LAX MASTER PLAN

COMMUNITY BENEFITS AGREEMENT

2016 ANNUAL PROGRESS REPORT

PUBLISHED JUNE 2017

Los Angeles World Airports

LAX MASTER PLAN

COMMUNITY BENEFITS AGREEMENT (CBA)

2016 ANNUAL PROGRESS REPORT

Prepared by

Los Angeles World Airports
Environmental Programs Group

LAX Master Plan CBA 2016 Annual Progress Report

Acknowledgements

Cover Photo By:

Nancy Price,
LAWA

California Bush Sunflower
(encelia californica)

Disclaimer: LAWA obtained data from a variety of sources to generate this report. The reporting team did not have access to each individual primary document and thus was not able to verify all data sets fully against the source

LAWA Group/Division

Airport Response Coordination Center (ARCC):
Ed Bushman

Planning and Development Group:
Robin Ijams, Anthony Skidmore, Roger Sowell, Patrick Tomcheck

Community Relations Division Staff:
Sontue Beacham, Jamie Gutierrez, Allyson Lavalais, Maria Tesoro

Environmental Programs Group Staff:
Erica Blyther, Amylou Canonizado, Norene Hastings, Carolyn Lin, Tamara McCrossen-Orr, Marjorie Phan, Nancy Price, Evelyn Quintanilla, Catalina Saldivar-Chavez, Teresa Sarullo, Georgianna Streeter, Scott Tatro, Alfred Tong

Procurement Services Division:
Erin Henning, Delia Goodine, Charlene Waters

Independent Third Party Monitor
Clean Fuel Connection, Inc. - Ray Gorski, Lauren Dunlap

LAX Master Plan Program
2016 CBA Annual Progress Report
June 2017

Table of Contents

1.0 Executive Summary

On December 6, 2004, the Los Angeles World Airports' Board of Airport Commissioners (BOAC) approved an agreement with the LAX Coalition for Economic, Environmental and Educational Justice (Coalition).

The Cooperation Agreement and the Community Benefits Agreement included therein call for measures to mitigate noise, pollutant emissions, and traffic impacts of the Master Plan, as well as benefits such as job training and hiring programs for eligible residents of the Project Impact Area (PIA)[1] and the City of Los Angeles. The agreement precludes LAWA from making expenditures or taking actions prohibited by the Federal Aviation Administration (FAA) or any other regulatory authority. The Cooperation Agreement also prohibits the use of Los Angeles City's General Fund or any other City-controlled non-airport source of funds to meet any of LAWA's obligations under the Agreement.

In accordance with Section XVI "Miscellaneous" of the Agreement, LAWA is required to prepare annual reports on the implementation of the Community Benefits Agreement and the progress of the LAX Master Plan Program. LAWA is to provide the annual reports to the Coalition Representatives and make them available for at least one month on the LAWA website. This document is the twelfth annual report on the progress of the Agreement. This document has been provided to the Coalition Representative and is available on the LAWA website at http://www.ourlax.org under Studies and Reports.

2.0 Introduction/Background

The "Community Benefits Agreement" is comprised of several documents as follows:

1. **Cooperation Agreement.** The Cooperation Agreement sets out the legal framework of the Agreement, including conditions, commitments, obligations, enforcement, and more.

2. **Community Benefits Agreement (CBA).** The CBA, an attachment to the Cooperation Agreement, details the various proposals of mitigation and benefits. The various proposals include:

   Noise Mitigation

   - Increased Funding for Airport Noise Mitigation Program
   - End-of-Block Soundproofing
   - Suspension of Avigation Easement
   - Limitations on Nighttime Departures

[1] *Project Impact Area includes the communities immediately surrounding the airport and those most impacted by airport operations, and is comprised of South Los Angeles, El Segundo, Hawthorne, Inglewood, and Lennox.*

Economic Development Benefits

- Job Training Program
- Work Experience Programs
- First Source Hiring Program
- Small Business Attraction and Retention Program
- Living Wage, Worker Retention, and Contractor Responsibility

Community Environmental/Health Studies

- LAX Air Quality and Source Apportionment Study
- Health Study of Upper Respiratory System and Hearing Loss Impacts
- Environmental Justice Community-Based Research Studies

Air Quality/Emission Reductions and Control

- Electrification of Passenger Gates
- Electrification of Cargo Operations Areas
- Electrification of Hangars
- Emission Reductions from Ground Service Equipment
- Emission Reductions from On-Road Trucks, Buses, and Shuttles
- Conversion of On-site Trucks, Shuttles, and Buses to Alternative Fuel
- Limits on Diesel Idling
- Assessment and Mitigation of Particulate Matter
- Provision of Alternative Fuel

Environmental Mitigations/Commitments for Construction

- Construction-Related Diesel Emission Reduction Requirements
- Rock Crushing Operations/Materials Stockpiles Away from Residential Areas
- Application of Green Building Principles
- Diversion of Construction Traffic from Residential Streets

Settlement Agreement with Inglewood Unified School District. This Agreement calls for LAWA to (a) fund certain mitigation measures for the Inglewood Unified School District in an amount not to exceed $118,500,000 for noise abatement, (b) assist the Inglewood Unified School District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups, and the local communities in the event of an

airport-related emergency, and (c) work collaboratively with the Inglewood Unified School District to support a variety of community programs, such as job training and academic programs.

Settlement Agreement with Lennox School District. Similarly, this Agreement calls for LAWA to (a) fund certain mitigation measures for the Lennox School District not to exceed $111,000,000 for noise abatement, (b) assist the Lennox School District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups and the local communities in the event of an airport-related emergency, and (c) work collaboratively with the Lennox School District to support a variety of community programs, such as job training and academic programs.

As described in each Agreement, LAWA's obligations are conditioned upon FAA approval of these expenditures and use of airport revenues for these specific purposes. Under no circumstance will any of LAWA's obligations under these Agreements require any expenditure from the City's General Fund or any other City-controlled source of funds.

The primary purpose of this report is to document and report on the status of the current and recently completed commitments set forth in the CBA. This report covers the period January 1, 2016 through December 31, 2016.

3.0 Community Benefits Agreement Progress Update

Section III. Residential Noise Mitigation

Section III.A Funding of Aircraft Noise Mitigation Program (ANMP)

The Agreement states:

"Beginning in fiscal year 2004-2005, LAWA shall fund its Aircraft Noise Mitigation Program (ANMP) at least at the following levels:

- $4.275 million per year for the Inglewood component; and
- $4.275 million per year for the County of Los Angeles component

These funding levels shall be met by LAWA. LAWA shall use additional revenue, including Airport Improvement Program funds, as appropriate. LAWA expenditure of funds under this Section III.A is contingent on the City of Inglewood and the County of Los Angeles complying with all requirements established in BOAC Resolution Nos. 21481 and 21360, and with FAA regulations."

Status → In Progress:
Neither the City of Inglewood nor the County of Los Angeles requested funding from LAWA in 2016. As of December 31, 2016, the City of Inglewood had a surplus of $5.37 million, and the County had a surplus of $12.15 million from prior LAWA grant funding.

Beginning in 2016, new program guidance from the FAA went into effect that requires programs to conduct surveys and acoustically test homes for a noise threshold of 45 dB or higher, in order to determine eligibility for those homes to receive funding for sound insulation construction.

In 2016, the City of Inglewood and the County of Los Angeles begin acoustically testing homes to determine eligibility. Both jurisdictions have also submitted specifications for bidding eligible homes to FAA, but have not received approval on those specifications.

Acoustic Testing in LA County- Lennox

Section III.B Acceleration of Noise-Mitigation Programs for City

The Agreement states:

"Within eight months of the effective date of this Agreement, LAWA will provide a written schedule and work program to the Coalition Representative that is designed to achieve completion of the ANMP soundproofing program for the City by the end of 2008, and will take all reasonable steps to timely implement that schedule and work program."

Status → Completed:
LAWA staff completed notification to all eligible property owners of the availability of the program in April 2010. Construction was substantially completed in December 2013. The last construction contract was closed in late fall of 2014. LAWA spent approximately $160 million on the implementation of this program. Over 7,300 dwelling units were sound insulated in the communities of South Los Angeles, Playa del Rey and Westchester.

Section III.C Acceleration of Noise-Mitigation of Places of Worship

The Agreement states:

"LAWA shall accelerate the program of soundproofing Places of Worship as part of the ANMP in effect as of the effective date of this Agreement. Within eight months of the effective date of this Agreement, LAWA shall conduct a needs assessment for this program, in consultation with the Coalition Representative. LAWA shall provide annual reports on the progress of the program."

Status → In Progress:
Coordination with the Coalition on this provision is ongoing.

Section III.D End of Block Soundproofing

The Agreement states:

"Within one year of the completion of the current ANMP for participating jurisdictions, LAWA shall commence an end-of-block soundproofing program, under which, if any residence on a particular city-block falls within the applicable noise contour for that block, then each residence on that block will be eligible for noise mitigation as described in this Section III.D. Offers of soundproofing shall be made to the owner of each residence, whether or not the owner of that residence chose to participate in previous soundproofing programs. Soundproofing under this program shall reduce interior noise at participating residences to an interior CNEL of 45 decibels or less, within habitable rooms."

City of Los Angeles Status → Completed in 2014
Within the City of Los Angeles, over 700 end-of-block eligible property owners were notified (via certified mail) of their eligibility in the program. In all, 514 dwelling units were added under the block rounding program that utilizes Passenger Facility Charge

(PFC) funding approved by the FAA. The City of Los Angeles' program was completed in 2014.

Other Jurisdictions Status → Ongoing:
The 2020 Noise Exposure Map (NEM) was approved for use by the FAA in February 2016. Subsequently, the City of Inglewood and the County of Los Angeles submitted End-of-Block maps to the FAA for approval. These End-of-Block maps were approved by the FAA in November of 2016.

At this time the City of El Segundo's Residential Sound Insulation program is suspended, and no End-of-Block map has been submitted for approval.

Section III.E Suspension of Avigation Easement

The Agreement states:

1. Present Avigation Easement Requirements. All homeowners receiving LAWA provided or funded noise insulation measures within the 65 dBA CNEL noise contour presently must execute express, full avigation easements (as set out in Exhibit A). In return for LAWA's providing these noise insulation benefits, each homeowner presently must sign a full, express avigation easement (as set out in Exhibit A), expressly waiving his or her ability to sue LAWA with respect to the impacts (listed in the avigation easements) that are created by aircraft operations at LAX on the affected residences.

2. Proposed Modified Easement Requirements. In order to promote the cooperation between LAWA and the Coalition that is envisioned by this Agreement, and as long as this Agreement remains in effect, LAWA agrees to suspend its requirement that express, full avigation easements (as set out in Exhibit A) be executed by homeowners receiving LAWA provided or funded noise insulation benefits for particular residences located within the 65 dBA CNEL noise contour in the City of Los Angeles, City of Inglewood, and Los Angeles County communities of Lennox and West Athens, and only under the following circumstances:

    a. Caltrans approves LAWA' compromise position as described in this Agreement during the effective term of this Agreement. This approval is necessary because Caltrans currently requires avigation easements as part of LAWA's ongoing noise variance within its permit from Caltrans to operate LAX;

    b. In lieu of requiring full, express avigation easements (as set out in Exhibit A), the homeowners will execute the Noise Easement attached as Exhibit B. The homeowners will provide, among other things, a written acknowledgment, accompanying the homeowner's authorization to proceed with the installation that the homeowner is aware of the proposed level of noise reduction that the installation is intended to provide. After the installation, the homeowner will execute an acknowledgement that the improvements have been installed and have attenuated the noise.

LAWA promises to make all reasonable efforts to obtain Caltrans' expedited approval of suspension of the requirement for full, express avigation easements (as set out in Exhibit A) and use of the Noise Easement (as set out in Exhibit B) in its place."

Status → Completed:
The dedication of avigation or any other easements in return for funding of, or participation in the residential soundproofing program was eliminated pursuant to the terms of the LAX Master Plan Stipulated Settlement Agreement, except under very limited circumstances as required by California Airport Noise Standards. Under these limited criteria, a modified noise easement similar to the one proposed by the CBA was used. The Stipulated Settlement Agreement expired on December 31, 2015, except for certain gate provisions. With the expiration of the Settlement Agreement, LAWA began evaluation of the existing Supplemental Funding Policy (BOAC Resolution 21481), including the provision regarding avigation easements for residential soundproofing, to determine if there is a need to reinstate the requirement that the jurisdictions provide avigation easements in exchange for sound insulation treatments, or modify the existing policy to remain consist with past practice over the past 10 years.

Section III.F Compatibility with Local Building Codes

The Agreement states:

"LAWA shall not require property owners participating in the ANMP to satisfy regulations or standards related to property conditions where these regulations or standards are more stringent than those actually enforced by the local government jurisdiction possessing code enforcement authority over the property in question."

Status → Completed:
No action is required on this provision as LAWA does not impose regulations or standards related to property conditions that are more stringent than those enforced by the local government jurisdiction as these requirements are not part of LAWA's noise mitigation programs.

Section III.G Limitations on Nighttime Departures

The Agreement states in part:

"LAWA and the Coalition agree that restrictions on departures between the hours of midnight and 6:30 a.m. over the communities to the east of LAX would be desirable, when LAX is operating under normal weather conditions (when LAX is either in Over-Ocean Operations or remains in Westerly Operations and excluding times when LAX operates in Easterly Operations). This is known as the "LAX Proposed Restriction".

1. Part 161 Study. By April of 2005, LAWA shall have completed a Contract Award Process for a study on the feasibility of implementing the LAX Proposed Restriction (the "Part 161 Study"). Within 90 days of the contract award, the contract will have commenced. LAWA shall require that the Part 161 Study meet the relevant requirements of 14 C.F.R. Part 161, and that the entity performing the Study provide annual reports to LAWA on study progress and findings"...

2. Record of Eastbound Departures. LAWA shall maintain a record of all nighttime eastbound departures during Over-Ocean Operations and Westerly Operations. This record shall be made available to the public on the LAWA website and shall be updated monthly.

3. Community Response Program. LAWA shall operate a community response program through which the public may report nighttime flights in the areas east of LAX. LAWA shall maintain a record of all individual reports, and shall prepare annual reports documenting individual reports, including records of airline, flight, date, and time of each reported flight, where possible. All records of reports, excluding the reporting individual's name and address, shall be maintained as public records and posted on the LAWA website."

Status → Completed:
The Part 161 Study process encompassed three general elements including: (1) data collection and analysis to justify the LAX Proposed Restriction; (2) evaluation and explanation of the legal, environmental, and economic impacts of the proposed restriction; and (3) preparation and submittal to the FAA of the required reports and application materials. LAWA began the Part 161 Study in June 2005. In May 2014, LAWA submitted the final application to impose a runway use restriction at LAX. On June 10, 2014, the FAA submitted a letter to LAWA indicating that LAWA's application was determined to be administratively complete. On November 8, 2014, the FAA formally rejected LAWA's application. See the 2014 CBA Annual Report for a more complete accounting of these efforts.

With the formal rejection of LAWA application by the FAA in 2014, the Part 161 Study process is complete. All materials related to this application and study, and all formal communications with LAWA and FAA may be found at http://www.lawa.org/LAXPart161.aspx?id=7203.

Although the Part 161 Study itself is completed, the Record of Eastbound Departures and nonconforming East Departures Annual Complaint Reports were posted on LAWA's website at http://www.lawa.org/LAXNoiseEDR.aspx.

LAWA maintained a community response program where the public could report flights and their related locations at all times of the day. LAWA maintained records of flights and their related locations at all times of the day. LAWA maintained records of all individual reports and prepared monthly and annual summary reports. All reports are available on the LAWA website at http://www.lawa.org/LAXNoiseEDR.aspx.

Section IV. Job Training

The Agreement states in part:

"Job Training Program. Beginning in fiscal year 2005-2006, LAWA shall provide $3 million per year for five years, not to exceed $15 million over five years, to fund job training for Airport Jobs and Aviation-Related Jobs, and for Pre-apprenticeship Programs. Any funds unspent in a particular year shall be rolled over to the subsequent year. At the conclusion of the five-year period, any unused funds shall revert to the job training funds described in Section XV…"

Status → In Progress:

Job Training Program

Although the FAA has not approved a job training program (JTP) for LAWA, and therefore no LAWA funds were used for job training, LAWA leveraged its relationships with various agencies funded to provide job training.

By leveraging relationships with over 15 JTP partners, LAWA, through its Business and Job Resources Division (BJRD), initiated its JTP in January 2007. LAWA was successfully able to work with agencies funded through other means to provide job training opportunities to residents in the Project Impact Area (PIA). During the reporting period, LAWA worked with agencies that provide an array of training, including computer skills, customer service, time management, bilingual skills, leadership skills, and other classes.

Many local residents have completed training in customer service, retail sales, auto mechanics and other disciplines through the LAWA partnerships. The Mayor's Office has initiated discussions with area Work Source Centers, the Los Angeles Community College District and surrounding LAWA businesses to conduct Hospitality Training for local residents. Plans are underway to create training modules that will result in career paths for residents within the hospitality industry. Upon the completion of training, these candidates will be well-positioned to compete for job opportunities at the hotels or with various Airport employers.

JTP Referrals in 2016: 24	*Program-to-Date: 907*
Completed Training in 2016: 8	*Program-to-Date: 518*

Section V. First Source Hiring Program

The Agreement states in part:

"First Source Hiring Program for Airport Jobs. The First Source Hiring Program shall provide early access to targeted applicants for available Airport Jobs, and employers will receive prompt, cost-free referrals of qualified and trained applicants. Except where City's Worker Retention Policy requires retention of particular workers, LAWA shall require participation in the First Source Hiring Program with regard to all Airport Jobs by any:

- New Airport Contractor, Airport Lessee, and/or Airport Licensee resulting from the approved LAX Master Plan Program;

- Airport Contractor that enters into or receives a new, amended, or renewed Airport Contract, or receives a voluntary extension of an existing Airport Contract;

- Airport Lessee that enters into or receives a new, amended, or renewed lease of any property owned by LAWA, or receives a voluntary extension of an existing lease; and

- Airport Licensee that agrees, receives, or is subject to a new, amended, extended, or revised licensing or permitting agreement or set of requirements.

As of July 1, 2005, LAWA shall ensure that the First Source Hiring Program, attached as Exhibit C, is a material term of all Airport Contracts, lease agreements, and licensing or permitting agreements or sets of requirements that are new, extended, amended, renewed, or revised. Under these Airport Contracts, agreements, or requirements, employer participation in the First Source Hiring Program shall commence on the effective date of the Airport Contract agreement, or requirement in question, or on July 1, 2005, whichever is later…."

Status → Ongoing:
The First Source Hiring Program (FSHP), housed in the Business and Job Resources Center (BJRC), is designed to provide residents from the communities immediately surrounding the airport and those most impacted by airport operations access to airport jobs. Those communities are a part of the Project Impact Area (PIA) and are comprised of South Los Angeles, El Segundo, Hawthorne, Inglewood, and Lennox. FSHP focuses much of its outreach in these areas.

FSHP works closely with local Community Organizations such as Work Source Centers, One-Stop Centers, and faith-based organizations to promote airport jobs for LAX employers. FSHP provides training to these organizations on how to apply for jobs at LAX and what is needed to obtain a job at LAX. FSHP also promotes jobs through social media and currently has over 2,600 followers on Facebook. In 2016, the BJRC attended 30 job/community events.

LAWA is currently proposing a Landside Access Modernization Program (LAMP). In 2016, FSHP participated in three events to promote the potential program and inform future potential LAX contractors of the opportunities to promote their employment opportunities.

	2016
Job Openings	*5,562*
Registered Job Seekers	*33,335*
Website Visits	*357,815*
Job Referrals to LAX Employers	*67,674*
LAX Employers	*166*
Community Partners	*112*

For more information on the First Source Hiring Program, please visit the program website at http://www.lawa.org/bjrc/Employment.aspx?id=2058 and the Jobs@LAX website at www.jobsatlax.org.

Gateways Internship Program

The Gateways Internship Program provides college and high school students with exposure to career opportunities in the aviation industry and other airport-related jobs. The Internship Program gives students on-the-job practical experience in various airport jobs through education, training, and mentoring activities to better prepare them to enter the workforce.

The Gateways Internship Program has partnered with various colleges such as UCLA, USC, Cal State University of Long Beach, Cal State University of Los Angeles, Loyola Marymount, West Los Angeles College, Cal State Fullerton, Cal State University, Northridge, Cal State University Dominquez Hills, Cerritos College, Santa Monica College, Los Angeles Trade Technical College, and Southwest College. The high school students that participated in the internship program lived in the following Cities: El Segundo, Gardena, Inglewood, Los Angeles and Westchester.

Since its inception, the Gateways Program has placed more than 1,246 students in a wide range of internship positions including: Accounting, Administration, Airport Operations, Airports Development Group, City Attorney Office, Commercial Development Group, Community Relations, Human Resources, Information Management and Technology Group, Planning and Engineering, Facilities Maintenance and Utilities, Environmental and Land Use Planning, Office of Regulatory Compliance & Standards, Public Relations, and FAA-related.

LAWA's Gateways Program is comprised of four internship programs

- *Gateways College Student Professional Worker Program*
- *Gateways College Volunteer Internship Program*
- *Gateways International Student Professional Worker Program*
- *Gateways High School Volunteer Internship Program*

In 2016 the BJRC was able to place over 44 students through its four programs within various internships in LAWA divisions. Placement of students into the internship program was accomplished primarily through Business & Job Resources partnerships with local universities, community colleges, and community and faith-based organizations.

The BJRC conducted extensive outreach to students by attending Career Days and job fairs facilitated by various colleges, community organizations and Worksource Centers. Internship

job descriptions were posted to college career and social media websites such as Facebook to create awareness. BJRC staff worked with various colleges' career advisors to continue strengthening its partnership and in 2016, LAWA's BJRC staff disseminated internship information at 30 community job fairs. Additionally, BJRC continues to work with the Economic Workforce Development Department to be a worksite for the Mayor's Hire LA's Youth Program. Other organizations that remain partners are the International Trade Education Program (ITEP) and the Gardena Global Leadership Academy.

In addition to students from local and out-of-state schools, the BJRC also attracts international students who wish to intern at LAX. In 2016, BJRC placed international students from China, France, Japan, and Korea.

Section VI. Living Wage, Worker Retention, and Contractor Responsibility

The Agreement states:

"LAWA shall apply to all Airport Contractors, Airport Lessees, and Airport Licensees the City's Living Wage Ordinance, as set forth in Los Angeles Administrative Code Section 10.37; the City Worker Retention Policy, as set forth in Los Angeles Administrative Code Section 10.36; and the Contractor Responsibility Program set forth in BOAC Resolution No. 21601, in accordance with City policy."

Status → Completed:
This provision currently applies to all LAWA contracts as set forth in Board Resolution No. 21601.

Section VII. Air Quality Study

The Agreement states in part:

"Air Quality Study. LAWA shall fund a study by an Independent Expert of toxic air contaminants and criteria air pollutant emissions from jet engine exhaust and other emission sources ("Air Quality Study"). In addition to other contaminant and pollutant emissions, the Air Quality Study shall measure jet engine exhaust emissions and provide chemical composition data from a representative sample of engine types and ages under a variety of conditions that reflect actual operations, and shall include this data and all other relevant study results as part of the final study provided to LAWA."

Status → Completed:
The LAX Air Quality and Source Apportionment Study (AQSAS) was completed in 2013, and presented to LAWA's Board of Airport Commissioners on June 18, 2013.

The study and informational materials can be found on the web page titled, Final Report and Materials, at http://www.lawa.org/AirQualityStudy.aspx?id=7716.

The completion of this study fulfills the CBA commitment to conduct an air quality source apportionment study.

Section VIII. Health Study

The Agreement states in part:

"Health Study. LAWA shall fund a study to measure and investigate upper respiratory system and hearing loss impacts of LAX operations due to the LAX Master Plan Program. LAWA, in consultation with the Coalition Representative, shall develop a scope of work and objectives for the Health study…"

Status → In Progress:
The funding and implementation of the CBA health study is subject to LAWA's ability to use airport revenue to the extent permissible under federal law and policies, or to develop other state or federal funding sources. On November 23, 2015, LAWA received a letter from the FAA stating that airport revenues may not be used to provide funding for CBA Section VIII. Health Study. Pursuant to Section V.A.5. of the Cooperation Agreement, LAWA began discussions in late 2015 with the LAX Coalition to develop substitute programs or activities designed to achieve equivalent levels of mitigation and/or benefit through an equivalent expenditure of airport revenues. In 2016, LAWA continued to examine potential substitute programs or activities. After LAWA and the LAX Coalition agree to a substitute program or activity, the FAA must approve LAWA's ability to use airport revenue.

Section IX. Community-Based Research Studies as Part of LAWA's Future LAX Master Plan Program Project-Level Analysis

The Agreement states in part:

"Inclusion in Project-Level Environmental Analysis. LAWA acknowledges that, pursuant to CEQA, it will perform additional environmental review on the various LAX Master Plan Program project components as they are processed for future approval. In undertaking this additional environmental review, LAWA shall require the general contractor preparing the environmental documents for these future project-level analysis to subcontract with an Independent Expert to coordinate community-based research studies as described in Section IX.B (the "Community-Based Studies"), that are designed to become a part of the environmental analysis. LAWA shall expend no less than $300,000 on the Community-Based Studies. As future project-level environmental documents are prepared for LAX Master Plan Program projects, LAWA is not required to utilize the Community-Based Studies as part of each project-level environmental review, and shall have discretion to determine whether a particular project-level analysis would be appropriate for including the Community-Based Studies…"

Status → In Progress:
LAWA secured $300,000 for Community-Based Studies within Ricondo & Associates, Inc., project-level environmental analysis contract approved in 2014 for the Landside Access Modernization Program (LAMP). In 2015, LAWA solicited ideas for the Community-Based Studies with the LAX Coalition, and the focus looked at how LAWA's investment in the LAMP facilities could generate jobs and provide other benefits to communities in the Project Impact Area. Ricondo issued a Request for Qualifications and selected Estolano LeSar Perez (ELP) Advisors as the independent expert to conduct the Study. On October 14, 2015, the Independent Expert held a meeting and sought input from community leaders, including,

1. *LAX Coalition*
2. *City of Inglewood*
3. *City of Hawthorne*
4. *Office of Supervisor Mark Ridley-Thomas*
5. *Office of Representative Maxine Waters*
6. *Office of Senator Isadore Hall*
7. *Office of Assemblymember Autumn Burke*

The Draft Study was completed in 2016 and under LAWA review.

Section X. Air Quality

The Agreement states in part:

Section X.A. Electrification of Passenger Gates

"1. Passenger Gate Electrification Schedule. LAWA shall ensure that all Passenger Gates are equipped and able to provide electricity sufficient for aircraft needs under the following schedule:

a. All Passenger Gates for which new construction (excluding maintenance) is completed after the effective date of this Agreement shall be equipped and able to provide electricity to parked aircraft from date of initial operation and at all time thereafter.

b. Three years from the effective date of this Agreement, and at all times thereafter, at least fifty percent of Passenger Gates at LAX shall be equipped and able to provide electricity to parked aircraft.

c. Five years from the effective date of this Agreement, and at all times thereafter, one hundred percent of Passenger Gates at LAX shall be quipped and able to provide electricity to parked aircraft.

2. Aircraft Use of Gate-Provided Electricity. LAWA shall ensure that gate-provided electricity is provided to all aircraft parked at Equipped Passenger Gates and, except for the exemptions identified in this section, that all aircraft use the gate-provided electricity in lieu of engine operation of aircraft or mobile/ground auxiliary power units…

3. Assessment of Electrification of Passenger Loading Areas. LAWA shall conduct an assessment of operations at Passenger Loading Areas for the purpose of determining whether electrification of Passenger Loading Areas is Operationally Infeasible. The assessment shall include, but not limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…

4. Commuter Flight Loading and Unloading. By the conclusion of the LAX Master Plan Program, loading and unloading of passengers of commercial aircraft shall - be performed only through Passenger Gates."

Status → Completed:
All passenger gates, i.e., terminal and regional boarding ramp gates are electrified with 400 hertz ground power.

Section X.B. Electrification of Cargo Operations Areas

"1. Cargo Operations Areas Electrification Schedule. LAWA shall ensure that all, unless determined under procedures described below to be Operationally Infeasible and/or Technically Infeasible, all Cargo Operations Areas are equipped and able to provide electricity sufficient for aircraft needs as following:

a. All Cargo Operations Areas for which new construction, not maintenance, is completed after the effective date of this Agreement shall be equipped and able to provide electricity to parked aircraft from date of initial operation of the Cargo Operations Area at LAX and at all time thereafter.

b. Three years from the effective date of this Agreement, and at all times thereafter, at least fifty percent of Cargo Operations Areas at LAX shall be equipped and able to provide electricity to parked aircraft.

c. Five years from the effective date of this Agreement, and at all times thereafter, one hundred percent of Cargo Operations Areas at LAX shall be equipped and able to provide electricity to parked aircraft.

2. Aircraft in Cargo Operations Areas Use of LAX-Provided Electricity if Available. LAWA shall ensure that electricity sufficient for aircraft needs is provided to all aircraft parked at Equipped Cargo Operations Areas and that all these aircraft use LAX-provided electricity as power in lieu of engine operation of aircraft or ground/mobile auxiliary power units…

3. Assessment of Electrification of Cargo Operation Areas and Feasibility Evaluation. LAWA shall conduct an assessment of Cargo Operations Areas for the purpose of evaluating whether electrification of a particular Cargo Operations Areas is Operationally Infeasible and/or Technically Infeasible. The assessment shall include, but not limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…"

Status → In Progress:
In 2016, LAWA completed the conceptual Project Definition Booklets for electrification of LAWA-owned/operated cargo aircraft parking positions at LAX.

Section X.C. Electrification of LAX Hangars

"LAWA shall conduct an assessment of operations at LAX Hangars for the purpose of determining whether electrification of LAX Hangars to provide electricity sufficient for aircraft needs at LAX Hangars is Operationally Infeasible and/or Technically Infeasible. The assessment shall include, but not be limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…"

Status → In Progress:
In 2013, LAWA completed a comprehensive feasibility assessment study for the electrification project for the LAX hangars. In 2016, LAWA continued to strategize and develop a work plan for electrification of LAX Hangars.

Section X.D. FAA Prohibition

"If an FAA Determination, as defined in and pursuant to the procedures set out in the Cooperative Agreement, or any other regulatory authority prohibits LAWA from taking actions required by Subsections A through C of this Section X, or threatens to withhold federal funding if LAWA takes actions required by Subsections A through C of this

Section, then LAWA shall set aside $1.7 million to the air quality fund described in Section XV."

Status → Not applicable at this time:
Action is required only if the FAA prohibits LAWA from implementing this section.

Section X.E. Reporting

"LAWA shall report in writing to the Coalition Representative on the progress of electrification of Passenger Gates, Cargo Operations Areas, and LAX Hangars semiannually. Reports shall include, but not be limited to, the number and types of facilities and areas electrified, operational guidelines issued, a summary of exemptions granted, reports of violations of usage requirements, and actions taken by LAWA to enforce usage requirements."

Status → In Progress:
LAWA has provided a status of the electrification program in each of the annual CBA reports.

Section X.F. Construction Equipment

Best Available Emission Control Devices Required. LAWA shall require that all diesel equipment used for construction related to the LAX Master Plan Program be outfitted with the best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of NOx. This requirement shall apply to diesel-powered off-road equipment (such as construction machinery), on-road equipment (such as trucks) and stationary diesel engines (such as generators).

Status → In Progress:
As stipulated in Section X.F.8 of the CBA, an Independent Third Party Monitor was retained by LAWA to monitor compliance with the requirements of Section X.F. The role of the Independent Third Party Monitor is to monitor, document, and report on a semi-annual basis to LAWA and the Coalition on compliance with all elements of Section X.F, including but not limited to the use of verified diesel emission control systems (VDECS) on LAX Master Plan Program construction-related diesel equipment, a summary of exemptions granted, and any reports of violations or noncompliance with the requirements of CBA Section X.F.

The following is an update of activities and findings reported by the Independent Third Party Monitor as it relates to diesel construction equipment utilized on Midfield Satellite Concourse – North (MSC-North) and the Qantas Hangar Demolition projects:

Section X.F.1 – Best Available Emissions Control Devices Required
All diesel equipment used for construction related to the LAX Master Plan Program is required to be outfitted with best available emission control devices, primarily to reduce diesel particulate matter emissions, including fine particulate, and secondarily to reduce emissions of oxides of nitrogen (NOx). This requirement applies to diesel-powered off-road equipment, on-road equipment, and stationary diesel engines. The emission

control devices utilized for the equipment at the LAX Master Plan Program construction shall be verified or certified by the California Air Resources Board (CARB) or Environmental Protection Agency (EPA) for use on on-road or off-road vehicles or engines.

Status → In Progress:
The Independent Third Party Monitor reviewed the documentation submitted by the Contractors for each piece of diesel equipment utilized or planned for possible utilization on the MSC-North and the Qantas Hangar Demolition projects relative to compatibility with Best Available Emissions Control Devices. Approximately 178 pieces of diesel equipment were assessed to determine compatibility with a CARB-verified or EPA-certified diesel emission control device.

To assist in performance of this Section, the Independent Third Party Monitor developed and implemented a monitoring process to track each piece of diesel equipment and document each construction firm's compliance as it related to outfitting their diesel construction equipment with the best available emissions control devices.

The results for this Section are as follows:

- *Construction continues on the MSC-North. As of December 2016, a total of thirty-four (34) pieces of equipment were evaluated. For on-road vehicles, one (1) truck was evaluated; this vehicle met or exceeded the EPA 2007 standards and was equipped with a factory installed VDECS. Relative to off-road diesel equipment, a total of thirty three (33) pieces of construction equipment have undergone independent monitoring. Nineteen (19) were certified by the US EPA as compliant with Tier 4 or Tier 4-Interim Emissions Standards – this equipment is configured with a factory-installed diesel emission control system. Four (4) pieces of equipment were determined to not have a VDECS available at the time construction commenced. Ten (10) pieces of equipment were granted a "20-day" exemption in accordance with CBA Section X.F.4.*

CBA Section X.F.1 Compliant Rock Truck Operating on MSC-North Construction Site

- *The Qantas Hangar Demolition project was complete as of December 2016. A total of one hundred forty-tour (144) pieces of equipment had undergone Independent Third Party Monitor evaluation. Of this value, one hundred forty-one (141) pieces were approved by LAWA for airfield use. A total of ninety (90) on-road vehicles were evaluated; eighty one (81) met or exceeded the EPA 2007 standards and were equipped with a Level 3 VDECS. Of these 81 vehicles, sixty eight (68) were equipped with a factory-installed Level 3 VDECS, and thirteen (13) underwent retrofit with a Level 3 VDECS. Three (3) on-road vehicles were powered by Compressed Natural Gas (CNG). These vehicles are deemed to comply with the air quality provisions of CBA Section X.F. Two (2) on-road vehicles were rejected by LAWA, as they were not equipped with a VDECS and did not meet the requirements for an exemption in accordance with CBA Section C.F.4. Four (4) on-road vehicles were granted a "20-day" exemption in accordance with the CBA.*

  Relative to off-road diesel equipment, a total of fifty four (54) pieces of off-road construction equipment underwent independent third party monitoring. Fifty Two (52) pieces of diesel construction equipment were certified by the US EPA as compliant with Tier 4 or Tier 4-Interim Emissions Standards - this equipment is configured with a factory-installed VDECS. One (1) piece of diesel off-road construction equipment was rejected by LAWA due to incomplete paperwork. Finally, One (1) piece of diesel equipment was granted a "20-day" exemption in accordance with CBA Section X.F.4.

Section X.F.2 - Demonstration Projects

Notwithstanding the verification or certification requirement set forth in Section X.F.1, LAWA may allow diesel equipment used for construction related to the LAX Master Plan Program to be outfitted with a new emission control device designated by LAWA as a "Demonstration Project", even if the device has not yet been verified or certified by CARB or EPA for use in on-road or off-road vehicle or engine applications. These devices shall, at a minimum, meet all pollution reduction requirements specified in Section X.F.3.

Status → Not applicable at this time:
Not required at this time. The Independent Third Party Monitor is available to assist LAWA and the LAX Coalition in identifying potential opportunities to conduct a Demonstration Project in accordance with Section X.F.2. No Demonstration Projects were initiated during 2016.

Section X.F.3 - Emission Reduction Standards

Emission control devices used pursuant to Section X.F.1 shall achieve emission reductions no less than what would be achieved by a Level 2 (50 percent particulate matter reduction) diesel emission control strategy for a similar sized engine as defined by CARB regulations. Under no circumstances shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

Status → In Progress:
The LAWA Environmental Monitor, in coordination with the Independent Third Party Monitor assessed each piece of diesel construction equipment equipped with a VDECS pursuant to Section X.F.1 and documented its compliance as it related to meeting or exceeding Level 2 diesel emission reductions.

Final results for this Section are as follows:

- *With respect to the MSC-North and the Qantas Hangar Demolition projects, approximately 153 vehicles and equipment were equipped with diesel emission control systems that met or exceeded the CARB Level 3 standard of 85 percent or greater reduction in diesel particulate matter. No Level 1 or Level 2 VDECS were identified for equipment assessed pursuant to Section X.F.1.*

- *The Third Party Monitor verified with CARB that the Level 3 devices utilized on the MSC-North and the Qantas Hangar Demolition projects did not result in an increase of any pollutant above which is standard for that equipment's engine.*

Section X.F.4 – Exemptions

The requirements of Sections X.F.1 through X.F.3 do not apply to a piece of construction related diesel equipment for which the operator provides a written finding, based upon appropriate market research and approved by LAWA, that the best available emission control device for reducing the emissions of pollutants as required by Sections X.F.1 through X.F.3 is unavailable for that equipment, in which case the contractor shall use whatever technology for reducing exhaust emissions is available and appropriate for that vehicle or engine, if any. In addition, Sections X.F.1 through X.F.3 do not apply to a piece of construction related diesel equipment that is used on LAX Master Plan Program construction sites for fewer than twenty (20) calendar days per calendar year.

Status → In Progress:
The Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the MSC-North and the Qantas Hangar Demolition projects as it pertained to the requirements of Sections X.F.1 and X.F.3 and independently determined if a CARB verified or EPA certified diesel emission control system was compatible. These results were documented and compared with exemptions granted by LAWA.

Results for this Section are as follows:

- *Equipment whose engine is compatible with a CARB verified or EPA certified diesel emission control system, but whose use on the MSC-North and the Qantas Hangar Demolition projects would not exceed twenty (20) calendar days per calendar year was granted a "20-day" exemption by LAWA. The Third Party Monitor maintained an independent database of all equipment operating under the 20-day exemption rule, including the date the equipment was moved onsite and the date the equipment was required to be removed from the airfield. Ten(10) pieces of equipment received a 20-day exemption on the MSC-North project. Four (4) on-road vehicles received a 20-day exemption on the Qantas Hangar Demolition project;*

- *The Third Party Monitor also independently assessed and documented diesel equipment for which no CARB verified or EPA certified diesel emission control system was available. This equipment was granted an exemption by LAWA on the basis of unavailability. Four pieces of diesel construction equipment on the MSC-North project were granted an exemption on the basis of unavailability of a compatible VDECS.*

Section X.F.5 - Ultra-Low Sulfur Diesel and Other Fuels

All diesel equipment used for construction related to the LAX Master Plan Program shall use only Ultra-Low Sulfur Diesel Fuel (ULSD) with a sulfur content of fifteen (15) parts per million or lower. If adequate supplies of ULSD are not available in the Southern California area, other fuels may be used, provided that the other fuels do not result in greater emissions of fine particulate matter or oxides of nitrogen than that which would be produced by the use of ULSD.

Status → In Progress:
The Third Party Monitor independently reviews and documents fuel purchase records for diesel fuel used on the MSC-North and the Qantas Hangar Demolition projects.

Results for this Section are as follows:

- *South Coast AQMD Rule 431.2, which took effect on June 1, 2006, requires diesel fuel refined and sold for on-road and off-road use within the jurisdiction of the AQMD to contain no more than 15 parts per million (ppm) sulfur by weight. This requirement was subsequently adopted on a statewide basis by the California Air Resources Board, effective September 1, 2006. Thus, ULSD is the only diesel fuel legally available for purchase within California;*

- *No shortage of ULSD was experienced within Southern California during the MSC-North and the Qantas Hangar construction activities in 2016. No substitution of any fuel in lieu of 15 ppm ULSD occurred during any LAX Master Plan construction project;*

- *The Independent Third Party did not monitor on-road vehicles operating on the MSC-North and the Qantas Hangar Demolition projects that were fueled off-site.*

Section X.F.6 - Operational Requirements

Operational Requirements pertaining to excessive vehicle idling and required engine maintenance intervals shall be issued by LAWA and enforced.

Status → In Progress:
The Third Party Monitor monitored excessive vehicle idling enforcement and compliance with engine maintenance intervals based on independent observation, review of enforcement action documentation, and review of construction firm engine maintenance procedures and records.

Results as it relates to this Section are as follows:

- *No written violations pertaining to excessive equipment idling were cited by LAWA on any construction firm. On infrequent occasions, vehicles deemed to be idling beyond*

the period of time stipulated in CARB regulations were instructed to turn off their engines. Formal enforcement actions were not deemed necessary by LAWA;

- *Each construction firm proposing a piece of diesel equipment was required to submit in writing the scheduled maintenance procedures for that piece of equipment. The Third Party Monitor has reviewed each maintenance plan submitted to LAWA.*

Section X.F.7 – Enforcement by LAWA

Compliance with all requirements delineated in Sections X.F. is required of all Airport Contractors, Airport Lessees, and Airport Licensees. LAWA shall enforce the findings and determinations of the Independent Third Party Monitor.

Status → In Progress:
The Third Party Monitor was informed that no formal enforcement actions were taken.

Section X.F.8 – Independent Third Party Monitor

Compliance with requirements of Section X.F. is required to be monitored, documented, and reported by an Independent Third Party Monitor.

Status → In Progress:
LAWA retained an Independent Third Party Monitor. The findings of the Independent Third Party Monitor are reported in this document and in Appendix B.

Section X.F.9 – Reassessments of Emission Control Devices

"LAWA shall designate the best available emission control devices annually or more frequently, in consultation with the Coalition Representative and the Independent Third Party Monitor. LAWA, in consultation with the Coalition Representative, shall establish processes to revise these designations and incorporate the requirement to use the emission control devices newly designated as best available into construction bid documents to take into account advances in emission control devices prior to bidding of new construction phases of the LAX Master Plan Program. The process of emission control technology review shall include any new relevant requirements promulgated by CARB or EPA. Results from the reassessments shall not be applied retroactively."

Status → In Progress:
The LAWA Environmental Monitor, in coordination with the Independent Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the MSC-North and the Qantas Hangar Demolition projects for compatibility with newly verified Level 2 and 3 VDECS. While it was understood that the requirement to utilize new VDECS could not be applied retroactively for equipment operating on the MSC-North and the Qantas Hangar Demolition projects, the reassessment process conducted in 2016 will be used to designate best available control emission devices for subsequent LAX Master Plan Program construction projects. It is important to note that a high percentage of equipment utilized on LAX Master Plan Projects is not factory-equipped with diesel emission control systems that satisfy CBA requirements as stipulated in CBA Section X.F.1.

Section X.G. Ground Service Equipment Diesel Emissions Reduction Incentive Program

"GSE Incentive Program. LAWA shall create a program providing incentives for the reduction of GSE diesel emissions ("GSE Incentive Program"). LAWA shall expend at least $500,000 on the GSE Incentive Program. Participation by GSE operators in the GSE Incentive Program shall be voluntary. Funding for the program shall commence in fiscal year 2005-06."

Status → In Progress:
Upon adoption of an Emissions Reduction Policy in 2015 (see Section X.I. below), LAWA began work to develop a GSE Incentive Program and continued to develop a GSE Incentive Program in 2016.

Section X.H. Ground Service Equipment Inventory

"1. Scope of GSE Inventory. LAWA shall prepare a study ("GSE Inventory") detailing all GSE operated On-Site. The GSE Inventory shall include, but not be limited to, an inventory of the number, type, sizes, model year, usage history, and identify of operator for all GSE operated On-Site at the time of the GSE Inventory…

2. Determination of 1997 GSE Fleet for Nonparticipating GSE Operators. The GSE Inventory shall include a determination of the number and types of On-Site GSE that were operated On-Site in 1997 by each Nonparticipating GSE Operator…"

Status → Completed:
The study was completed and the results were issued to the Coalition in May of 2007. In 2012, LAWA began the process to update the LAX GSE inventory and conduct a comprehensive e-GSE feasibility study in 2013. The updated comprehensive feasibility study was completed and presented to the Coalition at the January 28, 2014 CBA meeting.

Section X.I. Requirements for Emissions Reductions by Nonparticipating GSE

"In order to achieve emission reductions from GSE operated at LAX by Nonparticipating GSE Operators, LAWA shall issue requirements leading to the use of less-polluting GSE by Nonparticipating GSE Operators, as described in this Section X.I. New, amended, renewed, or extended Airport Contracts, lease agreements, and any relevant LAX licensing or permitting requirements for Nonparticipating GSE Operators shall include language requiring compliance with requirements of this Section X.I. and allowing assessment of liquidated damages as described in this Section X.I against any entity responsible for a violation…"

Status → Completed:
In April 2015 LAWA's Board of Airport Commissioners adopted a Ground Support Equipment Emissions Policy to reduce emissions at LAX. The Policy calls for GSE operators to:

1. *Reduce their fleet-wide GSE emissions to 2.65 g/bhp-hr by December 31, 2021;*
2. *Provide LAWA with an interim assessment of the fleet-wide emission as of March 1, 2019;*
3. *Provide LAWA with an annual accounting of the composite HC plus NOx emission factors of their LAX GSE fleet; and*

4. *Provide LAWA with fleet inventory data for their LAX GSE Fleet that is consistent with data provided to the California Air Resources Board (CARB) and in a form or forms as requested by LAWA on an annual basis.*

In 2016, many of the LAX GSE operators had already achieved or exceeded the December 31, 2021 GSE emission target of 2.65 g/bhp-hr. for their fleets. Airport- wide emissions totaled 2.46 g/bhp-h, which is below the 2021 target.

Section X.J. Emission Reductions from On-Road Trucks, Buses, and Shuttles

"1. Inventory of On-Road Heavy-Duty Vehicle Traffic and Study of Feasible Mitigation

a. Heavy-Duty Vehicle Study. LAWA shall fund a study of on-road Heavy-Duty Vehicle traffic related to LAX Operations. This study shall begin no later than one year from the effective date of this Agreement. The study shall be completed within twelve months of its initiation. The Study shall be conducted by an Independent Expert, selected through a Contract Award Process…"

Status → In Progress:
A draft scope for this study was submitted to the Coalition in July 2005.

"2. Conversion of Truck, Shuttles, Passengers, Vans and Buses to Alternative Fuel

a. Covered Vehicles. Requirements established under this Section X.J.2 shall apply to all on-road vehicles, including trucks, shuttles, passenger vans, and buses, that are 8,500 lbs gross vehicle weight rating or more and are used in operations related to LAX ("Covered Vehicles"). Diesel equipment for construction related to the LAX Master Plan Program that is subject to Section X.F. of this Agreement shall be exempt from requirements established pursuant to this Section X.J.2.

b. Conversion Schedule. LAWA shall ensure that by five years from the effective date of this Agreement, 50 percent of the Covered Vehicles operated by any Airport Contractor, Airport Lessee, and Airport Licensee (collectively "Operators") are Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles. LAWA shall ensure that by ten years from the date of execution of this Agreement, 100 percent of the Covered Vehicles operated by each Operator are Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles.

c. Least-Polluting Available Vehicles. In cases where Operators cannot comply with requirements established pursuant to Section X.J.2.b because neither Alternative-Fuel Vehicles nor Optional Low NOx Standard Vehicles are commercially available for performance of particular tasks, LAWA shall instead require Operators to use Least-Polluting Available Vehicles for such tasks. An Independent Third Party Monitor shall determine on an annual basis whether Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles are commercially available to perform particular tasks, and, in cases where Alternative-Fuel Vehicles or Optional Low Standard Vehicles are not commercially available for performance of a particular task, shall identify the Least Polluting Available Vehicles for performance of that task."

Status → In Progress:
LAWA has an Alternative Fuel Vehicle Requirement Program that applies to all on-road vehicles with a gross vehicle weight rating of 8,500 pounds or greater. This program is currently in effect and requires the conversion of rental car shuttles, trucks, and other large vehicles in use at LAX to alternative fuel.

One hundred percent (100%) of the LAX courtesy shuttles are alternative fuel, as are the Americans with Disability Act (ADA) shuttles.

LAWA's on-line reporting system, implemented in 2015, enabled LAWA to identify operators who failed to report or had non-compliant vehicles. In 2016, LAWA issued notices of non-compliance to operators for non-reporting or non-compliant vehicles. Extensive outreach to these operators achieved 97 percent compliance with the reporting requirement. LAWA continued to work with the operators of the Covered Vehicles to meet this commitment. Environmental Programs Group (EPG) staff conducted meetings to inform the contract managers about the reporting process and to provide information to aid the operators to reach compliance with this commitment. Also in 2016, LAWA continued its evaluation of the LAX Alternative Fuel Vehicle Requirement in light of new low emission technologies currently available in the marketplace.

Section X.K. Particulate Matter (PM 2.5)

"1. Assessment of PM 2.5. LAWA shall assess and mitigate impacts of PM 2.5 in compliance with all applicable provisions of state and federal law. LAWA's obligation to mitigate PM 2.5 impacts within the context of the CEQA may be limited by feasibility, overriding considerations or other requirements articulated in applicable state and federal laws.

2. Determination of PM 2.5 Significance Thresholds. The assessment and mitigation of PM 2.5 impacts shall comply with the requirements for both attainment of PM 2.5 ambient air quality standards and the mitigation of significant project-related and cumulative impacts under CEQA.

3. Conferring with Applicable Agencies. LAWA shall confer with applicable agencies, including SCAQMD, CARB, and the EPA, to assure compliance with state and federal PM 2.5 ambient air quality standards after guidance for measuring and evaluating exceedances has been established. With respect to projects requiring CEQA analysis, LAWA shall include the SCAQMD as a responsible agency in the review process to seek adherence to the threshold standards to be established.

4. LAWA Project Assessment of PM 2.5. LAWA shall conduct and complete a CEQA assessment of PM 2.5 impacts related to the first LAX Master Plan Program project to be initiated after establishment of applicable thresholds, either by SCAQMD or as outlined above. This assessment shall be completed in consultation with SCAQMD as a responsible agency in the CEQA review process."

Status → Completed:
In 2008, LAWA initiated the environmental analysis of the Crossfield Taxiway Project (CFTP) and published a Draft Environmental Impact Report (EIR) on September 25, 2008. The Draft EIR included an assessment of PM2.5 impacts in its air quality analysis. Note: This

requirement did not apply to the SAIP (the SAIP EIR NOP was published in August 2004, while the CBA was executed in February 2005).

Section X.L. Rock-Crushing Operations and Construction Material Stockpiles

"LAWA shall locate rock-crushing operations and construction material stockpiles for all construction related to the LAX Master Plan Program in areas away from LAX-adjacent residents to reduce impacts from emissions of fugitive dust…"

West Aircraft Maintenance Area → Completed:

There were no Master Plan projects that required rock-crushing in 2016. There were stockpiles of aggregates for the batch plant and stockpiles of various soils at WAMA, away from LAX-adjacent residents. The stockpiles were watered, as required, to prevent fugitive dust.

Section X.M. Limits on Diesel Idling

"LAWA shall prohibit diesel-powered vehicles from idling or queuing for more than ten consecutive minutes On-Site, unless CARB adopts a stricter standard, in which case LAWA shall enforce that standard. Exemptions to this rule may be granted for safety-related and operational reasons, as defined in CARB regulations."

Status → Completed:

Subject requirement was included in construction specifications for the TBIT Renovation – East Aprons, WAMA, and Qantas Hangar projects. No written violations pertaining to excessive equipment idling were cited by LAWA on any construction firm. On infrequent occasions, vehicles deemed to be idling beyond the period of time stipulated in CARB regulations were instructed to turn off their engines. Formal enforcement actions were not deemed necessary by LAWA. This requirement will be included in construction specifications for all upcoming projects at LAX.

Section X.N. Provision of Alternative Fuel

"LAWA shall ensure that its infrastructure for providing fuel to Alternative-Fuel Vehicles is sufficient and available, where not Operationally Infeasible and/or Technically Infeasible, to meet all requests for alternative fuel from contractors and other uses of LAX."

Status → In Progress:

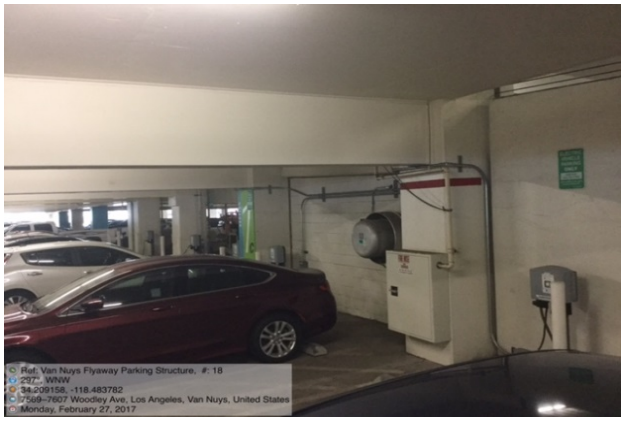
LAWA has a private liquefied natural gas (LNG)/compressed natural gas (CNG) facility located on the west side of the airport property to service LAWA vehicles. In addition Clean Energy operates three public CNG fueling stations near LAX at 10400 Aviation Blvd, 9601 Aviation Boulevard, and 9131 Aviation Boulevard. Since 2014, all three of Clean Energy's CNG fueling stations are dispensing Renewable Natural Gas.

In 2016, LAWA replaced all obsolete level 2 electric vehicle (EV) chargers in parking structures PS 1, PS 6, Van Nuys (VNY) FlyAway Terminal and added six new chargers in Lot C, bringing the total number of level 2 chargers at LAX to 78, including 71 for public use.

EV Charger Locations at LAX

Location	Level 2 EV Charger	Direct Current Fast Charger
Parking Garage 1 (P-1)	19	1
Parking Garage 6 (P-6)	20	
Park N Fly (Park One) - *installed Oct 2013*	4	
Long Term Parking Lot C	20	
Van Nuys FlyAway Terminal Parking at LAX	8	
Admin West Building LAWA Fleet (not for public use)	4	
Maintenance Services LAWA Fleet (not for public use)	3	
TOTAL ( )* with public access	**78 (*71*)***	**1**

EV Chargers in Lot C at LAX



EV Chargers at VNY FlyAway Terminal.

LAWA continues to assess demand and look for appropriate opportunities to expand its alternative fuel infrastructure at LAX.

Section X.O. Hydrogen Fuel Cell Infrastructure

"LAWA shall support efforts to place a hydrogen fuel cell system for the generation of electricity at or near LAX. This fuel cell system shall meet or exceed CARB 2007 distributed generation certification standard."

Status → Completed:
LAWA investigated the use of hydrogen fuel cells for the Central Utility Plant Replacement Project (CUP-RP) Environmental Impact Report published in 2009. The use of hydrogen fuel cells was found to be infeasible due to size constraints and energy inefficiency.

Section X.P. Cleaner Burning Jet Fuels

"LAWA shall support efforts to encourage the airlines and petroleum industries to embark on a study to promote the use of jet fuels that minimize air pollutant emissions from jet engines."
Status → In Progress:
LAWA continues to support cleaner burning jet fuels working with its airline and tenant stakeholders, as well as airport industry organizations and air quality agencies.

On March 11, 2016, United Airlines made history as the first U.S. airline to use commercial-scale volumes of biofuel with the departure of UAL Flight 708 from LAX to SFO. The launch marked a significant milestone in the commercial aviation industry by moving beyond demonstration flights and test programs to the use of advanced biofuels for United Airlines' ongoing operations. United Airlines has committed to purchase 15 million gallons of AltAir biofuel over the next three years.

Section XI. Green Building Principles

The Agreement states in part:

"To the extent practical and feasible, in accordance with local building codes and California state codes, and subject to limitation or restrictions in accordance with FAA or Transportation Security Administration standards guidelines, LAWA shall incorporate Leadership in Energy and Environmental Design (LEED) building standards into demolition, design, construction and operation of all aspects of the LAX Master Program. LAWA shall apply the LEED standards for New Commercial and Major Renovations, Version 2.1, as defined by the U.S. Green Building Council.

LAWA shall abide by all applicable City regulations with respect to energy efficiency, sustainability and green building design."

Status → In Progress:
This measure is currently in practice to the extent feasible and practical.

- *In March 2016, the LAX Terminal 4 Connector Project was completed, which established a multi-use, multi-level facility providing a secure connection between the Tom Bradley International Terminal and Terminal 4. The Terminal 4 Connector makes it easier for passengers to catch connecting flights out of different terminals. The subject facility includes a Checked Baggage Inspection System, South Matrix Interline Baggage Transfer facility, and a four-lane Passenger Security Screening Check Point. A South Terminals Passenger Bus Port is available for future use, and a public plaza provides outdoor seating on the upper level.*

Aerial view depicting location and design of Terminal 4 Connector

Building projects in the City of Los Angeles are subject to the Los Angeles Green Building Code (LAGBC), which is based on the California Green Building Code (CalGreen). As the LAGBC replaced LEED in the Los Angeles Municipal Code in 2008, LAWA has since adopted Tier 1 compliance with the LAGBC as its standard for the sustainable planning, design, and construction of new building projects. The Terminal 4 Connector is the City of Los Angeles' first non-residential building certified to Los Angeles Green Building Code Tier 2 standards. The building betters the already stringent California Title 24 energy use requirements by over 37 percent through the use of a number of green features including:

- *Cool roof, which reflects almost 80 percent of the sun's radiant energy so that less energy is needed to cool the building;*
- *Innovative ventilation system, which is used in the baggage screening area to take advantage of local climate conditions to cool baggage equipment;*
- *Renewable energy infrastructure, which provides for installation of photovoltaic and other emerging technologies at a later date to further reduce energy consumption;*
- *Highly efficient motors, which are used to reduce the baggage system's power consumption by 40 percent;*
- *Utilization of LAX's new Central Utility Plant to provide heating and cooling at a much more efficient rate than standalone systems;*
- *Use of Light Emitting Diode (LED) lights in all public areas, along with high-tech lighting controls that sense daylight and minimize the use of power for artificial lighting;*
- *Provision of infrastructure for future use of photovoltaic and other emerging technologies to further reduce energy consumption; and,*
- *Along with all the other mandated aspects of CalGreen, such as the use of low-VOC paints and finishes in the interior, use of drought-resistant California-native plants and a construction waste recycling program, which resulted in 84% of construction waste being recycled.*

Interior View of Terminal 4 Connector

Section XII. Traffic

The Agreement states in part:

"A. Construction Traffic

1. Designated Routes. LAWA shall designate routes for construction equipment, construction-related vehicles, and trucks participating in construction projects related to the LAX Master Plan Program to access LAX. These route designations shall ensure that such construction equipment, construction-related vehicles, and trucks do not travel (i) on 111th Street between Hawthorne Boulevard and Inglewood Avenue; (ii) on 104th Street between Hawthorne Boulevard and Inglewood Avenue; (iii) on Inglewood Avenue between Century Boulevard and Inglewood Ave….

   a. Community Response Program. LAWA shall establish a mechanism for members of the public to report instances of non-compliance with designated truck routes….

2. Lennox/405 Interchange. If LAWA participates in construction of an interchange to the 405 Freeway at Lennox Boulevard, LAWA shall consult with the Coalition Representative and impacted residents in developing mitigation measures that shall be included in the project's Environmental Impact Report, to minimize negative impacts such as residential relocations and the demolition of a community center. These mitigation measures shall include pedestrian and bicycle access over or under the 405 Freeway at Lennox Boulevard, to ensure that local residents can safely access both sides of the 405 Freeway at Lennox Boulevard."

Status → In Progress:
Designated routes for construction-related trucks, vehicles and equipment are specified in LAWA construction contracts, including LAX Master Plan projects undergoing construction in 2016. The designated routes avoid the roadway segments identified in this measure. LAWA inspectors and monitors checked that trucks used the designated routes.

LAWA developed and maintains a website at http://www.lawa.org/laxdev to provide construction information for the public. The general, program-wide construction hotline number, which is posted on the website, to report incidences of non-compliance is (310) 649-LAWA (5292). Please see Appendix A for a summary of calls in 2016 to the LAX construction hotline.

The Lennox Boulevard/I-405 interchange and associated mitigations are no longer being considered within the context of an overall landside improvement plan for LAX.

Section XIII. Minority Business Enterprise, Women Business Enterprise, and Small Business Utilization and Retention Program

The Agreement states in part:

"A. LAWA shall coordinate with the Mayor's Office, CDD, and other relevant business advocacy and assistance organizations to initiate a program to increase participation in the planning, construction, operation and maintenance of LAX by PIA small businesses and minority-owned business enterprises and women-owned business enterprises (MBE/WBE)….."

Status → Ongoing:
In collaboration with the Procurement Services Division, BJRC's Business Outreach Unit (BOU) conducts a monthly workshop, "Doing Business with LAWA." In 2016, approximately 174 business representatives attended the monthly workshop.

In October 2012, the Board of Airport Commissioners (BOAC) adopted the Small Business Enterprise (SBE) program to replace the Minority/Women/Other Business Enterprise (M/W/OBE) program. SBE is defined as an independently-owned and operated business that meets criteria set forth by the Federal Small Business Administration (SBA), or State of California SBE Program, whichever is greater. LAWA sets a specific, mandatory percentage of small business subcontracting on construction, professional and non-professional projects valued in excess of $150,000; there is a penalty for failure to meet the pledges. Unlike the M/W/OBE program, Primes that are certified SBEs are credited for 100 percent participation. Los Angeles World Airports' overall SBE goals, pledges, total contracts and total original contract values are shown below:

	SBE Dept. Goals	***SBE Contract Pledges***	***Total Contracts***	***Total Original Contract***
Year 1 (2012/2013):	***15%***	***29.35%***	***34***	***$413,784,255***
Year 2* (2013/2014):	***20%***	***28.31%***	***22***	***$225,256,026***
Year 3 (2014/2015):	***25%***	***23.13%***	***23***	***$154,095,305***
Year 4 (2015/2016)	***BOAC did not set a goal***	***35.21%***	***26***	***$178,073,881***

**In July 2014, the Board requested that the Department Year 2 goal be increased to 25%, and the total contracts exclude the $961,270,169 Midfield Satellite Concourse contract*

Although LAWA replaced M/W/OBE program with SBE program in 2012, LAWA is required to submit a quarterly report to the Mayor's Office on the MBE/WBE/SBE/LBE/OBE participations. As such, LAWA's MBE/WBE/OBE participation in CY 2016 is shown in the table below:

Calendar Year (CY)	***MBE/WBE Pledges***	***Total No. of Contracts***	***Total Original Contract Value Awarded to MBE/WBE Firms (Prime and Sub)***	***Total Original Contract Value Awarded to OBE Firms (Prime and Sub)***
CY 2016	***31.36%***	***92***	***$185,084,141***	***$183,128,938***

**The MBE/WBE/OBE dollars are based on the total number of contracts awarded in CY 2016. Please note, the total number of contracts consists of various Business Enterprise (BE) participations.*

The Board of Airport Commissioners adopted the Local Business Enterprise/Local Small Business Enterprise (LBE/LSBE) Program in November 2016. LBE is defined as a business that occupies work space within the County of Los Angeles and complies with all applicable laws relating to licensing and is not delinquent on any Los Angeles City or County taxes. The LBE Program is designed as a subcontracting program. Unlike the SBE Program, LBE primes do not receive credit. To qualify as an LBE, the business must be headquartered in LA County and physically conduct and manage all operations from a location in LA County, or have at least 50 full-time employees perform work within the boundaries of LA County a minimum of 60 percent of their total regular hours worked on an annual basis, or half of the full-time employees of the business perform work within the boundaries of LA County a minimum of 60 percent of their total, regular hours worked on an annual basis. LSBE is a subset of the LBE Program and it includes businesses which are certified as both LBE and SBE. LAWA sets a specific, mandatory LBE/LSBE (as a subset of the LBE goal) percentage for procurement of goods, equipment and services, including design and construction, valued in excess of $150,000. Certified LSBE Primes are credited for 100 percent participation.

The BOU developed a database, BizConnect of over 6,200 businesses that are seeking to do business with LAWA. This database was developed with the support of LAWA's Information Management and Technology Group, and is maintained by the BJRC staff. Staff periodically requests updated information from the listed businesses so that current information is always available. BizConnect lists the companies' contact, concept, and certification information for distribution internally and externally. The database is accessible to the public at http://www.lawa.org/bjrc.

The unit is actively involved with local Chambers and business organizations. In 2016, LAWA conducted or participated in approximately 220 outreach meetings and events.

Contact information for the Business Jobs Resource Center (BJRC) is posted at http://www.lawa.org/bjrc/About.aspx?id=1968

Section XIV. Community Preparedness for Airport-Related Emergency

The Agreement states:

"LAWA shall assist in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, FEMA), and the local communities in the event of an airport-related emergency."

Emergency Preparedness Exercise
LAX April 13, 2016

Status → Ongoing:
In 2016, LAWA assisted its partner agencies and airport stakeholders in the coordination and dissemination of appropriate information related active incidents at LAX. Expanding use of mass notification systems and social media platforms continues to increase the ability of LAWA to send emergency notices and crisis messaging.

LAWA experienced several high profile incidents in 2016. These included a terminal evacuation on August 28, 2016. This spontaneous event resulted in delayed and diverted flights and direct impact to passengers and concessionaries. There were also public safety issues caused from individuals accessing the airport operations area, including individuals crossing runways while the airport was operational. Post event after action reports identified the need for ongoing alert and warning upgrades and personnel training with emphasis on incident command, security and preparedness. LAWA also experienced a planned event on November 29, 2016. This event, National Labor Union Protest, resulted in several thousand individuals marching on the upper and lower levels of the central terminal area. This resulted in minimal service disruption but allowed personnel to utilize the department operations center for information dissemination.

Throughout 2016, LAWA continued to update and revise emergency plans. To test and train personnel on these plans, a series of exercises were conducted. These included: a full scale exercise at Los Angeles International Airport on April 13, 2016; an aviation security table top exercise held at the Westin Los Angeles on November 9, 2016; a bomb response workshop conducted on September 14, 2016; and, a family assistance support functional exercise conducted May 18, 2016. Each exercise brings partners together to review impacts, protocols, and enables all personnel to network before an incident occurs. These exercises are crucial to

ongoing awareness and readiness of LAX and stakeholder communities, including the media who play a significant role in external and internal crisis communication.

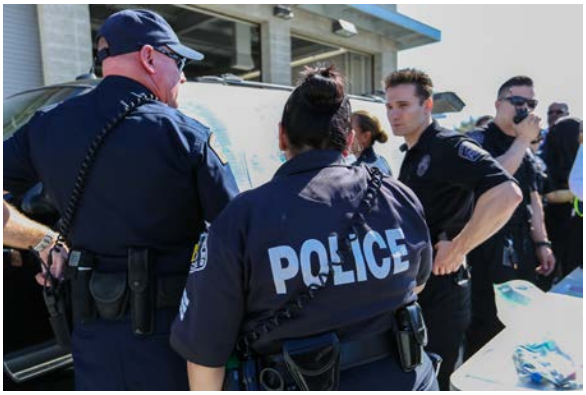
Emergency Preparedness Exercise
LAX April 13, 2016

Family Assistance Center Exercise

In 2016, LAWA Emergency Management Division (EMD) continued to provide cardiopulmonary resuscitation, first aid and automatic defibrillator training to tenant agencies. LAWA EMD also regularly provides initial emergency preparedness training during new employee orientation and delivers Terminal Floor Warden Team trainings to the airline community with the objective of creating a team of airline staff who can assist passengers during a controlled terminal evacuation. This one (1) hour classroom and one (1) hour on-site drill were offered multiple times and at different terminals throughout the year. LAWA EMD continues to provide ADA training for LAWA. Awareness, needs and support mechanisms are critical to our customers and employees with disabilities and others with access and functional needs.

The Los Angeles Fire Department continues to host its facilitated series of “Trunk-Top Exercises” for LAWA. This one (1) hour exercise unites personnel from LAWA, airport partner agencies and stakeholders, and airlines in an effort to collaborate during a simulated incident. The goal is to achieve a common operating picture between the Incident Command Post and the Department Operations Center (DOC). Attendees are exposed to valuable information in the field and in the DOC expanding knowledge and understanding of operational priorities. This

regularly offered training is conducted during various times and shifts to ensure personnel can attend.



Trunk-Top Training Exercises

LAWA continues to maintain resources that may be deployed during an emergency. LAX has nine Point of Distribution (POD) containers filled with provisions to support mass-care and comfort for the traveling public in case of an emergency event. The POD's are pre-positioned inventories of supplies that have been placed both on and off the airport. The Airport Response Team (ART) is comprised of civilian airport employees trained to assist during an emergency to support passengers who have disabilities or access and functional needs and may support passenger comfort, and face to face communication, and support for the ADA population.

Section XV. Designated Airport Fund

The Agreement states in part:

“Where this Agreement provides that LAWA shall contribute airport revenues to job training funds or air quality funds, LAWA will follow the procedures set forth in the Cooperative Agreement regarding "Alternative Job Training and Air Quality Expenditure."

Status → In Progress:
On November 23, 2015, LAWA received a letter from the FAA stating that airport revenues may not be used to provide funding for CBA Section VIII. Health Study. Pursuant to Section V.A.5. of the Cooperation Agreement, LAWA began discussions in late 2015 with the LAX Coalition to develop substitute programs or activities designed to achieve equivalent levels of mitigation and/or benefit through an equivalent expenditure of airport revenues.

Section XVI. Miscellaneous

The Agreement states in part:

"A. Implementation Meetings. To facilitate implementation of this Agreement, address concerns, and ensures an ongoing dialogue between the Coalition Representative and LAWA, the Coalition Representative and LAWA shall have regular Implementation Meetings….

B. Annual Reports. LAWA shall prepare annual reports on the implementation of this Agreement and the progress of the LAX Master Plan Program, and shall forward these reports to the Coalition Representative and post the reports on the LAWA website for at least a one-month period….

C. Contract Award Process. Where a provision of this Agreement refers to a Contract Award Process, that process shall be as described in this Section XVI.C. A Contract Award Process is "initiated" on the date the draft protocols and/or scope of work to be included in the RFP are provided to the Coalition Representative…"

D. Special Arbitrator…"

E. General LAWA Enforcement Responsibility…"

Status → In Progress:
Implementation meetings are regularly scheduled with the Coalition. LAWA ensures that one deputy executive director and one other management-level LAWA staff member attend each meeting. LAWA prepares annual reports on the implementation of the CBA and the progress of the LAX Master Plan Program. The annual reports are posted on LAWA's website at http://www.lawa.org/ourLAX/AnnualReports.aspx?id=8034.

4.0 Lennox School District – Sound Attenuation Measure

The Agreement states in part:

"LAWA Funding of Certain District Mitigation Measures. Subject to FAA Determination regarding the use of airport funds under the federal anti-revenue diversion laws, LAWA will fund certain mitigation measures for the District not to exceed $111,000,000 for noise abatement. Mitigation measures include replacement of HVAC equipment with pollution abatement, double-paned windows and/or sound reduction windows and doors, roofing upgrades, replacement of relocatable classrooms, and temporary housing during construction.

Security-Related Items. LAWA will assist the District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, Federal Emergency Management Agency) and the local communities in the event of an airport-related emergency.

Community Programs. LAWA will work collaboratively with the District to support a variety of community programs, such as job training and academic programs; and…"

Status → In Progress:
On December 7, 2005, LAWA and Lennox School District (Lennox) submitted a request to the FAA for an advisory opinion on the use of airport revenues for noise mitigation measures at Whelan School. In their response on January 12, 2006, the FAA raised questions and issues regarding the Los Angeles County Superior Courts' April 8, 1976 Judgment and Final Order.

On October 2, 2008, Public Law 110-337 authorized the Secretary of Transportation to expand the use of passenger facility fees for the purpose of carrying out certain noise mitigation at Lennox and Inglewood Unified School Districts.

In July 2009, LAWA submitted a letter to the FAA on behalf of Lennox asking that the Secretary of Transportation make a determination, based on Public Law 110-337, that certain schools in Lennox are adversely affected by airport noise, and thereby would be eligible for PFC funding for noise mitigation. Subsequently, the FAA indicated to LAWA that this determination will be made as part of the PFC application process.

On January 10, 2011, the BOAC authorized LAWA to submit the PFC application to the FAA for authorization to collect and use PFC funds to sound insulate impacted schools in the Lennox School District, with the application submitted to FAA on February 2, 2011.

On May 2, 2011 the FAA issued the Final Agency Decision finding the schools in Lennox to be "significantly impacted and adversely affected by aircraft noise," and authorized the expenditure of up to $34,089,058 in PFC funds to insulate the schools listed in the Settlement Agreement between LAWA and Lennox.

On September 19, 2011, the BOAC approved the Letter of Agreement between LAWA and Lennox, and authorized the release of $10 million to Lennox for the first year of the sound insulation program. The funds were delivered to Lennox on December 12, 2011. A new school, Dolores Huerta Elementary School, was completed in 2011, and later in 2011 LAWA provided Lennox with an additional $1,214,600 for reimbursement of sound insulation construction for this school.

In September 2012, sound attenuation work was completed for the Animo Leadership High School, the District's charter school under the management of Green Dot.

In September 2013, the District sent LAWA a written request to remove Lennox Fine and Performing Arts Academy from the list of approved new schools to be mitigated. The school will not be built by the District.

In April 2014, the sound attenuation portion of Jefferson ORG was completed (ORG stands for Overcrowding Relief Grant).

Jefferson Elementary School, October 2014
Construction of new section of the school

On June 2, 2014, LAWA authorized $10 million for the Second Work Plan and released $4,079,000 as the first installment. This Second Work Plan focuses on existing Jefferson Elementary and Buford Elementary Schools. Sound attenuation plans for both of these schools were submitted to the Division of State Architect (DSA), and the District was awaiting approval.

In August 2015, work at both Lennox Middle School and Felton Elementary were deemed completed and closed out by the Lennox School Board.

In November 2016, LAWA released to the District $5,921,000 as the second installment of the $10,000,000 award provided in 2014 to pay for sound attenuation at both Buford and Jefferson elementary schools.

5.0 Inglewood Unified School District – Sound Attenuation Measure

The Agreement states in part:

"LAWA Funding of Certain District Mitigation Measures. Subject to FAA Determination regarding the use of airport funds under the federal anti-revenue diversion laws, LAWA will fund certain mitigation measures for the District not to exceed $118,500,000 for noise abatement. Mitigation measures include replacement of HVAC equipment with pollution abatement, double-paned windows and/or sound reduction windows and doors, roofing upgrades, replacement of relocatable classrooms, and temporary housing during construction.

Security-Related Items. LAWA will assist the District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, Federal Emergency Management Agency) and the local communities in the event of an airport-related emergency.

Community Programs. LAWA will work collaboratively with the District to support a variety of community programs, such as job training and academic programs; and…"

Status → In Progress:
LAWA worked with the Inglewood Unified School District (IUSD) and the FAA to complete the PFC application process requesting authorization to use PFC funding for sound insulation of impacted schools for the IUSD. The PFC application was submitted to the FAA on August 19, 2013 for $64 million dollars to attenuate seven schools plus the Child Development Center at Woodworth Elementary.

In October, 2014, the FAA issued the Final Agency Decision (FAD) for the Inglewood Unified School District, finding the schools to be "significantly impacted". The FAA approved $44,378,659 to fund sound attenuation projects in the IUSD with Passenger Facility Charge (PFC) funds. The Los Angeles International Airport will collect PFC funds to pay for the sound attenuation of five campuses and the Child Development Center at Woodworth. Two schools, Inglewood High School and Hudnall Elementary, were located outside the 65 dB of the FAA-approved noise contour and were not approved for PFC funding by FAA. The schools/campuses approved for sound attenuation were as follows:

- *Morningside High School*
- *Oak Street Elementary School*
- *Payne Elementary School*
- *Woodworth Elementary School*
- *Monroe Middle School*
- *Child Development Center at Woodworth Elementary*

In the spring of 2015, LAWA worked with IUSD to develop their First Work Plan which will outline which schools are scheduled for design and construction phases first. The District identified Payne Elementary, and Woodworth Elementary and Woodworth Child Development Center for the schools in the First Work Plan.

The Work Plan and the initial funding allocation for $10 million dollars were approved by the Board of Airport Commissioners in August of 2015.

In the fall of 2015, the District contracted with an architectural firm to begin solidifying designs for Payne Elementary School.

In 2016, IUSD amended their First Workplan to accommodate for logistical and planning issues. Monroe Middle School and Morningside High School were moved up on the schedule ahead of Woodworth Elementary. The First Workplan now includes Payne Elementary, Monroe Middle School and Morningside High School.

In 2016, the District requested LAWA review the exclusion of Inglewood High School from the FAA-approved portfolio. The school is bisected by the 2020 NEM approved by FAA in February 2016. LAWA sent the FAA a request to reconsider Inglewood High School in the sound insulation program.

6.0 Summary

During 2016, LAWA continued to implement applicable provisions from the Community Benefits Agreement. Construction-related provisions were included in the Midfield Satellite Concourse – North (MSC-North) and the Qantas Hangar Demolition projects using contract specifications and were being implemented during construction. These provisions were also being incorporated into ongoing Master Plan projects at this time.

APPENDIX A

SUMMARY OF CALLS IN 2016 TO LAX CONSTRUCTION HOTLINE

Summary of Calls to LAX Construction Hotline in 2016

Overview: A total of 174 calls were received on the LAX Construction Hotline in 2016. The vast majority of the calls were not directly related to construction, particularly with regards not being construction-related complaints and concerns that Los Angeles World Airports could take immediate action to address and resolve. Those types of "non-construction related" calls generally include, but are not limited to, the following:

- Calls regarding the availability of all or certain food and beverage establishments within terminals undergoing construction activities
- Calls asking for walking directions from one particular terminal to another, and the approximate amount of time it would take to walk the route (i.e., would they be in time to catch their scheduled connecting flight)
- Calls inquiring about construction-related employment or offering construction products and services
- Calls asking about contact information, insurance information, or subcontractor payment information for specific contractors
- Calls regarding future development projects at LAX
- Calls regarding malfunctioning equipment within terminals unrelated to construction
- Calls regarding traffic congestion in and around LAX unrelated to construction
- Calls expressing general concerns about LAX overall, including as compared to other specific airports

Calls received on the LAX Construction Hotline that were considered to be "construction-related" generally include, but are not limited to, the following:

- Calls regarding whether specific construction activities would delay their flight or would require additional time to get to their terminal/gate or the nearby parking structure.
- A call from an LAX tenant indicating that construction near their restaurant entrance was visually blocking the entrance and affecting their business.
- Calls with other specific concerns directly related to construction

The following provides a breakdown of calls received on the LAX Construction Hotline in 2016

Month	# of Calls Received	Construction Related	Non-Construction Related
January	12	1	11
February	18	0	18
March	12	0	12
April	12	1	11
May	25	6	19
June	12	1	11
July	12	0	12
August	23	1	22
September	7	0	7
October	13	2	11
November	13	2	11
December	15	3	12
Total	174	17	157

LAWA responded to all calls where the caller left contact information, regardless of whether the call was construction related or non-construction related.

APPENDIX B

THIRD PARTY MONITOR SEMI-ANNUAL REPORT DATED MARCH 24, 2017

LAX Master Plan Projects Semiannual Report
Independent Third Party Monitor

Prepared by:

Clean Fuel Connection, Inc.

March 24, 2017

TABLE OF CONTENTS

Cover Photo Courtesy of Ray Gorski

SECTION 1 - INTRODUCTION

This Semiannual Report was prepared by Clean Fuel Connection Inc. (CFCI), Independent Third Party Monitor for LAX Master Plan Projects, and is submitted in accordance with Section X.F.8 of the Community Benefits Agreement (CBA)[1]. The purpose is to document CFCI's efforts as they relate to the monitoring of LAX Master Plan construction activities and construction contractor's conformance to requirements specified in CBA Section X.F.

This Semiannual Report covers the period commencing July 1, 2016 and ending December 31, 2016. It should be noted that no Semiannual Report was prepared during the period of January 1, 2016 to June 30, 2016, as no Master Plan Projects were under construction during that period.

For the timeframe commencing July 1, 2016, two (2) LAX Master Plan projects had ongoing construction activities. These include the Midfield Satellite Concourse North (MSC) project and the Qantas Hangar Demolition project, which is an enabling project for the MSC.

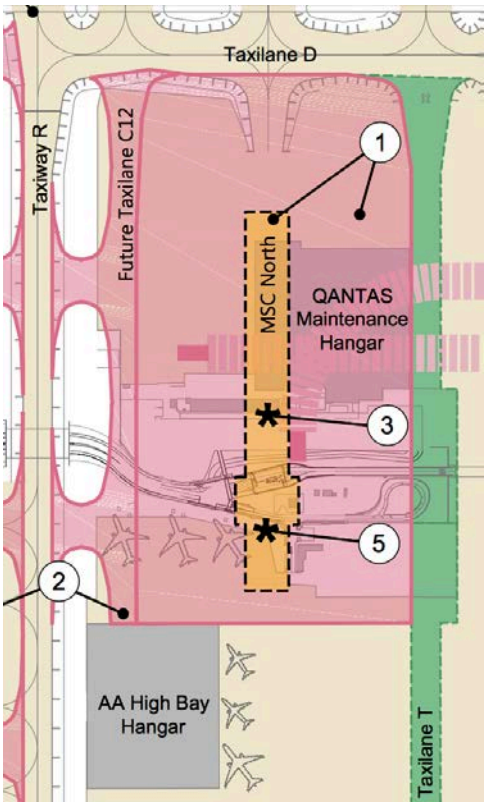
The Qantas Hangar Demolition project entailed the demolition of an existing hangar and related facilities adjacent to the northern half of Taxiway T. This building supports the Qantas (former TWA) maintenance hangar, which has been relocated to the West Aircraft Maintenance Area (WAMA). This building is located within the footprint of the proposed MSC North building and was demolished to enable construction of the MSC North Project. This one-story facility was approximately 13,800 square feet and included maintenance bays for aircraft service vehicles.

Figure 1-1 - Qantas Hangar Demolition in Progress

[1] http://www.lawa.org/ourLAX/AnnualReports.aspx?id=8034

The relative location of the Qantas Hangar Demolition to the MSC North Project is shown below in Figure 1-2.

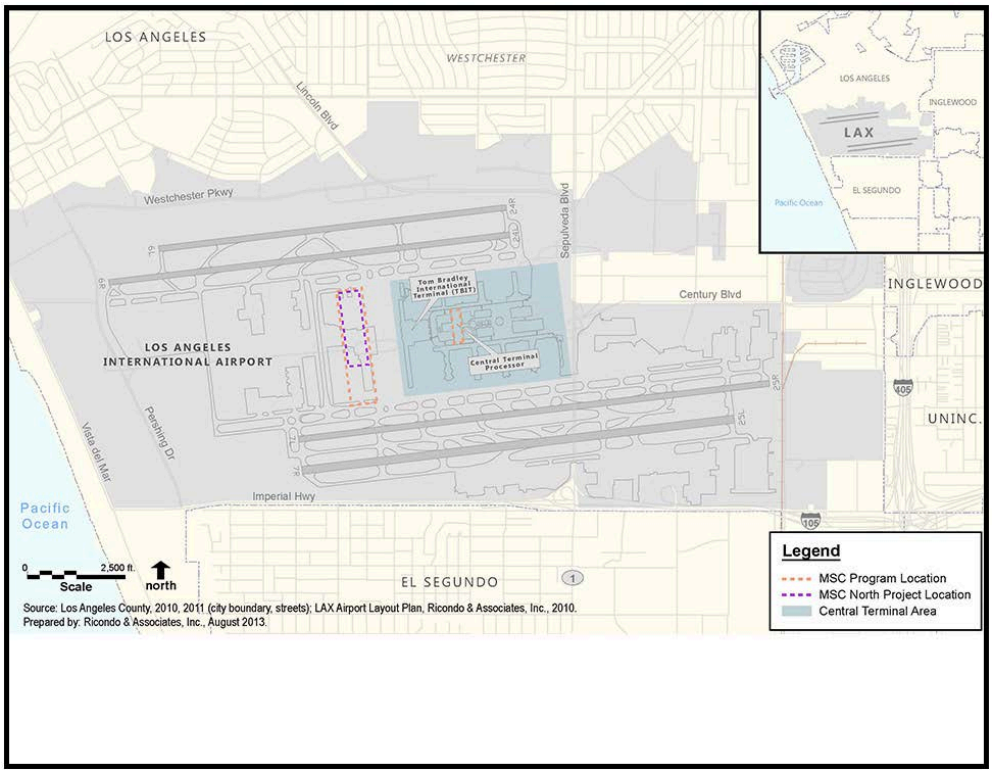
Figure 1-2 – Location of Qantas Hangar Demolition Project in Relation to MSC North Project



The MSC Project includes a new passenger concourse facility approved as part of the LAX Master Plan. The MSC facility is located in the central area of the airfield, west of Tom Bradley International Terminal (TBIT). The MSC Program also includes a Central Terminal Processor, conveyance systems for passengers and baggage, and new taxiways/taxilanes and airport aprons. The construction contractor is Turner/PCL, a Joint Venture in association with Corgan/Gensler.

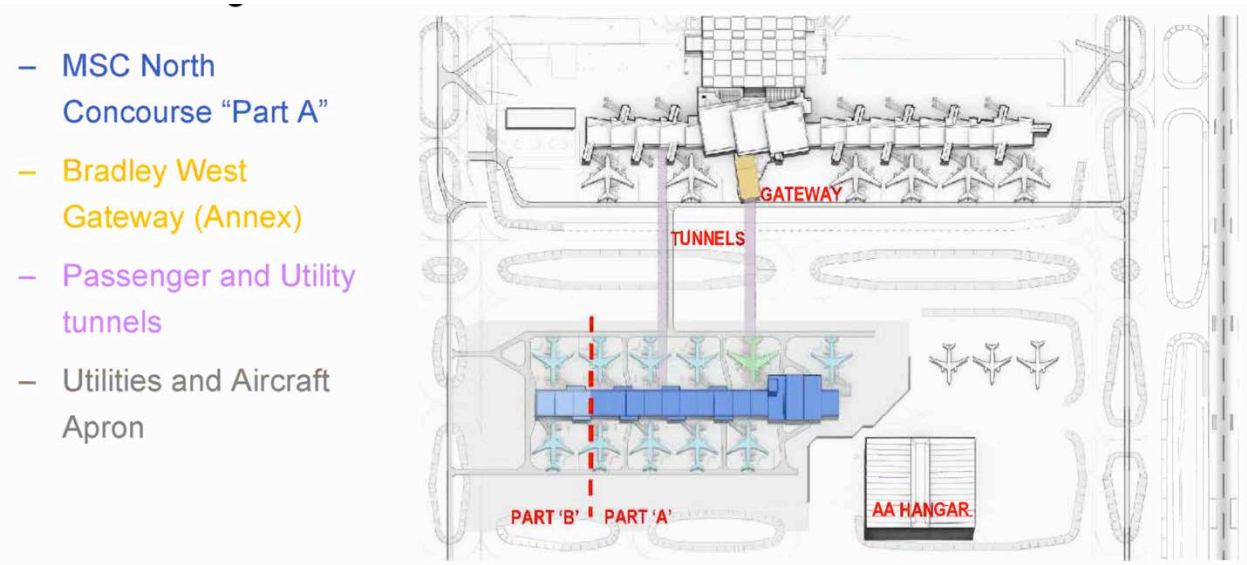
Figure 1-2 shows the location of the MSC North Project on the LAX airfield.

Figure 1-3 – Location of the Midfield Satellite Concourse Project



Due to the size and scale of the MSC Program, LAWA proposes to develop the MSC Program in independent phases. Phase 1 ("MSC North Project") of the MSC Program is the construction of the northern portion of the multi-story MSC facility and associated improvements, as shown below in Figure 1-4:

Figure 1-4 –Midfield Satellite Concourse Phase 1 – North Project



This Semiannual Report will discuss adherence to the CBA requirements during the initial phases of MSC construction, including the Qantas Hangar Demolition enabling project and MSC North project.

Third Party Monitoring - CFCI's efforts in monitoring, documenting, and reporting on the status of CBA Section X.F as it pertains to LAX Master Plan projects include:

- **Development of an Equipment database to include all known equipment utilized in each Master Plan Project**. This database documents the technical specifications of each piece of on and off-road construction equipment. The database documents each piece of equipment relative to compatibility with diesel emission control devices, the emission control device used or planned for use on each piece of construction equipment, or whether the equipment was determined to be incompatible with any available emission control system. The database also documents all equipment operating under an approved Los Angeles World Airports (LAWA) exemption, including but not limited to "20-day" exemptions, driver-visibility safety exemptions, or special circumstance exemptions;
- **Field verification of the equipment database and reconciliation with LAWA's environmental monitor vehicle records**. The construction contractors provide LAWA's environmental monitor with airfield equipment lists on a periodic basis (typically monthly). The Third Party Monitor reviews all available vehicle records for the purpose of verifying compliance with 20-day exemption obligations as well as reconciling LAWA's environmental monitor records with the Third Party Monitor equipment database;
- **Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT).** As discussed in Section 2 of this Report, CFCI independently reviews each piece of construction equipment proposed for use on a LAX Master Plan project to determine compatibility with a commercially available California Air Resources Board (CARB) or U.S. Environmental Protection Agency (EPA) verified Diesel Emission Control System (VDECS). The results of this independent assessment are documented in each Semiannual Report as well as the equipment database;
- **Examination of fuel purchase records to verify that low sulfur diesel is being used**. This task has been substantially reduced in scope due to enactment of state law that allows only ultra-low sulfur diesel (ULSD) to be sold for on and off-road vehicles in California;

- **Monitoring of installed emission control devices on construction equipment**. This includes physical inspections of diesel construction equipment retrofitted with a VDECS to ensure emission control devices are properly installed and functioning;
- **On-airfield monitoring of construction equipment operations enforcement**. This includes, but is not limited to, observation of construction operations to determine compliance with equipment idling restrictions, fugitive dust emissions mitigation requirements, as well as identification of construction equipment in an apparent state of disrepair due to the presence of visible smoke;
- **Annual Reassessment of Available Emission Control Systems**. On an annual basis, the Third Party Monitor conducts a comprehensive evaluation of available CARB and EPA-verified emission control systems. The purpose of this reassessment is to ensure LAWA incorporates the any newly designated best available control strategies into construction bid documents prior to bidding of new construction phases of the LAX Master Plan Program. The process of emission control technology review also includes any new, relevant requirements promulgated by CARB or EPA. This Semiannual Report includes the results of the Annual Emission Control System Reassessment.

The CFCI project staff is comprised of the following individuals:

- Enid Joffe, founder and owner of Clean Fuel Connection, Inc.;
- Ray Gorski, lead air quality engineer and principal field engineer;
- Lauren Dunlap, air quality engineer and principal analyst in determining compatibility of emission control devices and calculations of emission reductions for VDECS installed on Master Plan project equipment. In addition, Lauren quantifies air quality benefits associated with onsite concrete crushing and batch plant concrete production.

During the reporting period, the Third Party Monitor independently reviewed 178 pieces of construction equipment associated with the Qantas Hangar Demolition and Midfield Satellite Concourse North projects. A total of 144 pieces of equipment were submitted for the Qantas Hangar Demolition, and the initial 34 pieces for the Midfield Satellite Concourse North project. This Semiannual report will document each project's adherence to the requirements stipulated in CBA Section X.F.

Figure 1-5 –Aerial View of Midfield Satellite Concourse Phase 1 – North Project

SECTION 2 - TASK-BY-TASK STATUS REPORT

The following section documents CFCI's work during the past reporting period on each of the specific tasks in the Third Party Monitor Scope of Work.

TASK 1: BEST AVAILABLE EMISSIONS CONTROL DEVICES REQUIRED

Section X.F.1 of the Community Benefits Agreement (CBA) for the LAX Master Plan Program requires that all diesel equipment used for construction be outfitted with the best available emission control devices, primarily to reduce diesel particulate matter on the order of 10 microns[2] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. Section X.F.1 of the CBA applies the requirement to outfit all diesel equipment, including off-road vehicles such as heavy-duty construction equipment, as well as on-road vehicles such as trucks, street sweepers, etc. The requirement also affects non-mobile diesel sources, such as portable generators, air compressors, and light towers. Thus, the requirement to retrofit diesel equipment used in LAX Master Plan construction projects encompasses every piece of diesel equipment, irrespective of its status as on-road mobile, off-road mobile, or stationary.

Section X.F.1 requires that the diesel emission control systems used to retrofit diesel equipment be verified or certified for use on on-road or off-road vehicles or engines by the California Air Resources Board (CARB), or verified by the U.S. Environmental Protection Agency (EPA) for use on on-road or off-road vehicles or engines. Section X.F.1 further allows CARB and EPA-verified "mobile source" devices to be applied to "stationary sources", such as generator engines, and allows technologies verified for "on-road" engines to be applied to "off-road" equipment. Thus, the overall context of Section X.F.1 is very broad and allows maximum flexibility in matching diesel emission control systems with diesel equipment used in Master Plan construction.

The role and responsibilities of the Independent Third Party Monitor as it relates to Section X.F.1 of the CBA is delineated in the following contract Task statements:

[2] One micron equals $1x10^{-6}$ meter or 0.000001 meter.

- Task 1.1 - Contractor shall develop a monitoring process and database to track each piece of diesel equipment used for construction, including documentation procedures and reporting requirements;
- Task 1.2 – Contractor shall monitor, document, and report independently from LAWA, each construction firm's compliance as it relates to outfitting their diesel construction equipment with the best available emissions control devices available.

The following are the results and findings of the Third Party Monitor as they relate to Tasks 1.1 and 1.2 for the period commencing in July 1, 2016 through December 31, 2016.

Task 1.1 – Monitoring Process, Database Development, and Documentation:

Key elements of the monitoring process include:

- *Review of available documentation* – The principal source of technical information for each vehicle proposed for operation on the MSC project are the equipment reports submitted by the construction contractors for review by LAWA's environmental monitor and environmental management staff. These reports document whether or not a compatible verified diesel emission control system (VDECS) is available for a given piece of diesel equipment;
- *Incorporation of all available data into an Equipment Database* – All relevant information derived from review of the equipment reports or field inspections is documented in the equipment database. This database is the principal tool for performing independent verification and validation of the information contained in the equipment reports reviewed and approved by LAWA;
- *Identification and documentation of missing, inconsistent, or inaccurate data* – The database notes which pieces of information are either missing or whose accuracy is suspect;
- *Request for Additional Information and/or Clarification* – Missing data or data that require validation are compiled, and a request for clarification is issued by the Independent Third Party Monitor to LAWA's environmental monitor staff;
- *Field Inspections* – In specific cases, the Independent Third Party Monitor will request permission to conduct a field inspection of the specific piece of equipment under scrutiny;

- *Task 1.2 Independent Verification and Validation* – For each piece of diesel construction equipment included in the database, an independent determination of whether or not a compatible VDECS device is available is conducted;
- *Documentation of Analysis Results* – For each piece of diesel equipment assessed, the availability and compatibility of a VDECS is recorded in the database;
- *Data Reconciliation* – The Third Party Monitor reconciles information contained in the database with the reports maintained by LAWA's environmental monitor and the construction manager's staff.

The Database Development element of Task 1.1 was conducted in accordance with a single objective – record as much data and supporting information as possible to fully characterize each piece of equipment proposed for operation on an LAX Master Plan construction project. To ensure completeness the database incorporates the following data fields:

- *Equipment ID Number* – Most equipment operating on an LAX Master Plan construction project is marked with a unique identifying number by the equipment owner. It has been the practice of the Independent Third Party Monitor and LAWA's environmental monitor staff to use this unique ID when describing, discussing or documenting a specific piece of equipment. All equipment is tracked and monitored relative to this ID number;
- *Owner* – the owner of the piece of diesel equipment, including prime contractor and name of subcontractor or equipment rental company;
- *Equipment Category* – A brief description for the type of diesel equipment, such as "articulated dump truck";
- *Equipment Manufacturer* – The manufacturer of the piece of equipment, usually the equipment chassis. In most cases the manufacturer of the chassis is different from the engine manufacturer;
- *Equipment Model Year* – The year of manufacture of the equipment or vehicle, usually referring to the chassis and vehicle body. It should be noted that it is common for the equipment chassis or body and diesel engine to be different model years;

- *Equipment Model Number* – The number or other descriptive terminology used by the equipment manufacturer in marketing the vehicle, oftentimes used to differentiate similar products;
- *Equipment Serial Number* – This differs from the Equipment ID number described above. The equipment serial number is the vehicle chassis or body identification number assigned by the equipment manufacturer;
- *Engine Manufacturer* – The manufacturer of the main diesel engine used in the equipment. In some cases, most notably off-road heavy-duty scrapers and on-road street sweepers, the equipment has two diesel engines. The first and second engines are designated #1 and #2, respectively, in the database;
- *Engine Model* – The number or other descriptive terminology used by the manufacturer in engine marketing, used to differentiate similar products;
- *Engine Model Year* – The year of manufacture of the diesel engine, diesel emission control devices are often verified for a specific engine model year;
- *Engine Serial Number* – A unique identification number or alphanumeric code assigned by the engine manufacturer;
- *Engine Displacement* – The total volumetric size of the engine's combustion cylinders, usually described as "cubic inches" or "liters". Displacement expressed in cubic inches is calculated by multiplying the number of cylinders by the piston area (square inches) and by the length of the piston stroke (inches). The commonly used metric designation of "liters" is the total engine displaced volume measured in cubic centimeters (1 liter = 1,000 cubic centimeters);
- *Engine Horsepower* – The rated horsepower of the engine by the engine manufacturer;
- *Engine Family* – Engine Family is a descriptive designation given by CARB to a diesel engine upon certification. It is a code, similar to an automobile Vehicle Identification Number, that identifies the engine model year, engine manufacturer, the engine's displacement, on-road or off-road applicability, emissions equipment included during certification testing. This piece of data, along with engine manufacturer and engine model year, is essential to determine conclusively if a VDECS is compatible with the engine undergoing assessment. With practice, one can quickly ascertain a substantial amount of information about an engine by deciphering the engine family designation;

- *Engine #2 Data* – Similar to the above for Engine #1, data are documented for the second diesel engine on a piece of equipment. In the case of heavy-duty earth moving scrapers, the two engines are front and rear; in the case of street sweepers, the second engine is an auxiliary engine that operates the vehicle's rotary brooms and vacuum system.

  For each piece of diesel equipment, the database also documents:

- Whether that piece of equipment has or is currently operated on a Master Plan project. For equipment that has been removed, the date of removal is recorded if known. This portion of the database is currently undergoing reconciliation with the results of the airfield equipment inventory.

- For equipment operating under a 20-day exemption, the date the equipment was placed on the airfield and the date removed. For more discussion on 20-day exemption status, please refer to the Task 4 Section of this report;

- Each piece of equipment's compatibility with both off-road and on-road Verified Diesel Emission Control Systems available at the time the equipment was originally submitted by the owner for review by environmental monitor staff.

During the period ending December 31, 2016, a total of 178 pieces of construction equipment associated with the overall MSC project was assessed. It should be noted that the equipment information described herein is based on the equipment list submittal through November 2016, the final equipment list received during the semiannual reporting period. Given that MSC construction activities during 2016 focused primarily on hangar demolition, pavement demolition, and initial grading, it is anticipated that additional equipment will be submitted for review during 2017.

Task 1.2 – Independent Monitoring, Documentation, & Reporting of Compliance with CBA Section X.F.1; Best Available Emission Control Devices Required:

The primary objective of this Task is to independently verify and validate the findings of LAWA's environmental monitor and contractor staff as it relates to the availability and compatibility of diesel emission control systems for diesel equipment operating on a Master Plan Project. Using the methodology described under Task 1.1, CFCI staff regularly coordinates with LAWA's environmental monitor, requesting and receiving access to files and records for diesel equipment operating or proposed for operation on a Master Plan project.

Only CARB and/or EPA-verified devices available at the commencement of construction activities on a specific Master Plan project were considered when assessing compliance with CBA Section X.F.1. This is based upon the following language included in the CBA:

- The CBA stipulates in Section X.F.9.a. "Reassessments of Emission Control Devices", that *"the process of emission control technology review shall include any new relevant requirements or regulations promulgated by CARB or EPA. Results from the reassessments shall not be applied retroactively"*;
- CBA Section X.F.9.b. states under "Application of New Requirements", that *"any new designations of emission control devices as best available shall apply only to projects that start after the devices are verified or certified for use by CARB or EPA, or approved for use as part of a Demonstration Project"*.

At the time of commencement of construction activities on the MSC project, multiple diesel emission control devices were verified by CARB for off-road use. CARB assigns a designation to each diesel emission control device as a function of its effectiveness in reducing diesel particulate matter (PM) emissions. This is referred to as the "Verification Level" of the device; CARB currently recognizes three verification levels, as follows:

- Level 1 – greater than or equal to 25% reduction of diesel PM;
- Level 2 – greater than or equal to 50% reduction in diesel PM;
- Level 3 – greater than or equal to 85% reduction in diesel PM.

As shown above, CARB Level 3 offers the highest level of diesel pollution reduction. In accordance with the CBA, the "Best Available Control Technology" (BACT) is Level 3 verification.

Tier 4 Standards - Tier 4 emission standards, which were phased-in over the period of 2008 - 2015, require that emissions of PM and NOx be reduced by approximately 90% compared to Tier 3 emission levels. These emission reductions are achieved through the use of control technologies—including advanced diesel emission control systems - similar to those required by the 2007-2010 standards for on-road engines. For the purpose of conformance to CBA requirements, equipment and vehicles equipped with an engine certified as "Tier 4 interim" or "Tier 4" final satisfies the diesel particulate matter emission reduction CBA requirements. Tier 4 engines are equipped with diesel PM emission control

systems that meet or exceed the performance of a Level 3 BACT system. Tier 4 engines also achieve NOx emissions approximately 90% lower as compared to Tier 3 engines.

Task 1.2 Results

Each piece of diesel equipment submitted to LAWA's environmental monitor for review was independently assessed by the Third Party Monitor to determine its compatibility with a CARB and/or EPA-verified diesel emission control system. The following sections discuss conformance with Task 1.2 for the MSC project for the six-month period ending December 31, 2016.

1.2.1 Qantas Hangar Demolition Project – During the reporting period ending December 31, 2016, a total of 144 vehicles and equipment were evaluated. This includes 90 on-road vehicles and 54 pieces of off-road construction equipment. LAWA environmental management reviews each piece of equipment and supporting documentation and makes a determination as to whether or not the propose equipment conforms to LAWA environmental policy and the CBA requirements.

1.2.1.1 – On-Road Vehicles Submitted Under Qantas Hangar Demolition Project: The listing of 90 on-road vehicles submitted for potential use on the Qantas Hangar Demolition Project is shown below in Table 1.2.1-1:

Table 1.2.1-1: Qantas Hangar Demolition On-Road Vehicles Reviewed for CBA Compliance

	Vehicle Type	License	Company	Year
1	Truck	99812L1	CPR Trucking	2010
2	Truck	15676P1	CPR Trucking	2012
3	Truck	6X79616	CPR Trucking	1998 w/DPF
4	Truck	70626K1	CPR Trucking	1998 w/DPF
5	Truck	8W05667	CPR Trucking	1999 w/DPF
6	Truck	7X19812	CPR Trucking	1999 w/DPF
7	Truck	8M56827	CPR Trucking	1999 w/DPF
8	Truck	7P88813	CPR Trucking	1999 w/DPF
9	Truck	51993D1	CPR Trucking	2000 w/DPF
10	Truck	7S90580	CPR Trucking	2000 w/DPF
11	Vacuum Truck	216007	ARB Vacuum Truck	2014
12	Vacuum Truck	216006	ARB Vacuum Truck	2013
13	Vacuum Truck	216004	ARB Vacuum Truck	2013
14	Truck	34296P1	C-TEC TRUCKING	2014
15	Truck	34297P1	C-TEC TRUCKING	2014
16	Truck	35517P1	C-TEC TRUCKING	2014
17	Truck	35516P1	C-TEC TRUCKING	2014

	Vehicle Type	License	Company	Year
18	Truck	34517R1	C-TEC TRUCKING	2014
19	Truck	54518R1	C-TEC TRUCKING	2014
20	Truck	55172R1	C-TEC TRUCKING	2014
21	Truck	55175R1	C-TEC TRUCKING	2014
22	Truck	76553T1	C-TEC TRUCKING	2014
23	Truck	76552T1	C-TEC TRUCKING	2014
24	Truck	57554V1	C-TEC TRUCKING	2014
25	Truck	57553V1	C-TEC TRUCKING	2014
26	Truck	81322W1	C-TEC TRUCKING	2014
27	Truck	83042W1	C-TEC TRUCKING	2014
28	Truck	83581W1	C-TEC TRUCKING	2014
29	Truck	54398X1	C-TEC TRUCKING	2014
30	Truck	VH-145	Kenworth T800	2014
31	Water truck	10118397	United Rental Water Truck F-750	2013
32	Water truck	122510	Sun State Water Truck F-750	2013
33	Water truck	130483	Sun State Water Truck F-750	2013
34	Water truck	116069	Sun State Water Truck F-750	2013
35	Water truck	3730	Griffith Water Truck	2014
36	Water truck	3731	Griffith Water Truck	2014
37	Sweeper	3717	Griffith CNG Sweeper	CNG
38	Sweeper	3734	Griffith CNG Sweeper	CNG
39	Sweeper	3738	Griffith CNG Sweeper	CNG
40	Truck	JGROD4	G O Rodriguez Trucking #348	1998 w/DPF
41	Truck	JGROD5	G O Rodriguez Trucking #349	1998 w/DPF
42	Truck	JGROD10	G O Rodriguez Trucking #350	1998 w/DPF
43	Truck	9B55829	G O Rodriguez Trucking #353	1998 w/DPF
44	Truck	9B55828	G O Rodriguez Trucking #354	1998 w/DPF
45	Truck	JGROD12	G O Rodriguez Trucking #358	2011
46	Truck	JGROD19	G O Rodriguez Trucking #359	2011
47	Truck	JGROD15	G O Rodriguez Trucking #360	2011
48	Truck	9E70220	G O Rodriguez Trucking #361	2011
49	Truck	MNGRN3	G O Rodriguez Trucking #362	2011
50	Truck	MNGRN3	G O Rodriguez Trucking #362	2011
51	Truck	JGROD17	G O Rodriguez Trucking #363	2012
52	Truck	JGROD18	G O Rodriguez Trucking #364	2012
53	Truck	9E86035	G O Rodriguez Trucking #365	2012
54	Truck	JGROD20	G O Rodriguez Trucking #366	2012
55	Truck	MNGRN4	G O Rodriguez Trucking #367	2012
56	Truck	74170U1	G O Rodriguez Trucking #368	2014
57	Truck	9F18774	G O Rodriguez Trucking #369	2015
58	Truck	9F18775	G O Rodriguez Trucking #370	2015
59	Truck	9F18777	G O Rodriguez Trucking #371	2015

	Vehicle Type	License	Company	Year
60	Truck	Unknown	G O Rodriguez Trucking #372	2015
61	Truck	9F18827	G O Rodriguez Trucking #505	2015
62	Truck	32997T1	G O Rodriguez Trucking #528	2011
63	Truck	9F43153	G O Rodriguez Trucking #24	2011
64	Truck	9E25620	G O Rodriguez Trucking	2013
65	Trucks		NorCal Pipeline Services #1005	2013
66	Trucks		NorCal Pipeline Services #1015	2013
67	Trucks		NorCal Pipeline Services #1016	2013
68	Trucks		NorCal Pipeline Services #1017	2013
69	Trucks		NorCal Pipeline Services #1024	2013
70	Trucks		NorCal Pipeline Services #1026	2013
71	Trucks		NorCal Pipeline Services #1028	2013
72	Super 10 trucks		Casteneda	2011
73	Super 10 trucks		Casteneda	2011
74	Super 10 trucks		Carillo	2012
75	Super 10 trucks		Torres	2012
76	Super 10 trucks		Arroyo #73	2014
77	Super 10 trucks		Arroyo #78	2014
78	Super 10 trucks		Figueroa	2010
79	Super 10 trucks		Jimenez	2011
80	Super 10 trucks		Herrera	1999
81	Super 10 trucks		Ramirez	2006
82	Super 10 trucks		Dubois	1999
83	Super 10 trucks		Tarifa	1999
84	Super 10 trucks		Hardbody	2009
85	Super 10 trucks		Hardbody	2008
86	Super 10 trucks		Roberts	2008
87	Super 10 trucks		Figueroa	2009
88	Super 10 trucks		Figueroa	2009
89	Super 10 trucks		Arroyo #80	1993 - Rejected
90	Super 10 trucks		Lopez	1993 - Rejected

Two on-road vehicles submitted for LAWA approval were both subsequently rejected by LAWA due to the failure to have a verified diesel emission control system (VDECS) installed - these are shown in the above Table under Row 89 and Row 90. Additionally, four (4) vehicles highlighted in Rows 80 – 83 were granted a 20-day exemption – this is discussed under Task 4 of this Semiannual Report.

As shown in the Table, three (3) street sweepers are powered by compressed natural gas (CNG) – these vehicles comply with South Coast AQMD Rule 1186.1 and are deemed compliant with the provisions of

CBA Section X.F. The remaining 81 on-road vehicles are equipped with a Level 3 VDECS; these vehicles fully comply with the CBA requirements.

1.2.1.2 – Off-Road Equipment Submitted Under Qantas Hangar Demolition Project: The listing of 54 pieces of off-road equipment submitted for potential use on the Qantas Hangar Demolition Project is shown below in Table 1.2.1-2:

Table 1.2.1-2: Qantas Hangar Demolition Off-Road Equipment Reviewed for CBA Compliance

	Equipment Type	EIN	Company	Tier
1	Skid Steer	AU8Y67	California Equipment Rentals CAT 259B	Tier 4i
2	Excavator	FC3S38	California Equipment Rentals John Deere 50D	Tier 4i
3	Excavator	AU5J99	California Equipment Rentals John Deere 50D	Tier 4i
4	Excavator	MU8K59	California Equipment Rentals LINK BELT 470LX	Tier 4i
5	Excavator	DR8U74	California Equipment Rentals LINK BELT 350LX	Tier 4i
6	Excavator	UH9X88	California Equipment Rentals LINK BELT 350LX	Tier 4i
7	Excavator	DU4U86	California Equipment Rentals LINK BELT 490X4	Tier 4f
8	Excavator	NF9G59	California Equipment Rentals LINK BELT 350X4	Tier 4f
9	Excavator	FC4B39	California Equipment Rentals LINK BELT 350X4	Tier 4f
10	Excavator	NX8P75	California Equipment Rentals LINK BELT 210X4	Tier 4f
11	Excavator	UY7F43	California Equipment Rentals LINK BELT 210X4	Tier 4f
12	Backhoes	EF6F49	LaLonde #949	Tier 4i
13	Loaders	NY4J83	LaLonde #1011	Tier 4i
14	Exca11ators	RY9H86	LaLonde #M012	Tier 4i
15	Excavators	K83U43	LaLonde #M006	Tier 4i
16	Loaders	DS8K85	LaLonde #MOOS	Tier 4i
17	Backhoes	AH4V53	LaLonde #918	Tier 4i
18	Loader	BM9A93	LaLonde #941	Tier 4i
19	Loaders	YU7D39	LaLonde #M003	Tier 4i
20	Rollers	BY5L86	LaLonde #11001	Tier 4i
21	Excavators	MP7C47	LaLonde #888	Tier 4i
22	Excavators	HE9P36	LaLonde #932	Tier 4i
23	Excavators	FY3C84	LaLonde #791	Tier 4i
24	Excavators	RP3L33	LaLonde #839	Tier 4i
25	Skip Loaders	EX8K37	LaLonde #885	Tier 4i
26	Excavators	LT5X49	LaLonde #741	Tier 4i
27	Excavators	WW9F59	LaLonde #874	Tier 4i
28	Excavators	UD5B75	LaLonde #900	Tier 4i
29	Excavators	EP9R96	LaLonde #894	Tier 4i
30	Excavators	CH4C46	LaLonde #878	Tier 4i
31	Crawler/Dozer	HM9D78	LaLonde #840	Tier 4i
32	Excavators	CG9U46	LaLonde #860	Tier 4i
33	Excavators	W5N93	LaLonde #886	Tier 4i

	Equipment Type	EIN	Company	Tier
34	Excavators	SV6W45	LaLonde #907	Tier 4i
35	Excavators	CF4E66	LaLonde #912	Tier 4i
36	Excavators	HB4S59	LaLonde #892	Tier 4i
37	Excavators	SA8V74	LaLonde #899	Tier 4i
38	Excavators	DM5F68	LaLonde #880	Tier 4i
39	Excavators	YE6R	LaLonde #857	Tier 4i
40	Dozer	CE8X48	LaLonde #850	Tier 4i
41	Excavators	VJ6G97	LaLonde #830	Tier 4i
42	BOREMACHINE	AV4W78	Royal Electric	Tier 4i
43	BACKHOE	TR8E46	Royal Electric Caterpillar 430F	Tier 4i
44	FORKLIFT	TL3X84	Sky Track	Tier 4i
45	FORKLIFT	RB6B78	ROUGH TERRAIN FORKLIFT	Tier 4i
46	FORKLIFT	WB3R77	GENIE GTH-1544	Tier 4i
47	BACKHOE	WM7L67	Royal Electric Caterpillar 430F	Tier 4i
48	BOREMACHINE	TN7E89	Royal Electric	Tier 4i
49	Excavator	HJ8V95	John Deere 60G	Tier 4i
50	Skip Loaders	GB3Y56	Nold - John Deere 210LJ	Tier 3
51	Backhoe	XT3N59	Nold - CASE 590SN	Tier 4
52	Backhoe	HM6K54	Nold - CASE 590SN	Tier 4
53	Planers	TBD	Lindy cold planers	2013
54	Skip Loaders	TBD	Pennhall Skip Loader – Rejected Paperwork	2014

One (1) piece of off-road equipment submitted for LAWA approval was subsequently rejected due to incomplete paperwork - this is shown in the above Table under Row 54. Additionally, one (1) piece of construction equipment highlighted in Row 50 was granted a 20-day exemption – this is discussed under Task 4 of this Semiannual Report.

Table 1.2.1-3: Qantas Hangar Off-Road Equipment Breakdown by Emissions Standard

Emissions Standard	Quantity
Tier 4i or 4 final (w/ VDECS)	52
Tier 3 (No VDECS)	1

1.2.2 Midfield Satellite Concourse North - During the reporting period, a total of 34 pieces of construction equipment were evaluated. LAWA environmental management reviews each piece of equipment and supporting documentation and makes a determination as to whether or not the propose equipment conforms to LAWA environmental policy and the CBA requirements. The listing of LAWA-approved airfield construction equipment is shown below in Table 1.2.2-1:

Table 1.2.2-1: MSC North Construction Equipment Approved by LAWA

	Owner	Equipment ID	Equipment Type	Manufacturer	Engine Manufacturer	Engine Year	Engine HP	Engine Tier	Engine Family	EIN
1	Granite	#B111	Rock Truck	VOLVO	VOLVO	2012	357	T4i	CVSXL10.8T4i	FA8M73
2	Granite	#B112	Rock Truck	VOLVO	VOLVO	2013	357	T4i	DVSXL10.8T4i	XP9B86
3	Granite	#B090	Rock Truck	VOLVO	VOLVO	2012	469	T4i	CVSXL16.1T4i	AT6S97
4	Granite	#B091	Rock Truck	VOLVO	VOLVO	2012	469	T4i	CVSXL16.1T4i	MF8U88
5	Granite	#EMD9135	Rock Truck	KOMATSU	KOMATSU	2012	259	T4i	CKLXL15.2EDA	GF9B58
6	Granite	#EMD8985	Rock Truck	KOMATSU	KOMATSU	2012	259	T4i	CKLXL15.2EDA	MY9S56
7	Granite	#EMD9134	Rock Truck	KOMATSU	KOMATSU	2012	259	T4i	CKLXL15.2EDA	NK3X84
8	Granite	#M006	Excavator	CATERPILLAR	CATERPILLAR	2010	204	T4i	ACPXL07.2ESL	KB3U43
9	LaLonde	#EMD9467	Rock Truck	KOMATSU	KOMATSU	2012	259	T4i	CKLXL15.2EDA	TT9X46
10	Austin	FS26	Slab Saw	MECO	Deutz	2000	60	T1	5DZXL03.105	NH4K54
11	Austin	FS29	Slab Saw	MECO	Deutz	2006	60	T2	5DZXL03.105	LX7N49
12	Austin	FS42	Slab Saw	MECO	Deutz	2007	72	T2	3DZXL02.70	KC4D44
13	Austin	FS43	Slab Saw	MECO	Deutz	2006	72	T2	3DZXL02.70	YA6G54
14	Granite	16.10184	Paving	GOMACO	John Deere	2011	250	T4i	AJDXL13.5900	CY6P39
15	Granite	8.12583	Forklift	OTHER	Perkins	2012	122	T4i	BPKXL04.4NJ1	TE3M93
16	Granite	8.12584	Forklift	OTHER	Perkins	2012	122	T4i	BPKXL04.4NJ1	KV7X94
17	Granite	8.12799	Tractor	DEERE	John Deere	2013	141	T4i	DJDXL04.5211	AH8C63
18	Granite	8.18645	Forklift	OTHER	Perkins	2013	125	T4i	DPKXL04.4MK1	XV6S93
19	Granite	10.19383	Rollers	VOLVO	DEUTZ	2014	131	T4i	EDZXL04.1014	WJ8R38
20	Granite	8.19444	Tractor	DEERE	John Deere	2014	88	T4i	EJDXL04.5211	YN7U94
21	Granite	8.123	RT Loader	CATERPILLAR	Caterpillar	2005	501	T3	5CPXL18.1ESK	PP4X95
22	Granite	8.1151	RT Loader	980H	Caterpillar	2006	318	T3	6CPXL15.2ESK	RS4L75
23	Granite	8.1231	RT Loader	CATERPILLAR	Caterpillar	2006	318	T3	6CPXL15.2ESK	UW3B56
24	Granite	16.1503	Pavers	GOMACO	Deere	2006	185	T3	6JDXL06.8104	HE3C94
25	Granite	30.503	Excavator	CATERPILLAR	MITSUBISHI	2008	157	T3	8MVXL06.4FFF	SG7C79
26	Granite	30.517	Excavator	CATERPILLAR	Caterpillar	2010	204	T3	ACPXL07.2ESL	PL6B79
27	Granite	16.176	Paving	Equipment	Mercedes Benz	2010	322	T3	AMBXL07.2RJA	XB9P87
28	Granite	10.10003	Roller	VOLVO	CUMMINS	2011	130	T3	BCEXL0275AAG	DR6B94
29	Johnson CAT	ES613-001	Scraper	CATERPILLAR	Perkins	2010	193	T3	2CPXLO6.6MRB	BM7D96
30	Johnson CAT	ES613-705	Scraper	CATERPILLAR	CATERPILLAR	2006	175	T2	2CPXLO6.6MRB	VW6X77
31	LaLonde	#M122	RT Loader	CATERPILLAR	Perkins	2015	230	T4F	FPKXL07.0BN1	JD8W33
32	LaLonde	#M038	Tractor	DEERE	John Deere	2014	88	T4i	EJDXL04.5211	RT6Y89
33	M&B	#2	Water Truck	Peterbilt	CUMMINS	2009		On-Road	8CEXH0661MAA	
34	Dan Copp	CMI-023	RT Loader	CATERPILLAR	CATERPILLAR	2014		T4i	DCPXL15.2HPA	LD4T38

As shown in the above Table, 19 of the 34 pieces of the equipment assessed are equipped with a Tier 4 interim (T4i) or Tier 4 Final (T4F) engine. This equipment is fully compliant with Section X.F of the CBA as they re equipped with a factory-installed diesel emission control system.

Fourteen (14) pieces of construction equipment highlighted in Rows 10 – 13 and Rows 21 - 30 were granted a 20-day exemption – this is discussed under Task 4 of this Semiannual Report.

One (1) on-road truck was submitted for review. It is a model year 2009 Peterbilt water truck equipped with the Cummins ISM diesel engine. This vehicle conforms to the EPA 2007 standards and is equipped with a factory installed diesel particulate filter that meets or exceeds CARB Level 3 diesel particulate matter reduction standards. Thus, this vehicle conforms to the requirements specified in CBA Section X.F.

Figure 1-2-1 –View of Midfield Satellite Concourse Phase 1 Construction Site

Table 1.2.2-2: MSC Construction Equipment Breakdown by Emissions Standard

Emissions Standard	Quantity
Tier 4 w/ Factory VDECS	19
Tier 3	9
Tier 2	4
Tier 1	1
2007 EPA On-Road w/ Factory VDECS	1

As shown in Table 1.2.2-2, Tier 3, Tier 2, and Tier 1 equipment was also granted airfield access by LAWA. Fourteen pieces of equipment have been granted an exemption as allowed under the CBA. Section 2, Task 4 of this Semiannual Report details the specific exemption status of each piece of construction equipment allowed to operate without being equipped with a BACT device.

TASK 2: DEMONSTRATION PROJECTS

Section X.F.2 of the CBA states that LAWA may allow construction-related diesel equipment to be outfitted with new emission control systems that are not CARB verified or EPA certified for use for on-road or off-road vehicles or engines. Such projects will be designated by LAWA as "Demonstration Projects". The roles and responsibilities of the Independent Third Party Monitor as they relate to Demonstration Projects is set forth in Task 2 of the contract and includes the following two primary subtasks:

- Task 2.1 – The Third Party Monitor shall perform a technical evaluation of the proposed demonstration technology and provide written findings to the Coalition Representative and LAWA. The Third Party Monitor shall also assist with the implementation of a Demonstration Project, including identifying suitable emission control devices and Demonstration Project funding sources;
- Task 2.2 – Upon acceptance by LAWA, the Third Party Monitor shall monitor, document, and report independently from LAWA, compliance of the demonstration equipment with all defined Demonstration Project requirements, including but not limited to the pollution reduction requirements specified in Section X.F.3 of the CBA.

No demonstration projects were conducted during the six-month period of July 1st through December 31st 2016.

TASK 3: EMISSION REDUCTION STANDARD

Section X.F.1 of the Community Benefits Agreement (CBA) for the LAX Master Plan Program requires that all diesel equipment used for construction be outfitted with the best available emission control devices, primarily to reduce diesel particulate matter which is on the order of 10 microns[3] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. This section also states that under no circumstance shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

The role and responsibilities of the Independent Third Party Monitor as it relates to Section X.F.1 of the CBA is delineated in the following contract Task statements:

[3] One micron equals $1x10^{-6}$ meter or 0.000001 meter.

- Task 3.1 - Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 as it relates to meeting or exceeding Level 2 diesel emission reductions for a similar sized engine;
- Task 3.2 – Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 to ensure its emission reduction device or strategy does not result in an increase of any pollutant above that which is standard for that engine;
- Task 3.3 – Contractor shall monitor, document and report on emission reductions of NO_x, ROG, PM and CO achieved through the use of best available control technology.

Task 3.1 - Monitor, document, and report equipment compliance with Level 2 requirement.

As summarized above in Task 1, the Third Party Monitor compiled a database of LAX Master Plan project equipment. This database is continually updated with new information collected from LAWA's environmental monitor staff on behalf of the construction contractors or visual inspection by CFCI. As part of this inventory, the Task 1 effort included an equipment-by-equipment review for applicability of approved Best Available Control Technologies (BACT). Specifically, the equipment listed in this master database was compared against all available Verified Diesel Emission Control Systems (VDECS), with first priority given to Level 3 diesel emission reductions.

Not all equipment proposed for operation on the MSC Project is necessarily used – contractors provide a list of potential needs prior to the start of construction activities. Typically, a subset of this proposed equipment is actually used in construction activities. Also, not all equipment resides on the airfield during the entire project duration; equipment is moved on and off the airfield as construction demands dictate.

Task 3.2 – Ensure emission reduction devices/strategy does not result in an increase of any pollutant above that which is standard for that engine.

The U.S. EPA and ARB verification procedures are designed to ensure that no measurable increase on other pollutant emissions results from installation of the approved VDECS. One issue that should be noted is that the ARB verification procedures include a NO_2 limit requirement. Specifically, NO_2 may not increase more than 20 percent as a result of the installation and operation of the device[4]. All Tier 4i,

[4] Title 13 CCR section 2706(a)

Tier 4F, and 2007 EPA-compliant equipment and vehicles assessed under Task 1 for the MSC Project comply with the CARB NO_2 limit requirements.

Task 3.3 –Contractor shall monitor, document and report on emission reductions of NO_x, ROG, PM and CO achieved through the use of best available control technology.

A quantification of air quality benefits achieved through the use of best available control technology is not feasible at this time. Equipment operating on the airfield in support of the MSC Project that are equipped with engines certified at the Tier 4 Final and Tier 4 interim levels have particulate matter (PM) that comply with CBA obligations, and also emit oxides of nitrogen (NOx) emission levels that are substantially lower than those required under the CBA.

However, because these vehicles are designed and manufactured to meet more stringent emission standards, they are not "retrofitted" per se with Best Available Control Technologies (BACT) within the context of the CBA. "Tier 4" vehicles - in their baseline configuration - meet CBA requirements. Thus, because Tier 4 vehicles achieve CBA-mandated emission levels in their baseline configuration, there is no other vehicle configuration to compare them to. As a result, Tier 4 diesel equipment is not shown as offering an emissions benefit as a result of imposition of a CBA requirement. The equipment is inherently low emitting and represents the "state of the art" for off-road equipment emissions.

Figure 3-1 –Rock Truck Operating on Midfield Satellite Concourse Phase 1 Construction Site

TASK 4: EXEMPTIONS

4.1 Exemptions Granted Due to Unavailability of a Compatible VDECS

Four (4) pieces of diesel equipment evaluated by the Third Party Monitor were determined to not be compatible with a CARB or EPA-verified diesel emission control device. This equipment was proposed for use on the MSC North project and is listed below in Table 4.1-1:

Table 4.1-1: Equipment granted an Exemption Due to Incompatibility with VDECS

Equipment Owner	Equipment ID	Equipment Type	Manufacturer	Engine Model	Engine Year	Engine HP	Engine Tier	Engine Family
Austin	FS26	Slab Saw	MECO	BF3L1011F	2000	60	T1	5DZXL03.105
Austin	FS29	Slab Saw	MECO	BF3L2011	2006	60	T2	5DZXL03.105
Austin	FS42	Slab Saw	MECO	BF4L1011F	2007	72	T2	3DZXL02.70
Austin	FS43	Slab Saw	MECO	BF4L1011F	2006	72	T2	3DZXL02.70

The CARB Retrofit Device Verification Database[5] was used to confirm that the equipment shown in Table 4.1-1 above is currently not compatible with any verified diesel emission control system.

4.2 20-Day Exemptions

4.2.1 Qantas Hangar Demolition Project

Four (4) on-road vehicles and one (1) off-road piece of construction equipment were granted a 20-day exemption by LAWA. These vehicles and equipment are shown below in Table 4.2-1:

Table 4.2-1: Qantas Hangar Vehicles & Equipment Operating Under a 20-Day Exemption

	Equipment Type	EIN	Company	Tier
80	Super 10 trucks	N/A	Herrera	1999
81	Super 10 trucks	N/A	Ramirez	2006
82	Super 10 trucks	N/A	Dubois	1999
83	Super 10 trucks	N/A	Tarifa	1999
50	Skip Loaders	GB3Y56	Nold John Deere 210LJ	Tier 3

[5] https://www.arb.ca.gov/diesel/verdev/vdb/vdb.php?refresh=y

4.2.2 Midfield Satellite Concourse North

Ten (10) pieces of equipment were granted a 20-day exemption. This equipment is authorized to operate a maximum of 20 cumulative days within a calendar year. The ten pieces of equipment are as shown below in Table 4.2-2:

Table 4.2-2: MSC North Equipment Operating Under a 20-Day Exemption

Equipment Owner	Equipment ID	Equipment Type	Manufacturer	Engine Model	Engine Year	Engine HP	Engine Tier	Engine Family
Granite	8.123	Rubber Tired Loader	CATERPILLAR	C18	2005	501	T3	5CPXL18.1ESK
Granite	8.1151	Rubber Tired Loader	980H	C15	2006	318	T3	6CPXL15.2ESK
Granite	8.1231	Rubber Tired Loader	CATERPILLAR	C15	2006	318	T3	6CPXL15.2ESK
Granite	16.1503	Paver	GOMACO	6068HF285	2006	185	T3	6JDXL06.8104
Granite	30.503	Excavator	CATERPILLAR	C6.4	2008	157	T3	8MVXL06.4FFF
Granite	30.517	Excavator	CATERPILLAR	C7	2010	204	T3	ACPXL07.2ESL
Granite	16.176	Paving	Equipment	OM 926 LA	2010	322	T3	AMBXL07.2RJA
Granite	10.10003	Roller	VOLVO	CPL8755	2011	130	T3	BCEXL0275AAG
Johnson CAT	ES613-001	Scraper	CATERPILLAR	C6.6	2010	193	T3	2CPXL06.6MRB
Johnson CAT	ES613-705	Scraper	CATERPILLAR	C6.6	2006	175	T2	2CPXL06.6MRB

The equipment shown in Table 4.2-1 operating under a 20-day exemption is eligible to accrue 20-days in calendar year 2016 and 2017. At the end of 20 cumulative days of airfield operation, the equipment must either be removed from the airfield or undergo retrofit with a BACT device. The Third Party Monitor has reviewed each piece of equipment shown in Table 4.2-1 for compatibility with a Level 3 verified diesel emission control system (VDECS). All equipment in Table 4.2-1 is compatible with multiple Level 3 VDECS. Additionally, none of the equipment included in the Table is subject to operator line of sight restrictions, meaning that there are no safety issues associated with the installation of a Level 3 BACT device as long as the installer conforms to CARB and California OSHA guidelines. The Third Party Monitor has confirmed the technical feasibility of performing a BACT installation on the equipment shown in Table 4.2-1.

TASK 5: ULTRA LOW SULFUR DIESEL AND OTHER FUELS

Section X.F.5 of the Community Benefits Agreement requires that all diesel equipment used for construction on LAX Master Plan Projects use only Ultra-Low Sulfur Diesel (ULSD) fuel containing 15

parts per million (ppm) of sulfur by weight or less. This requirement is in effect as long as adequate supplies are available in the Southern California region.

There are three tasks in the Scope of Work for the Third Party Monitor related Ultra Low Sulfur Diesel:

- Task 5.1 - Contractor shall monitor, document, and independently report on construction equipment related to LAX Master Plan Program construction as it relates to the use of ultra-low sulfur diesel fuel. Contractor will be provided all available fuel procurement records for construction equipment related to the LAX Master Plan Program;
- Task 5.2 – Contractor shall independently verify and report to LAWA and the Coalition Representative that adequate supplies of ULSD are or are not available in Southern California. For the purpose of this Task, "Southern California" is defined as the geographic region comprising Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties;
- Task 5.3 – Contactor shall independently verify and report to LAWA and the Coalition Representative that fuels substituted in lieu of ULSD do not result in greater emissions of fine PM or NO_x than that which would be produced by the use of ULSD at 15-ppm or lower. Verification will be based on CARB certification or equivalent.

South Coast AQMD Rule 431.2, which took effect on June 1, 2006, requires diesel fuel refined and sold for on-road and off-road use within the jurisdiction of the AQMD to contain no more than 15-ppm sulfur by weight. The California Air Resources Board subsequently adopted this requirement on a statewide basis on September 1, 2006. Thus, ULSD is the only diesel fuel legally available for purchase within California.

To independently verify the sulfur content of the diesel fuel used by equipment operating on LAX Master Plan projects, CFCI has requested fuel purchase records from the contractor and has examined the fuel receipts to ensure that only ULSD is being used. Fuel purchase records are clearly marked "ULSD"; thus, there is no ambiguity as to whether or not the fuel has the ultra-low sulfur content.

TASK 6: OPERATIONAL REQUIREMENTS

Section X.F.6 of the CBA requires that Operational Requirements be issued and enforced by LAWA as it pertains to: a) limitations of equipment engine idling; and, b) maintenance of equipment engines.

The environmental requirements mandated by LAWA state that *"Contractor shall prohibit construction diesel vehicles or equipment from idling in excess of the idling restrictions as defined in the CARB Vehicle Idling Rule. The contractor shall advise drivers and operators of these requirements at the pre-construction orientation meeting, remind them on a daily basis, and post signs in appropriate places indicating the CARB Vehicle Idling Rule. Exemptions may be granted for safety and operational reasons, as defined in CARB or as approved by the Engineer. The contractor and subcontractors shall have policies and procedures in place for compliance with the Vehicle Idling Rule and a copy of such shall be submitted within 30 days of Notice to Proceed to the Engineer for approval"*.

In CFCI's capacity as Third Party Monitor, monitoring, documentation, and reporting of operational requirements was conducted in accordance with the following two Tasks:

- Task 6.1 – The Independent Third Party Monitor shall establish processes and procedures for determining whether a construction firm is complying with the operational requirements specified by LAWA. For the purpose of this Task, Operational Requirements include, but are not limited to, engine idling and engine maintenance requirements;
- Task 6.2 – The Independent Third Party Monitor shall monitor, document, and independently report to LAWA and the Coalition Representative on operational requirements issued and enforced by LAWA as they relate to limitations on idling and engine maintenance, at a minimum. Idling and engine maintenance records for construction equipment related to the LAX Master Plan Program will be provided to the Contractor by LAWA.

The following sections describe the process developed and implemented to track adherence to the operational requirements delineated in the CBA, as well as the independent findings of the Interim Third Party Monitor.

Process for Determining Compliance with Operational Requirements

The process to determine construction contractor compliance with the Operational Requirements set forth in the CBA has two distinct components:

1. Review by the Independent Third Party Monitor of applicable written procedures, monthly logs, and records documenting construction contractor compliance with Operational Requirements;
2. Onsite inspections conducted independently by the Third Party Monitor to confirm Operational Requirements are being implemented in accordance with CBA requirements.

In conducting reviews of construction contractor records, logs, and written procedures, requests for specific information and/or documents were submitted by the Third Party Monitor to LAWA's construction manager's staff. Requests for documentation were in turn submitted to the construction contractor by LAWA. This protocol was established and adhered to by all parties to ensure the reporting relationships between LAWA's environmental monitor and the construction contractor were maintained and to prevent requests from the Third Party Monitor being construed by the construction contractor as contractual direction.

Once obtained by LAWA construction manager staff, the requested records, logs, and written procedures are provided to the Third Party Monitor for review. In most cases, photocopies are provided. In certain cases, such as equipment maintenance records, however, documents are retained at a location other than the on-site construction trailers; this requires that the documents be inspected at the offsite location. This is discussed further under Task 6.2, below.

Vehicle and Equipment Idling – The Environmental Requirements for the MSC project prohibit construction vehicles and equipment from excessive idling in accordance with the restrictions defined in the CARB Vehicle Idling Rule[6]. This Rule, more formally referred to as the *Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling*, is codified in Title 13 Section 2485 of the California Code of Regulations and took affect on February 1, 2005.

The law states that operators of diesel fueled commercial vehicles with a gross vehicle weight rating (GVWR) of 10,000 pounds or greater shall not idle their vehicle's primary diesel engine for greater than five (5) minutes at any location. The law only applies to commercial vehicles that are or must be licensed for operation on the highway.

The "five minute rule" is waived under the following circumstances:

- Idling when the vehicle must remain motionless due to traffic conditions;
- Idling when the vehicle is queuing that at all times is beyond 100 feet from any restricted area (i.e., homes and schools);
- Idling to verify safe operating condition;

[6] www.arb.ca.gov/toxics/idling/regtext.htm

- Idling mandatory for testing, servicing, repairing, or diagnostic purposes (cleaning of commercial vehicles is not considered servicing);
- Idling when positioning or providing power for equipment that is performing work;
- Idling when operating defrosters, heaters, air conditioners, or other equipment to prevent a safety or health emergency.

While the CARB Rule pertains only to "on-road" vehicles, it is important to note that LAWA extends the CARB idling restrictions to off-road vehicles and equipment operating in conjunction with the MSC project. In practice, LAWA's enforcement of idling restrictions exceeds those mandated under the CARB Rule for both on-road and off-road vehicles and equipment.

The Third Party Monitor reviewed and independently verified the following documentation pertaining to notice of idling restriction requirements:

- Posted Signs – large signs are posted at the construction site entrance in clear view of trucks entering the air operations area. These signs clearly state the restrictions on vehicle idling;
- Written Policies – LAWA construction manager staff provided the Third Party Monitor with copies of the written idle restriction policies and procedures provided to the construction contractor;
- Notes from LAWA's construction contractor/ environmental monitor Status Meetings – in which reiteration of LAWA idling restrictions were reviewed.

LAWA's environmental monitor confirmed that excessive idling had a lower incidence rate when compared to other LAX Master Plan projects. The CARB anti-idling rule has been in place long enough that most vehicle and equipment operators are aware of its existence. Additionally, major construction had yet to start; the number of vehicles and equipment operating during initial construction is limited.

Equipment Maintenance Records – The CBA requires that the construction contractor properly maintain all equipment in accordance with the manufacturers' specifications and schedules. Further, that all maintenance and repair records shall be made available upon request. The Third party Monitor made this request and was awaiting receipt of vehicle maintenance records.

LAWA's environmental monitor and the Third Party Monitor also conduct regular visual inspections of diesel equipment operating on LAX Master Plan projects, looking for excessive exhaust soot or other

indications that the equipment is in a state of disrepair. During the reporting period, no vehicles or equipment were determined by LAWA to be emitting excessive smoke. This is due in large part to the high percentage of Tier 4 equipment being utilized on the MSC project.

TASK 7: ENFORCEMENT BY LAWA

Section 7 of the Independent Third Party Monitor Scope of Work states that: "The Contractor shall monitor, document and independently report to the Coalition Representative on enforcement actions by LAWA".

During the period of July 1, 2016 through December 31, 2016, LAWA's environmental monitor noted that compliance with environmental policies was very good, especially as it pertained to operating curfews. No fines or citations were given for the curfew violation.

No enforcement actions were required for fugitive dust emissions or excessive noise. The Third Party Monitor noted that a water truck was available to provide dust control; however, several recent rains had saturated the MSC construction site to the point where excess water was being pumped out.

Figure 7-1: Heavy Rains Result in Standing Water on MSC Construction Site

Figure 7-2: Fugitive Dust Control on the Stockpile to be Crushed & Reused on MSC

TASK 8: REASSESSMENTS OF EMISSION CONTROL DEVICES

The Community Benefits Agreement Section X.F.9 requires that a reassessment of best available emission control devices be conducted on an annual basis, or more frequently if warranted. The purpose is to ensure that bid documents take into account advances in emission control devices prior to bidding new construction phases of the LAX Master Plan Program. This reassessment was conducted for all verified devices as of for the annual period commencing January 1, 2016 to December 31, 2016.

Section X.F.9 further requires that the emission control technology review process include any new and relevant requirements or regulations promulgated by CARB or the U.S. EPA, with the understanding that the results from any reassessment of diesel emission control systems cannot be applied retroactively. Specifically, Section X.F.9.b. states "any new designations of emission control devices as best available shall apply only to projects that start after the devices are verified or certified for use by CARB or the EPA... "

During the period of January 1, 2016 through December 31, 2016, the US EPA or CARB verified no additional diesel emission control systems. Given that new on-road and off-road vehicles and

equipment are now manufactured with factory installed emissions control systems, including Tier 4 off-road equipment, there is a limited market for new VDECS for vehicle retrofits. Currently, VDECS are commercially available for most on-and off-road retrofit applications; thus, the market is not in need of additional devices. The last applicable diesel emission control system verified by CARB was the ESW CleanTech Skyline off-road diesel particulate filter – this device earned CARB verification in April 2014.

During the reporting period one (1) off-road VDECS had its Level 3 verification status terminated by CARB. The device is the Nett Technologies VorTEQ diesel emission control system. This device had its Level 3 verification rescinded as of April 25, 2016. This action has no negative impact on LAX Master Plan projects, as other VDECS are available for vehicles and equipment compatible with the Nett VorTEQ.

Also, Caterpillar Emission Solutions, Inc. Caterpillar purchased CleanAir Systems, Inc. and took ownership of the PERMIT™ DPF verification as of May 2016.

Task 9: Implementation of Public Complaint Registration Process

Task 9 of the Third Party Monitor Scope of Work requires the contractor to develop and implement a public complaint registration process. The components of the task are:

- Task 9.1 – Contractor shall develop and implement a process allowing any member of the public to register a complaint alleging any entity's noncompliance with the requirements of CBA Section X.F.
- Task 9.2 – Contractor shall investigate all complaints registered by a member of the public and determine if, when, and where a violation occurred. Contractor shall notify LAWA and the LAX Coalition Representative each time a complaint is registered.
- Task 9.3 – Contractor shall provide records or summaries of public complaints registered with Contractor, including actions, findings, and determinations, to the public upon request. Contractor shall provide LAWA and the LAX Coalition Representative copies of all actions, finding, and determinations requested by the public.

As LAWA already has a widely publicized hotline for complaints, it was decided to utilize the existing number instead of establishing a new one in order to avoid duplication and potential confusion in the community.

- No fugitive dust complaints were recorded, and LAWA, the South Coast AQMD, or any other environmental regulatory authority took no enforcement actions during that period;
- No excessive noise complaints were lodged during the reporting period.

Factors that most likely contribute to the absence of public complaints include:

- Dissemination and strict enforcement of the environmental requirements of the CBA by LAWA's environmental monitor and inspectors;
- Construction activities associated with the MSC project primarily take place largely in the geographic center of the LAX airfield. Sensitive receptors, such as the communities of El Segundo, are to a large extent buffered by the South Airfield runways. A similar situation exists on the Northern area, where the North Airfield runways provide a buffer. This serves as a barrier to common construction nuisances such as noise curfew violations.

SECTION 3 - RESULTS AND CONCLUSIONS

The following is a summary of Third Party Monitor independent monitoring results and findings for the six-month period commencing July 1, 2016 and ending December 31, 2016:

- Monitoring and documentation of diesel equipment utilized or proposed for utilization on two (2) LAX Master Plan projects. A total of 178 pieces of diesel equipment were independently assessed to determine compatibility with a commercially available CARB/EPA-verified diesel emission control system. The equipment is specified for use on the Qantas Hangar Demolition and Midfield Satellite Concourse - North projects;
- Monitoring of diesel emission control devices installed on construction equipment. As documented in the above Sections of this report, 153 of the initial 175 vehicles and equipment are equipped with factory installed diesel emission control systems. This includes off-road equipment designated as Tier 4i and Tier 4F as well as 2007 EPA-compliant on-road trucks;
- A review and documentation of all exemptions granted by LAWA that allow a piece of diesel construction equipment to operate on LAX construction projects without a best available control technology retrofit. This includes equipment that was deemed incompatible with a verified VDECS, or granted a "20-day" exemption on the basis of infrequent equipment use. A total of four (4) vehicles were found to be incompatible with a VDECS – these include four relatively low horsepower slab saws. Additionally, 14 pieces of equipment were authorized for airfield use under a 20-day exemption;
- During the reporting period, no Notice of Violation (NOV) were levied by the South Coast Air Quality Management District for fugitive dust emissions associated with either earth moving operations or recycled concrete aggregate crushing. No dust complaints were received by LAWA from the public;
- No excessive noise complaints were received during the reporting period from the public.
- In accordance with CBA requirements, CFCI conducted a reassessment of available CARB and EPA-verified diesel emission control systems. This reassessment is conducted on an annual basis. The intent is that LAWA use these findings to designate newly verified devices as best available control devices and incorporate the requirement to use these devices into construction bid documents for new construction phases of the LAX Master Plan Program.

These findings, however, are not to be applied retroactively to Master Plan Projects already in the construction phase.

As a result of this reassessment, it was determined that no new verified diesel emission control systems have been verified for either on-road vehicles or off-road equipment during the reporting period.

Overall, diesel equipment used on construction activities during the specified time period was found to be in substantial compliance with all provisions of the CBA Section X.F. As discussed in previous sections, approximately 93% of off-road construction equipment supporting the initial stages of MSC construction are Tier 4i or Tier 4F and equipped with a factory-installed diesel emission control system. This equipment already meets the most stringent EPA and CARB emissions standards; as such, no additional emissions control retrofits are required. In addition, greater than 95% of all on-road vehicles are equipped with a CARB-verified Level 3 VDECS.

The next Semiannual Report will cover the period commencing January 1, 2017 and ending June 30, 2017. The Report will cover the continuation of construction activities for the Midfield Satellite Concourse - North project.