Los Angeles – Aerial Rapid Transit DEIR Comments

DATE: January 12, 2023

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FROM: Dr Clyde T. Williams, President Citizens Coalition for A Safe Community 4117 Barrett Rd Los Angeles, CA 90032-1712

SUBJECT: Los Angeles Aerial Rapid Transit Project SCH Number 2020100007 Notice of Availability (NOA)
Re: Comments of Draft Environmental Impact Report (DEIR)

Project description, assessments, and alternatives considerations are totally inadequate and incomplete and without engineering and construction considerations and descriptions. Many references mention future studies, engineering, and designs to be done before construction, but all such would be without public review and comments and thereby not in compliance with CEQA.

Although Goals/Purposes and Objectives are required for a DEIR, this DEIR provides vague and ambiguous descriptions and totally inadequate development of the Project, its objectives, and its alternatives and their numerical/quantified comparisons. Thus, the discussion of alternatives and Project and their numerical/quantified comparisons are totally inadequate.

Although directly related to the DEIR descriptions and assessments, the DEIR does not even minimally use/mention the LA City Department of City Planning database, ZIMAS, which must be fully incorporated if the Project is to be placed within the City of Los Angeles. As no Memorandum of Understanding or Agreement between the sponsor, Metro, and City of Los Angeles is provided or even mentioned, this absence is understandable avoidance, but renders the DEIR unacceptable, incomplete, and inadequate.

Without an adequate and complete DEIR, alternatives to the proposed Project cannot be adequately formed and compared. Thereby the consideration of alternative cannot be considered adequate nor complete, but should include ZE/NG buses and dedicated bus lanes and perhaps with congestion pricing for DTLA and the Project site.

For detailed comments see below, including pertinent identified portions of the DEIR with **highlighted** issues of the current texts for the specific ***comments.***

ES-1/3 When complete, the proposed Project would have a maximum capacity of approximately 5,000 people per hour per direction, and the travel time from LAUS to Dodger Stadium would be approximately seven minutes.
5000passengers/hr and 40p/gondola = 125 gondolas(g)/hr = 1 g/29 sec
Travel ROT = 14 min including loading/unloading = 3 sec/person x 40 = 120 sec = 7min transit + 2 min ld/uld = 60/9 = 7 g-trips/hr x 40pgr = 280 total passenger/hr
x 2 hr = 560 p/game – nine/9 gondolas/cabins operating each game/event
Provide Project operations for peak passenger processing and gondola travel for 2 hours prior to Stadium events.
Provide seating/standing design floor capacity for each gondola/cabin used for Project's process flow and movements.
Provide total weight of all loaded gondolas and angular load distribution for each tower (one way loaded/opposite way unloaded).

ES-2/3 The standards of **adequacy** of an EIR, defined by Section 15151 of the CEQA Guidelines, are as follows:

An EIR should be prepared with **sufficient level** of **analysis** to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effect of the proposed project need not be exhaustive, but **sufficiency of an EIR is to be reviewed in light of what is reasonably feasible**….The courts have not looked for perfection but for adequacy, completeness, and good faith effort at full disclosure.

First of 79 mentions of feasible, vs financial and fiscal of <10, and must be considered as an acceptable alternative for costs. Provide "costs" comparisons for each use of "feasible" or "fiscal" and for alternatives throughout the DEIR.

Provide documentation of database for the "analysis" and numerical/quantified assessments and comparisons in table forms.

Provide Project definitions and demonstrations of feasible and infeasible conditions within the Project. Definitions of feasible commonly include "practical" issues, costs, funding, probability of changed conditions, and unexpected costs for safety, hazards, and changed conditions claims.

Overall the DEIR is inadequate and incomplete for reasonably public accessible considerations (review and comments) of the Project, its impacts, mitigations, and alternatives.

Lack of use of LACity-DCP-ZIMAS database for issues along the entire route and for specific facilities located along the route. Provide ZIMAS database for any DEIR references to equivalent data from elsewhere, e.g., seismicity, landslide, liquefaction, etc..

ES-3/4 The ART system has the **ability** to overcome **grade and elevation issues** between LAUS and Dodger Stadium, and would provide **safe, zero-emission, environmentally friendly, and high-capacity transit connectivity** in the Project area that would **reduce greenhouse gas (GHG) emissions** as a result of reduced vehicular congestion in and around Dodger Stadium and on neighborhood streets, arterial roadways, and freeways. The proposed Project would operate daily to **serve existing residents, workers, park users**, and visitors to Los Angeles.

Provide engineering design drawings and calculations and all derived assessment of engineering forces on towers and cableway given the imbalance of cabin loads during specially events with no passengers on one side and full capacity loads on the opposing cableways.

ES-4/2 The proposed Project "alignment" includes the suspended above-grade cables and **cabins** following the position of the Project components along the ART route….

Provide assessment of engineering forces on towers and cableway given the imbalance of cabin loads during specially events with no passengers on one side and full capacity loads on the opposing cableways.

ES-4/4 When complete, the proposed Project would have a maximum capacity of approximately 5,000 people per hour per direction, and the **travel time from LAUS to Dodger Stadium would be approximately seven minutes**.

Provide Gondola loading/unloading/travel timing cycles as part of the overall 23 second/7 minute travel patterns including a time chart for each cycle element.

e.g., Loading/unloading 3 sec / passenger 40p/g = 120sec each for loading and unloading

Provide same cycles including 10% ADA passengers.

ES-4/7 The alignment then crosses over the western edge of the Los Angeles State Historic Park and the Metro L Line (Gold) tracks.

No mention of Buena Vista til pg.3.11/20. Provide currently proposed building outlines for both ground area and heights compared to this Project along with full cabin presents during target events.

ES-10/2 The Dodger Stadium Station….The Project Sponsor **will request consideration** by the Los Angeles Dodgers of the potential for the Dodger Stadium Station to include **a mobility hub**…to access Elysian Park and other nearby neighborhoods, including Solano Canyon.

No specific design or drawings are provided for the mobility hub or for the access to surrounding neighborhoods, and no beneficial effects are proposed for such a hub and accesses. No proposed schedules for LA ART are proposed for daily services, frequencies and loads or for pedestrian/bike/handicapped movements from/to hub and the neighborhoods.

Provide Daily and Daytime schedules, frequencies, and ridership access for non-games days public access.
Provide definition of specific considerations by LAD for non-game day operations and riderships.

ES-10/6 At the Chinatown/State Park Station, cabins would detach from the rope and decelerate to the station speed. Since passenger access would be provided at this station, the cabins would **decelerate to about one foot per second (less than one mile per hour) and the doors would open**.
Provide station speeds schedules and pathways other than zero/dead stop and temporal sequencing for unloading and reloading of 40 passenger each. Provide same for at least 10% ADA related passengers and seniors (65+yr olds).

ES-11/1 Operation of the proposed Project would require approximately 20 personnel. Station **attendants would be located within each station to assure safe boarding or to execute stops, if necessary**. Attendants would also provide customer interaction and observation; if a passenger needs special assistance, an attendant may either **further slow or stop a cabin**.
Provide personnel/staffing levels for each Project element during an event operations. Provide for full element operations, e.g., three stations and as to any staff shifting during event operations, e.g., No staff at Park Station and rotating staffs for initial Alameda Out-bounds vs later Stadium outbounds.
Provide Gondola loading/unloading/travel timing cycles as part of the overall 23 second/7 minute travel patterns including a time chart for each cycle element e.g., Loading/unloading 3 sec / passenger 40p/g = 120sec each for loading and unloading
Provide same cycles including 10% ADA passengers.
Provide requirements for agent-initiated stoppage (=0.0fps).

ES-13/2 The proposed Project's stations, junction, towers, and gondola cabins would incorporate energy efficient, **sustainable**, water and waste efficient, and resilient features, **as feasible**. The proposed stations and junction are designed to be open-air buildings, allowing for **passive ventilation strategies** and providing direct access to outdoor air and natural daylight, while also providing adequate shade protection from heat. **The cabins would be ventilated to enhance air quality for passengers**.
Provide definitions for sustainable (40+ years operations) and feasibility calculations.
Provide definition and design for cabin ventilation and for any station ventilation (e.g., fans).
Provide definitions and designs of Passive Ventilation and enclosing solar panels for shading.

ES-13/3 Materials for the stations, junction, and towers would be locally sourced **where possible**, and would include recycled content **where possible**.
Provide conditions for "possible" sourcing and recycled contents, rather than "where feasible".

ES-14 Table ES-1: Proposed Project Construction
Maximum Depth of Drilled Piles ***Maximum Depth below pile cap***
Clarify Maximum depth of pile tip = 10ft + 120ft bpc = 130ft bgs
Maximum Depth of Excavation ***Provide Maximum Depth to base of pile cap and top of pile***
Amount of Excavation
Provide excavation volume including bulking for pile cap, 10ft depth = 3 cuyd/sq yd plus times surface area.
Provide piles boring/auguring volumes for all Project stations, towers, and junction e.g., = 1 yds x 40yd = 40 cu yd/pile x 25-40 piles = 1000-1600 cu yd, Stn Pile 55-80-125 Exc 2700-6300 cuyd, and Twr Pile 120-125 Exc 1300-6400 cuyd.
Provide clarifications regarding pile depth below ground levels vs pile lengths (feet and below pile cap bottom/floor.

ES-**19/1** Furthermore, the existing DSE service operates up to **8 buses per hour**, while the **TSM Alternative would require 77 buses per hour**.
Based on 5000-6000 passengers/hour, bus loads would be 65-80 passengers (sitting and standing). Provide a round trip flow chart and process flow (in seconds) including times for unloading/loading, start up and stopping times, and travel times (loaded and unloaded).

Provide comparative table for both cabin- and bus-based alternatives, especially for unloading/loading of single-door-cabins vs double-door-buses and for total cabin/bus seated/standing capacities.
Provide calculations and design requirements for bus-only lane access to Stadium Station site.
Provide a Project Alternative and comparisons for single- vs double door cabins/gondolas along with examples of existing operational double-door ART systems worldwide.

ES-19/4 Of the alternatives analyzed in this Draft EIR,…Although the No Project Alternative would not meet any of the Project Objectives, it would avoid all of the Project's significant impacts, including the Project's significant and unavoidable construction noise and vibration impacts. Conversely, the No Project Alternative would not result in ART **connections between the neighborhoods noted above**. Additionally, VMT and vehicle congestion would not be reduced, and the associated reduction in GHG emissions and air quality improvements would not take place.
Provide non-game days road transportation equivalent to that of the Project. Assume all electric buses with solar shade panels on buses and transit stops.

ES-19/5 Because the TSM Alternative would also avoid the Project's significant and unavoidable impact with respect to construction noise and vibration without the need for mitigation, and would reduce the range of impacts to the greatest extent listed in Table 4-3, it is deemed the Environmentally Superior Alternative. However, the TSM Alternative would not meet the **majority of the Project's Objectives in full or in part**. Conversely, the Spring Street Alignment Alterative would meet all of the Project Objectives.
Provide comparisons of TSM and proposed Project numerical rankings for each Project Objective. Provide required mitigations for full or equivalent compliance for each objective compared to the proposed Project alternative configuration.

ES-22 - ES-84/Table ES-2: Summary of Environmental Impacts
No references to sections/pages/paragraphs.
Project Design Feature(s) (PDF) and/or Mitigation Measure(s) (MM) without clear references within 62 pages of text tables and columns.
Table provisions are inadequate, incomplete, and unrelatable to the DEIR for public review and comments. Provide revised table including specific page/paragraph references to Project and alternatives descriptions.

ES-29/4 ES 13. SUMMARY OF ENVIRONMENTAL IMPACTS Table ES-2 provides a **summary of the environmental impacts** of the proposed Project evaluated in this Draft EIR. Based on the analysis in Chapter 3.0, Environmental Impact Analysis, **implementation of the proposed Project would result in significant and unavoidable impacts related to** Noise and Vibration.

The Table is not coordinated and referenced with the text to assure consistency and thereby renders the table irrelevant, inadequate, and incomplete for public review and comments.

As indicated elsewhere below, significant, unavoidable, and unmitigated impacts would arise in the Hydrology, Geology, Visual, Aesthetics, and Services/Infrastructure elements of DTLA.

Provide a fully cross-referenced table with text citations to each sector, and clearly identify significant impacts and required mitigation/compensation.

ES-29/5 Project Design Features (PDFs), while **not necessary** for the **impact significance determination**, are included in Table ES-2 because **they** are inherent in the design of the proposed Project. Best Management Practices, or other measures required by law and/or permit approvals, are also requirements of the proposed Project. Additionally, Mitigation Measures have been identified and are additional actions designed to avoid, minimize, or compensate for significant environmental impacts and are required where significant impacts have been identified based on the analyses in Chapter 3.0 of this document. Where applicable, Mitigation Measures are described on Table ES-2.

54 pages of Table ES-2, while not necessary, are confusing and distractive compared to Chapters 3 and 4 for public reviewing the EIR. Especially distractive when the DEIR repeatedly references preparation of future final design studies and documents and final design conditions based on further site conditions analyses, descriptions, and changes of Project design conditions.

Provide fully rectified/cross-referenced table or eliminate.

ES-30 – ES-84 – Table ES-2

No coordination of table summaries and texts (pages/paragraphs). Table is a morass of uncoordinated words in boxes and texts. Totally inadequate and incomplete for public review and comments and purposefully distractive and destructive of meaningful public review/comments.

ES-50 Table ES-2: Summary of Environmental Impacts Geology and Soils

MM-GEO-A: Prepare a **Site-Specific Final Geotechnical Report**. The Project Sponsor shall engage a California-registered geotechnical engineer to prepare and submit a **site-specific final geotechnical investigation and report to the City of Los Angeles for review, consistent with the requirements of the CBC, applicable Los Angeles amendments, and California Geological Survey Special Publication 117 (as amended)**. A **site-specific geotechnical exploration program**, along with associated laboratory testing, is necessary to complete a **design-level evaluation of the geologic hazards and conditions, seismic hazards, grading conditions, and foundation capacities**. The **site-specific final geotechnical report** shall provide

a description of the geological and geotechnical conditions at the site;

the findings, conclusions, and mitigation recommendations for potential geologic and seismic hazards; and

design-level geotechnical **<u>recommendations</u>** in support of grading and foundation design….

<u>recommended</u> measures to reduce potential impacts related to landslides, subsidence, liquefaction, differential settlement, expansive soils, soil corrosivity, or other potential ground failures induced by the proposed Project. …ES-51…**The submittal and approval** of the final geotechnical report **shall be a condition of the grading and construction permits issued by the City of Los Angeles Department of Building and Safety.** The Project Sponsor shall implement the **recommendations** contained in the **approved report during project design and <u>construction</u>**.

Geology and hazards/hazardous materials sections both reference the "Site Specific Final Geotechnical Report" which must be prepared and considered during final pre-construction stages and which will not be available for public review and comments.

This current discussion of impacts clearly is biased, vague, inadequate, and incomplete for descriptions and assessments and not provided by qualified specialists.

Provide a sites specific geotechnical report based on actual borehole and sediments/groundwater chemical analyses as part of a revised/subsequent Environmental Impact Report for the Project.

Current literature reviews and discussions do not include Metro's extensive experiences with soil and groundwater contamination experienced during construction of the Red Line Station at

Union Station which required millions of additional change-order costs, major groundwater collection and treatment of contaminated groundwater. Then experiences indicated that methane, numerous hydrocarbons, and creosote had sources between Chavez and Broadway from oil fields, oil processing facilities, railroad yards, and railroad ties/wood soaking pits.

Provide review of existing conditions and potential impacts from foundations/pile caps, pile drilling, and pile placement/formation at each tower and project support features. Provide geotechnical/chemical composition testing and drilling/sampling in at least four borings per tower and revise the Project area description and impact assessment accordingly.

ES-52 A PRMMP **shall** be developed by a qualified paleontologist meeting the criteria established by the Society for Vertebrate Paleontology. The plan **shall** apply to paleontologically sensitive deposits, including older Quaternary alluvium and Puente formation deposits, that may be impacted by the proposed Project, as determined by a qualified paleontologist in consultation with the construction team and guided by geotechnical coring. The qualified paleontologist **shall** supervise the paleontological monitor, who **shall** be present during construction excavations into older Quaternary alluvial deposits and Miocene Puente formation deposits. Monitoring **shall** consist of visually inspecting fresh exposures of rock for larger fossil remains, and where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring inspections **shall** be determined by the paleontologist, and **shall** be based on the rate of ground-disturbing activities, the material being excavated, and the depth of excavation; and if found, the abundance and type of paleontological materials. If any paleontological materials are found, the paleontological monitor **shall** temporarily divert or redirect ground-disturbing activities in the area of the exposed fossil to facilitate evaluation, and if necessary, salvage. The paleontologist **shall** assess the discovered material(s) and provide a recommendation(s), if necessary, for the preservation, conservation, or relocation of the resource, as appropriate. The Project Sponsor **shall** comply with the recommendations of the…53…evaluating paleontologist, and ground-disturbing activities may resume once the paleontologist's recommendations have been implemented to the paleontologist's satisfaction. If paleontological materials are found, the paleontologist **shall** prepare a report identifying the resource and the recommendations proposed and implemented, within 1 year of completion of the fieldwork. A copy of the report **shall** be submitted to the Los Angeles County Natural History Museum.

Compared to 6-37/1 "Mitigation Measures GEO-A (prepared a site-specific final geotechnical report) and GEO-B (prepare a paleontological resource monitoring and mitigation plan (PRMMP)) **would** also be implemented."

Unlike other future mitigation measures, the PRMMP is laced with "shall" rather than "would" although no such document is or would be available for public review and comments prior to approval of the Project by Metro Board. Provide all mitigation measures with "shall" and remove any conditional instructions as a required and dependent condition for all impact assessments. Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

ES-53 MM-HAZ-A: Prepare a Soil and Groundwater Management Plan. The Project Sponsor **shall** retain a qualified environmental consultant to **prepare a Soil and Groundwater Management Plan prior to** any re-grading, decommissioning, or construction activities. The Soil and Groundwater Management Plan **would be prepared** and implemented to specify methods for handling and disposal in the event contaminated groundwater, contaminated soil, or structures are encountered during Project construction. The Soil and Groundwater Management Plan **shall** provide a summary of…54…the environmental conditions at each Project component site, including stations and towers.

The Soil and Groundwater Management Plan **shall** include methods and procedures for sampling and analyzing soils and/or groundwater to classify them as either hazardous or non-hazardous; and if identified as hazardous, **shall** include additional methods and procedures for the proper handling and removal of impacted soils and/or groundwater for off-site disposal and/or recycle.

Methods and procedures in the Soil and Groundwater Management Plan **shall** be in accordance with current federal, state, and local regulations, and be protective of workers and the environment.

Unlike other future mitigation measures, the S&GWMP is laced with some "shall" and a "would", although no such document is or would be available for public review and comments prior to approval of the Project by Metro Board.

Provide a S&GWMP with all mitigation measures with "shall" and remove any conditional instructions as a required and dependent condition for all impact assessments.

1-1/4 The aerial gondola system would consist of cables, three passenger stations, a non-passenger junction, towers, and gondola cabins. When complete, the proposed Project would have a maximum capacity of approximately 5,000 people per hour per direction, and the travel time from LAUS to Dodger Stadium would be approximately **seven minutes**.

Attempts to confirm passenger transport requires more specific information than provided, the DEIR is inadequate to confirm Project capacities and therefore is incomplete and inadequate for public review and comments.

Provide full engineering drawings for any type of gondolas to be used for this Project and demonstrate typical event passenger positions and the total number of passengers to be safely transported.

Provide a numerical and timed flow chart for passenger conveyance from Alameda to Stadium stations using 420 seconds for total trips (including loading/unloading, seating/standing, Park Station stops/goes and other identifiable activities).

1-1/6 1.2 PURPOSE OF THIS DRAFT ENVIRONMENTAL IMPACT REPORT In accordance with Sections 15050 and 15367 of the CEQA Guidelines, Metro is the **Lead Agency for the proposed Project**, and has the principal responsibility for approving the proposed Project. This Draft EIR has been prepared for the following purposes:

Given the number of agencies involved in Project, absence of an Memorandum of Agreement/Understanding must be provided especially for the responsibilities and origins of design and engineering aspects, without such the DEIR is incomplete and inadequate for CEQA.

Provide MOA/MOU regarding Lead Agency agreement, parties, status, and responsibilities.

Provide MOA with LACity-DPW, DOT, DB&S.

Provide submission date for DEIR and NOA via SCH/OPR. NOP was issued to SCH but not so far for NOA/EIR.

Provide MOA of Metro and Calif. State Lands Commission.

1-2/2 • To inform public, agency decision makers and the public of the environmental effects of the proposed Project, including
any **significant** environmental effects, as well as
possible ways to minimize those significant effects, and
reasonable alternatives to the proposed Project.
• To enable Metro to consider environmental consequences when deciding whether to approve the proposed Project.
• To enable other **responsible public agencies** that must approve activities undertaken with respect to the proposed Project, including permits and other approvals,
to consider the environmental effects of the proposed Project.

Given the number of agencies involved in Project, absence of an Memorandum of Agreement/Understanding must be provided especially for the responsibilities and origins of design and engineering aspects, without such the DEIR is incomplete and inadequate for CEQA.

Provide definitions and requirements for use of Possible vs Feasible,

Provide draft MMRP for summary of mitigation and enforcement.

Provide contracts (drafts of issued) for inspection and construction operations.

Provide drafts of Preliminary/Final Design Documents and their use in construction contracts.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

1-2/3 As described in CEQA and the **CEQA Guidelines**, lead agencies are charged with the duty to avoid or substantially lessen significant environmental impacts of a project, **where feasible**. For some effects, significant environmental impacts cannot be mitigated to a level considered less than significant; in such cases, impacts are considered significant and unavoidable. In discharging this duty, a lead agency has an obligation to **balance the economic, social, technological, legal, and other benefits** of a project against its significant unavoidable impacts on the environment. This Draft EIR is an informational document, designed
to **identify the potentially significant impacts** of the proposed Project on the environment;
to indicate the manner in which those **significant impacts can be minimized**;

to identify **reasonable and potentially feasible alternatives** to the proposed Project that would avoid or reduce the significant impacts; and
to identify any significant unavoidable adverse **impacts that cannot be mitigated**.

Provide Citations/References list including specific page and paragraph for each document reference.

Provide clear definition of feasible and economic benefits, including costs/financials/fiscal aspect and apply same to all aspects of the Project.

Provide financial assessments of all construction and operations activities and public/private cost/economic sharing/distributions.

Provide financial and economic analyses for first five years of operations after stated targets of event ridership are attained.

Provide summary list of all significant impacts based on current level of design and those following detailed construction design documentation.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

1-2/4 1.3 CEQA RESPONSIBLE AND TRUSTEE AGENCIES

The information in this Draft EIR may also be used by other agencies involved with the Project that have a responsibility under CEQA, including but not limited to, the following:

• California Department of Parks and Recreation
• California Department of Transportation
• City of Los Angeles

Provide a list of all agency and the lead-agency agreements (MOA/MOU) and all assigned responsibilities for each and for Metro/MTA.

Provide all funding requirements and assignments for full implementation of construction and initial operations for each responsible agency.

Provide a list of organizations and assignees for LA City Boards/Commissions and Dept.s of Transportation, Building and Safety, and Public Works (City Engineer, Bureaus of Street Services and Engineering).

For CEQA OPR/SCH# SCH# 2020100007, Add County departments (DPW, DRP, LASD, etc).

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

2-42/2 During peak operations, the proposed Project would carry up to approximately 5,000 people per hour per direction, and the travel time from LAUS to Dodger Stadium would be approximately seven minutes. The cabins would move at a maximum speed of **13.4 miles per hour** with headways of **approximately 23 seconds**, which represents the time between cabins.

40 passengers/gondola loading in 19sec w/ 2sec / closing and opening doors = 4 pass/sec 40 out =10sec + 40 in = 9sec

Provide a quantified flowchart/model for a single RT Cabin travel with speeds and durations to confirm the stated speeds and headways, along with durations of travel, stopping/starting, loading/unloading, and total RT.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

2-9/5 2.3.6 Project **Purpose, Need**, and Objectives

Remove "Need" which is a federal NEPA replacement for Objective-CEQA, perhaps replace all "Purposes" with "Goals".

2-10/1 2.3.7 **Purpose and Need**

2-12/1 Within two hours prior to the start of and after a game or event at Dodger Stadium, more than 10,000 people could be transported to the stadium via the proposed Project. The average attendance at a Dodger game was approximately 49,000 for the 2019 season.\18 Given the capacity of this system, approximately 20 percent of the fans could take aerial transit connected to Metro's regional transit system. This would reduce vehicular congestion in and around Dodger Stadium, on neighborhood streets, arterial roadways, and freeways during game and special event days.

Remove "Need" which is a federal NEPA replacement for Objective-CEQA, perhaps replace all "Purposes" with "Goals".

2-12/4 2.3.8 Project Objectives

Provide clear and quantifiable definitions of Goals/Purposes, their directly related objectives, and the policies/programs related thereto for the specifics of this Project and its alternatives.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

3.5-1/1 3.5 CULTURAL RESOURCES This section evaluates the potential impacts of the proposed Project as it relates to cultural resources, including built resources and archaeological resources. The analysis in this section is **based in part** on information contained in the Archaeological and Paleontological Resources Assessment for the…Project and the Historical Resource Technical Report for the…Project prepared for the proposed Project (Appendices F and G of this Draft EIR, respectively).

Provide specific page/par citations for all base information for this description and assessment. Provide a mandatory Mitigation, Monitoring, and Report Plan, including recovery of significant remains for all foundation and piling construction activities.

3.5-24/1 Overall, the mitigation measures discussed above **would ensure** that the proposed Project, **when combined with other related projects**, would not result in significant impacts to historic resources. Therefore, cumulative impacts with respect to historic resources would be less than significant.

No identification of "other related projects" has been provided related to either historic, archaeologic, or paleontological resources.

Use of conditionals for assurances is vague and uncommittable for this and any other environmental sector. Provide replacements of "shall" for all "would's".

3.7-1/3 Before a project can be permitted, a geologic investigation is required to demonstrate that proposed buildings would not be constructed across active faults capable of surface fault rupture. An evaluation and written report of a specific site **must be prepared** by a licensed geologist. If an **active fault capable of surface fault rupture** is found, a structure for **human occupancy** cannot be placed over the trace of the fault, and must be **set back from the fault (generally 50 feet)**.\2 **Because no active faults capable of surface rupture cross the Project alignment, a fault investigation is not required**. The **fault closest** to the Project alignment is the Elysian Park fault. The Upper Elysian Park fault is a north-to-northeast–dipping fault that underlies the northern Los Angeles basin from Griffith Park to Garvey Reservoir. **However, the Elysian Park fault is a blind thrust fault, which means it is not capable of surface fault rupture, and therefore is not subject to the conditions of the Alquist-Priolo Act**.

The Project is planned for elements (Stadium and Park Stations, Broadway Junction, & SR-110 Tower) to be located "Within Fault Zone" (ZIMAS) on the surface of the Upper Elysian Park Fault.

As a signatory agency for this Project, such assignment of seismic hazards to the ground for this Project must be considered reliable and worthy of evaluation and assessment.

The Project must provide a thorough review of the ZIMAS backup/-ground for the Upper Elysian Park Fault. Such review must be available for public review and comments under CEQA and therefore must be included in the supplemental/subsequent DEIR.

3.7-11/1 Additionally, the Stadium Tower and Dodger Stadium Station sites are in a **City-designated hillside area**, which increases the sites' potential susceptibility to landslides.**\16** Because of the steep slopes and high seismicity in the vicinity of the proposed Stadium Tower and the…Stadium Station, the potential for earthquake-induced slope failure **could be considered moderate to high** in the landslide hazard zone. FN\16 City of Los Angeles. Zone Information and Map Access (ZIMAS). Interactive map available at: http://zimas.lacity.org/. Accessed August 2022.

Provide map of "City-Designated Hillside Area" including various failure considerations mentioned and pertinent references for such. Such review must be provided for public review and comments under CEQA and therefore must be included in the supplemental/subsequent DEIR.

3.7-11/2 3.7.2.6 Subsidence Subsidence is the loss of surface elevation due to the removal of subsurface support. Subsidence is caused by the reduction of pore space in the ground that was formerly

occupied by a fluid such as water or oil, caused by activities that contribute to the loss of support materials within the underlying soils, such as agricultural practices or the overdraft of an aquifer. The **existing alluvium of the Project area is susceptible to collapse or settlements**; therefore, there is a **moderate potential for subsidence** to occur.

No factual backup is provided for such statements, nor is any reference provided for both the alluvial and bedrock areas of the alignment.

Provide all LiDAR sources and topographic reference materials and conduct assessments of past and thereby potential future subsidence of ground surfaces along the alignment and at each ground facility to be constructed. Provide review of past and potentials for subsidences at all ground facilities sites, especially those within the Elysian Park Fault surface zones (ZIMAS).

Provide estimates of dewatering requirements for towers, junction, and stations.

Such assessments and reviews must be provided for public review and comments under CEQA and therefore must be included in the supplemental/subsequent DEIR.

3.7-8/1 The southern California area contains numerous active and potentially active earthquake faults….**The Project site is not in a State of California Earthquake Fault Zone for known Holocene active faults capable of fault surface rupture, or in an Alquist-Priolo Earthquake Fault Zone**.\13

The Project must provide a thorough review of the ZIMAS backup/-ground for the Upper Elysian Park Fault. Such review must be provided for public review and comments under CEQA and therefore must be included in the supplemental/subsequent DEIR.

3.7-8/2 The fault closest to the Project site is the Elysian Park fault. According to the **U.S. Geological Survey Quaternary fault and fold database**, the **location of the Upper Elysian Park fault is inferred to cross under the alignment**. The Upper Elysian Park fault is a north-to-northeast–dipping fault that **underlies the northern Los Angeles basin from Griffith Park to Garvey Reservoir [Monterey Park]**. However, the Elysian Park fault is a blind thrust fault, **which means it is not capable of surface fault rupture**,….The Elysian Park thrust fault is considered to be seismogenic (capable of generating earthquakes) from a depth of approximately 2 miles below ground surface in the south-southwest, to approximately 10 miles below ground surface in the north-northeast.

Provide reference to USGS Quaternary fault and fold database.

The Project is planned and located for Project elements (Stadium and Park Stations, Broadway Junction, & SR-110 Tower) to be located "Within Fault Zone" (ZIMAS) on the surface of the Upper Elysian Park Fault.

As a signatory agency for this Project, such assignment of seismic hazards to the ground for this Project must be considered reliable and worthy of evaluation and assessment.

The Project must provide a thorough review of the ZIMAS backup/-ground for the Upper Elysian Park Fault. Such review must be available for public review and comments under CEQA and therefore must be included in the supplemental/subsequent DEIR.

All areas south of Broadway are indicated by ZIMAS as being subject to liquefaction during an earthquake. Provide all engineering design consideration for liquefaction, subsidence, and shaking from a 6.4 magnitude earthquake in the Upper Elysian Park Fault.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

3.7-11/2 3.7.2.6 Subsidence Subsidence is the loss of surface elevation due to the removal of subsurface support. Subsidence is caused by the reduction of pore space in the ground that was formerly occupied by a fluid such as water or oil, caused by activities that contribute to the loss of support materials within the underlying soils…. The existing alluvium of the Project area is susceptible to collapse or settlements; therefore, there is a **moderate potential** for subsidence to occur.

EIR does not mention any subsidence experienced over the Union Station and Los Angeles Oil Fields and their production.

As these fields and their underlying reservoirs were not subject to injection and other returns of fluids/pressures, subsidence would be assumed to be dominant, and the DEIR would be considered incomplete and inadequate.

Provide a review and engineering considerations for an earthquake on the Upper Elysian Park Fault and associated impacts from liquefaction and subsidence associated for the Project.

3.7-11/4 The majority of the Project area is on the floodplain of the Los Angeles River and its tributaries: Cemetery Ravine, and Chavez Ravine. As shown in Figure 3.7-1, the geologic unit for the Project area is mapped as **younger Quaternary alluvium**, and consists of unconsolidated deposits of silt, sand, and gravel deposited relatively **recently** by the meandering Los Angeles River and its tributaries. The sediments were deposited during the **Holocene**, within the **last approximately 11,700 years**, and are therefore **too young to typically contain significant fossil deposits**. Along the Los Angeles River, the younger Quaternary deposits **can be** tens of feet thick.

DEIR requires facts rather than conjecture and possibilities; DEIR requires borings and samplings at each tower/station/junction sites, and assessment of ages and potential scientific importance of fossil contained within each site.

Provide 1-4 borings for each construction site and assess for pollen, wood, micro-fossils, and bone fragments

Provide usage of consistent terms, younger Quaternary or Holocene or <11,700 years old, throughout the document. Encountering of any remains would be significant as Paleoindian deposits are known from more than 10,000 years old and associated with mammoth elephants.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

Mitigation Measures GEO-A (prepared a site-specific final geotechnical report) and GEO-B (prepare a paleontological resource monitoring and mitigation plan (PRMMP)) **would also be implemented**.

Use of conditionals for mitigation renders the document inadequate. Provide an adequate and well-established MMP for paleontological and archaeological remains and include as required plans before certification of the CEQA documents and processes..

3.7-12/4 / 71/2 There are also significant fossil deposits in the Miocene Puente Formation near the Area of Direct Impacts. Northeast of the Area of Direct Impacts, near the intersection of North San Fernando Road and Humboldt Street, a fossil snake mackerel….At locality LACM 4967, just outside the Project area in Elysian Park, an extinct fossil herring (Clupea tiejei) was recovered. Fossil fish and marine mammals are commonly found at localities in the Puente Formation, which is considered to have a **high sensitivity for significant fossil remains**.

Identify potential significant impacts for paleontological remains for the Broadway Junction, Tower, and Stadium Station construction and mitigation provided by an adequate MMP for paleontological resources and specifically for excavations and pile borings for these sites.

Provide for thorough investigation of boring samples for ostracodes, diatoms, and foraminifera within Project sites.

Provide results for potential and mitigation from Buena Vista Project investigations.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

3.7-14/1 As discussed above, the Elysian Park fault traverses the Project area; however, it is a blind thrust fault, which means it is **not capable of surface fault rupture**. Accordingly, the risk of surface rupture due to faulting is **considered low**. Construction of the proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. **Impacts related to rupture of a known earthquake fault would be less than significant.**

The EIR is totally inadequate and incomplete, as the City of Los Angeles ZIMAS (DCP) Database clearly designates northern half (north of College St. to Casanova St.) of the Project route within the "Fault Zone" of the Upper Elysian Park North Fault in surface parcels.

As a signatory agency for this Project, such LA City assignment of seismic hazards to the ground for this Project must be considered reliable and worthy of evaluation and assessment.

The Project must provide a thorough review of the ZIMAS backup/-ground for the Upper Elysian Park Fault. Such review must be available for public review and comments under CEQA and therefore must be included in the supplemental/subsequent DEIR.

All areas south of Broadway are indicated by ZIMAS as being subject to liquefaction during an earthquake. Provide all engineering design consideration for liquefaction, subsidence, and shaking from a 6.4 magnitude earthquake in the Upper Elysian Park Fault.

3.7-14/2 The Alameda Station,…are in an area mapped as potentially subject to liquefaction, as shown on Figure 3.7-2. The **Stadium Tower and Dodger Stadium Station are approximately 20 feet and 60 feet from a mapped liquefaction zone, respectively**.

The EIR is totally inadequate and incomplete, as the City of Los Angeles ZIMAS (DCP) Database clearly designates the parcel including the tower and station as being subject to landslides AND liquefaction and being within the "Fault Zone" for the Upper Elysian Park North Fault.

3.7-14/2 Liquefaction-induced settlement can occur during a seismic event, but can also be **exacerbated by increased loading during construction activities**. Because there is potential for liquefaction-induced settlement and collapse during a strong to severe ground-shaking event, damage to on-site structures and infrastructure could occur during construction of the proposed Project. Therefore, **impacts related to strong seismic ground shaking, seismic-related ground failure, and/or liquefaction during construction of the proposed Project would be potentially significant**.

Seismic impacts on the Project facilities would be significant if occurring during construction but would even be more significant if occurring during operations and especially during a game day operations. Provide revised DEIR and add "operations" of at least 50 years. Provide Project safety and operations response plans to the DEIR and Mitigation, Monitoring and Report Plan.

Although stated as "potentially significant", the DEIR does not clearly identify such as significant, only noise and vibration. Revise throughout the DEIR to include seismic impacts as significant and provide for suitable mitigation measures in the subsequent/supplement DEIR when recirculated.

3.7-14/3 The proposed Project…**would** ensure structural integrity and safe construction. Additionally, Mitigation Measure GEO-A, **development of a site-specific geotechnical investigation and report to be approved by the City of Los Angeles, would be required**. The geotechnical investigation and report **would include geotechnical recommendations** for project design and construction. **With compliance to existing standards and codes and implementation of Mitigation Measure GEO-A, impacts related to the strong seismic ground shaking, seismic-related ground failure, and/or liquefaction during construction of the proposed Project would be reduced to less than significant.**

Conditional references and allusions to future studies and assessment cannot be considered as Project commitments especially as no design nor construction contract designs and specifications have been provided. Provide contract specifications and drawings to confirm "recommendations" will be incorporated into the Design and into the construction contract documents.

As the investigation, report, and recommendations are not part of the current DEIR, they cannot be considered in the review for completeness and adequacy and the potential for seismic related impacts must be considered significant and the DEIR must be considered as incomplete and inadequate.

Once provided, the DEIR must be recirculated as a supplement, subsequent DEIR for public review and comments.

3.7-15/1 Therefore, impacts related to earthquake-induced slope failure **could be considered moderately significant to significant**. However, **compliance with existing laws and regulations**, and implementation of **Mitigation Measure GEO-A**, requiring the development and implementation of **geotechnical recommendations** to be incorporated into the **design plans and specifications**, including applicable site stabilization based on grading conditions and foundation capacities, would prevent instability of the slope during construction, and **reduce impacts to less than significant** under the proposed Project.

Based on ZIMAS assignments of the Elysian Fault Zone. Provide description and assessment for facilities located in the LA City-documented fault zone and liquefaction/landslide risks.

Provide technical evaluation of current designs for a proposed 6.4 magnitude earthquake at >10,000 depth, and specifically the effects on a gondola with 40 passengers between Park Station and Broadway Tower.

As the investigation, report, and recommendations are not part of the current DEIR, they cannot be considered in the review for completeness and adequacy and the potential for seismic related impacts must be considered significant and the DEIR must be considered as incomplete and inadequate. Once provided, the DEIR maybe recirculated as a supplement, subsequent DEIR for public review and comments.

3.7-15/3 In addition, the proposed Project **would adhere to its Emergency Operations Plan**, as described in Chapter 2, Project Description….**would** include **emergency response protocols**, and **would** state that in the event of a major earthquake, the system **would** be fully evacuated and shut down, and would not operate. The proposed Project **would be designed and constructed** in accordance with applicable building codes, and therefore **would not directly or indirectly cause potential substantial adverse effects**, including the risk of loss, injury, or death involving rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides, and the impact **would be less than significant**.

No draft EOP has been provided and references to it are incomplete, inadequate, and conditional without any public review or comments. Provide a draft Emergency Operations/Response Plan within the EIR and recirculate EIR.

Provide definition of "potential", "substantial", and adverse effects.

As mentioned, once the system is shutdown, provide detailed response plan to remove 30-40 passengers from a gondola above the Park.

As the Plan, protocols, report, plans, designs, and recommendations are not part of the current DEIR, they cannot be considered in the review for completeness and adequacy and the potential for seismic related impacts must be considered significant and the DEIR must be considered as incomplete and inadequate. Once provided, the DEIR maybe recirculated as a supplement, subsequent DEIR for public review and comments.

3.7-19/5 Construction Impacts Less Than Significant Impact with Mitigation. Surface deposits in the majority of the proposed Project alignment and surrounding area consist of **younger Quaternary alluvium** deposited by the Los Angeles River. These deposits are younger than 10,000 years, and have a **low probability of yielding scientifically significant fossils**….deposits are underlain with older Quaternary Alluvium and Miocene Monterey or Puente Formation, where fossils have been encountered at depths ranging from 35 feet to 100 feet at locations southeast and northeast of the Project site. An **assessment of paleontological resources** in the Project vicinity indicated that older Quaternary alluvium is expected to be present at **differential** depths in the Project area. **Construction work is anticipated to reach up to 125 feet in depth for installation of the piles and an excavation depth of up to 10 feet,** except for at the proposed Dodger Stadium Station, which has an excavation depth of 42 feet, **and therefore may encounter paleontological deposits.**

Differential/different spelling error for depths of pile cap block and tops of piles beneath the capping block.

Revise as pile-caps are estimated to be based at about 10ft below ground surface and piles extend from the base of the pile-cap to 125 ft below the base, = 135ft below ground surface.

Younger Quaternary (Holocene) deposits, south of Broadway, are known to contain "paleo-indian" remains and artifacts elsewhere in the US and California. Paleo-indian remains and artifacts could be encountered during pile borings. Similarly at depths of 5-feet and deeper American Indian remains and artifacts could be expected.

Provide for archaeological monitoring and protection programs for all foundation excavations and representative sampling of produced debris for all pile boring at all Project sites, and a special paleontologic and archaeologic monitoring program be required for the Stadium Station and SR-110 Tower.

3.7-20/1 To avoid potentially high sensitivity areas for paleontological resources, or in the event paleontological resources are encountered, implementation of **Mitigation Measure GEO-B** would minimize impacts that would directly or indirectly destroy a **unique paleontological resource or site**, or unique geologic feature. **Mitigation Measure GEO-B would require the development of a Paleontological Resources Monitoring and Mitigation Plan (PRMMP)** to provide direction on the identification of high-sensitivity areas and appropriate monitoring, excavation, and preservation processes during construction excavation activities. With the implementation of **Mitigation Measure GEO-B, impacts related to paleontological resources would be reduced to less than significant**.

The Mitigation Measure requires additional studies before construction and development of a specific PRMMP monitoring and reporting plan to mitigate potential significant impacts for fossils.

A tentative "mitigation measure" does not provide adequate nor complete mitigation or compensation for potential paleontological impacts from excavations for towers and stations

foundations and >100 borings for piles. Provide a draft PRMMP for all excavations deeper than 3ft and recirculate DEIR.

As no PRMMP is available for review, revision, and comments, the impacts on paleontological resources must be considered as greater than significant, or at least "significant". With the supplemental provision of the MMGeo-B and PRMMP, such impacts maybe mitigated but not without the full reports for public review and comments.

3.7-20/3 3.7.5 Mitigation Measures The following mitigation measures are **proposed to reduce** significant impacts related to geology and soils to a level that is **less than significant**.
MM-GEO-A: Prepare a Site-Specific Final Geotechnical Report: The Project Sponsor shall engage a California-registered geotechnical engineer to prepare and submit a site-specific final geotechnical **investigation and report** to the City of Los Angeles for review, consistent with the requirements of the CBC, applicable Los Angeles amendments, and California Geological Survey Special Publication 117 (as amended).

As proposed the provision of a future FINAL geotechnical investigation and report does not mitigate impacts and does not provide for public review and comments on the adequacy of the future document. Provide a site specific (for each excavation site) investigation and a Geotechnical Report based on at least four borings to the same or deeper depths than the proposed 100+foot soldier piles and recirculate the augmented DEIR for public review and comments.

Impacts on geological resources must be considered as greater than significant, or at least "significant" until such a report has been provided. With the supplemental provision of the MMGeo-B and PRMMP, such impacts maybe mitigated but not without the full reports for public review and comments. Geological impacts must be considered as significant until such a report is available.

3.7-21/2 Implementation of Mitigation Measure GEO-B **would include the preparation of a PRMMP** to provide direction on the identification of high sensitivity areas for paleontological resources and appropriate monitoring, excavation, and preservation processes during construction activities. **Upon implementation of Mitigation Measures GEO-A and GEO-B**, significant impacts related to geology and soils would be reduced to less than significant.

Therefore only after implementation of the MM-GEO-A/-B including their public presentation can impacts be considered "less than significant". Therefore the DEIR must be considered incomplete as the MM-GEO-A/-B have not been prepared, reviewed, nor implemented. Provide the mitigation monitoring and report plan for all geological, paleontological, and archeological resources sectors along with mandatory requirements for agencies and contractors.

Provide complete and adequate MM-GEO-A/-B as part of the FEIR or as part of a SEIR.

3.9-1/1 Hazards and Hazardous Materials This section evaluates the potential impacts related to hazards and hazardous materials from construction, operation, and maintenance of the proposed Project. This section is based in part on the Phase I Environmental Site Assessment (ESA) that was prepared for the proposed Project by AECOM in July 2022 (Appendix K of this Draft EIR). The environmental regulatory database report and records review prepared for the proposed Project in April 2022 is provided in Section 6 of Appendix K.

The "database report" is not based on specific borings at the Project's tower, junction, and station locations and in the vicinity of proposed foundation and piling sites for towers and stations. And thus the DEIR is inadequate and incomplete for the geotechnical setting of hazardous materials. The same situation occurred for the excavation of the Union Station and US-Yard tunnels which lead to major contaminations and massive change orders for mitigation of groundwater and soils contaminations. Provide specific citations (appendix, page, and paragraphs) when referencing other sources and add such information herein.

Provide four borings and appropriate gas, fluids, and soil monitoring and samples for analyses of hazardous materials and potential impacts from such during excavations and boring at each of the Project tower/station sites prior to certification of the FEIR.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

3.9-10/1 City of Los Angeles Municipal Code The Los Angeles Municipal Code, Chapter IX (Building Regulations), Article 1 (Buildings), Division 71 (Methane Seepage Regulations), commonly known as the City Methane Ordinance ***No references***, describes methane testing and control requirements based on building type, building use/occupation, and whether a structure is in a methane zone or buffer zone. Requirements for new construction in such zones include methane gas sampling; and depending on the detected concentrations of methane and gas pressure at the site, application of design remedies for reducing potential methane impacts ***No references***. The **City has prepared a map** of methane zones and methane buffer areas in the City ***No references***. The proposed Project alignment crosses a methane zone and buffer zone and **may require site-specific methane testing** for particular structures, depending on the final architectural design.

Entire paragraph is incomplete and inadequate for this DEIR. No references/mentions (report/pg/par) are to given to ZIMAS where parcel-parcel notations are given as to presence in methane or buffer zones.

As known and designated gas zones lie within the Project area and construction site, methane gas issues must be considered significant and require an appropriate mitigation program in a supplemental/subsequent DEIR.

Provide for a thorough review and provisions of all relevant references are provided. Provide a gas survey of each site with gas probes/boring and their analyses and assessments. Provide such along with pertinent mitigation measures for a supplemental/subsequent DEIR.

3.9-10 22/6 Division 71 (Methane Seepage Regulations) describes methane testing and mitigation requirements based on building type, building use/occupation, and whether a structure is located within a methane zone or buffer zone. The proposed Project alignment crosses a methane zone and buffer zone and **may require site-specific methane testing** for particular structures, depending on the **final <u>architectural</u> design**.

As known and LA City designated gas zones lie beneath the Project area and construction sites, methane gas issues must be considered significant and require an appropriate mitigation program in a supplemental/subsequent DEIR.

Provide final Project designs and documents, their description, and their bases for draft Mitigation, Monitoring, and Reporting Plans for public review and comments prior to preparation of the Project FEIR.

Provide for a thorough review and provisions of all relevant references are provided. Provide a gas survey of each site with gas probes/boring and their analyses and assessments. Provide such along with pertinent mitigation measures for a supplemental/subsequent DEIR.

3.9-18/2 3 Methane Zones Methane zones are usually a result of naturally occurring tar and crude oil, or shallow soil contamination by old oil drilling wells….Non-pressurized methane is not normally problematic **<u>if properly monitored and controlled per Cal/OSHA regulations</u>**….Methane ***and associated oil field gas*** exposure to workers during construction can be hazardous at higher levels, especially in confined spaces. In addition, methane seepage can result in an explosion if an adequate concentration of methane gas exists where combustion is possible.

During 1985 Ross Dress for Less Store Explosion, RTD/Construction Management staff for Phase 1 Red Line assisted LAFD in monitoring, control, and treatment of methane leakage and fire and such activities laid base for the Methane Gas ordinances and restrictions.

Methane and Methane-buffer zones are identified for all Project sites, except for Alameda Station. Revise/recirculate the DEIR based on significant impacts related to methane for the Project. Provide MMRP within the SDEIR for the Project sites in methane and methane-buffer zones based on gases found in soils/boring of each Project site for public review and comments of the recirculated DEIR.

3.9-18/3 Methane gas is known to be generated in the **area**. The City of Los Angeles Department of Building and Safety's Los Angeles Methane Zone Map categorizes two types of zones: Methane Zones and Methane Buffer Zones….based on the proximity to a methane gas source. According to the City of Los Angeles Department of Building and Safety maps, portions of the proposed Project alignment pass through identified Methane Zones and/or Methane Buffer Zones (Figure 3.9-1). The proposed Chinatown/State Park Station, Broadway Junction, Alpine Tower, and Stadium Tower are in a Methane Zone and/or Methane Buffer Zone.

RTD/MTA project experience of Red Line Phase 1 Union Station Tunnel/Station construction included major change orders for groundwater and methane, creosote, and hydrogen sulfide gases released from groundwater and dry soils.

Methane and Methane-buffer zones are identified for all Project sites, except for Alameda Station. Revise/recirculate the DEIR based on significant impacts related to methane for the Project. Provide MMRP within the SDEIR for the Project sites in methane and methane-buffer zones based on gases found in soils/boring of each Project site for public review and comments of the recirculated DEIR.

3.9-19/Fig.3.9-1: Methane Zones Within the Project Area

No source for figure is provided as reference and hazard zone seems different from CalGEM boundaries for the Los Angeles Oil Field, and map appears to also differ from parcel designations in ZIMAS. Provide references for all gas issues.

Provide sources and analyses for development of map. Provide comparison with ZIMAS and basis for comparisons and mitigative requirements for safe construction of the Project.

3.9-26/3 As shown in Figure 3.9-1,…portions of the proposed Project alignment pass through Methane Zones and/or Methane Buffer Zones….Chinatown/State Park Station, Broadway Junction, Alpine Tower, and Stadium Tower are in a Methane Zone and/or Methane Buffer Zone….usually a result of naturally occurring tar and crude oil, or shallow soil contamination by old oil-drilling wells. Non-pressurized methane is not normally problematic **if properly monitored and controlled….** If the gas accumulates to **high concentrations** and becomes pressurized, detectable levels may enter the interior of a structure through cracks or other penetrations present in floor slabs.

Given methane's buoyancy, the gas must be pressurized or contained or released in massive volumes in order to reach monitorable levels. Provide MTA/Metro action levels for construction sites and for publicly occupied/used areas, e.g., gas alarm levels for Red Line tunnel, Union Station-Civic Center.

Provide borehole monitoring for 24 hours and of at least borings within the excavation areas for stations, junction, and towers.

Revise/recirculate the DEIR based on significant impacts related to methane for the Project. Provide MMRP within the SDEIR for the Project sites in methane and methane-buffer zones based on gases found in soils/boring of each Project site for public review and comments of the recirculated DEIR.

3.9-26/4 Methane exposure to workers during construction **can be hazardous at higher levels**, especially in confined spaces. In addition, methane seepage can result in an explosion if an adequate concentration of methane gas exists where combustion is possible. The anticipated construction methods for the proposed Project involve relatively shallow and wide excavations and **would not be considered confined spaces**; therefore, this reduces the likelihood of construction workers being exposed to methane gas concentrations that **would be hazardous due to inhalation**. Further, construction activities and workers **would be required** to comply with OSHA and Cal/OSHA regulations, including but not limited to 29 CFR Section 1926.55 and 8 CCR Section 5416, **to develop and enforce workplace safety standards and ensure worker safety during construction**, and project **contractors would be required to comply with OSHA and Cal/OSHA regulations** regarding any potential construction activities that may cause methane release***.***

Provide approved MTA construction requirements for methane and exposure. Provide for mandatory requirements and enforceable statements of certainty rather than "would", "could", or "should".

Provide borehole monitoring for 24 hours and of at least borings within the excavation areas for stations, junction, and towers.

Revise/recirculate the DEIR based on significant impacts related to methane for the Project. Provide MMRP within the SDEIR for the Project sites in methane and methane-buffer zones based on gases found in soils/boring of each Project site for public review and comments of the recirculated DEIR.

3.9-27/1 The proposed Project **would also be required to be designed and constructed to comply** with the regulations…. **Compliance**…which includes appropriate methane exposure or release

identification **protocols based on a site-specific evaluation** of the risk during construction, would be required to ensure worker health and safe construction.

Recognition of a potential threat/risk has not led to provision of a Methane Plan/Protocol presented in the DEIR.

As the project has not been designed, provide a thorough investigation and appropriate gas control designs to avoid/treat methane and other heavier hydrocarbon gases (e.g., BTEX and PAHs) and perhaps contaminated soils before construction begin, during construction, and for operations.

Following review and assessment of methane monitoring, provide appropriate protocols for mitigation of methane exposures and appropriate assessment of hazards and impacts upon the Project and environment. Integrate findings, mitigations, and residual impacts for significance and in cooperate in a supplemental/subsequent DEIR and recirculate for public review and comments.

Revise/recirculate the DEIR based on significant impacts related to methane for the Project. Provide MMRP within the SDEIR for the Project sites in methane and methane-buffer zones based on gases found in soils/boring of each Project site for public review and comments of the recirculated DEIR.

3.9-27/2 With adherence to OSHA, Cal/OSHA, and Division 71 of the Los Angeles Municipal Code, impacts related to methane gas exposure or release during construction of the proposed Project would be less than significant.

As no methane plan/protocol is presented in the Project, no adherence can be reviewed or assumed. Provide mandatory measures for gas controls, releases, and safe exposures.

Provide gas-vapor monitoring results from any/all geotechnical borings conducted to date. If no monitoring, provide for gas monitoring of soil vapors from at least 5 borings of 20ft into the underlying soils/alluvium with specific mandatory mitigation for all impacts.

Revise/recirculate the DEIR based on significant impacts related to methane for the Project. Provide MMRP within the SDEIR for the Project sites in methane and methane-buffer zones based on gases found in soils/boring of each Project site for public review and comments of the recirculated DEIR.

3.10-21/1 Groundwater levels in the Project study area generally range from depths of approximately 20 to 60 feet below ground surface (bgs).\37 \38 Groundwater levels range from 20 to 25 feet bgs in the vicinity of LAUS, 25 feet bgs near the intersection of North Alameda Street and North Main Street, 27 to 35 feet bgs in the vicinity of the southern portion of the Los Angeles State Historic Park, more than 60 feet bgs in the vicinity of the intersection of North Broadway and Bishops Road, and estimated at 60 feet bgs below the proposed Dodger Stadium Station.\39

\37 LACDPW. 2022. Groundwater Wells Online Data. Available at:
https://dpw.lacounty.gov/general/wells/. Accessed May 2022.

\38 State Water Resources Control Board. 2022. GeoTracker. Available at:
https://geotracker.waterboards.ca.gov/map/, accessed May 2022.

\39 ENGEO Incorporated. September 2022. Los Angeles Aerial Rapid Transit Project Geotechnical Document in Support of the Environmental Impact Report.

No direct citations and cannot confirm/deny values given. Provide direct web address and process to locate values by page/paragraph/Figure No..

No map of groundwater level, sources of such information, nor the surface elevations. Provide map of elevations and depths to groundwater at 100ft intervals along proposed alignment.

Provide for and conduct preliminary groundwater characterization at each Project facility site based on at least four borings at each facility site with appropriate testing and monitoring for ground gases, contaminations, and water qualities for each site as part of supplemental review and assessment and then circulate a revised-subsequent/supplemental DEIR for public review and comments.

Revise/recirculate the DEIR based on significant impacts related to methane for the Project. Provide MMRP within the SDEIR for the Project sites in methane and methane-buffer zones based on gases found in soils/boring of each Project site for public review and comments of the recirculated DEIR.

3.10-21/2
Groundwater Quality Regional groundwater basin water quality is poor in some areas due to natural conditions resulting in high total dissolved solids (TDS) levels, while in other areas groundwater quality has been degraded due to infiltration from commercial and industrial discharges, agricultural chemical application, and contaminants from urban runoff.**\40** Deterioration of water quality in some areas has occurred due to inadequate storage, handling, and disposal of chemicals resulting in releases to groundwater. The groundwater in the portions of the Central Basin is known to contain elevated levels of TDS, volatile organic chemicals, perchlorate, nitrate, iron, manganese, and chromium.**\41**
\40 Greater Los Angeles County Integrated Regional Water Management Region. 2014. The Greater Los Angeles County Integrated Regional Water Management Plan, 2013 Update. Available at:
https://dpw.lacounty.gov/wmd/irwmp/FileList.aspx?path=docs\2014%20Public%20IRWMP%20Update, accessed May 2022.
\41 Ibid.
Citations are only to the general documents and do not lead to groundwater quality descriptions. Provide specific chapters, pages, and paragraphs to summary provided.
Provide Metro contracts and specific citations to Metro files for Red Line and Gold Line CEQA documents and construction files dealing with groundwater and water quality from Los Angeles Str. to Broadway.
Provide revised descriptions and assessments along with appropriate mitigation or compensation and then circulate a revised-subsequent/supplemental DEIR for public review and comments.
Revise/recirculate the DEIR based on significant impacts related to groundwater for the Project. Provide MMRP within the SDEIR for the Project sites in groundwater zones based on chemical and gas found in soils/boring of each Project site for public review and comments of the recirculated DEIR.

3.10-21/3 There are multiple records of sites in the Project study area at which commercial and industrial activities resulted in documented releases; these cases are generally overseen by the SWRCB, LARWQCB, and/or California Department of Toxic Substances Control (DTSC) cleanup programs.**\42,\43**
\42 State Water Resources Control Board. 2022. GeoTracker. Available at:
https://geotracker.waterboards.ca.gov/map/, accessed May 2022.
\43 California Department of Toxic Substances Control. 2022. EnviroStor.
https://www.envirostor.dtsc.ca.gov/public/.
Searches appear totally inadequate and incomplete with regard to Metro and City departments and relevant files related to Gold and Red Line construction along with the Park reviews.
Citations are only to the general document and do not lead to or support groundwater quality descriptions. Provide specific chapters, pages, and paragraphs to summary provided.
Provide Metro contracts and specific citations to Metro files for Red Line Station and US<>CC twin tunnels and Gold Line CEQA documents and construction files dealing with groundwater and water quality along the alignment from Los Angeles Str. to Broadway.
Provide revised descriptions and assessments along with appropriate mitigation or compensation and then circulate a revised-subsequent/supplemental DEIR for public review and comments.

3.10-24/3 3.10.2 Methodology To establish baseline conditions, a search of publicly accessible databases and information from various sources and agencies was conducted….include but are not limited to the SWRCB, California DWR, State of California Natural Resources Agency, FEMA, Los Angeles RWQCB, Los Angeles County Department of Public Works, Los Angeles County Flood Control, **City of Los Angeles** Department of City Planning, LADWP, and Metropolitan Water District of Southern California.
Search appears totally inadequate and incomplete with regard to Metro and City departments and relevant files related to Gold and Red Line construction along with the Park reviews.
Provide Metro contracts and specific citations to Metro files for Red Line Station and US<>CC twin tunnels and Gold Line CEQA documents and construction files dealing with groundwater and water quality along the alignment from Los Angeles Str. to Broadway.
Provide accessible databases for roads and construction information along the proposed alignment for Department of Public Works (Bureaus of Engineering, Streets LA, Sanitation/Environment, etc.) and for Metro construction and CEQA related departments.

Provide revised descriptions and assessments along with appropriate mitigation or compensation and then circulate a revised-subsequent/supplemental DEIR for public review and comments.

3.10-25/4 Construction Impacts Less Than Significant Impact. Construction of the proposed Project components would include site preparation and installation of foundations and columns; erection of stations, towers, and the junction; replacement or restoration of paving, sidewalk, and landscaping; and cable and cabin installation.

No design and related supportive studies/designs have been provided and references indicate none may exist and await final design. No foundation drawings are provided to establish how deep excavations and dewatering may be required. No specific locations and numbers of deep piles (mentioned to be >50ft depths) are located along with their capping foundations. Provide final design drawings and specifications for all towers and stations prior to approval and further considerations.

Current documentation is totally inadequate and incomplete for a pronouncement of "Less than Significant Impacts". Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

Provide contract drawings and description and revised Supplemental EIR for public review and comments.

3.10-25/5 Groundwater Construction activities associated with foundations would involve general earthwork and **concrete work to prepare the foundations, with excavations for foundations at depths ranging between seven feet and 42 feet, and piles to be installed between 55 feet and 125 feet below pile depth….**; therefore, the proposed Project may require the **removal of nuisance water** that **seeps** into boreholes during construction. Water removed from the boreholes would be containerized, and analyzed to determine the proper disposal method.

Provide pre-construction contract drawings of all foundations and pilings, especially for the Union Station facilities and their relation to the Un.Stn.<>Civic Center Tunnels and the groundwater levels (and copies of all boring records for the same).

Provide definition and differentiation between "nuisance" water and dewatered groundwater. Also provide definition of seeps, gal/min, and how big (provide dimensions) the "containers" would be.

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-25/6 Groundwater levels range from 20 to 25 feet bgs in the vicinity of LAUS. The foundations for the Alameda Station would be at a depth of 10 feet. Based on these anticipated depths to groundwater, it is considered unlikely groundwater would be encountered during construction of the foundations; however, **piles would be drilled to 125 feet below pile depth**, and may require removal of nuisance water that seeps into boreholes during installation of the piles of this station.

Provide pre-construction contract drawings of all foundations and pilings, especially for the Union Station facilities and their relation to the Un.Stn.<>Civic Center Tunnels and the groundwater levels (and copies of all boring records for the same).

Define: "drilled to 125 feet below pile depth" provide specific dimensions of below ground level or below foundation levels.

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-26/1 Groundwater occurs at a depth of approximately 25 feet bgs near the intersection of North Alameda Street and North Main Street. The foundations for the Alameda Tower and the Alpine Tower would be at a **depth of 10 feet**….; however, piles for the Alameda Tower and the Alpine Tower would be drilled to 120 feet below pile depth, and may require removal of nuisance water that seeps into boreholes during installation of the piles of these towers.

Provide engineering considerations loads and dimensions for the Alameda/US Station and the higher angled Alameda and Alpine towers foundations.

Provide geotechnical boring logs and reports for each of the aerial structures considered.

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-26/5 Based on groundwater depths, none of the proposed excavations for foundations are anticipated to encounter groundwater; however, removal of **nuisance water** that seeps into boreholes during construction may be required for the pile installations at each of the components.
Groundwater may be encountered during installation of piles, and any **nuisance water** removed **would need to be analyzed prior to disposal**.
Detections of total petroleum hydrocarbons ***TPH*** and volatile organic compounds ***VOCs*** including **BTEX** are known to be present in groundwater at the Los Angeles State Historic Park property, which is directly beneath the proposed Project alignment.\53 Although the groundwater quality in the remainder of the Project study area is **not specifically known**, it may contain elevated levels of constituents such as petroleum hydrocarbons and solvents resulting from commercial and industrial discharges, in addition to potentially elevated TDS and metals related to natural conditions. **Uncontrolled discharge of groundwater carrying these potential pollutants could result in degradation of groundwater and surface water if it is not properly.**

As pile boring will extend well below the top of groundwater, Provide two mitigations for hydrological impacts and potential water discharge violations for groundwater and nuisance waters removal, storage/monitoring for all VOCs, H2S, dioxin, creosote, and other chemicals encountered and treated for in construction for the Metro Union Station in 1980s.

RTD/MTA Red Line Union Station groundwater dewatering required aeration, activated carbon, and H2O2 treatments.

Provide all pile boring drilling systems with H2S and CH4 monitoring sensors and shutdown and require for monitoring, gas/liquids treatment and shutdown, if needed.

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-27/1 Additionally, as stated in Section 3.9, Hazards and Hazardous Materials, a S**oil and Groundwater Management Plan** **would be prepared** to **specify methods for handling and disposal** in the event **contaminated groundwater is encountered** during construction. Because…, there is the **potential that excavation in certain areas would encounter groundwater**, and therefore, **dewatering could be required**….Discharges from dewatering operations can contain high levels of fine sediments, which if not properly treated, could lead to exceedance of the NPDES requirements….The **temporary system would comply with all relevant NPDES requirements related to construction and discharges from dewatering operations**. If dewatering is required, the treatment and disposal of the removed water would occur in accordance with the requirements of **LARWQCB's WDRs** for Discharges of Groundwater….

As no specific plans have been prepared and presented in the DEIR, references to such is totally inadequate and incomplete and requires full presentation of such to establish adequacy and completeness of the assessment and mitigation. Provide a draft groundwater management plan for the Project and specific areas most probable to encounter groundwater in excavation and/or pile drilling for public review and comments.

None referenced/cited and no summary of conditions provided.

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-36/4 **Nuisance groundwater** may be encountered during installation of piles for each of the components, which **may result in degradation of groundwater quality if not addressed properly**….Refer to Section 3.9 (Hazards and Hazardous Materials) for additional details should contaminated groundwater and/or soil be encountered. However, construction activities are not anticipated to **interfere substantially with groundwater recharge**, **groundwater resource supplies, or groundwater quality**.

No definition nor reference is provided for "nuisance groundwater" and no relationships are provided regarding contamination of the groundwater, its recharge, supplies, and quality during Project construction. Provide definitions for "nuisance groundwater" and its expected characteristics and qualities. Provide a mitigation plan for its control and reduction of all impacts derived from its presence. Provide review and assess potential impacts of construction on the recharge, supplies, and quality of groundwater within and beneath the Project area.

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-36/6 With adherence to these laws and regulations, impacts related to implementation of a water quality control plan or sustainable groundwater management plan during construction **would be less than significant**.

Provide specific laws and regulations and the Project compliance measures with such and include in a specific plan with requirements for direct and continuing compliance with requirements on the part of the agencies and contractors. Provide such to be incorporated into all construction contracts along with specific documentation of measures and achievement of regulatory limits.

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-37/1 As discussed above, the Sponsor **would comply** with all applicable federal, State, regional, and local agency water quality protection laws and regulations, water quality control and/or sustainable **groundwater management plans**, including the Basin Plan and City of Los Angeles General Plan, as well as **commonly used industry standards**.

As indicated the Basin Plan and appropriate sections of the LA General Plan are referenced but without any specifics as to what would mitigate this specific Project.

As indicate the Project would comply at some time in the future, supposedly before construction contracts, would be approved for construction but without public review and comments before sponsor and relevant authorities would certify completion of the CEQA process. Provide a specific groundwater plan for the Project and all elements specifically venturing into the groundwater resources of the Project area.

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-37/4 **It would** also **comply** with all applicable federal, State, regional, and local agency water quality protection laws and regulations, **water quality control and/or sustainable groundwater management plans**, including the Basin Plan and City of Los Angeles General Plan, the **MS4 Permit**, as well as **commonly used industry standards**.

Provide references (doc and page/paragraphs) for mentioned laws, regulations, and requirements.

Provide commonly used industry standards references (docs, pages, and paragraphs) and compiled regulations, laws, and standards requirements as a mandatory compliance mitigation measure.

Provide revised supplemental/subsequent DEIR for public review and comments.

3.10-38/2 With **adherence** to these laws and regulations, and **groundwater management plans**, impacts related to implementation of a water quality **control plan** or sustainable groundwater **management plan** during operations **would be less than significant**.

As no specific plans have been prepared and presented in the DEIR, references to such is totally inadequate and incomplete and requires full presentation of such to establish adequacy and completeness of the assessment and mitigation.

Provide differentiation between compliance and adherence and provide draft construction contract sections for both and for mitigation measures.

Provide a draft groundwater management plan for the Project and specific areas most probable to encounter groundwater in excavation and/or pile drilling for public review and comments.

Provide above in a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.10-38/3 3.10.5 Mitigation Measures With **adherence** to applicable federal, State, regional, and local laws and regulations, including **compliance with applicable stormwater permits, wastewater permits, and other water quality regulations**, construction and operation of the proposed Project would result in **less than significant impacts to hydrology and water quality**. No mitigation measures are required for the proposed Project.

Provide references (doc and page/paragraphs) for mentioned laws, regulations, permits, and their requirements.

Provide commonly used industry standards references (docs, pages, and paragraphs) and compiled regulations, laws, and standards requirements as a mandatory compliance mitigation measure.
Provide contractual requirements for all construction contracts and differentiate between requirements and mitigations.
Provide revised supplemental/subsequent DEIR for public review and comments.

3.10-38/4 Mitigation Measures With **adherence** to **applicable** federal, State, regional, and local laws and regulations, including compliance with **applicable** stormwater permits, wastewater permits, and other water quality regulations, **construction and operation of the proposed Project would result in less than significant impacts to hydrology and water quality**. No mitigation measures are required for the proposed Project.
Provide references (doc and page/paragraphs) for mentioned laws, regulations, permits, and their requirements.
Provide commonly used industry standards references (docs, pages, and paragraphs) and compiled regulations, laws, and standards requirements as a mandatory compliance mitigation measure.
Provide contractual requirements for all construction contracts and differentiate between requirements and mitigations.
Provide revised supplemental/subsequent DEIR for public review and comments.
Repetitive comments as required by repetitive references and deficiencies.

Mineral Resources
3.12-2/2 The majority of wells in the Los Angeles City Oil Field, including the wells closest to the proposed Project alignment, are either **plugged or idle**. The nearest **active** well is approximately 1.5 miles west of the proposed Project alignment.\5
Provide a map of all known well sites within 1000ft of the Project excavations and provide and assess historic (1920-1950) aerial photos of the Project site for historic well sites and on-ground facilities which may have contaminated the Project sites. Assess potential impacts and provide specific mitigations for such, and recirculate the DEIR for further public review and comments.
Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.12-3/3 Additionally, although the proposed Project alignment is in the Los Angeles City Oil Field, the closest **active well is approximately 1.5 miles west** of the proposed Project alignment, and would not be affected by implementation of the proposed Project. Therefore, the proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region or State, and no impact would occur.
Plugged and idled wells lie within 500ft of the Project surface footprint and within 1000ft of the Park Station and Broadway Tower. Plugged and idled wells can be easily renovated for production of mineral resources (oil and gas) and can impact the Project construction excavations. More than 50 idled but not plugged wells lie within 1/2mile of the Park Station, and idled (and even plugged) wells can be returned to service cheaply and within a matter of months.
Revise and provide adequate review and assessment of the Project on return to service of more than 50 idled wells to the west of Park Station. Provide a revised review and assessment of mineral resources in a revised and recirculated DEIR.

3.15-20/6
The plan would also address the unlikely scenario where the system cannot be moved to unload passengers normally at stations. The **robust design, periodic and preventative maintenance, and equipment redundancies** are intended to minimize these potential impacts. However, the plan would include procedures to evacuate passengers directly from cabins, if needed. An **Evacuation Plan would be developed** as part of the **Project-specific Emergency Operations Plan**, as required by **industry standards and State regulations**….**would describe** the **preferred methods**….**would also include** the required equipment and procedures for evacuation, site control, and passenger communications….**would**

be performed in advance of opening the system….**would document** the procedures, equipment, and personnel necessary to evacuate the system,….. **Such analysis, practice, and documentation is required by OSHA.**

Provide a draft Project description demonstrating a robust design vs typical design for the Project. Provide a draft maintenance manual for the Project, along with a clear assessment of equipment redundancy and service cycling of such.

Provide a draft evacuation plan for in-station and on-line gondolas and related equipment for such operations.

Provide draft comparisons of industry standards and preferred measures for this Project and relate such to potential impacts or mitigations.

Provide a listing and citations for related references of industry standards and regulations related to the above.

Provide a draft for all OSHA related analysis, practices, and documentation for such a Project, and provide references for such for at least three similar elevated projects in the US.

Provide a completely revised Supplemental DEIR with the above requests along with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

3.16-31/3 3.17.1 Regulatory Setting Federal Americans with Disabilities (ADA) Act of 1990 Titles I, II, III, and V of the ADA have been codified in Title 42 of the United States Code, beginning at Section 12101….establishing minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility. **The Project <u>will be designed</u> to meet all ADA design requirements**.

Provide a thorough and complete review and draft illustrations/drawings for all ADA design sites within Project and related equipment, especially for wheelchair and walker/stroller devices.

Provide

Provide a completely revised Supplemental DEIR with adequate descriptions, assessments, and mitigation for ADA compliance along with alternative projects and their numerical/quantitative comparisons and selection.

4-1/1 4.0 ALTERNATIVES 4.1 INTRODUCTION Alternatives have been considered in this Draft EIR to explore potential means to mitigate or avoid the significant environmental impacts associated with implementation of the proposed Project, while still achieving the **primary objectives** of the proposed Project….an EIR shall describe the range of **reasonable** alternatives, which may include alternatives to the location of the project, which would **feasibly** attain most of the basic objectives of the project….EIR… does not need to consider every conceivable alternative or consider alternatives that are **infeasible**, but rather only alternatives necessary to permit a **reasoned choice**….No Project Alternative…to determine the consequences of not implementing the project…., and **comparison of alternatives, the relative advantages and disadvantages of each alternative can be determined**.

Provide goals/purposes of the Project and their related dependent objectives and policies/program.

Provide definitions of reasonable, feasibly, infeasible, and reasoned-choice and provide examples of such within the Project description and alternatives.

As required by CEQA, provide a numerical/quantified comparison of all environmental sectors and for all alternatives.

Provide a completely revised Supplemental DEIR in accordance with above deficiencies with adequate descriptions, assessments, and mitigation for alternative projects along with numerical/quantitative comparisons and selection.

Apdx K 1979/ & 1980/ During the late nineteenth and early twentieth centuries, crude oil was extracted from multiple small oilfields nearby and processed at the former **Southern Refining Company** located **immediately northwest** of the Site. **Historical aerial photos and Sanborn maps** indicate that the refinery contained four aboveground storage tanks (ASTs) for storing crude oil. The refinery was apparently dismantled by 1921 and the ASTs were removed sometime between 1921 and 1928. The Site

has been used as a railroad junction for over 100 years and is currently maintained as such for use by three major passenger and freight lines.

Revise mis-directions of historic uses (SE rather than NW) and provide historic aerial photos of such site.

Provide address of site: e.g., 1300 CARDINAL STREET 1700 ft SE-E of Alameda for Southern Refining Company and Amalgamated Oil Company, now Williams Mead Housing Project.

Provide historic aerial photos and maps and revised Apdx K.

The entire DEIR and appendices do not consider or provide information provided in ZIMAS, LA City Dept. City Planning online database Very limited references in DEIR with singular mentions in the DEIR and geotechnical report, only. Withdraw current DEIR, revise, and update and recirculate as supplemental/subsequent DEIR with incorporated ZIMAS information for all pertinent descriptions.

Sept. 2022 Los Angeles Aerial Rapid Transit 16037.000.000 Geotechnical Document in Support of the Environmental Impact Report

APPENDIX I

Apdx. I-1 GeoTechnical Report ENGEO Project No. 16037.000.000

We are pleased to submit this document characterizing the **general geologic/geotechnical conditions** of the Los Angeles Aerial Rapid Transit (LA ART) project in Los Angeles, California. This report is a **compilation of adjacent publicly available previous geotechnical assessments and explorations** to assist in preparation of the Draft Environmental Impact Report (EIR).

Provide references (doc and page/paragraphs) for mentioned assessments and explorations. Provide geotechnical documentation for RTD/MTA Red Line Union Station and US-Civic Center rail Tunnels beneath this Project and adjacent to the Project's Alameda Station.

Provide review and pertinent information from geotechnical documents related to the Buena Vista Project along south side of Broadway and under and adjacent to the Broadway/Bishop Tower.

Provide commonly used industry standards references (docs, pages, and paragraphs) and compiled regulations, laws, and standards requirements for geotechnical settings and impacts as a mandatory compliance mitigation measure.

Provide contractual requirements for all construction contracts and differentiate between geotechnical requirements and mitigations.

Provide revised supplemental/subsequent DEIR for public review and comments.

Apdx. I - 2/1 This document was prepared based on a **desktop study** of **readily available publicly accessible geotechnical reports and data**. Geotechnical explorations and laboratory testing were not a part of this **initial preliminary** study scope.

No project borings, No records of vicinity geotechnical borings, Including Red Line Phase 1, Alameda – Tunnel and UStn, Buena Vista, Cornfields/Historic park, and William Mead Project.

The DEIR is totally deficient and inadequate regarding to geotechnical (and other EIR elements') settings, impacts assessments, and mitigations. Provide at least 4 borings per Project element to establish geological conditions and potential impacts of the Project on the area resources, and their hazards upon the Project.

Provide review of all recorded seismic events within 5000ft of the Project area limits and potential sources (including SCEC, Pasadena).

Apdx. I-13/1 approximately 10 miles within the earth (Wallace, 1990). The predominant fault system affecting the Project area is the Transverse Ranges **fault system**, which **trends east-west** and relieves strain primarily through reverse-slip, and left-lateral, strike-slip displacement.

Provide review of all recorded seismic events within 5000ft of the Project area limits, potential sources (including SCEC, Pasadena).

Provide review of the Elysian Park North Fault (see ZIMAS and others) underlying the Project sites and others north of Broadway.

Apdx. I-13/2 4.1.2 Site Topography The **majority (3/4)** of the proposed Project alignment occupies a gentle, south-sloping alluvial plain located **approximately ½ mile** west of the Los Angeles River (Figures 1 and 2).

Provide measurements in feet: 4057/6260 ft (65%) of length and 2880-3500ft west of LA River low flow channel rather than two different units (% and miles)in same sentence.

Apdx. I -13/5 [**Qyf 1 Holocene-Pleistocene**] This geologic unit was deposited primarily from flood deposits and debris flows.

As used, Qyf includes the entire Quaternary (Holocene and Pleistocene). Provide specific technical term usage, Holocene is an interval of the Quaternary, not Pleistocene.

Apdx. I-13/6 4.1.3.3 Flood and Stream Channel Deposits According to geologic **mapping by Campbell (2014)**, the alignment from the southern end to where it crosses North Broadway is underlain by **late Pleistocene** alluvium (Figure 3 - Qya2).

Provide accessible, specific sources (page/paragraph) for reference or provide copy of map in Appendix.

Provide differentiation between Late Pleistocene (Qo) and Holocene (Qy), as this designation would indicate all surface deposits would have potential for important fossils.

Apdx. I -14/2 The geologic structure in the area of the site is characterized by the **northeast-southwest**-trending Elysian Park Anticline and the underlying **Elysian Park Blind Thrust fault**. The Project site is located over the **southwest limb of the anticline**. Bedding in the **Puente Formation** in the area generally dips from 25 to 50 degrees towards the **southwest**.

Other geotechnical sources (ZIMAS, et al) indicate that the EPBT Fault is aligned NW-SE rather than NE-SW beneath the Project.

Similarly general anticline axis orientation of NE-SW would require the flanks to dip from the axis to the NW and SE, rather than the SW; anticline axis (top of fold) maybe to SW.

Provide review and revisions by qualified geologist for review of relevant appendices and DEIR text for a Supplement DEIR.

Apdx. I -16/ TABLE 4.2.1.1-1: Nearby Active Faults (USGS 2008) Lat.=34.065019; Long.=-118.235495
FAULT NAME **Elysian Park (Upper)***

Provide a single consistent name/term for the fault.

Apdx. I -17/2 **Elysian Park Fault** (Blind Thrust Fault) The fault closest to the Project site is the **Elysian Park fault**. According to the USGS Quaternary fault and fold database, the location of the **Upper Elysian Park fault** is inferred to cross under the alignment.

The **Upper Elysian Park fault** is a north-to-northeast-dipping fault that underlies the northern Los Angeles basin from Griffith Park to Garvey Reservoir. ***ZIMAS***

However, the **Upper Elysian Park fault** is a blind thrust fault, which means **it is not capable of surface fault rupture** and; therefore, is not subject to the conditions of the Alquist-Priolo Act. ***ZIMAS***

It is thought to be seismogenic (capable of generating earthquakes) from a depth….

Because **there is no surface expression of the Elysian Park fault**, constraints on the long-term slip rates on the fault…, rather than from paleoseismic data.

Although these constraints are limiting, the **most current models (UCERF3)** indicate… it has approximately 1.2% probability of participating in an earthquake of magnitude greater than 6.7 before 2038….The likelihood of experiencing an event of Magnitude > 7.0 is 0.8%, and the likelihood of experiencing an event of Magnitude > 7.5 is less than 0.1% in that time period.

Provide references for all such statements along with page/paragraph so that discussion of faults can be verified as accurate.

As ZIMAS shows the Project to cross and extend through the fault zone, this discussion needs to be thoroughly and adequately displayed and rectified as it is wrong, based on LACity ZIMAS.

Provide specifics assessments/mitigation regarding fault/design inclusions for Park Station, Broadway and Elysian towers, and Stadium Station and supports within the ZIMAS designated surface fault zone.

Provide accessible reference for UCERF3 as applied to this fault and location.

Provide seismic assessment of structural responses for towers, stations, cables, and gondolas during a 6.4-6.7 magnitude on the Elysian Park Fault.

Provide description and assessments reflecting the LACity-DCP ZIMAS info-base.

Apdx. I -17/4 These portions of the Project alignment are located in an area mapped as potentially subject to liquefaction on the Safety Element Exhibit B of **City of Los Angeles General Plan** and the State of California Seismic Hazards Zones map as shown on Figure 5. The Alameda Station, Alameda Tower, Alpine Tower, Chinatown/State Park Station, and Broadway Junction are located in an area mapped as potentially subject to liquefaction.
Provide appropriate ZIMAS references. No specific references to ZIMAS.

Apdx. I -18/4 The proposed Project alignment is located in an area classified as MRZ-3 as shown on Figure 6. MRZ-3….” The proposed Project alignment is also located just beyond the eastern end of, but not within, what is designated as the Los Angeles City Oil Field.
Although not within the surface delineation of the LA Oil Field, close enough that may reflect the underlying oil/gas occurrences and production zones.
CalGEM Wellfinder shows the route alignment within the mapped oil field. North of Bruno/Alameda intersection, the Project Park Station lies within the well field along with 1200+ft of the cableway, and the Broadway Junction lies 550 ft east of the mapped field.
As many parcels through which the Project alignment passes are designated as “Methane Zones” they would be within the land above the designated Los Angeles Oil Field.
No references given. Provide appropriate ZIMAS references and DOC CalGEM WellFinder site.

Apdx. I -19/1 …located in a **City-designated hillside area, indicating the sites may have an increased susceptibility to landslides.\3 \3 City of Los Angeles. Zone Information and Map Access (ZIMAS). Available at: http://zimas.lacity.org/.** Accessed May 2022
Only reference to ZIMAS in the entire DEIR although landslides are indicated by ZIMAS for parcels NW of SR-110 and for the Alpine Tower and Stadium Station areas.
Provide review of all Project element locations with regard to ZIMAS database information, e.g., faults, landslide, and liquefactions.
Provide review of liquefaction potential as indicated by ZIMAS for Project area and facilities south of Broadway. Provide appropriate mitigation for liquefaction and for landslides especially when seismically induced.

Apdx. I -20/1 …which require monitoring **before and during construction**. Although **long-term methane controls are not required**, **preliminary construction planning** should adhere to Section 91.7101 of the Los Angeles Municipal Code, which controls for methane intrusion emanating from geologic formations. The need for methane controls **may be reduced or eliminated by conducting site-specific methane testing** for elements constructed within the methane zones and buffer zones to evaluate the potential hazard, pursuant to Section 91.7104.1.
ZIMAS clearly indicates parcels which are designated as being in a Methane Zone or Methane Buffer Zone, is not so designated in the DEIR setting and no mitigation measures are proposed.
As no methane surveys, testing, and monitoring has been conducted within the Project sites, the needs for methane monitoring and controls must be implemented before and throughout construction, especially for towers, the junction, and Park Station.
The appendix does not clearly describe the Project sites but states that monitoring will be conducted before construction and hopefully would be assessed before construction contracts are offered. Without any direct information or assessment, the DEIR assesses that construction and longer term methane controls will not be needed, even though the Park Station and Broadway Tower lie within designated Methane Zones.
Provide a thorough description of methane gas conditions of surface and subsurface based on >10ft borings for each Project site and as required by Metro for construction of major surface and subsurface facilities. Provide suitable mitigation and safety plans for those sites with methane gases in soils and groundwater.
Provide specific contractor programs to monitor, to control, and to assess measures required for continuing safe operations at all Project facilities located in ZIMAS recognized Methane Zones.

Apdx. I -21/1 5.2.2 Seismic Hazards Mapping Act of 1990…addresses earthquake hazards other than surface fault rupture, including liquefaction and seismically induced landslides.…identifying and mapping seismic hazard zones and mitigating seismic hazards to protect public health and safety.

Provide specific page/paragraph citations and include specific parcel references for ZIMAS assignments to surface zones, liquefaction, and landslides.

Provide a thoroughly revised and supplemented Subsequent Draft Environmental Report (S-DEIR) for public review and comments.

Apdx. I -21/1 It requires the California Department of Conservation, Division of Mines and Geology, to map **seismic hazards** and establishes specific criteria for project approval that apply within **seismic hazard zones**, including the requirement for a geological technical report. The California Department of Conservation has mapped seismic hazards or established specific criteria for the area that includes the Project site **(CGS, 1998)**.

Provide specific page/paragraph citations and include specific parcel references for ZIMAS assignments to surface zones, liquefaction, and landslides.

Provide parcel specific seismic hazard zones for all Project construction sites.

Apdx. I -21/2 The geological reports prepared for the Project satisfy the requirements of the Seismic Hazards Mapping Act at the **preliminary project level**. Additional **site-specific studies designed to explore the subsurface conditions in areas of planned development will be completed prior to submittal of final plans**.

Define "preliminary project level" and provide schedule/contents for final plans (and designs) and current/2023 industry standards for designs and project description used for basis of CEQA/EIR compliance and agency certification of this Project.

Provide list, outlines, and completion schedules for all site specific studies. Provide requirements for all such future studies to be incorporated into a subsequent DEIR.

Provide above and a total revision of DEIR, and especially geotechnical considerations, and resubmit as a supplemental/subsequent DEIR for public review and comments.

Apdx. I -22/5 5.2.2 Seismic Hazards Mapping Act of 1990 The California State Seismic Hazards Mapping Act of 1990 addresses earthquake hazards other than surface fault rupture, including liquefaction and seismically induced landslides….The **geological reports prepared for the Project satisfy the requirements of the Seismic Hazards Mapping Act at the preliminary project level**. **Additional site-specific studies designed to explore the subsurface conditions in areas of planned development will be completed prior to submittal of final plans.**

Define "preliminary project level" and provide schedule/contents for final plans (and designs) along with citations + page/paragraph of any references and provide current/2023 industry standards for designs and project description used for basis of CEQA/EIR compliance and agency certification of this Project.

Provide list, outlines, and completion schedules for all site specific studies.

Provide the above and total revision of DEIR, and especially geotechnical considerations, and resubmit as a supplemental/subsequent DEIR for public review and comments.

Apdx. I -22/6 Division 71 (Methane Seepage Regulations) describes methane testing and mitigation requirements based on building type, building use/occupation, and whether a structure is located within a methane zone or buffer zone. The proposed Project alignment crosses a methane zone and buffer zone and **may require site-specific methane testing for particular structures, depending on the final architectural design**.

Provide and implement a methane monitoring and assessment program for all construction sites prior to preparation of a supplemental/subsequent DEIR for public review and comments.

Provide all of the above and total revision of DEIR, and especially geotechnical considerations, and resubmit as a supplemental/subsequent DEIR for public review and comments.

Apdx. I -24/1 Impact: There is potential for the proposed Project to expose people or structures to seismic hazards listed above. **Mitigation measures would be required to reduce impacts to a less than significant level.**

Provide review and assessment of all fault and seismic impacts given for an event equal to 6.4 magnitude as noted in ZIMAS. Provide for pre-construction and ongoing microseismic monitoring for the Upper Elysian Park Fault zone beneath the Project.
Replace all "would's" with shall's or must's.
Provide for additional mitigation programs for at least 120 minute emergency evacuation programs and for damage prevention for surrounding land uses in the event of tower ccollapses or toppling.
Provide all of the above and total revision of DEIR, and especially geotechnical considerations, and resubmit as a supplemental/subsequent DEIR for public review and comments.

Apdx. I -24/2 To mitigate the shaking effects, structures **should be designed using sound engineering judgment and the current CBC requirements, as a minimum.**
Provide definitions and comparisons for should's and would's vs shall's and will's. Replace all "should's" with shall's or must's.
Provide all of the above and total revision of DEIR, and especially geotechnical considerations, and resubmit as a supplemental/subsequent DEIR for public review and comments.

Apdx. I -24/2 However, the proposed Project alignment is not located within a State of California Earthquake Fault Zone for known Holocene-active faults capable of fault surface rupture (CGS, 2017) or located within an Alquist-Priolo Earthquake Fault Zone. Accordingly, the **risk of surface rupture due to faulting is considered low.** As such, the Project **would** not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Impacts **would be considered less than significant.**
Replace all "would's" with shall's or must's.
No reference to ZIMAS nor to Buena Vista Scoping and related studies. No references to competent certified reviewers for such statements and use of conditionals.
Provide an adequate and complete technical review and statement of significance by competent certified engineer. All such additions must be provided in a subsequent/supplemental DEIR prior to further consideration of the Project and public review and comments.

Apdx. I -24/4 The **actual risk** of the liquefaction hazard and related damages **should be evaluated in the site-specific geotechnical report.** The Project **would be required to comply** with all standards, requirements, and conditions contained in construction-related codes (e.g.,…), **which would ensure structural integrity and safe construction.**
Actual risks and mitigation measures must be evaluated in a sites-specific review and assessment by a competent, certified engineer(s), must be based on adequate and complete geotechnical studies and assessments, and must provide appropriate mitigation and compensation measures to warrant a less-than-significant risks to structures and passengers.
Provide an adequate and complete technical review and statement of significance by competent certified engineer. All such additions must be provided in a subsequent/supplemental DEIR prior to further consideration of the Project and public review and comments.

Apdx. I -25/1 Therefore, impacts related to earthquake-induced slope failure **could be considered moderately significant to significant** and **should be addressed** per Mitigation Measure GEO-A.
Use of could/should and ranges of significance are inconsistent with CEQA and must be based on factual evidence for the Project sites and assessments by competent, certified reviewers.
Provide an adequate and complete technical review and statement of significance by competent certified engineer. All such additions must be provided in a subsequent/supplemental DEIR prior to further consideration of the Project and public review and comments.

Apdx. I -25/2 Compliance with existing laws and regulations, and implementation of **Mitigation Measure GEO-A**, requiring the development and implementation of geotechnical recommendations to be incorporated into the design plans and specifications, **would reduce** impacts to less than significant.
As indicated in text, the current DEIR finds current designs would generate significant impacts for seismicity/Geological Resources, as the referenced programs have not been conducted and the public has not had a public review and comments for the mitigation measures to be considered.

Apdx. I -25/3 Operation Upon completion of the construction activities, the proposed Project would have complied with…, as well as Mitigation Measure GEO-A. **Operation of the aerial gondola system would have a less than significant impact with respect to exposing people or structures to seismic hazards if appropriate mitigation measures are applied during construction**.

As indicated, appropriate mitigation measures (which are unknown in this DEIR and not based on evidence) are not available for public review and comment.

As indicated in this text, the current DEIR finds current designs would generate significant impacts for seismicity/Geological Resources, as the referenced programs have not been conducted and the public has not had a public review and comments for the mitigation measures to be considered.

Provide an adequate and complete technical review and statement of significance by competent certified engineer prior to further considerations of this DEIR.

Provide such additions in an adequate and complete subsequent/supplemental DEIR prior to further consideration of the Project and public review and comments.

Apdx. I -29/8 8. CONCLUSION The proposed Project **would** have **less than significant impacts with respect to geologic and geotechnical hazards with application of the recommended mitigation measures**. Prior to grading and construction permits being issued, a **site-specific final geotechnical report should be prepared, as recommended in Mitigation Measure GEO-A**. …**should include site-specific measures and design considerations for the stations, junction, and towers**. The recommendations may vary depending on the geologic and geotechnical conditions at each location.

Replace ALL would's + should's with shall or musts and provide specific and contractual required (must) mitigation along with numerical evaluation of assessed impacts before and after required mitigation.

Provide such additions in an adequate and complete subsequent/supplemental DEIR prior to further consideration of the Project and public review and comments.

Apdx J Greenhouse Gas Emissions Technical Report 20/4 2.2.2.5 Senate Bill 44 Senate Bill (SB) 44, signed October 7, 2021, provides specialized procedures for the administrative and judicial review of processes and approvals for an "environmental leadership transit project." SB 44 defines an "environmental leadership transit project" as "a project to construct a fixed guideway and related fixed facilities" that meets all of the following conditions:

A. The fixed guideway operates at zero-emissions.

B. (i) If the project is more than **two miles in length**,…

(ii) If the project is no more than two miles in length, the project reduces emissions by no less than 50,000 metric tons of greenhouse gases directly in the corridor of the project defined in the applicable environmental document over the useful life of the project, without using offsets.

C. The project reduces no less than 30,000,000 vehicle miles traveled in the corridor of the project defined in the applicable environmental document over the **useful life** of the project.

Provide a specific table of SB44 requirements and Project achievements in quantitative form consistent with the specific requirements of SB44, including for events only and for non-event calendar only.

Provide a useful life period for events-based and full-time base for Project operations.

Provide such additions in an adequate and complete subsequent/supplemental DEIR prior to further consideration of the Project and public review and comments.

Apdx L-58/1 7. Conclusion Construction and operation of the proposed Project **could** result in adverse effects to surface water and groundwater quality in the Los Angeles River and Central Basin, and violate water quality standards and waste discharge requirements, **if not appropriately managed**. However, **adherence** to applicable federal, State, regional, and local laws and regulations **would result in less than significant impacts.**

Provide Project-specific definitions, procedures, and designs of "appropriate" management and adherence. Provide hydrologic model and numerical results based on specific design and operational conditions for each Project construction site.

Apdx L-58/2 Additionally, the proposed Project would not **substantially decrease groundwater supplies** or **interfere substantially with groundwater recharge**….Although the proposed Project would result in increases to impervious surfaces, the additional impervious surface areas are **nominal**, and **all proposed Project components would comply** with the LID ordinance as applicable, thereby reducing runoff. Impacts would be less than significant.

No numerical description and assessment are provided for current and Project conditions and no definitions of "substantially" or "nominal" are provided. Provide numerical analyses for each project construction site and provide specific LID measures and their mitigative effects to bypass rainfall into groundwater for each site, none are provided here and elsewhere.

Provide designs and flowcharts for all LID related designs for collection, conveyance, storage, and recharging for each Project site.

Apdx L-58/4 The proposed Project **could potentially conflict with or obstruct implementation of water quality control** or sustainable groundwater management plans. Although construction and operation of the proposed Project **would potentially impact** the water quality of the Los Angeles River and Central Basin…, **adherence** to applicable federal, State, regional, and local laws and regulations **would ensure** the proposed Project would comply with all federal, State, and local water quality control or sustainable groundwater management plans. Impacts would be less than significant.

No numerical description and assessment are provided for current and Project conditions and no definitions of "substantially" or "nominal" are provided. Provide numerical analyses for each project construction site and provide specific LID measures and their mitigative effects to bypass rainfall into groundwater for each site, none are provided here and elsewhere.

Reference to adherence to laws and regulations is totally unacceptable and must be replaced with a design-operations based mitigation manual with assigned actions/procedure and equipment for all contractors, and associated approved permits from regulatory agencies.

Provide designs and flowcharts for all LID related designs for collection, conveyance, storage, and recharging for each Project site.

Provide a revised, supplemental/subsequent DEIR for all hydrologic elements.

Apdx L-58/5 The proposed Project could have potential adverse impacts related to hydrology and **water quality**; however, with **adherence to applicable…**, significant impacts **would** be less than significant level. The proposed Project **would not result in any significant impacts** related to hydrology and water quality.

No numerical description and assessment are provided for current and Project conditions and no definitions of "substantially" or "nominal" are provided. Provide numerical analyses for each project construction site and provide specific LID measures and their mitigative effects to bypass rainfall into groundwater for each site, none are provided here and elsewhere.

Provide designs and flowcharts for all LID related designs for collection, conveyance, storage, and recharging for each Project site.

Provide a revised, supplemental/subsequent DEIR for all hydrologic elements.

Apdx.F Archaeological and Paleontological Resources Assessment

No mentions are made in DEIR regarding significant historic/archaeological remains recovered from excavations conducted at the Union Station area (for mitigation of suspected impacts from Union Station and subway construction for Red Line Phase 1.

Archaeology – SW Park Station and Alameda/Chavez location (China town 2, 1900-1925) and American Indian – (1800-1900)

Bishop Str. historic uses of Italian (1890-1925) and Chinese (Post 1920) origins - Chinatown 2

Provide four borehole drilling/analyses to depths of 10ft and assessment for potential historic archaeological remains at each Project construction sites, and especially those from Alameda – Broadway sites. Provide at least two boreholes for sites north of Broadway.

Apdx F-70/2 The results of the records search, shown in Table 7, indicated that there are no known NHM vertebrate fossil localities within the Area of Direct Impacts. Moreover, the majority of the Area of Direct Impacts, consisting of surficial deposits of **younger Quaternary alluvium**, is not anticipated to contain significant fossil remains in its **uppermost layers** because the sediment is **too young** to contain such fossils.

Provide the specific technical basis for such identification of "younger", "uppermost" (?= 0.1ft or 10ft) and their distribution. Provide 4 or more borings of 10 ft for each site south of SR-110. Provide thorough and adequate analyses and assessments of potential fossils and remains to document age and resources.

Apdx F-94/2 Quaternary alluvium is expected to be present at **differential** depths within the Project Area. Planned Project excavation is **anticipated to reach up to 10 feet,** except at Dodger Stadium Station where the maximum depth would be 42 feet, and piles would be drilled to a max depth of 125 feet; therefore, Project construction **may encounter paleontological deposits**.

Replace "differential" with different and "up to" with down to.

Provide four borehole drilling/analyses to depths of 10ft and assessment for potential historic archaeological remains at each Project construction sites, and especially those from Alameda – Broadway sites. Provide at least two boreholes for sites north of Broadway.

Provide a thorough construction mitigation program for archaeological and paleontological remains with specific contractual requirements for assessment, encountering, and recovery of all paleontological and archaeological remains. Include in a thoroughly and adequately revised DEIR for public review and additional comments.

A Paleontological Resources Monitoring and Mitigation Plan (**PRMMP**) **shall be developed** by a qualified paleontologist meeting the criteria established by the Society for Vertebrate Paleontology. The **plan shall apply to paleontologically sensitive deposits**, including **older Quaternary** alluvium and Puente formation deposits, that may be impacted by the proposed Project, as determined by a qualified paleontologist in consultation with the construction team and guided by geotechnical coring.

Provide a consistent approach throughout the DEIR regarding the use of conditional and declaratory verbs which herein reflects the direct copying of texts from other, unreferenced sources into this DEIR. Provide consistent approach to all remains encountered during excavation.

Provide a thorough construction mitigation program for archaeological and paleontological remains with specific contractual requirements for assessment, encountering, and recovery of all paleontological and archaeological remains. Include in a thoroughly and adequately revised DEIR for public review and additional comments.

The qualified paleontologist **shall supervise the paleontological monitor** who **shall be present** during construction excavations into **older Quaternary** alluvial deposits and **Miocene Puente** formation deposits. **Monitoring shall** consist of visually inspecting fresh exposures of rock for **larger fossil remains**, and where appropriate, collecting wet or dry screened sediment samples of **promising horizons for smaller fossil remains**.

Provide a consistent approach throughout the DEIR regarding the use of conditional and declaratory verbs which herein reflects the direct copying of texts from other, unreferenced sources into this DEIR.

Provide consistent approach to all remains encountered during excavation.

Provide a thorough construction mitigation program for archaeological and paleontological remains with specific contractual requirements for assessment, encountering, and recovery of all paleontological and archaeological remains. Include in a thoroughly and adequately revised DEIR for public review and additional comments.

The frequency of monitoring inspections **shall be determined** by the paleontologist and **shall be based** on the rate of ground-disturbing activities, the material being excavated, and the depth of excavation, and if found, the abundance and type of paleontological materials found.

Provide a thorough construction mitigation program for archaeological and paleontological remains with specific contractual requirements for assessment, encountering, and recovery of all paleontological and archaeological remains. Include in a thoroughly and adequately revised DEIR for public review and additional comments.

95/2 The areas of paleontological sensitivity include all locations where **undisturbed Older Quaternary alluvium** or the **Monterey/Puente Formation** may be impacted by the Project. The identification of exact locations to be monitored would be guided in part by **geotechnical boring for the Project**.

Define "undisturbed" and require all fossils, even in disturbed deposits be recovered and assessed.

Provide a thorough construction mitigation program for archaeological and paleontological remains with specific contractual requirements for assessment, encountering, and recovery of all paleontological and archaeological remains. Include in a thoroughly and adequately revised DEIR for public review and additional comments.