no longer dependent on the nest. Nests that are empty, contain nonviable eggs, or are being built but do not yet have an egg in them are considered inactive.

Applicant. The person or entity who applies with the City for the official permission to develop and construct a Project. This excludes persons whose only responsibility is to process permits. Once an application has been approved, the Applicant includes any successor or assignee of the original Applicant.

Best Available Control Technology. As defined in the federal Clean Air Act Section 169(3), this refers to production processes and available methods, systems, and techniques, including fuel

cleaning or treatment or innovative fuel combustion techniques for the control of pollutants, that result in the maximum emission reduction that the permitting authority determines is achievable.

Dwelling Unit. Defined pursuant to Sec. 14.3. (Glossary) of Chapter 1A of the LAMC.

Ground Disturbance Activities. Any earthwork activity including, but not limited to, excavating, digging, trenching, plowing, drilling, tunneling, quarrying, grading, leveling, removing peat, clearing, driving posts, augering, backfilling, blasting, stripping topsoil or a similar activity at a Project site.

Hazardous Materials. Any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce.

Hazardous Waste. A solid waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment.

Heavy Construction Equipment. Equipment used during construction that has a minimum of 300 horsepower and operating weight of 80,000 pounds or more. Examples include a large bulldozer or excavator.

Historic Resources Survey. A document, officially recognized by a local, state, or federal agency, resulting from a process of systematically identifying and documenting buildings, structures, objects, cultural landscapes, natural features, and historic districts that reflect important themes in the city's growth and development or the historic or cultural significance of a given area. Historic resources surveys may identify these Surveyed Historic Resources as potentially eligible for listing in the National Register of Historic Places, California Register of Historical Resources, or City of Los Angeles List of Historic-Cultural Monuments, including National and California Register Historic Districts or Los Angeles Historic Preservation Districts. In Historic Preservation Districts (See Sec. 8.2.6. Historic Preservation Districts (HPOZ) of Chapter 1A of the LAMC), historic resources surveys must be certified as to accuracy and completeness by the Cultural Heritage Commission (See Sec. 13.A.1.5. (Cultural Heritage Commission) of Chapter 1A of the LAMC).

Hillside Area. Lots identified as being in a Hillside Area, as established in Chapter 1A of the LAMC, Sec.1.5.6. (Hillside Area Map).

Housing Development Project. Defined pursuant to Sec. 14.3. (Glossary) of Chapter 1A of the LAMC.

Noise-Sensitive Uses. Any of the following uses: Dwelling; Mobile Home Park; Supportive Housing (including General, Medical Care, Non-Medical, and Transitional Shelter); Lodging; School (including K-12, Post-Secondary, and Preschool/Daycare); Religious Assembly; Medical (including Local and Regional); Entertainment Venue, Indoor, Regional; Amphitheater or Stadium (including Major and Minor); Recreation, Public; Open Space, Public, (with the exception of privately-owned plazas); and Public Libraries, defined as any publicly-accessible facility, owned or operated by a governmental or community organization, that provides free access to books, periodicals, and other digital and physical media and may also provide community or instructional services. See Part 5D. (Use Definitions) of Chapter 1A of the LAMC for definitions of these terms.

Owner. Any person, association, partnership, firm, corporation, or public entity, identified as the holder of title on any property as shown on the records of the City Engineer or on the last assessment roll of the County of Los Angeles, as applicable. For purposes of this Handbook,

Owner also refers to: 1) an appointed representative of an association, partnership, firm, corporation, or public entity, which is a recorded Owner; or 2) anyone authorized by the Owner to undertake a Project on the Owner's property.

Petroleum Engineer. A professional engineer with at minimum a bachelor's degree in petroleum engineering, mechanical engineering, or chemical engineering and work experience in engineering, geology, and/or thermodynamics fields.

Project. Work involving New Construction, Major Remodel, Site Modification, or Demolition as defined in Sec. 14.2.15. (Project Activities) of Chapter 1A of the LAMC.

Protected Tree or Shrub. Any protected tree or shrub as defined in Sec. 46.01 (Definitions) of Article 6 (Preservation of Protected Trees and Shrubs) of Chapter 4 (Public Welfare) of the LAMC.

Qualified Expert. A person with specified knowledge, skill, education, experience and/or training in a specialized field, including the following types of experts:

- **Archaeological Monitor.** An archaeologist who has a minimum of a bachelor's or equivalent degree in archaeology, anthropology, paleontology, or another closely related field and no less than one year of experience conducting archaeological monitoring and/or excavation in similar regional archaeological contexts.
- **Paleontological Monitor.** A paleontologist who has a minimum of a bachelor's or equivalent degree in geology or paleontology and no less than one year of experience performing paleontological monitoring and salvaging fossil materials in the relevant geologic province; or an equivalent degree in biology or pursuit of a degree in geology or paleontology and no less than two years of comparable experience.
- **Qualified Archaeologist.** A professional archaeologist who meets the Secretary of the Interior's Archeology and Historic Preservation Professional Qualification Standards and is eligible for listing on the Register of Professional Archaeologists or the Society for American Archaeology; holds a graduate degree in archaeology or a related field; and has a minimum of five years of experience completing and supervising field work in archaeological contexts similar to the Project site.
- **Qualified Biologist.** A biologist with the appropriate education, training and experience to conduct biological surveys, monitor Project activities that have the potential to affect biological resources, provide construction worker education programs related to the protection of biological resources, and supervise or perform other tasks related to biological resources; possesses a bachelor's or equivalent degree in biology, ecology, or a related environmental science; and has at least five years of professional experience that requires knowledge of natural history, habitat affinities, and identification of flora and fauna species, and relevant local, state and federal laws and regulations governing the protection of biological resources.
- **Qualified Environmental Professional.** An environmental professional who is credentialed through the Institute of Professional Environmental Practice (IPEP); holds a bachelor's or equivalent degree in physical, earth or natural sciences, engineering, or mathematics; and has at least five years of professional environmental work experience, or eight years of professional environmental work experience with a degree in a discipline other than those listed above.

- **Qualified Historian.** A person with a graduate degree in architectural history or a closely related area of study, such as art history or historic preservation, and at least one year of experience in applying the methods and practices of architectural history in the historic preservation arena; or with a bachelor's or equivalent degree in one of the same areas of study and at least three years of related experience.
- **Qualified Noise Expert.** An acoustics professional who is a member of the Institute of Noise Control Engineering (INCE) or National Council of Acoustical Consultants (NCAC) and has a minimum of five years of experience conducting noise and vibration measurements, monitoring, modeling, and mitigation; analysis of such measurements; and related activities.
- **Qualified Paleontologist.** A paleontologist who meets the Society of Vertebrate Paleontology standards for a Principal Investigator or Project Paleontologist; has demonstrated competence in field techniques, preparation, identification, curation, and reporting and/or a graduate degree in paleontology or geology or a publication record in peer reviewed journals; at least two years professional experience with administration and project management experience; proficiency in recognizing fossils in the field and determining their significance; expertise in local geology, stratigraphy, and biostratigraphy; and experience collecting vertebrate fossils in the field.
- **Qualified Structural Engineer.** A civil engineer who holds licenses as both a Professional Engineer (PE) and a Structural Engineer (SE) from the State Board for Professional Engineers, Land Surveyors, and Geologists and who has at least three years of civil engineering experience.
- **Qualified Tribal Monitor.** A tribal representative who possesses the knowledge, skills, abilities and experience established by the Native American Heritage Commission's (NAHC) Guidelines for Native American Monitors/Consultants (2005), and as may be amended.

Sensitive Uses. Any of the following uses: any Residential use; Medical, Regional or Medical, Local; School (including Preschool/Daycare, K-12, and Post-secondary); Recreation, Public; or Open Space, Public.

Statement of Compliance. A written statement that acknowledges the EPM(s) and provides an affidavit of intent to comply with applicable EPM(s), signed by the Applicant and Owner. The Statement of Compliance is provided in Appendix 2 attached to this EPM Handbook.

Surveyed Historic Resource. Any building, structure, landscaping, or natural feature identified through a Historic Resources Survey as potentially eligible for listing in the National Register of Historic Places, California Register of Historical Resources, or City of Los Angeles List of Historic-Cultural Monuments, including National and California Register Historic Districts or Los Angeles Historic Preservation District.

To the Extent Available and Feasible. Employment of best efforts to implement or comply with a requirement, assuming any necessary technology, equipment, or other resources are readily available and costs or other constraints are not prohibitive.

- H. While the Environmental Protection Measures and Notices may be considered in any environmental analysis for a Project, consistent with the California Environmental Quality Act and its Guidelines, nothing herein is intended to control any analysis or mitigation measure required by the City, acting as a lead or responsible agency.

SECTION 2. REQUIRED NOTICES

In addition to any other requirement in this EPM Handbook, Applicants and Owners are responsible for reading and making themselves familiar with the notices in this Section.

A. Projects Requiring Grading or Excavation. Prior to issuance of a permit for grading or excavation prior to issuance of a permit for grading or excavation, Applicants and Owners shall read the following notices:

1. Archaeological, Paleontological, and Tribal Cultural Resources Notice: Several laws regulate the treatment of archaeological, paleontological, and tribal cultural resources and make it a criminal violation to destroy those resources. These regulations include, but are not limited to:

- California Penal Code Section 622½ provides the following: "Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor."
- Public Resources Code Section 5097.5(a) provides: "A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands." A violation of Section 5097.5 is a misdemeanor subject to a fine up to \$10,000 and/or a year in jail, and potential restitution.

Appendix 1 (Best Practices) to this City of Los Angeles EPM Handbook includes suggested best practices to avoid damage to archaeological, paleontological, and tribal cultural resources.

2. Hazardous Waste, Materials, and Contamination. Hazardous waste and materials are regulated at the federal, state, and local level, including the contamination of soil with hazardous waste or materials. Owners and applicants are responsible for compliance with all laws prior to and during grading, excavation, and construction activities.

Appendix 1 (Best Practices) to this City of Los Angeles EPM Handbook includes suggested best practices to avoid causing impacts related to hazardous waste, materials, and contamination related to ground disturbing activities.

B. Projects Requiring Grading, Excavation, or Building. Prior to issuance of a permit for grading, excavation, or building, Applicants and Owners shall read the following notices:

1. Nesting Bird Notice. Under the federal Migratory Bird Treaty Act, among other prohibitions, it is unlawful to destroy migratory birds or remove bird nests. Under California Fish and Game Code Section 3503, et seq., among other prohibitions, it is unlawful to destroy nests and eggs of any bird. Appendix 1 (Best Practices) to this City of Los Angeles EPM Handbook includes suggested best practices to avoid damage to Active Nests.

Appendix 1 (Best Practices) to this City of Los Angeles EPM Handbook includes suggested best practices to avoid damage to Active Nests.

2. Noise and Vibration Notice. The Los Angeles Municipal Code (LAMC) regulates excessive noise, including from construction activities and uses of property, including but not limited to those regulations in LAMC Chapter XI, 'Noise Regulation.' Appendix 1 (Best Practices) to this City of Los Angeles EPM Handbook includes suggested best practices to avoid excessive vibration.

Appendix 1 (Best Practices) to this City of Los Angeles EPM Handbook includes suggested best practices to avoid excessive vibration.

SECTION 3. ENVIRONMENTAL PROTECTION MEASURES

For each Environmental Protection Measure (EPM) provided in this Section there is an applicability threshold and a standard. Projects that meet all of the criteria in the applicability thresholds shall comply with the associated EPM standards, as provided in Section 1. (Administrative Provisions).

A. Air Quality Standard (AQ1)—Operation of Construction Equipment

1. AQ1-1: Dust Control Compliance with SCAQMDv Rule 403

a. Applicability Threshold

Any Project whose construction activities involve the use of construction equipment and require a permit from LADBS.

b. Standard

Consistent with SCAQMD Rule 403, best available dust control measures (see Appendix 4) shall be implemented during Ground Disturbance Activities and active construction operations capable of generating dust.

2. AQ1-2: Equipment Maintenance

a. Applicability Threshold

Any Project whose construction activities involve the use of construction equipment and require a permit from LADBS.

b. Standard

Maintain construction equipment in good, properly tuned operating condition, as specified by the manufacturer, to minimize exhaust emissions. Documentation demonstrating that the equipment has been maintained in accordance with the manufacturer's specifications shall be maintained per the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements).

All construction equipment shall achieve emissions reductions that are no less than what could be achieved by a Tier 3 diesel emissions control strategy for a similarly sized engine as defined by California Air Resources Board regulations.

3. AQ1-3: Vehicle Idling Limit and Notification Signs

a. Applicability Threshold

Any Project whose construction activities involve the use of construction vehicles and require a permit from LADBS.

b. Standard

Vehicle idling during construction activities shall be limited to five minutes as set forth in the California Code of Regulations, Title 13, Section 2449. Signs shall be posted in areas where they will be seen by vehicle operators stating idling time limits.

4. AQ1-4: Non-Diesel Fueled Electrical Power

a. Applicability Threshold

Any Project whose construction activities involve the use of construction equipment and require a permit from LADBS.

b. Standard

Electricity from power poles rather than temporary gasoline or diesel-powered generators shall be used To the Extent Available and Feasible.

5. AQ1-5: Emissions Standards for Off-Road Construction Equipment Greater than 50 Horsepower

a. Applicability Threshold

Any Project whose construction activities involve the use of construction equipment, require a permit from LADBS, and involve at least 5,000 cubic yards of on-site cut/fill on any given day.

b. Standard

All off-road diesel-powered construction equipment equal to or greater than 50 horsepower shall meet the U.S. Environmental Protection Agency's (USEPA) Tier 4 emission standards during construction. Operators shall maintain records of all off-road equipment associated with Project construction to document that each piece of equipment used meets these emission standards per the proof of compliance requirement in Sec. 1.D.6. (Additional Requirements).

In lieu of compliance with the above requirement, an air quality study prepared in accordance with the SCAQMD's Air Quality Handbook may be provided by the Applicant or Owner demonstrating that Project construction activities would not exceed the SCAQMD's regional and localized construction thresholds.

6. AQ1-6: Use of Low Polluting Fuels

a. Applicability Threshold

Any Project whose construction activities involve the use of construction equipment, require a permit from LADBS, and involve at least 5,000 cubic yards of on-site cut/fill on any given day.

b. Standard

Construction equipment less than 50 horsepower shall use low polluting fuels (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline).

In lieu of compliance with the above requirement, an air quality study prepared in accordance with the SCAQMD's Air Quality Handbook may be provided by the Applicant or Owner demonstrating that Project construction activities would not exceed the SCAQMD's regional and localized construction thresholds.

7. AQ1-7: Emission Standards for On-Road Haul Trucks

a. Applicability Threshold

Any Project whose construction activities involve the use of construction equipment, require a permit from LADBS, and involve more than 90 round-trip haul truck trips on any given day for demolition debris and import/export of soil.

b. Standard

Construction haul truck operators for demolition debris and import/export of soil shall use trucks that meet the California Air Resources Board's (CARB) 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of nitrogen oxides (NOX) emissions. Operators shall maintain records of all trucks associated with Project construction to document that each truck used meets these emission standards per the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements).

In lieu of compliance with the above requirement, an air quality study prepared in accordance with the SCAQMD's Air Quality Handbook may be provided by the Applicant or Owner demonstrating that Project construction activities would not exceed the SCAQMD's regional and localized construction thresholds.

8. AQ1-8: Routes for On-Road Haul Trucks

a. Applicability Threshold

Any Project whose construction activities involve the use of construction vehicles and require a permit from LADBS.

b. Standard

Construction contractors shall reroute construction trucks away from congested streets or Sensitive Uses, as feasible. The burden of proving that compliance is infeasible shall be upon the Applicant or Owner. Where avoiding Sensitive Uses and congested streets altogether is infeasible, routing away from Sensitive Uses shall be prioritized over routing away from congested streets.

B. Biological Resources Standards (BR3)—Nesting Native and Migratory Birds

1. BR3-1: Restriction of Ground Disturbance Activity

a. Applicability Threshold

Any Project for which an active bird nest has been discovered on-site.

b. Standard

If any active bird nest is found during a pre-construction nesting bird survey or is discovered inadvertently during earthwork or construction-related activities, a Qualified Biologist shall be retained by the Applicant or Owner to determine an appropriate avoidance buffer which shall be no less than is necessary to protect the nest, eggs and/or fledglings, from damage or disturbance in consideration of the following factors: the bird species, the availability of suitable habitat within the immediate area, the proposed work activity, and existing disturbances associated with surrounding land uses. The buffer shall be demarcated using bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary of the buffer. All construction personnel shall be notified of the buffer zone and shall avoid entering the protected area. No Ground Disturbing Activities or vegetation removal shall occur within this buffer area until the Qualified Biologist has confirmed that breeding/nesting is complete and the young have fledged the nest and/or that the nest is no longer an Active Nest. The Qualified Biologist shall prepare a report prior to the issuance of any building permit detailing the results of the nesting bird survey and subsequent monitoring, which shall be maintained pursuant to the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements).

C. Cultural Resources Standards (CR1)—Archaeological Resources

1. CR1-1: Inadvertent Discovery

a. Applicability Threshold

Any Project that requires a permit for grading or excavation.

b. Standard

If a possible archaeological resource is uncovered during earthwork or construction, all work shall cease within a minimum distance of 50 feet from the find until a Qualified Archaeologist has been retained to evaluate the find in accordance with National Register of Historic Places and California Register of Historical Resources criteria. The Qualified Archaeologist may adjust this avoidance area, ensuring appropriate temporary protection measures of the find are taken while also considering ongoing construction needs in the surrounding area. Temporary staking and delineation of the avoidance area shall be installed around the find in order to avoid any disturbance from construction equipment. Ground Disturbance Activities may continue unimpeded on other portions of the site outside the specified radius.

Any potential archaeological resource or associated materials that are uncovered shall not be moved or collected by anyone other than an Archaeological Monitor or Qualified Archaeologist unless the materials have been determined to be non-unique archaeological resources, as defined in Public Resources Code Section 21083.1(h), by the Qualified Archaeologist. The Qualified Archaeologist shall determine if the resources are unique archaeological resources as defined in Public Resources Code Section 21083.2(g).

Consistent with Public Resources Code Section 21083.2, the handling, treatment, preservation, and recordation of unique archaeological resources should occur as follows:

- The find should be preserved in place or left in an undisturbed state unless the Project would damage the resource.
- When preserving in place or leaving in an undisturbed state is not possible, excavation and recovery of the find for scientific study should occur unless testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, and this determination is documented by a Qualified Archaeologist.

Ground Disturbance Activities in the area where resource(s) were found may recommence once the identified resources are properly assessed and processed by a Qualified Archaeologist. A report that describes the resource(s) and its disposition, as well as the assessment methodology, shall be prepared by the Qualified Archaeologist according to current professional standards and maintained pursuant to the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements). If appropriate, the report should also contain the Qualified Archaeologist's recommendations for the preservation, conservation, and curation of the resource at a suitable repository, such as the Natural History Museum of Los Angeles County, with which the Applicant or Owner must comply.

D. Cultural Resources Standards (CR2)—Zanja Madre and the Zanja System

1. CR2-1: Zanja Madre HAER Documentation

a. Applicability Threshold

Any project that requires a permit for grading or excavation and that is located within one mile of the currently known and mapped segments of the Zanja system (see Appendix 5).

b. Standard

Projects within 500 feet of the currently mapped known segments of the Zanja system (see Appendix 5) have increased likelihood of encountering segments of the Zanja system during construction. The Zanja system includes the Zanja Madre and its outbranching secondary Zanja segments. If possible segments of the Zanja system are uncovered during earthwork or construction, all work shall cease within a minimum distance of 50 feet from the find until a Qualified Archaeologist has been retained to inspect and evaluate the find. The Qualified Archaeologist may adjust this avoidance area, ensuring appropriate temporary protection measures of the find are taken while also considering ongoing construction needs in the surrounding area. Temporary staking and delineation of the avoidance area shall be installed around the find in order to avoid any disturbance from construction equipment. Ground Disturbance Activities may continue unimpeded on other portions of the site outside the specified radius.

At a minimum, and even if avoided, should the find be determined to be related to the Zanja system, the Qualified Archaeologist shall prepare a memo and complete all relevant State of California Department of Parks and Recreation (DPR) DPR 523 forms documenting the find.

If the Qualified Archaeologist, having evaluated the find, determines that the find retains integrity, documentation consistent with the standards and guidelines established the Historic American Engineering Record (HAER) shall be undertaken and transmitted to the Library of Congress before any alteration, demolition, construction, or removal activity may occur within the determined avoidance area. Documentation shall include narrative records, measured drawings, and photographs in conformance with HAER Guidelines. The found segments shall also be mapped using Geographic Information Systems (GIS) or 3D mapping technology in order to contribute to the existing record of the location and extent of the Zanja system as a whole. At minimum, GIS data shall include the geographic coordinates and depth of all portions of the find. All records, including geographic data, georeferenced photographs, and information about the depth of the find shall be submitted to City Planning. Report documentation and GIS files shall additionally be provided to the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton.

In addition to HAER documentation, if determined appropriate by the Qualified Archaeologist, one or more of the following specific treatments shall be developed and implemented based on potential California Register eligibility criteria or the significance of the find as a unique archaeological resource:

- i. Treatment Under Criterion 1: Treatment shall include interpretation of the Zanja system for the public. The interpretive materials may include, but not be limited to, interpretive displays of photographs and drawings produced during the HAER documentation, signage at the Zanja Madre alignment, relocating preserved segments in a publicly

accessible display, or other visual representations of Zanja alignments through appropriate means such as a dedicated internet website other online-based materials. At a minimum, the interpretive materials shall include photographs and drawings produced during the HAER documentation and signage. These interpretive materials shall be employed as part of Project public outreach efforts that may include various forms of public exhibition and historic image reproduction. Additionally, the results of the historical and archaeological studies conducted for the Project shall be made available to the public through repositories such as the local main library branch or with identified non-profit historic groups interested in the subject matter. The interpretive materials shall be prepared at the expense of the Project applicant, by professionals meeting the Secretary of the Interior's Professional Qualifications Standards in history or historical archaeology. The development of the interpretive materials shall consider any such materials already available to the public so that the development of new materials would add to the existing body of work on the historical Los Angeles water system, and to this end, shall be coordinated, to the extent feasible and to the satisfaction of the Department of City Planning, in consultation with the Office of Historic Resources. The interpretive materials shall include a consideration of the Zanja segment located on the Project Site in relation to the entire Zanja system. The details of the interpretive materials, including the content and format, and the timing of their preparation, shall be completed to the satisfaction and subject to the approval of the Department of City Planning, in consultation with the Office of Historic Resources.

- ii. Treatment Under Criterion 2: No additional work; archival research about important persons directly associated with the construction and use of the Zanja system would be addressed as part of HAER documentation.
- iii. Treatment Under Criterion 3: No additional work; HAER documentation is sufficient.
- iv. Treatment Under Criterion 4: No additional work; archaeological data recovery and HAER documentation are sufficient.
- v. Treatment as a unique archaeological resource, as defined by PRC Section 21083.2(g): Same as Criterion 1 treatment.

E. Cultural Resources Standards (CR3)—Paleontological Resources

1. CR3-1: Inadvertent Discovery

a. Applicability Threshold

Any Project that requires a permit for grading or excavation.

b. Standard

If a probable paleontological resource is uncovered during earthwork or construction, all work shall cease within a minimum distance of 50 feet from the find until a Qualified Paleontologist has been retained to evaluate the find in accordance with the Society of Vertebrate Paleontology's Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Temporary flagging shall be installed around the find in order to avoid any disturbance from construction equipment. Any paleontological materials that are uncovered shall not be moved or collected by anyone other than a Qualified Paleontologist or

his/her designated representative such as a Paleontological Monitor. If cleared by the Qualified Paleontologist, Ground Disturbance Activities may continue unimpeded on other portions of the site. The found deposit(s) shall be treated in accordance with the Society of Vertebrate Paleontology's Standard Procedures. Ground Disturbance Activities in the area where resource(s) were found may recommence once the identified resources are properly assessed and processed by a Qualified Paleontologist. A report that describes the resource and its disposition, as well as the assessment methodology, shall be prepared by the Qualified Paleontologist according to current professional standards and maintained pursuant to the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements). If appropriate, the report should also contain the Qualified Paleontologist's recommendations for the preservation, conservation, and curation of the resource at a suitable repository, such as the Natural History Museum of Los Angeles County, with which the Applicant or Owner must comply.

F. Cultural Resources Standards (CR4)—Tribal Cultural Resources

1. CR4-1: Inadvertent Discovery

a. Applicability Threshold

Any Project that requires a permit for grading or excavation.

b. Standard

If a possible tribal cultural resource is uncovered during earthwork or construction, all work shall cease within a minimum distance of 50 feet from the find until a Qualified Tribal Monitor or Archaeological Monitor has been retained to evaluate the find.

Following discovery, the Applicant or Owner shall immediately contact all Native American tribes that have informed the City of Los Angeles they are traditionally and culturally affiliated with the geographic area of the Project, as well as the Department of City Planning, Office of Historic Resources (OHR). If a Qualified Tribal Monitor or Archaeological Monitor determines, pursuant to Public Resources Code Section 21074(a)(2), that the object or artifact appears to be a potential tribal cultural resource, in its discretion and supported by substantial evidence, the Applicant and Owner shall provide any affected tribe a reasonable period of time, not less than five business days, to conduct a site visit and make recommendations to the Applicant or Owner and OHR regarding the monitoring of future Ground Disturbance Activities and the treatment and disposition of any discovered tribal cultural resources. The Applicant or Owner shall implement the tribe's recommendations if the Qualified Tribal Monitor or Archaeological Monitor reasonably concludes such recommendations are reasonable and feasible.

Consistent with Public Resources Code Section 21083.2, the handling, treatment, preservation, and recordation of tribal cultural resources should occur as follows:

- The find should be preserved in place or left in an undisturbed state unless the Project would damage the resource.
- When preserving in place or leaving in an undisturbed state is not possible, excavation and recovery of the find for scientific study should occur unless testing or studies already completed have adequately recovered the scientifically consequential

information from and about the resource, and this determination is documented by a Qualified Tribal Monitor or Qualified Archaeologist.

All collected artifacts and fieldwork notes, if not human remains or other mortuary objects, shall be curated at the Natural History Museum of Los Angeles County or another appropriate curatorial facility for educational purposes. If cleared by the Qualified Tribal Monitor or Archaeological Monitor, Ground Disturbance Activities may continue unimpeded on other portions of the site. Ground Disturbance Activities in the area where resource(s) were found may recommence once the identified resources are properly assessed and processed. A report that describes the resource and its disposition, as well as the assessment methodology shall be prepared by the Qualified Tribal Monitor or Archaeological Monitor, according to current professional standards and maintained pursuant to the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements). A copy of the report shall be submitted to OHR, the South Central Coastal Information Center at California State University, Fullerton and to the Native American Heritage Commission for inclusion in its Sacred Lands File. If requested by the City, OHR may review and approve any monitoring or mitigation plan prior to implementation.

G. Hazardous Materials Standards (HM1)—Hazardous Materials Site

1. HM1-1: Unanticipated Hazards

a. Applicability Threshold

Any Project that requires a grading, excavation, or building permit from LADBS.

b. Standard

In the event that suspected Hazardous Materials, contamination, debris, or other features or materials that could present a threat to human health or the environment are discovered during earthwork or construction, such activities shall cease immediately until the affected area is evaluated by a Qualified Environmental Professional. If the Qualified Environmental Professional determines that a hazard exists, a remediation plan shall be developed by the Qualified Environmental Professional in consultation with the appropriate regulatory agency, and the remediation identified shall be completed. Work shall not resume in the affected area until appropriate actions have been implemented in accordance with the remediation plan, to the satisfaction of the regulatory agency.

A report that describes the Hazardous Materials, contamination or debris and its disposition, shall be prepared by the Qualified Environmental Professional, according to current professional standards and maintained pursuant to the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements).

2. HM1-2: Environmental Site Assessment(s)

a. Applicability Threshold

Any Project that requires a grading, excavation, or building permit from LADBS and which is:

- i. Located on or within 500 feet of a Hazardous Materials site listed in any of the following databases:
 - State Water Resources Control Board GeoTracker (refer to <https://geotracker.waterboards.ca.gov>);
 - DTSC EnviroStor (refer to <https://www.envirostor.dtsc.ca.gov/public>);
 - DTSC Hazardous Waste Tracking System (refer to <https://hwts.dtsc.ca.gov>);
 - LAFD Certified Unified Program Agency (refer to the active, inactive, and historical inventory lists at <https://www.lafd.org/fire-prevention/cupa/public-records>);
 - Los Angeles County Fire Department Health Hazardous Materials Division (refer to the active and inactive facilities, site mitigation, and California Accidental Release Prevention inventory lists at <https://fire.lacounty.gov/public-records-requests>);
 - SCAQMD Facility Information Detail (refer to <https://xappprod.aqmd.gov/find>); or
- ii. Located on or within 500 feet of a Hazardous Materials site designated as a Resource Conservation and Recovery Act (RCRA) Small Quantity Generator or Large Quantity Generator (refer to the USEPA Envirofacts database at <https://enviro.epa.gov/index.html>); or
- iii. Located in an Oil Drilling District (O) or located on or within 50 feet of a property identified as having an oil well or an oil field (active or inactive) by the California Geologic Energy Management Division (refer to <https://www.conservancy.ca.gov/calgem/Pages/WellFinder.aspx>); or
- iv. Located on land currently or previously designated with an industrial use class or industrial zoning, in whole or in part; or
- v. Located on land currently or previously used for a gas station or dry cleaning facility.

Or:

- vi. The Applicant or Owner are aware or have reason to be aware that the Project site was previously used for an industrial use, gas station or dry cleaner.

And:

- vii. The site has not been previously remediated to the satisfaction of the relevant regulatory agency/agencies for any contamination associated with the above uses or site conditions.

b. Standard

A Phase I Environmental Site Assessment shall be prepared by a Qualified Environmental Professional in accordance with State standards/guidelines and current professional standards, including the American Society for Testing and Materials' (ASTM) Standard Practice for Environmental Site Assessments, to evaluate whether the site, or the surrounding area, is

contaminated with hazardous substances from any past or current land uses, including contamination related to the storage, transport, generation, or disposal of toxic or Hazardous Waste or materials.

If the Phase I identifies a Recognized Environmental Condition (REC) and/or if recommended in the Phase I, a Phase II Environmental Site Assessment shall also be prepared by a Qualified Environmental Professional. The Phase I and/or Phase II Environmental Site Assessment(s) shall be maintained pursuant to the proof of compliance requirements in Section I.D.6 and made available for review and inclusion in the case file by the appropriate regulatory agency, such as the State Water Resources Control Board, the State Department of Toxic Substances Control, or the LAFD Hazard Mitigation Program. Any remediation plan recommended in the Phase II Environmental Site Assessment or by the appropriate regulatory agency shall be implemented and, if required, a No Further Action letter shall be issued by the appropriate regulatory agency prior to issuance of any permit from LADBS, unless the regulating agency determines that remedial action can be implemented in conjunction with excavation and/or grading. If oversight or approval by a regulatory agency is not required, the Qualified Environmental Professional shall provide written verification of compliance with and completion of the remediation plan, such that the site meets the applicable standards for the proposed use, which shall be maintained pursuant to the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements).

3. HM1-3: Environmental Site Assessment(s) for Residential Projects

a. Applicability

Any Housing Development Project that results in the construction of five or more dwelling units, and requires a grading or excavation permit from LADBS; and which is:

- i. Located on or within the following buffers as identified by the California Geologic Energy Management Division (refer to <https://www.conervation.ca.gov/calgem/Pages/WellFinder.aspx>);

 - 1,000 feet of a property identified as having an active oil well or an oil field; or
 - 200 feet of a property identified as having an idle oil well or field; or
 - 100 feet of a property identified as having a plugged oil well or field.

And:

- ii. The site has not been previously remediated to the satisfaction of the relevant regulatory agency/agencies for any contamination associated with the above uses or site conditions, or the site was not previously assessed in a Phase I Environmental Site Assessment (ESA) in the prior two years, which found no Recognized Environmental Conditions (REC), or a subsequent Phase II that concluded there are no RECs.

b. Standard

- i. The Project shall comply with the standard of HM1-2 (Environmental Site Assessment(s)) above.

- ii. Additionally, sites within 100 feet of an active, idle, or plugged oil well or field shall have a Phase 1 Environmental Site Assessment and/or additional studies reviewed in consultation with the Department of City Planning. After this initial review, the Department of City Planning reserves the right to request a Phase II Environmental Site Assessment, and/or additional studies, for a more extensive review of hazardous substances on the project site. Sites within 100 feet of an idle or plugged oil well shall be required to submit a Soils Management Plan approved by a Qualified Environmental Professional. Sites within 100 feet of an active, idle, or plugged oil well shall also be referred to the appropriate regulatory agency for any applicable review, as determined by the Department of City Planning, prior to issuance of any permit from LADBS.

4. HM1-4: County Fire Department Oversight

a. Applicability

Threshold Any Project that generates or handles Hazardous Material(s) and/or Hazardous Waste of quantities at any one time during a year equal to or greater than a volume of 55 gallons, a total weight of 500 pounds, or a total of 200 cubic feet of a compressed gas.

b. Standard

Prior to the issuance of a building permit, the Applicant and Owner shall report the required operator, site, training, emergency response and contingency information in the California Environmental Reporting System (CERS), in coordination with the Los Angeles County Fire Department Health Hazardous Materials Division. Documentation of all CERS reporting shall be maintained pursuant to the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements).

H. Noise and Vibration Standards (NV1)—Construction Noise

1. NV1-1: Noise Shielding and Muffling

a. Applicability Threshold

Any Project whose earthwork or construction activities involve the use of powered exterior construction equipment and require a permit from LADBS.

b. Standard

Powered exterior construction equipment (including combustion engines), fixed or mobile, shall be equipped with noise shielding and muffling devices consistent with manufacturers' standards or the Best Available Control Technology. All equipment shall be properly maintained, and the Applicant or Owner shall require any construction contractor to keep documentation on-site during any earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer's specifications. Construction hours shall be posted on-site along with a contact for any issues related to construction.

2. NV1-2: Use of Driven Pile Systems

a. Applicability Threshold

Any Project whose earthwork or construction activities involve the use of construction equipment and require a permit from LADBS.

b. Standard

Driven (impact) pile systems shall not be used, except in locations where the underlying geology renders drilled piles, sonic, or vibratory pile drivers infeasible, as determined by a soils or geotechnical engineer and documented in a soils report.

3. NV1-3: Enclosure or Screening of Outdoor Mechanical Equipment

a. Applicability Threshold

Any Project whose earthwork or exterior construction activities involve the use of powered construction equipment and require a permit from LADBS.

b. Standard

All outdoor mechanical equipment (e.g., generators, compressors) shall be enclosed or visually screened. The equipment enclosure or screen shall be impermeable (i.e., solid material with minimum weight of 2 pounds per square feet) and break the line of sight between the equipment and any off-site Noise-Sensitive Uses.

4. NV1-4: Location of Construction Staging Areas

a. Applicability Threshold

Any Project whose earthwork or construction activities involve the use of construction equipment and require a permit from LADBS.

b. Standard

Construction staging areas, including those related to constructing a mat pour foundation, shall be located as far from Noise-Sensitive Uses as reasonably possible and technically feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints. The burden of proving that compliance is technically infeasible shall be upon the Applicant or Owner. Technical infeasibility shall mean that noise barriers cannot be located between construction activities and Noise-Sensitive Uses due to site boundaries, topography, intervening roads and uses, and/or operational constraints.

5. NV1-5: Temporary Walls

a. Applicability Threshold

Any Project whose earthwork or exterior construction activities involve the use of powered construction equipment and require a permit from LADBS; and whose construction activities are located within a line of sight to and within 500 feet of Noise-Sensitive Uses, with the exception of Projects limited to the construction of 2,500 square feet or less of floor area.

a. Standard

Noise barriers, such as temporary walls (minimum ½-inch thick plywood) or sound blankets (minimum STC 25 rating),¹ that are a minimum of eight feet tall, shall be erected between construction activities and Noise-Sensitive Uses as reasonably possible and technically feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints. The burden of proving that compliance is technically infeasible shall be upon the Applicant or Owner. Technical infeasibility shall mean that noise barriers cannot be located between construction activities and Noise-Sensitive Uses due to site boundaries, topography, intervening roads and uses, and/or operational constraints.

6. NV1-6: Noise Study

a. Applicability Threshold

Any Project whose earthwork or exterior construction activities involve the use of powered construction equipment and require a permit from LADBS; are located within 500 feet of Noise-Sensitive Uses; and have one or more of the following characteristics:

- i. Two or more subterranean levels;
- ii. 20,000 cubic yards or more of excavated material
- iii. Exterior simultaneous use of five or more pieces of powered construction equipment; or
- iv. Construction duration (excluding architectural coatings) of 18 months or more.

Or any Project whose construction activities involve impact pile driving or the use of 300 horsepower equipment.

b. Standard

A Noise Study prepared by a Qualified Noise Expert shall be required and prepared prior to obtaining any permit by LADBS. The Noise Study shall characterize expected sources of earthwork and construction noise that may affect identified Noise-Sensitive Uses, quantify expected noise levels at these Noise-Sensitive Uses, and recommend measures to reduce noise exposure to the extent noise reduction measures are available and feasible, and to demonstrate compliance with any noise requirements in the LAMC. Specifically, the Noise Study shall identify noise reduction devices or techniques to reduce noise levels in accordance with accepted industry practices and in compliance with LAMC standards. Noise reduction devices or techniques shall include but not be limited to mufflers, shields, sound barriers,

1. At a Sound Transmission Class (STC) rating of 25, soft speech can be heard and understood.

and time and place restrictions on equipment and activities. The Noise Study shall identify anticipated noise reductions at Noise-Sensitive Uses associated with the noise reduction measures. Applicants and Owners shall be required to implement and comply with all measures identified and recommended in the Noise Study. The Noise Study and copies of any contractor agreements shall be maintained pursuant to the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements).

7. NV1-7: LAUSD Notification

a. Applicability Threshold

Any Project located within 200 feet of an LAUSD facility whose earthwork or construction activities involve the use of powered exterior construction equipment and require a permit from LADBS.

b. Standard

LAUSD shall be notified of future construction activities.

I. Noise and Vibration Standards (NV2)—Construction Vibration

1. NV2-1: Baseline Survey and Vibration Control Plan

a. Applicability Threshold

Any Project, with the exception of Projects limited to the construction of 2,500 square feet or less of floor area, whose earthwork or construction activities: (1) involve the use of construction equipment, including Heavy Construction Equipment, that produces 0.12 PPV or more of vibration at a distance of 25 feet (see reference vibration levels in Appendix 6); (2) require a permit from LADBS; and (3) which occur:

- i. Within 25 feet of any building extremely susceptible to vibration damage, including unreinforced masonry buildings, wood-frame multi-story buildings with soft, weak or open front walls, and non-ductile concrete buildings that have not been retrofitted, or a building that is designated or determined to be a historic resource pursuant to local or state law or that is determined to be potentially eligible for historic designation in a Historic Resources Survey; or
- ii. Within 15 feet of non-engineered timber and masonry buildings.

Or any Project whose construction activities involve the use of pile drivers within 135 feet of any building extremely susceptible to vibration damage, including existing unreinforced masonry buildings, existing tilt-up concrete wall buildings, existing wood-frame multi-story buildings with soft, weak or open front walls, and existing non-ductile concrete buildings, or a building that is designated or determined to be a historic resource pursuant to local or state law or that is determined to be potentially eligible for historic designation in a Historic Resources Survey.

b. Standard

Prior to demolition, grading/excavation, or construction, a Qualified Structural Engineer shall prepare a survey establishing baseline structural conditions of potentially affected structures and a Vibration Control Plan, which shall include methods to minimize vibration, including, but not limited to:

- i. A visual inspection of the potentially affected structures to document (by video and/or photography) the apparent physical condition of the building (e.g., cracks, broken panes, etc.).
- ii. A shoring design to protect the identified structures from potential damage;
- iii. Use of drilled piles or a sonic vibratory pile driver rather than impact pile driving, when the use of vibrating equipment is unavoidable;
- iv. Use of rubber-tired equipment rather than metal-tracked equipment; and
- v. Avoiding the use of vibrating equipment when allowed by best engineering practice.

2. NV2-2: Repair of Damage**a. Applicability Threshold**

Any Project, with the exception of Projects limited to the construction of 2,500 square feet or less of floor area, whose earthwork or construction activities: (1) involve the use of construction equipment, including Heavy Construction Equipment, that produces 0.12 PPV or more of vibration at a distance of 25 feet (see reference vibration levels in Appendix 6); (2) require a permit from LADBS; and (3) which occur:

- i. Within 25 feet of any building extremely susceptible to vibration damage, including unreinforced masonry buildings, tilt-up concrete wall buildings, wood-frame multi-story buildings with soft, weak or open front walls, and non-ductile concrete buildings, or a building that is designated or determined to be a historic resource pursuant to local or state law or that is determined to be potentially eligible for historic designation in a Historic Resources Survey; or
- ii. Within 15 feet of non-engineered timber and masonry buildings.

Or any Project whose construction activities involve the use of pile drivers within 135 feet of any building extremely susceptible to vibration damage, including existing unreinforced masonry buildings, existing tilt-up concrete wall buildings, existing wood-frame multi-story buildings with soft, weak or open front walls, and existing non-ductile concrete buildings, or a building that is designated or determined to be a historic resource pursuant to local or state law or that is determined to be potentially eligible for historic designation in a Historic Resources Survey.

b. Standard

In the event of damage to any non-historic building due to construction vibration, as verified by the Qualified Structural Engineer, a letter describing the damage to the impacted building(s)

and recommendations for repair shall be prepared by the Qualified Structural Engineer within 60 days of the time when damage occurred. Repairs shall be undertaken and completed, at the Owner's or Applicant's expense, in conformance with all applicable codes.

In the event of vibration damage to any building that is designated or determined to be a historic resource pursuant to local or state law or that is determined to be potentially eligible for historic designation in a Historic Resources Survey, a letter describing the damage to the impacted building(s) and recommendations for repair shall be prepared by the Qualified Historian within 60 days of the time when damage occurred. Repairs shall be undertaken and completed, at the Owner's or Applicant's expense, in conformance with the California Historical Building Code (Title 24, Part 8) as well as the Secretary of the Interior's Standards for the Treatment of Historic Properties and associated guidelines, as applicable and as determined by the Qualified Historian.

3. NV2-3: Vibration Sensitive Uses

a. Applicability Threshold

Any Project, with the exception of Projects limited to the construction of 2,500 square feet or less of floor area, whose earthwork or construction activities involve the use of equipment with high vibration levels in close proximity to vibration sensitive uses including hospital and veterinary operating centers, imaging facilities, and recording studios. Specifically, this includes use of a vibratory roller within 250 feet of such uses or use of a large bulldozer or drill-rig within 150 feet of such uses.

b. Standard

- i. Prior to demolition, grading/excavation, or construction, a Qualified Vibration Consultant shall prepare a vibration impact analysis at the vibration sensitive use and shall prepare a vibration control plan, to minimize vibration impacts.
- ii. The qualified vibration consultant shall take vibration monitoring measurements during use of the vibratory roller within 250 of the vibration sensitive use and during use of the large bulldozer or drill-rig within 150 feet of the vibration sensitive use in order to assess the actual impact of vibration on the structures and to incorporate and adjust techniques as necessary to reduce vibration. To the extent the adjacent vibration sensitive use allows the applicant to conduct monitoring within the adjacent sensitive use, baseline monitoring prior to construction and monitoring during these construction activities shall be conducted at the sensitive use. The engineer shall insure the incorporation of measures that reduce vibration at the sensitive use.
- iii. Noticing of the scheduling of various phases of construction will be submitted to the adjacent vibration-sensitive use 45 days in advance of activities and shall identify the dates of activity, the hours of activity, types of equipment to be used and the anticipated noise and vibration levels.

APPENDICES



APPENDIX 1. BEST PRACTICES

Disclaimer: The following best practices were developed by the City in consultation with environmental consultants who specialize in preparing environmental impact reports (EIRs) to comply with the California Environmental Quality Act, Public Resources Code, Sections 21000, et seq. Best practices are professional procedures, methods, or techniques that are accepted or prescribed as industry standards and considered correct or most effective. Nothing provided in this Appendix is intended to be a mandate or to relieve an Applicant and an Owner from their responsibility to comply with any and all applicable laws. The City assumes no responsibility for any Applicant's or Owner's use or reliance upon the best practices provided herein and does not guarantee their adequacy for any purpose. Any use by any person of the best practices provided herein is solely at the discretion and responsibility of that person.

A. Archaeological Resources

The following best practices are recognized by archaeologists and environmental consultants to ensure archaeological resources are not damaged during grading, excavation, or other Ground Disturbance Activities:

1. Records Search. A cultural resources records search should be requested from and conducted by the California Historical Resources Information System's (CHRIS) South Central Coastal Information Center (SCCIC) located at California State University, Fullerton to determine whether any cultural resources have been previously identified on or within a 0.5-mile radius of the Project site. The results of this records search shall be used as an indicator of the archaeological sensitivity of the Project site.
2. A Qualified Archaeologist shall be retained and use all reasonable methods, consistent with professional standards and best practices, to determine the potential for archaeological resources to be present on the Project site.
3. If the Qualified Archaeologist determines there is a medium to high potential that archaeological resources may be located on the Project site and it is possible that such resources will be impacted by the Project, the Qualified Archaeologist shall advise the Applicant and Owner to retain an Archaeological Monitor to observe all Ground Disturbance Activities within those areas identified as having a medium to high potential in order to identify any resources and avoid potential impacts to such resources.
4. Monitoring. An Archaeological Monitor should monitor excavation and grading activities in soils that have not been previously disturbed in order to identify and record any potential archaeological finds and avoid potential impacts to such resources. In the event of a possible archaeological discovery, the Archaeological Monitor shall notify a Qualified Archaeologist. The Archaeological Monitor has the authority to temporarily halt earthwork activities.

- a. Handling, Evaluation, and Preservation. Any archaeological resource materials or associated materials that are uncovered shall not be moved or collected by anyone other than an Archaeological Monitor or Qualified Archaeologist unless they have been determined to be nonunique archaeological resources, as defined in Public Resources Code Section 21083.1(h) by a Qualified Archaeologist. A Qualified Archaeologist shall determine if the resources are unique archeological resources as defined in Public Resources Code Section 21083.2(g).
5. Consistent with Public Resources Code Section 21083.2, the handling, treatment, preservation, and recordation of unique archaeological resources should occur as follows:
- a. The find should be preserved in place or left in an undisturbed state unless the Project would damage the resource.
 - b. When preserving in place or leaving in an undisturbed state is not possible, excavation and recovery of the find for scientific study should occur unless testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, and this determination is documented by a Qualified Archaeologist.
6. If recommended by the Qualified Archaeologist, the resource(s) shall be curated by a public, non-profit institution with a research interest in the material, such as the Natural History Museum of Los Angeles County or another appropriate curatorial facility for educational purposes.
7. Ground Disturbance Activities in the area where resource(s) were found may recommence once the identified resources are properly assessed and processed by a Qualified Archaeologist.

B. Biological Resources

The following best practices are recognized by biologists to ensure Active Nests are not damaged or disturbed during construction or Ground Disturbance Activities, which is a violation of the Federal Migratory Bird Treaty Act and the State Fish and Game Code:

1. Pre-Construction Survey. If a Project proposes the demolition of a structure or removal of a tree or vegetation during bird nesting season (February 1 to August 31), a pre-construction nesting bird survey of all suitable habitat shall be conducted no more than 10 days prior to the initiation of demolition or tree or vegetation removal to determine if nesting birds are present. The pre-construction nesting bird survey shall be conducted on foot within the Project site boundaries by a Qualified Biologist.
2. No Nests Found. If the pre-construction survey indicates bird nests are not present or are inactive, or if potential habitat is unoccupied, no further avoidance is required.
3. Buffer for Active Nest. If any active bird nest is found during a pre-construction nesting bird survey, a Qualified Biologist shall recommend an avoidance buffer which shall be no less than is necessary to protect the nest, eggs and/or fledglings, from damage or disturbance in consideration of the following factors: the bird species, the availability of suitable habitat within the immediate area, the proposed work activity, and existing disturbances associated

with surrounding land uses. The buffer shall be demarcated using bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary of the buffer. All construction personnel shall be notified of the buffer zone and shall avoid entering the protected area. No Ground Disturbing Activities or vegetation removal shall occur within this buffer area until the Qualified Biologist has confirmed that breeding/nesting is complete and the young have fledged the nest and/or that the nest is no longer an Active Nest.

C. Paleontological Resources

The following best practices are recognized by paleontologists and environmental consultants to ensure paleontological resources are not damaged during construction or Ground Disturbance Activities:

1. A paleontological resources records search shall be requested from and conducted by the Natural History Museum of Los Angeles County to determine whether any paleontological resources have been previously identified on or near the Project site. The results of this records search shall be used as an indicator of the paleontological sensitivity of the Project site.
2. A Qualified Paleontologist shall be retained and use all reasonable methods, consistent with professional standards and best practices, to determine the potential for paleontological resources to be present on the Project site.
3. If the Qualified Paleontologist determines there is a high potential that paleontological resources may be located on the Project site and it is possible that such resources will be impacted by the Project, the Qualified Paleontologist or his/her designated representative such as a Paleontological Monitor shall observe all Ground Disturbance Activities within those areas identified as having an undetermined or high potential in order to identify any resources and avoid potential impacts to such resources. In the event of a possible paleontological discovery, the Qualified Paleontologist or Paleontological Monitor shall have the authority to temporarily halt earthwork activities within an appropriate radius of the find, as determined by the Qualified Paleontologist, necessary to protect the resource or other potential resources on or near the Project site. Temporary flagging shall be installed around the find in order to avoid any disturbance from construction equipment.
4. Prior to the start of construction, the Qualified Paleontologist or his/her designee shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.
 - a. If paleontological resources are uncovered (in either a previously disturbed or undisturbed area), all work should cease in the area of the find until a Qualified Paleontologist has evaluated the find in accordance with federal, state, and local guidelines, including the Society of Vertebrate Paleontology's Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP, 2010).

- b. If fossils are discovered, a Qualified Paleontologist shall recover them. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case the paleontologist has the authority to temporarily direct, divert or halt construction activity to ensure the fossil(s) can be removed in a safe and timely manner. Handling and disposition of fossils is done at the direction and guidance of a Qualified Paleontologist.
- c. Personnel of the Project should not collect or move any paleontological materials or associated materials.
- d. If cleared by the Qualified Paleontologist, construction activity may continue unimpeded on other portions of the Project site.
- e. Construction activities in the area where resources were found may commence once the identified resources are properly assessed and processed by a Qualified Paleontologist, and the Qualified Paleontologist clears the site for construction activity.

D. Tribal Cultural Resources

The following best practices are recognized by tribal monitors and environmental consultants to ensure that tribal cultural resources are not damaged during grading, excavation, or other Ground Disturbance Activities:

1. A Sacred Lands File (SLF) records search shall be requested from and conducted by the California Native American Heritage Commission (NAHC) to determine whether cultural resources associated with any Native American tribe(s) with traditional lands or cultural places located within or near the Project site have been previously identified or whether the Project area is considered sensitive for the presence of tribal cultural resources.
2. All tribes listed on the NAHC's Native American Contact List included with the SLF records search shall be contacted, informed of the Project, and given an opportunity to provide input. If the tribe provides substantial evidence of a potential for discovery of tribal cultural resources within the Project site and requests monitoring of Project excavation, grading or other Ground Disturbance Activities, a Qualified Tribal Monitor or an Archaeological Monitor shall be retained.
3. The Qualified Tribal Monitor or Archaeological Monitor shall observe all Ground Disturbance Activities within those areas identified in the records search as sensitive for the presence of tribal cultural resources in order to identify any resources and avoid potential impacts to such resources. In the event of a possible discovery of a tribal cultural resource, the Qualified Tribal Monitor or Archaeological Monitor shall have the authority to temporarily halt earthwork activities within an appropriate radius of the find, as determined by the Qualified Tribal Monitor or Qualified Archaeologist to ensure the find is not damaged or any other potential tribal cultural resources on or near the Project site.
4. If tribal cultural resources are uncovered, all work should cease in the appropriate radius determined by the Qualified Tribal Monitor or Archaeological Monitor.

5. Any find should be treated with appropriate dignity and protected and preserved as appropriate with the agreement of the Qualified Tribal Monitor and in accordance with federal, state, and local guidelines.
6. The location of the tribal cultural resource find and the type and nature of the find should not be published beyond providing the information to public agencies with jurisdiction or responsibilities related to the resources and any affected tribal representatives.
7. Personnel of the Project should not collect or move any tribal cultural resources or associated materials or publish the location of tribal cultural resources.
8. Following discovery, the Applicant or Owner shall immediately contact all Native American tribes that have informed the City of Los Angeles they are traditionally and culturally affiliated with the geographic area of the Project, as well as the Department of City Planning, Office of Historic Resources (OHR).
9. The Applicant and Owner shall provide any affected tribe a reasonable period of time, not less than fourteen calendar days, to conduct a site visit and make recommendations to the Applicant or Owner regarding the monitoring of future Ground Disturbance Activities and the treatment and disposition of any discovered tribal cultural resources.
10. The Applicant or Owner shall implement the tribe's recommendations if the Qualified Tribal Monitor or Archaeological Monitor reasonably concludes such recommendations are reasonable and feasible and determined to be supported with substantial evidence.
11. Consistent with Public Resources Code Section 21083.2, the handling, treatment, preservation, and recordation of tribal cultural resources shall occur as follows:
 - a. The find shall be preserved in place or left in an undisturbed state unless the Project would damage the resource.
 - b. When preserving in place or leaving in an undisturbed state is not possible, excavation and recovery of the find for scientific study shall occur unless testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, and this determination is documented by a Qualified Tribal Monitor or Qualified Archaeologist.
12. All collected artifacts and fieldwork notes, if not human remains or other mortuary objects, shall be curated at the Natural History Museum of Los Angeles County or another appropriate curatorial facility.
13. If cleared by the Qualified Tribal Monitor or Archaeological Monitor, Ground Disturbance Activities may continue unimpeded on other portions of the site. Ground Disturbance Activities in the area where resource(s) were found may recommence once the identified resources are properly assessed and processed.

E. Vibration

The following best practices are recognized by structural engineers and environmental consultants to reduce damage to vibration-sensitive uses:

1. The use of impact pile drivers should be avoided to eliminate excessive vibration levels. Drilled piles or sonic vibratory pile drivers are alternatives that should be utilized where geological conditions permit their use.
2. Construction activities should involve rubber-tired equipment rather than metal-tracked equipment.
3. The construction contractor should schedule and phase construction activities, including demolition, earthmoving, and ground-impacting operations, so they do not occur concurrently; use low-impact construction technologies; and avoid the use of vibrating equipment in accordance with best engineering practices.

F. Hazardous Materials and Contamination

The following best practices are recognized by Qualified Environmental Professionals to reduce impacts related to hazardous waste, materials, and contamination:

- Prior to doing any soil disturbing activities, a comprehensive search of databases of sites containing hazardous waste or hazardous materials (e.g. historical environmental reports prepared by Enviroscan, EDR or similar firms) is conducted, including on lists prepared pursuant to Government Code, section 65962.2.
- If the database search indicates the project site or any property within one-quarter mile of the project site has the potential to be contaminated with hazardous waste or hazardous materials for any reason, a Phase I and, as needed, a Phase II Environmental Site Assessments shall be prepared by a Qualified Environmental Professional.
- Recommendations provided in any Phase II Environmental Site Assessment report for the project site shall be implemented for remedial action.
- Property owners and/or applicants consult with appropriate oversight agencies, including the Department of Toxic Substances Control and the Los Angeles Regional Water Quality Control Board, and implement remediation measures to minimize human exposure and prevent further environmental contamination.
- If remediation measures are identified in a Phase II Environmental Site Assessment, no development occurs until a letter of No Further Action is obtained, if required, by an enforcement agency.

APPENDIX 2. STATEMENT OF COMPLIANCE

Date: _____

Project Site Address: _____

This Statement of Compliance serves as an affidavit of intent to comply with the City of Los Angeles (City) Environmental Protection Measure (EPM) Handbook.

With regard to this Project, I/we _____ and _____
 Owner Applicant (if different than Owner)

each hereby acknowledge and commit to all of the following:

1. I have read the EPM Handbook, found at <https://planning.lacity.gov/zoning/new-code>.
2. I understand the Project may be subject to specific EPM standards and related requirements set forth in the EPM Handbook, and I acknowledge pursuant to Sec. 4C.13.1. (Environmental Protection Measures) of Chapter 1A of the Los Angeles Municipal Code (LAMC) that I am obligated to and will comply with any and all EPM standards applicable to the Project.
3. Documentation demonstrating compliance with all EPM standards applicable to the Project shall be maintained per the proof of compliance requirements in Subsection I.D.6 of the EPM Handbook.
4. I am obligated to and will retain any Qualified Expert identified in any applicable EPM to perform any services; prepare any studies, surveys, or reports; and provide any verifications or certifications required in any applicable EPM.
5. I understand that failure to comply with applicable EPM standards is a violation of Sec. 4C.13.1. (Environmental Protection Measures) of Chapter 1A of the LAMC and is subject to all civil, criminal, and administrative remedies and penalties pursuant to Sec. 4C.13.1.D (Noncompliance) of Chapter 1A of the LAMC. Additionally, if the City determines that I have violated any required EPM, the City may require me to hire an independent consultant to ensure compliance pursuant to Sec. 4C.13.1.D (Noncompliance) of Chapter 1A of the LAMC.
6. I understand it is my responsibility to consult with any appropriate professional, including but not limited to legal counsel, environmental consultants, or construction contractors, if necessary, to understand (i) the applicable LAMC requirements for my Project, (ii) the EPM Handbook, and (iii) this affidavit before signing this document or undertaking work on the Project.
7. I understand it is my responsibility and I agree to ensure that all individuals who perform any work or service related to the development or construction of the Project, including but not limited to environmental consultants, engineers, construction contractors and workers, or

any required Qualified Expert, whether such work or service is performed at the Project site address or elsewhere, are aware of and familiar with the applicable EPM requirements for the Project and have received or obtained a copy of the EPM Handbook.

Owner Signature:

Applicant Signature (if different than Owner):

Printed Name:

Printed Name:

Date:

Date:

APPENDIX 3. CONTRACTOR ACKNOWLEDGMENT

Environmental Protection Measures Contractor Acknowledgment

Date:

Project Site Address:

This Contractor Acknowledgment serves as an affidavit of intent to comply with the City of Los Angeles (City) Environmental Protection Measure (EPM) Handbook.

With regard to this Project, I, hereby

Contractor

acknowledge and commit to the following:

1. I have read the EPM Handbook, found at <https://planning.lacity.gov/zoning/new-code>.
2. I understand the Project may be subject to specific EPM standards and related requirements set forth in the EPM Handbook, and I acknowledge pursuant to Sec. 4C.13.1. (Environmental Protection Measures) of Chapter 1A of the Los Angeles Municipal Code (LAMC) that the Applicant and Owner are required to comply with any and all EPM standards applicable to the Project.
3. In fulfilling my responsibilities and contracted services for the Project, I acknowledge that I am obligated to implement and comply with all applicable EPM standards as they relate to the performance of my duties.
4. Documentation demonstrating compliance with all EPM standards applicable to the Project shall be maintained per the proof of compliance requirements in Sec. 1.D.6. (Additional Requirements) of the EPM Handbook.
5. I am obligated to adhere to all recommendations, limitations, or other guidance from any Qualified Expert retained by the Applicant or Owner as part of EPM compliance.
6. I understand that failure to comply with applicable EPM standards is a violation of Sec. 4C.13.1. (Environmental Protection Measures) of Chapter 1A of the LAMC and is subject to all civil, criminal, and administrative remedies and penalties pursuant to Sec. 4C.13.1.D (Noncompliance) of Chapter 1A of the LAMC.

Contractor Signature:

Printed Name:

Date:

APPENDIX 4. SCAQMD RULE 403 BEST AVAILABLE CONTROL MEASURES

(Applicable to All Construction Activity Sources)

Table 1: Best Available Control Measures
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	Mix backfill soil with water prior to moving. Dedicate water truck or high-capacity hose to backfilling equipment. Empty loader bucket slowly so that no dust plumes are generated. Minimize drop height from loader bucket.
Clearing and Grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	Maintain live perennial vegetation where possible. Apply water in sufficient quantity to prevent generation of dust plumes.
Clearing Forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	Use of high-pressure air to clear forms may cause exceedance of Rule requirements.
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	Follow permit conditions for crushing equipment. Pre-water material prior to loading into crusher. Monitor crusher emissions opacity. Apply water to crushed material to prevent dust plumes.
Cut and Fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities	For large sites, pre-water with sprinklers or water trucks and allow time for penetration. Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts.

Table 1: Best Available Control Measures
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Demolition—Mechanical/ Manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	Apply water in sufficient quantities to prevent the generation of visible dust plumes.
Disturbed Soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	Limit vehicular traffic and disturbances on soils where possible. If interior block walls are planned, install as early as possible. Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes.
Earth-Moving Activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	Grade each project phase separately, timed to coincide with construction phase. Upwind fencing can prevent material movement onsite. Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes.
Importing/ Exporting of Bulk Materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	Use tarps or other suitable enclosures on haul trucks. Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage. Comply with track-out prevention/mitigation requirements. Provide water while loading and unloading to reduce visible dust plumes.

Table 1: Best Available Control Measures
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Landscaping	10-1 Stabilize soils, materials, slopes	<p>Apply water to materials to stabilize.</p> <p>Maintain materials in a crusted condition.</p> <p>Maintain effective cover over materials.</p> <p>Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes.</p> <p>Hydroseed prior to rain season.</p>
Road Shoulder Maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	<p>Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs.</p> <p>Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs.</p>
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	<p>Dedicate water truck or high-capacity hose to screening operation.</p> <p>Drop material through the screen slowly and minimize drop height.</p> <p>Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point.</p>
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	<p>Limit size of staging area.</p> <p>Limit vehicle speeds to 15 miles per hour.</p> <p>Limit number and size of staging area entrances/exists.</p>
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	<p>Add or remove material from the downwind portion of the storage pile.</p> <p>Maintain storage piles to avoid steep sides or faces.</p>
Traffic Areas for Construction Activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	<p>Apply gravel/paving to all haul routes as soon as possible to all future roadway areas.</p> <p>Barriers can be used to ensure vehicles are only used on established parking areas/haul routes.</p>

Table 1: Best Available Control Measures
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pretrench to 18 inches soak soils via the pre-trench and resuming trenching. Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment.
Truck Loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	Empty loader bucket such that no visible dust plumes are created. Ensure that the loader bucket is close to the truck to minimize drop height while loading.
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	Haul waste material immediately off-site.
Unpaved Roads/ Parking Lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements.
Vacant Land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences,	

Table 2: Dust Control Measures for Large Operations

Fugitive Dust Source Category	Control Actions
Earth-Moving (except construction cutting and filling areas, and mining operations)	<p>(1a) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D- 2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR</p> <p>(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.</p>
Earth-Moving: Construction Fill Areas:	(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D- 2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.
Earth-Moving: Construction Cut Areas And Mining Operations:	(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed Surface Areas (Except Completed Grading Areas)	(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed Surface Areas: Completed Grading Areas	<p>(2c) Apply chemical stabilizers within five working days of grading completion; OR</p> <p>(2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas.</p>

Table 2: Dust Control Measures for Large Operations

Fugitive Dust Source Category	Control Actions
Inactive Disturbed Surface Areas	<ul style="list-style-type: none"> (3a) Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR (3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (3c) Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR (3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.
Unpaved Roads	<ul style="list-style-type: none"> (4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8-hour work day]; OR (4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR (4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open Storage Piles	<ul style="list-style-type: none"> (5a) Apply chemical stabilizers; OR (5b) Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR (5c) Install temporary coverings; OR (5d) Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	<ul style="list-style-type: none"> (6a) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

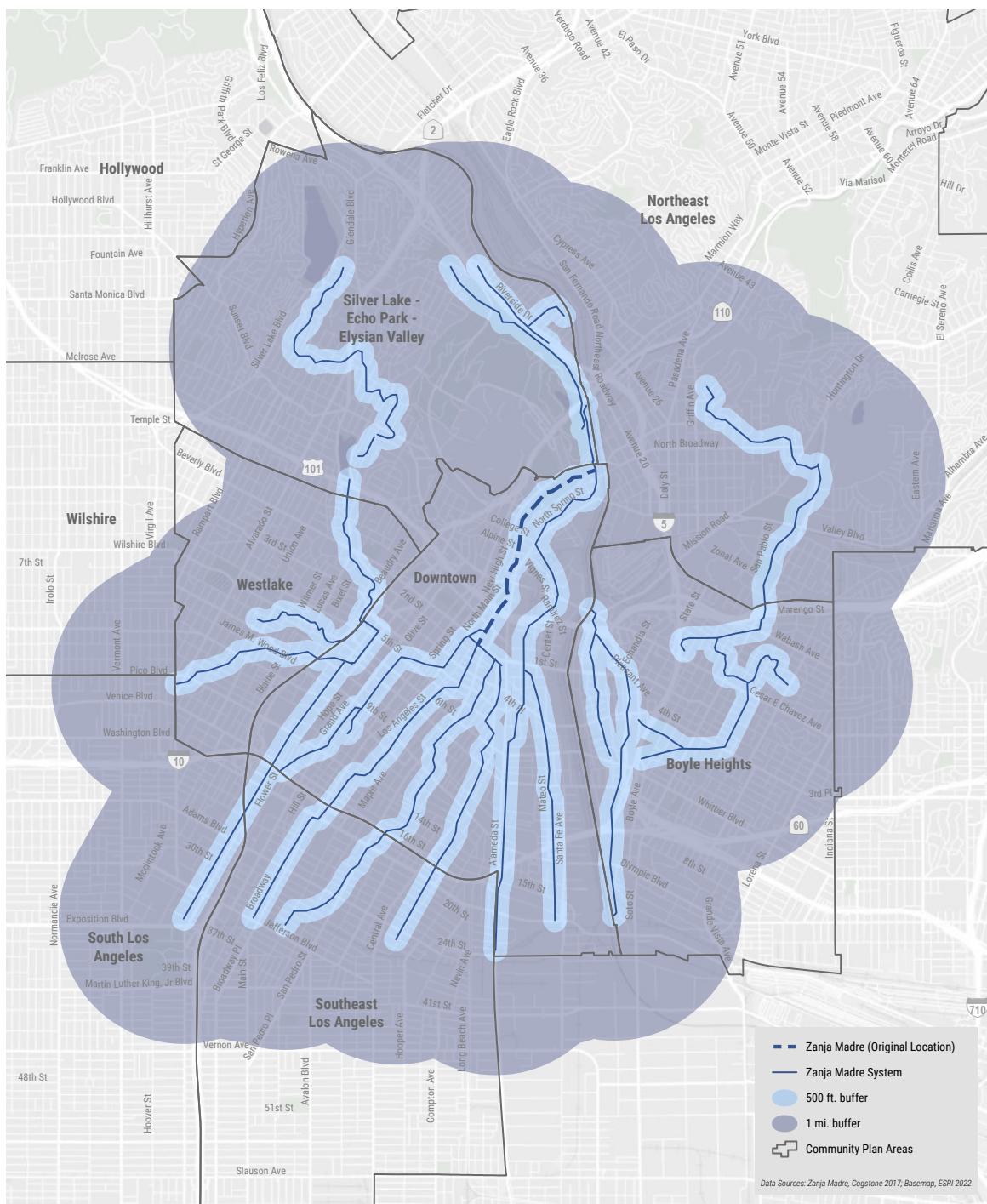
Table 3: Contingency Control Measures for Large Operations

Fugitive Dust Source Category	Control Measures
Earth-Moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed Surface Areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved Roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open Storage Piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved Road Track-Out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4: Conservation Management Practices for Confined Animal Facilities

Fugitive Dust Source Category	Control Measures
Manure Handling (Only Applicable to Commercial Poultry Ranches)	<ul style="list-style-type: none"> (1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 a.m. and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	<ul style="list-style-type: none"> (2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	<ul style="list-style-type: none"> (3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	<ul style="list-style-type: none"> (4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of 4 inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	<ul style="list-style-type: none"> (5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of 4 inches).

APPENDIX 5. ZANJA MADRE AND ZANJA SYSTEM MAP



Zanja Madre System

January 2022



APPENDIX 6. VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Below is "Table 7-4 Vibration Source Levels for Construction Equipment", an excerpt from page 184 of the Federal Transit Administration's September 2018, "Transit Noise and Vibration Impact Assessment Manual," prepared by John A. Volpe National Transportation Systems Center.

Table 7-4 Vibration Source Levels for Construction Equipment

Equipment		"PPV at 25 ft, in/sec"	"Approximate Lv* at 25 ft"
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.17	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.21	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

* RMS velocity in decibels, VdB re 1 micro-in/sec



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