



Summary of Construction Mitigation Measures for Beverly Hills High School

Below is a summary of the mitigation measures that the City of Beverly Hills negotiated as part of the draft Memorandum of Agreement (MOA) between the City of Beverly Hills and Metro for the Beverly Hills High School. City Council approved these mitigations on August 21, 2018.

ARTICLE XXVII - Protections for Beverly Hills High School

- The LACMTA shall meet and confer with representatives of the School District as necessary to discuss and coordinate Construction with School District operations.
- The LACMTA and Contractor shall not conduct any surface Construction on School District property in connection with the Project's cross passages, including ground improvement activities.
- The LACMTA and Contractor shall conduct all piling activities on the east side of Century Park East after 3:30 PM on weekdays or on weekends in order to avoid impacting Beverly Hills High School, if the work occurs during the School District's academic year.
- The LACMTA shall provide the City with the following plans at least ninety (90) Days before tunneling may begin underneath Beverly Hills High School: (i) Building and Utility Settlement Assessment Report; and (ii) Action Plan for Tunneling and Settlement Control. The City may comment on such plans. The LACMTA shall consider such comments in good faith and attempt to address comments relating to settlement at the High School.

Noise and Vibration Monitoring

- The LACMTA shall develop noise criteria for the school classrooms and occupied spaces at Beverly Hills High School in consultation with the School District and Beverly Hills High School administrators.
- With the School District's consent, the LACMTA shall conduct noise monitoring within the property encompassing Beverly Hills High School at locations mutually agreed upon by the LACMTA and School District. The noise monitoring shall ensure compliance with the noise criteria developed in consultation with the School District and school administrators.
- The LACMTA shall develop, through the Contractor, noise control plans to maintain the noise criteria within the school classrooms and occupied spaces. Such noise control plans shall be updated at three (3) month intervals and submitted to the City for review within ten (10) days of the start of each quarterly period or upon any major change in work schedule, construction methods, or equipment operations not included in the most recent noise control plan.
- The LACMTA shall comply with the vibration levels set forth in Article XIV at the property line of Beverly Hills High School nearest to the adjacent Construction.
- The LACMTA shall not exceed a groundborne noise level of forty-five (45) dBA (dB re 20 micro Pascals) in any school space, including temporary classrooms. If the School District consents, the LACMTA shall place monitoring equipment at such property line in order to verify compliance with the levels set forth in Article XIV, which shall operate continuously during all Construction activity.

- The LACMTA shall also comply with all mitigation measures identified in the Final and Supplemental EIR and EIS, as more particularly described in Exhibit J, in order to protect Beverly Hills High School from C1120 construction-related vibration and noise impacts.
- The LACMTA shall conduct daily monitoring of all construction in the City and the City of Los Angeles to verify compliance with such mitigation measures.
- If the LACMTA identifies a violation of a mitigation measure or receives a complaint of excessive noise or vibration, then the LACMTA shall promptly review its noise and vibration monitoring or conduct additional monitoring to ensure construction-related noise and vibration levels do not exceed applicable criteria levels and, if an exceedance is identified, promptly implement additional mitigation measures, possibly including reduction of construction activities, to reduce noise and vibration levels below the criteria levels.

Air Quality Monitoring

- Construction shall not cause air quality levels to exceed 100 ppb for nitrogen oxides (NO₂) over a one (1) hour period and 50 µg/m³ for particulate matter smaller than or equal to 10 microns (PM₁₀) and 2.5 microns (PM_{2.5}) in size over a five (5) hour period (collectively, the “Threshold Levels”). If a Threshold Level is exceeded, then the LACMTA and the Contractor shall immediately stop Construction and promptly implement additional mitigation measures, possibly including reduction of Construction activities, to reduce noise and vibration levels below the Threshold Levels before Construction may resume.
- Alert levels will be set at eighty (80) percent of the Threshold Levels (“Alert Levels”). If an Alert Level is exceeded, then the LACMTA and the Contractor shall promptly implement additional mitigation measures to prevent an exceedance of the Threshold Levels.
- The LACMTA shall identify at least three locations (one upwind and two downwind) at Beverly Hills High School where the LACMTA will place monitors to verify compliance with such air quality levels. Separate monitors will be used for PM₁₀, PM_{2.5} and NO₂. The monitors shall be positioned to monitor the Project’s contribution to ambient PM_{2.5}, PM₁₀, and NO₂, and in secure locations with access to power and limited public access. The monitors will meet the requirements set forth by the federal Environmental Protection Agency and SCAQMD. Monitoring shall be continuous during all Construction activities in Century City. An anemometer shall also be used to measure wind speeds and directions. Monitoring data shall be made available to the Independent Compliance Monitor, the City, the LACMTA, and the Contractor. Monthly reports shall also be provided to the City and made available to interested persons.
- The Compliance Monitor shall provide immediate notification (via visual alarm and email notification) to the LACMTA, the Contractor, and the Independent Compliance Monitor when the Alert Levels or Threshold Levels are exceeded.
- The LACMTA shall also comply with the air quality requirements established under Article XXVIII. The LACMTA shall also comply with all mitigation measures identified in the Final and Supplemental EIR and EIS, as more particularly described in Exhibit K, in order to protect Beverly Hills High School from C1120 construction-related air quality impacts. Such mitigation measures include “CON 97,” which provides in full:
 - Install MERV 16-rated filters on the air intakes at the Beverly Hills High School temporary classroom site and the medical rehabilitation facility. As these areas are predicted to potentially experience air quality levels above the SCAQMD PM₁₀ significance threshold for a limited time period, the installation of these filters is recommended during this time period.

MERV 16-rated filters are designed to control particulate contamination in the size range of 0.3 – 1.0 microns, which is expected to reduce PM10 and PM2.5 levels within the buildings by over 95 percent.

Enforcement

- The Independent Compliance Monitor shall be responsible for monitoring enforcement of the conditions of this Article and enforcing available remedies pursuant to the procedures of Article XVII of this Agreement between the hours of 7 AM and 3:30 PM on days when Beverly Hills High School is in session. However, the LACMTA shall not be responsible for the Independent Compliance Monitor's costs attributable to enforcing this Article.

Exhibit J - Noise and Vibration Mitigation Measures

CON-95—Vibration Control for Tunnel Train

- If ground-borne noise limits or ground-borne vibration limits are exceeded, the contractor will be required to take action to reduce noise and/or vibrations to acceptable levels. Such action could include: 1. A durable resilient system to support the tunnel train tracks. Such a system would include: a. Resilient mat under the tracks b. A resilient grommet or bushing under the heads of any track fasteners. 2. The hardness of the resilient mat should be in the 40 to 50 durometer range and be about 1 to 2" thick, depending on how heavily loaded the cars would be. 3. The Contractor shall select the mat thickness so that the rail doesn't bottom out during a train pass by. 4. Reduce the speed of the tunnel trains. 5. Maintain the tunnel train track and train wheels in good order to reduce potential vibration impacts, including keeping gaps between track sections to a minimum and frequent maintenance to avoid wheel flats.

CON-96—Vibration Monitoring Plan

- The Contractor is required to submit a Vibration Monitoring Plan prepared, stamped, and administered by the Contractor's Acoustical Engineer. As part of the implementation of this plan, vibration monitoring will be performed at the historic Sterling Plaza/Bank of California, Union Bank Building, and AAA Building closest to the locations where equipment and/or construction activities generate a substantial amount of ground-borne vibration. Vibration monitoring will consist of continuous measurements at the building façade closest to the construction activities. All vibration monitors used will be equipped with an "alarm" feature to provide notification if the 0.2 PPV vibration damage risk threshold has been approached or exceeded.

Exhibit K - Air Quality Mitigation Measures

CON-97—MERV 16-rated Filters

- Install MERV 16-rated filters on the air intakes at the Beverly Hills High School temporary classroom site and the medical rehabilitation facility. As these areas are predicted to potentially experience air quality levels above the SCAQMD PM10 significance threshold for a limited time period, the installation of these filters is recommended during this time period. MERV 16-rated filters are designed to control particulate contamination in the size range of 0.3 – 1.0 microns, which is expected to reduce PM10 and PM2.5 levels within the buildings by over 95 percent.

CON-89 – Gas Monitoring Assessment

- Gas wells were installed along the alignment during the preliminary geotechnical investigations. Additional multi-stage (varying depths) soil gas wells (or probes) will be installed along the alignment in areas where elevated gas has been detected. The probes will be monitored for methane, hydrogen sulfide, oxygen, and carbon dioxide before, during, and after tunneling. Ambient air monitoring will also be performed at the ground surface to screen for indications of soil gas emissions. While elevated

gas levels have not been detected at Beverly Hills High School, monitoring will be conducted in response to concerns from the school district. Monitoring will be conducted daily during the tunneling operation beneath Beverly Hills High School and less frequently before and after tunneling. Any instance where methane is detected at or above a concentration of 5,500 ppm (10 percent LEL) or hydrogen sulfide is detected at or above a concentration of 20 ppm (OSHA PEL) in a soil probe (5 feet below the ground surface) will be investigated. Where these levels are exceeded, combustible gas monitoring will be performed in the interior of the closest building. In the unlikely event that elevated gas levels are found—and persist—the affected building(s) will be ventilated to reduce the gas levels.

Other Protections:

ARTICLE XII - Construction Staging, Traffic Control And Parking Requirements

- Temporary directional street closures for ground improvement activities on residential streets (e.g., Moreno Drive) may be permitted with prior approval from the City, provided that the LACMTA gives thirty (30) days' notice to the School District and the Construction is conducted during Beverly Hills High School's summer holiday schedule. The minimum traffic lane requirements at all other times shall be one lane in each direction.

ARTICLE XIV - Noise and Vibration Control Plans And Mitigation Measures

- The LACMTA and the City shall jointly establish the preexisting ambient hourly noise levels at properties with residential and transient occupancy uses and at Beverly Hills High School that are closest to C1120 Construction activities, as identified in Exhibit F, and incorporated herein by this reference.

The draft MOA that was conditionally approved by City Council on August 21, 2018 can be found here www.Beverlyhills.org/ProposedMOASection2.

Please contact Public Works Customer Service with any questions or comments at 310-285-2467 or email us at purpleline@beverlyhills.org.