FINAL | JUNE 2015

THE AVALON

Initial Study/Mitigated Negative Declaration

PREPARED FOR:

City of Carson

PREPARED BY:

RBF Consulting

A Michael Baker International Company

COMMENTS AND RESPONSES AND MITIGATION MONITORING AND REPORTING PROGRAM

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

The Avalon Project

Lead Agency:

CITY OF CARSON
701 East Carson Street
Carson, California 90745
Contact: Mr. Richard Rojas, AICP
310.952.1761

Prepared by:

RBF CONSULTING
14725 Alton Parkway
Irvine, California 92618-2069
Contact: Mr. Eddie Torres, INCE
Mr. Achilles Malisos
949.472.3505

June 2015

JN 143905

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1.0 INTRODUCTION

The Avalon Project (herein referenced as the "project") proposes a mixed-use development with 357 market rate apartment units and 32,000 square feet of commercial space on a 5.5-acre site located at the northwest corner of the Carson Street/Avalon Boulevard intersection. The project would include two separate structures: the "Podium" (a five-story building to be located on the eastern portion of the Avalon Boulevard and Carson Street intersection), and the "Wrap" (a four-story building fronting Carson Street in the western portion of the site). The "Podium" would consist of a one level of subterranean parking garage, two above ground garage levels, ground floor retail and restaurant uses, and 221 residential units. The "Wrap" would exclusively consist of 136 residential units within four stories wrapped around a residential parking garage. Following a preliminary review of the proposed project, the City of Carson has determined that it is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study addresses the direct, indirect, and cumulative environmental effects of the project, as proposed.

In accordance with the *California Environmental Quality Act (CEQA) Guidelines*, an Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the proposed project.

The IS/MND was made available for public review and comment pursuant to *CEQA Guidelines* Section 15105. The public review commenced on April 6, 2015 and expired on May 5, 2015. The IS/MND and supporting attachments were available for review by the general public at the City of Carson Community Development Department (701 East Carson Street, Carson, CA 90745), the City of Carson Public Library (151 East Carson Street, Carson, CA 90745), and on the City's website.

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2.0 COMMENTS AND RESPONSES

During the public review period, comments were received on the IS/MND from certain interested public agencies and private parties. The following is a list of the persons, firms, or agencies that submitted comments on the IS/MND during the public review period:

A. Scott Morgan, Director, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit, dated May 6, 2015.

B. Jillian Wong, Ph.D., Program Supervisor, Planning, Rule Development and Area Sources, South Coast Air Quality Management District, dated April 23, 2015.

C. Dianna Watson, Branch Chief, Community Planning and Land Development/Intergovernmental Review, California Department of Transportation, District 7, dated May 6, 2015.

Although and the State CEQA Guidelines do not require a Lead Agency to prepare written responses to comments received on an IS/MND, as contrasted with a Draft Environmental Impact Report (see State CEQA Guidelines Section 15088), the City has elected to prepare the following responses with the intent of conducting a comprehensive and meaningful evaluation of the proposed project.

The number designations in the responses are correlated to the bracketed and identified portions of each comment letter.

COMMENT LETTER A

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

May 6, 2015

Richard Rojas
City of Carson
701 E. Carson Street
Carson, CA 90745

Subject: The Avalon Project
SCH#: 2015041021

Dear Richard Rojas:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on May 5, 2015, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

A-1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2015041021
Project Title The Avalon Project
Lead Agency Carson, City of

Type MND Mitigated Negative Declaration

Description The project proposes a mixed-use development with 357 market rate apartment units and 32,000 sf of commercial space on a 5.5-acre site located at the northwest corner of the Carson Street/Avalon Blvd intersection. The project would include two separate structures: the "Podium" (a five-story building to be located on the eastern portion of the Avalon Boulevard and Carson Street intersection), and the "Wrap" (a four-story building fronting Carson Street in the western portion of the site). The "Podium" would consist of a one level of subterranean parking garage, two above ground garage levels, ground floor retail and restaurant uses, and 221 residential units. The "Wrap" would exclusively consist of 136 residential units within four stories wrapped around a residential parking garage. The project site is listed on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Lead Agency Contact

Name Richard Rojas
Agency City of Carson
Phone 310 952 1761 **Fax**
email
Address 701 E. Carson Street
City Carson **State** CA **Zip** 90745

Project Location

County Orange
City Carson
Region
Lat / Long 33.832253° N / 118.2644338° W
Cross Streets Carson Street and Avalon Boulevard
Parcel No. Various
Township 4S **Range** 13W **Section** 8 **Base** SBB&M

Proximity to:

Highways I-405, 110
Airports
Railways UPRR
Waterways Dominguez Channel
Schools Multiple
Land Use The City of Carson General Plan Land Use Map designates the project site as Regional Commercial and Mixed-Use Residential. The project site is zoned Regional Commercial Overlay, and Mixed-Use - Carson Street on the City of Carson Zoning Map.

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services, California; California Highway Patrol; Caltrans, District 12; Air Resources Board; Regional Water Quality Control Board, Region 8; Native American Heritage Commission; Public Utilities Commission

A-1

Document Details Report
State Clearinghouse Data Base

A-1

Date Received 04/06/2015 *Start of Review* 04/06/2015 *End of Review* 05/05/2015

Note: Blanks in data fields result from insufficient information provided by lead agency

A. RESPONSES TO COMMENTS FROM SCOTT MORGAN, DIRECTOR, GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, STATE CLEARINGHOUSE AND PLANNING UNIT, DATED MAY 6, 2015.

A-1. This procedural letter received from the State Clearinghouse acknowledges the close of the public review period for the Initial Study/Mitigated Negative Declaration (IS/MND) and verifies that the City of Carson has complied with State Clearinghouse review requirements under CEQA. The letter also states that no state agencies submitted comments to the Clearinghouse by the close of the 30-day public review period.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL AND USPS:
rrojas@carson.ca.us

April 23rd, 2015

Richard Rojas, Associate Planner
City of Carson
Community Development Department
701 East Carson St.
Carson, CA 90745

Draft Mitigated Negative Declaration (Draft MND) for the Proposed Mixed-Use Project Located at 21521-21601 S. Avalon Blvd.

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final MND.

In the project description, the Lead Agency proposes to demolish a gasoline service station, commercial strip center, and stand-alone office structure. In its replacement, a 357 mixed-use residential dwelling with commercial space will be constructed. Since the proposed project is located on an existing gasoline service station, SCAQMD staff is concerned about the potential air quality impacts from VOC contaminated soils encountered during grading and construction. Disturbing soils that may contain petroleum hydrocarbons are subject to the requirements of SCAQMD Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil. Rule 1166 should be incorporated during the development of the Final MND. B-1

The SCAQMD staff is available to work with the Lead Agency to address these concerns and any other air quality questions that may arise. Please contact Jack Cheng, Air Quality Specialist at (909) 396-2448, if you have any questions regarding these comments. We look forward to reviewing and providing comments for the Final IS/MND associated with this project.

Sincerely,

Jillian Wong

Jillian Wong, Ph.D.
Program Supervisor
Planning, Rule Development & Area Sources

JW:JC
LAC 150408-01
Control Number

B. RESPONSE TO COMMENTS FROM JILLIAN WONG, Ph.D, PROGRAM SUPERVISOR, PLANNING, RULE DEVELOPMENT AND AREA SOURCES, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, DATED APRIL 23, 2015.

B-1. The commenter notes the potential for air quality impacts during construction due to likely hazardous materials (petroleum hydrocarbons/volatile organic compounds [VOCs]) associated with the existing on-site gasoline service station. As noted by the commenter, the project would be required to comply with South Coast Air Quality Management District (SCAQMD) Rule 1166 - Volatile Organic Compound Emissions from Decontamination of Soil. As discussed in the Initial Study/Mitigated Negative Declaration (IS/MND) Section 4.8, *Hazards and Hazardous Materials*, compliance with Mitigation Measures HAZ-1 and HAZ-2 would require appropriate soil sampling and remediation to acceptable residential standards. HAZ-2 also requires a Phase II/site characterization specialists to recommend remediation/safety measures in order to ensure worker safety during construction and public health during proposed project operations. Compliance with Mitigation Measures HAZ-1 and HAZ-2, as well as SCAQMD Rule 1166 would result in a less than significant impact with regards to air quality from petroleum hydrocarbons/VOCs on the project site.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov

Serious drought.
Help save water!

May 6, 2015

Mr. Richard Rojas, AICP
City of Carson
Community Development Department
701 East Carson Street
Carson, CA 90745

RE: The Avalon Project
Vic. LA-405/PM 10.557 to 11.251
SCH # 2015041021
IGR/CEQA No. 150425AL-MND

Dear Mr. Rojas:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The project consists of the demolition of all existing uses on-site and the construction of a new mixed-use project including residential (357 apartment units) and commercial uses (potential 15,000 square feet of supermarket, 8,000 square feet of pharmacy/drug store, and 4,000 square feet of general retail use) in two separate structures. **C-1**

Page 35 of the Traffic Impact Study (TIS) Table 7-1 Project Trip Generation indicates a credit of pass-by with 36% for supermarket, 40% for pharmacy/drugstore, and 34% for retail. Please provide an explanation as to how these percentages were arrived at, as they appear to be high. A reasonable and conservative approach may be needed to obtain accurate percentages such as field surveys and interviews with drivers in similar developments in the City of Carson. ITE "Trip Generation Handbook", 3rd Edition should NOT be used. The 9th Edition is the newest version. **C-2**

The project will generate a net 2,398 daily trips and 164/163 AM/PM peak trips according to Project Trip Generation Table 7-1. On page 27, Table 6-1 Related Projects List and Trip Generation, there are a total 22,346 daily trips and 1,537/1,897 AM/PM peak trips that will be generate from the cumulative development projects. **C-3**

However, the Table 7-1 indicates that Shell Carson Revitalization Specific Plan will generate 5,039 daily trips, 352/518 AM/PM peak hour trips. In Caltrans' comment letter dated March 26, 2014 (see attached), the revitalization project by 2017 will generate 6,357 daily trips and 408/580 AM/Pm peak hour trips. By 2030, the project will generate 19,001 daily trips and 1,817/2,053 AM/PM peak hour trips; cumulatively there will be additional 77,295 average daily trips, 2,971/6,472 AM/PM peak hour trips. There seems to be an inconsistency of data in the TIS. Nevertheless, there will be a significant traffic impact on the State facilities as a result when all developments are built. The Shell project TIS indicated that by 2030, I-405 NB/SB on/off-ramps to/from Avalon Blvd. will have significant impacts. C-3

For a more accurate off-ramp queuing analysis, capacity of the off-ramp should be calculated by the actual length of the off-ramp between the terminuses to the gore point with 30 feet per car. The queue length should be calculated from the traffic counts, actual signal timing and the percent of truck assignments to the rap with a passenger car equivalent factor of 3.0 (worst case scenario). The analyzed result may need to be calibrated with actual signal timing when necessary. Please include mitigation measures if forecasted vehicle queues are expected to exceed 85% of the total available storage capacity such that the storage will allow a 15% safety factor. It is also recommended that the City determine whether project-related plus cumulative traffic is expected to cause long queues on the on and off-ramps. Table 11-1 Caltrans Intersection Impact Analysis on page 60 needs to be revised. C-4

For the above reasons, we would like to encourage the City to work with Caltrans to identify any feasible improvements on the State facilities. In addition, as discussed in a telephone conversation between you and Mr. Alan Lin, Caltrans Project Coordinator, on May 5, 2015, Caltrans would like to again invite the City to discuss traffic impacts and traffic mitigation alternative which may include fair share contributions toward planned or future freeway improvements. C-5

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities without any storm water management plan. C-6

Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from Caltrans. It is recommended that large size truck trips be limited to off-peak commute periods. C-7

If you have any questions, please feel free to contact Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 150425AL-MND. C-8

Sincerely,

DIANNA WATSON
Branch Chief
Community Planning & LD / IGR Review

cc: Scott Morgan, State Clearinghouse

Attachment

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, TRANSPORTATION PLANNING
IGR/CEQA BRANCH
100 MAIN STREET, MS # 16
LOS ANGELES, CA 90012-3606
PHONE: (213) 897-9140
FAX: (213) 897-1337

Flex your power!
Be energy efficient!

March 26, 2014

Mr. John F. Signo, AICP
Senior Planner
Community Development Department, Planning Division
City of Carson
701 E. Carson Street
Carson, CA 90745

IGR/CEQA No. 140212AL-DEIR
Ref. IGR/CEQA No. 110124AL-email resp.
Ref. IGR/CEQA No. 101005AL-NOP
Shell Oil Products U.S. Carson Revitalization Project (CRP) Specific Plan (CRPSP)
Vic. LA-405, LA-710, LA-91, LA-110
SCH # 2010101015

Dear Mr. Signo:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project will expand the Shell Oil Products facility capacity with 30 new storage tanks by Year 2030 (10 storage tanks by year of 2017), add four truck loading racks by year 2030 (three truck loading racks by year 2017), develop 83,000 square feet of retail and 1.74 million square feet of mixed industrial/business services, including a municipal services yard and warehousing /distribution facilities. After review of the information provided, Caltrans has the following comments:

Table 3E of the Traffic Study entitled Shell Carson Revitalization Project Trip Generation Summary (prepared September 2012 with Addenda dated May 2013 and January 2014), indicates that by the year 2017 this project will generate 6,357 daily trips and 408/580 AM/PM peak hour trips. By 2030, the project will generate 19,001 daily trips and 1,817/2,053 AM/PM peak hour trips. There will be a significant traffic impact on the State facilities as a result of this development when the current Level of Service (LOS) is operating at LOS E or F. Based on the information provided for the surrounding neighborhood, shown on Table 4 entitled Cumulative Development Projects, there will be an additional 77,295 average daily trips, 2,971/6,472 AM/PM peak hour trips, therefore, significant cumulative traffic impacts will occur on the State facilities.

Directional traffic volumes for the AM/PM peak hours to/from the project site should be disclosed in Figures 8 & 9 entitled Project and Program Level Only. Project driveway volumes during the AM/PM peak hours should add up and be consistent with the above trip generation volumes. Currently, the immediate study locations total volumes in the AM/PM peak hours appear to be low in comparison to the above trip generation volumes. This shows that the current traffic model may not generate accurate results from the project. Based on Caltrans

knowledge and experience it is our opinion that these locations will be heavily impacted and improvements for these locations are required.

For a freeway analysis, Caltrans requests that the City disclose a percentage trip assignment to the freeway in addition to the four directional percentages to the project site. Otherwise, a select-zone analysis should be used as a more accurate traffic modeling analysis. A percentage assignment to the freeway is not clearly identified in the traffic study report, therefore, Caltrans does not agree with the traffic assignments to the State facilities.

Figure 9, study location #20 (Wilmington Ave & I-405 Southbound On/Off-Ramps), shows that there is no traffic volume coming from the I-405 freeway SB off-ramp to Wilmington Avenue. Please provide an explanation to support this claim.

Although the project will have direct/cumulative impact on the State facilities in study location #13 (Avalon Blvd. & I-405 freeway Northbound On/Off-Ramps), #14 (Avalon Blvd. & I-405 freeway Southbound On/Off-Ramps), #19 (Wilmington Ave. & I-405 freeway Northbound On/Off Ramps), #20 (Wilmington Ave & I-405 freeway Southbound On/Off-Ramps), and #21 (Lenardo Drive & I-405 freeway Southbound On/Off-Ramps), the improvements to these locations have either recently been completed, are under construction, or are in the design process. However, under Future (Year 2030) Intersection Level of Service Analysis (Table 8), study locations #13 and #14 still have significant impacts and the report indicates that "Mitigation measures at intersection are not feasible. Impact is significant and unavoidable."

Caltrans does not agree with this statement because there is no evidence in the report that shows all resources have been exhausted in locating feasible mitigation. Caltrans is willing to assist the City in identifying potential improvements. In addition, Caltrans remains concerned that the off-ramp will back up to the mainline, creating a safety hazard.

The freeway analysis was conducted using Highway Capacity Manual (HCM) 2000; the Off-Ramp Queuing Analysis on Table 13 was conducted using HCM 2010. Therefore, the analysis appears to be inconsistent. Please provide an explanation as to why the latest version of the HCM was not used throughout the entire analysis.

The queuing analysis only shows the output (results) of the analysis. The input (assumptions) of the queuing analysis should also be included in the report. Additionally, the report does not include an intersection analysis and off-ramp queuing analysis at SR-91 EB/WB Off-Ramps at Wilmington Avenue.

In Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002, "The level of service (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' on State highway facilities. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained." The surrounding freeways (I-405, I-710, SR-91, and I-110) are operating at or near capacity during the peak period. When additional traffic trips are assigned to those freeways, existing LOS should be maintained.

On page 72 of the traffic study, while Caltrans acknowledges "Implementation of additional freeway capacity to address significant cumulative conditions is beyond the ability of any

individual protect to implement and, as such, the project's incremental impacts on poor cumulative conditions on identified segments would be considered significant and unavoidable". As indicated in the report, contribution to the implementation of available proposed Caltrans projects to address congestion would certainly contribute to minimizing the impact associated with the proposed development. As such, we encourage you to work with Caltrans to identify such project.

Traffic mitigation should focus on the segments of the freeway where bottlenecks occur. Alternative mitigation, such as improving freeway signage, deceleration lane, weaving lane, etc. should be considered. Caltrans encourages the City to work with the neighboring cities in identifying adequate improvements in the future to mitigate cumulative traffic impacts when necessary. The cumulative significant traffic impact may be unavoidable if no traffic mitigation is proposed. This project will have significant traffic impacts on the State facilities; however, the project offers no mitigation to the State facilities. Decision makers should be aware of this cumulative traffic impact issue and be prepared to mitigate cumulative project impact in the future. We recommend the City establish a mechanism and work with Caltrans to address cumulative transportation impacts from any sizable development including this one.

Please be reminded that any work performed within the State Right-of-way will require an Encroachment Permit from the Department. Any modifications to State facilities must meet all mandatory design standard and specifications. For additional information on the permit process please contact Caltrans District 7 Office of Permits at (213) 897-3631.

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water.

Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from Caltrans. It is recommended that large size truck trips be limited to off-peak commute periods.

As discussed in a telephone conversation with Mr. Richard Garland (City Engineer) and Mr. Alan Lin, Project Coordinator, on March 24, 2014, Caltrans would like to formally invite the lead agency, City of Carson, to discuss traffic impacts and traffic mitigation alternatives which may include fair share contributions towards planned or future freeway Improvements. Please contact this office at your earliest convenience to schedule a meeting or telephone conference in the near future.

If you have any questions, please feel free to contact Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 140212AL-DEIR.

Sincerely,

DIANNA WATSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

C. RESPONSE TO COMMENTS FROM DIANNA WATSON, BRANCH CHIEF, COMMUNITY PLANNING AND LAND DEVELOPMENT/INTERGOVERNMENTAL REVIEW, CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 7, DATED MAY 6, 2015.

C-1. This is an introductory statement and does not address the adequacy of the Draft IS/MND. No response is necessary.

C-2. The commenter's quoting of the specific pass-by percentage reductions for the various project land use components as outlined in the Avalon Mixed-Use Project Traffic Impact Study (contained within Appendix F of the Draft MND) is correct. As outlined in the Traffic Impact Study, the pass-by traffic reductions/percentages were developed based on a review of existing traffic volumes at the study intersections and pass-by trip data provided in the most current *Trip Generation Handbook* (published by the Institute of Transportation Engineers [ITE], 3rd Edition, August 2014). In addition, pass-by trip reduction percentages published by other nearby agencies (e.g., the City of Los Angeles Department of Transportation [LADOT]) were also reviewed. In order to maintain a conservative assessment, the lower of the two published pass-by reduction percentages for each applicable project land use component was utilized in the Avalon Mixed-Use Project Traffic Impact Study (i.e., the lower of the rates contained in the ITE *Trip Generation Handbook* and LADOT's adopted Pass-by Trip Rates). Therefore, additional field surveys and interviews with drivers, as suggested by the commenter, are not necessary.

As a point of clarification, the commenter's statement, "ITE Trip Generation Handbook, 3rd Edition should NOT be used. The 9th Edition is the newest version" infers that the newest edition of the ITE Trip Generation Handbook is the 9th edition. This is not correct, as the ITE Trip Generation *Handbook* and the ITE Trip Generation *Manual* are not the same documents as described more fully below:

In the preparation of the Avalon Mixed-Use Project traffic generation forecasts, the following latest standard publications and editions were reviewed and appropriately utilized:

- *Trip Generation Manual*, 9th Edition, published by ITE (2012)
- *Trip Generation Handbook*, 3rd Edition, published by ITE (2014)
- National Cooperative Highway Research Program *NCHRP Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, published by the Transportation Research Board (2011)

Trip generation rates provided in the *Trip Generation Manual* were utilized to forecast traffic generation for the proposed project land use components. Pass-by trip data provided in the *Trip Generation Handbook* was reviewed and utilized accordingly for the corresponding pass-by traffic reduction percentages. Internal capture adjustments were determined based on the extensive research and recommended procedure presented in the *NCHRP Report 684*. Therefore, the Avalon Mixed-Use Project Traffic Impact Study utilized the most current industry standard publications and appropriate references/sources were noted. Therefore, the project trip generation forecasts used for impact analysis purposes remain valid.

C-3. The commenter's statement with respect to the forecast weekday daily and AM/PM peak hour forecast project trip generation, as outlined in the Avalon Mixed-Use Project Traffic Impact Study (contained within Appendix F of the Draft MND), is correct.

Table 6-1 (Related Projects List and Trip Generation; refer to Attachment A, *Traffic Data*), pages 26-27 of the Avalon Mixed-Use Project Traffic Impact Study, did not quote the adjusted passenger car equivalent (PCE) trips from the related Shell Carson Revitalization Project traffic impact study. It is important to note, however, that in the preparation of the Avalon Mixed-Use Project Traffic Impact Study, the actual PCE adjusted project traffic forecasts from the Shell Carson Revitalization Project were distributed and assigned

to the street system in the formulation of the future conditions (i.e., the actual project only AM/PM peak hour traffic volumes as contained in Figure 8 of the *Traffic Study for the Shell Carson Revitalization Project* [prepared by Fehr & Peers, September 2012] were utilized). As a result, while it is recognized that there is a typographical error in Table 6-1, this typographical error does not affect the future traffic volume forecasts and the corresponding traffic impact analyses for the Avalon Mixed-Use Project.

For informational purposes, the attached Table 6-1 (refer to Attachment A) has been updated to reflect the corresponding PCE-adjusted trip generation forecasts for the Shell Carson Revitalization Project. Therefore, although Table 6-1 is updated, the corresponding traffic analysis contained in the Avalon Mixed-Use Project Traffic Impact Study remains valid. Furthermore, it is not necessary to consider the Shell Carson Revitalization Project's year 2030 traffic volume forecasts since the proposed Avalon Mixed-Use Project is planned to be constructed and occupied by year 2017. No updates or revisions to the traffic impact analysis are necessary or warranted.

Additionally, as a point of clarification, the Shell Carson Revitalization Project traffic study fully evaluated a year 2017 Phase I (project-level) analysis condition as well as a year 2030 buildout (program-level) analysis condition. As referenced by the commenter, the Shell Carson Revitalization project traffic study determined in its year 2030 analysis conditions that significant traffic impacts are expected for the I-405 Northbound/Southbound on-off ramps at Avalon Boulevard (PM peak hour impacts). However, that same traffic study also determined in the year 2017 analysis conditions that no significant traffic impacts are expected for the I-405 Northbound/Southbound on-off ramps at Avalon Boulevard (under both the AM and PM peak hour analysis conditions). This is completely consistent with the findings of the Avalon Mixed-Use Project traffic study which also concluded no significant traffic impacts at the subject I-405 Northbound/Southbound on-off ramps at Avalon Boulevard intersections (in the project's required analysis year 2017 conditions). Relevant pages from the Shell Carson Revitalization Project traffic study are attached for reference (refer to Attachment A). Nonetheless, the general comments stating that; 1) a significant traffic impact on the State facilities will occur as a result of the development and subsequent operation of all cumulative projects, and 2) by 2030 the I-405 Northbound/Southbound on-off ramps to/from Avalon Boulevard will have significant impacts as stated in the Shell Carson Revitalization Project, are noted and will be forwarded to the City's decision makers for their required review prior to any action being taken on the proposed project.

C-4. As a point of clarification, the intersection analyses summarized in Table 11-1 (Caltrans Intersection Impact Analysis), page 60 of the Avalon Mixed-Use Project Traffic Impact Study, were prepared based on the latest edition of the *Highway Capacity Manual* (HCM 2010) operational analysis methodologies pursuant to Caltrans' *Guide for the Preparation of Traffic Impact Studies*. The Level of Service (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). For state-controlled signalized study intersections, the MOE is determined based on control delay in seconds per vehicle. Table 11-1 summarized the Caltrans ramp intersection analyses using the appropriate MOEs and therefore no revisions are necessary.

While not necessary, a supplemental analysis has been prepared to formally address the commenter's comments pertaining to the potential vehicle queuing on the freeway off-ramp approaches at the corresponding study intersections. The vehicle queuing analysis was prepared based on the HCM 2010 operational analysis methodologies for the Year 2017 cumulative with project conditions. Each of the four freeway ramp intersection approaches were reviewed in terms of expected maximum vehicle queues (i.e., 95th percentile queues) which represent the maximum back of vehicle queues with 95th percentile traffic volumes. The off-ramp movement with the worst-case/maximum vehicle queue at each ramp intersection was then compared with the corresponding 85th percentile available ramp storage lengths for that movement. As presented in the attached Table A (refer to Attachment A), the maximum vehicle queues are not expected to exceed the 85th percentile available ramp storage lengths at any of the subject off-ramp

locations. Therefore, further consideration of transportation improvement measures at the Caltrans ramp intersections is not warranted or recommended. The corresponding weekday AM and PM peak hour HCM worksheets for purposes of determining the 95th percentile vehicle queues were included in the Draft MND traffic analysis (i.e., within Appendix F of Draft MND) and are also attached for ease of reference (refer to Attachment A).

It should be noted that the above supplemental vehicle queuing analysis incorporates an average vehicle length of 25 feet per vehicle (including the spacing between two vehicles when stopped). By comparison, the *Traffic Study for the Shell Carson Revitalization Project* (as referenced in Caltrans Comment No. 3 above) employed an average vehicle length of 22 feet per vehicle in its analysis. For referencing purposes, a typical Sport Utility Vehicle (e.g., Honda Pilot, Jeep Cherokee, Mercedes M-Class, etc.) measures less than 16 feet in length from the front bumper to the rear bumper. A typical mid-size sedan (e.g., Toyota Camry, Honda Accord, etc.) also measures less than 16 feet in length and many smaller makes and models of vehicles (e.g., Honda Civic, Toyota Prius, BMW 3 Series, etc.) measure 15 feet or less. Therefore, using an average vehicle length of 25 feet per vehicle is considered to be conservative and more than accounts for various vehicle and truck lengths. It should also be noted that as part of the operational analysis methodology, the analysis software also incorporated a two percent adjustment factor as a default value which was applied to all traffic movements (not just the freeway ramp movements) in order to reflect the presence of heavy vehicles and subsequently their effect on overall traffic operations.

Furthermore, the Avalon Mixed-Use Project Traffic Impact Study included both a forecast of traffic generated by known related (cumulative) projects plus the use of an ambient traffic growth factor. This results in a conservative estimate of traffic volumes in the future cumulative with project conditions. Therefore, use of 30 feet per vehicle or applying a passenger car equivalent factor of 3.0 to trucks (as suggested by the commenter) in addition to the already conservative future traffic volume forecasts/analyses is not necessary.

Having stated the above, even if an average vehicle length of 30 feet per vehicle was employed as suggested by the commenter, the results of the above vehicle queuing analysis would remain the same (i.e., the maximum vehicle queues are not expected to exceed the 85th percentile available ramp storage lengths at any of the subject off-ramp locations). Refer to the attached Table B for informational purposes only (refer to Attachment A). No further analysis is therefore necessary.

C-5. Refer to Response to Comment C-4 for a summary of the supplemental vehicle queuing analyses prepared at the Caltrans ramp locations. As the maximum vehicle queues are not expected to exceed the 85th percentile available ramp storage lengths at any of the subject off-ramp locations, further consideration of transportation improvement measures at the Caltrans ramp intersections is not warranted or recommended. Nonetheless, the comment is noted and will be forwarded to the City's decision makers for their required review prior to any action being taken on the proposed project.

C-6. As discussed on pages 4.9-2 to 4.9-4 of the Draft IS/MND, the project would be subject to the provisions of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit and Storm Water Pollution Prevention Program (SWPPP), which require implementation of Best Management Practices (BMPs) to treat and protect storm water runoff during short-term construction activities. The project would also be required to comply with the Los Angeles County Department of Public Works (LACDPW) Standard Urban Stormwater Mitigation Plan (SUSMP), and Low Impact Development (LID) Standards Manual, which require implementation of long-term BMPs to control and treat the off-site discharge of pollutants in accordance with NPDES requirements. The project would not result in discharge of stormwater runoff onto any State highway facilities, as suggested by the commenter.

C-7. As noted by the commenter, the project would require a transportation permit from the California Department of Transportation (Caltrans) due to the use of oversized-transport vehicles on State highways (to transport construction equipment and/or materials to and from the project site). The project Applicant/construction contractor would be required to obtain the Caltrans transportation permit prior to commencement of grading activities. Truck hauling would be restricted to occur during the off-peak hours (9:00 AM to 3:00 PM), and appropriate traffic control personnel ("flaggers") would be used to ensure construction vehicles operate safely along Carson Street and Avalon Boulevard and in a manner that minimizes disruption of traffic along these roadways (Mitigation Measure TRA-1).

C-8. This is a concluding statement and does not address the adequacy of the Draft IS/MND. No response is necessary.

ATTACHMENT A – TRAFFIC DATA

Table 6-1
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE		VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
City of Carson												
C1	Under Review	Honda Motorcycle Dealership 2055 E. 223rd Street	Showroom Office Warehouse Storage Area	41,512 GSF	[3]	525	Nom.	Nom.	Nom.	38	67	105
C2	Under Review	21801 S. Vera Street	Single-Family Residential	18 DU	[4]	171	4	10	14	11	7	18
C3	Under Review	2245 E. 223rd Street	Warehouse/Manufacturing	131,754 GSF	[5]	503	75	21	96	35	61	96
C4	Under Review	21205 S. Main Street	Condominium	20 DU	[6]	116	2	7	9	7	3	10
			Warehouse	27,000 GSF	[7]	96	6	2	8	2	7	9
			General Office	12,600 GSF	[8]	139	18	2	20	3	16	19
C5	Under Construction	Porsche Experience Driving Center 19220 S. Main Street	Driving Center Existing Golf Course	65,000 SF (18) Hole	[9]	(559)	78	(7)	71	(51)	31	(20)
C6	Under Review	Shell Carson Revitalization Specific Plan Project Level 20945 S. Wilmington Avenue	Shell Offices Light Industrial Community Retail City Municipal Services Yard	10 Emp. 90,000 GSF 83,000 GLSF 170,000 GSF	[10]	6,357	317	91	408	190	390	580
C7	Approved	18010 S. Figueroa Street	Condominium	8 DU	[6]	46	1	3	4	3	1	4
			Office/Warehouse/Light Manuf.	62,500 GSF	[8]	689	86	12	98	16	77	93
C8	Approved	16100 S. Avalon Boulevard	General Office	7,989 GSF	[8]	88	11	1	12	2	10	12
			Bus Storage	67 Spaces	[11]	455	17	25	42	16	22	38
C9	Approved	21038 S. Wilmington Avenue	General Office	11,547 GSF	[8]	127	16	2	18	3	14	17
			Truck Yard	315 Spaces	[11]	2,139	78	117	195	77	103	180
C10	Approved	440 E. Sepulveda Boulevard	Apartment	11 DU	[12]	73	1	5	6	5	2	7
C11	Approved	19101 S. Broadway	General Office	5,166 GSF	[8]	57	7	1	8	1	7	8
			Truck Yard	81 Spaces	[11]	550	20	30	50	20	26	46
C12	Approved	2666 E. Dominguez Street	Single-Family Residential	13 DU	[4]	124	3	7	10	8	5	13
C13	Approved	Giuliano's Bakery and Delicatessen 320 and 354 Alondra Boulevard	New Food Production Cold Storage Facility	38,468 GSF 31,316 GSF	[7] [7]	137 111	9 7	3 2	12 9	3 3	9 7	12 10
C14	Approved	Seafood City Shopping Center 21607 S. Main Street	Retail/Restaurant	3,675 GLSF	[13]	157	2	2	4	7	7	14
C15	Approved	Plaza Avalon Shopping Center 23401 S. Avalon Boulevard	Retail Restaurant	2,800 GLSF 3,500 GSF	[13] [14]	120 2,506	2 92	1 62	3 154	5 47	5 45	10 92

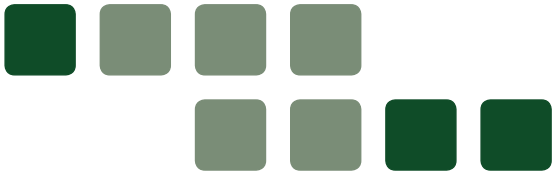
Table 6-1 (Continued)
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
C16	Built and Occupied	Car Pros Kia of Carson 22020 S. Recreation Road	Dealership	64,784 GSF	[15]	2,093	93	31	124	68	102	170
C17	Under Construction	Via 425 Apartments 401-425 E. Carson Street	Phase 2 - Affordable Apartment	40 DU	[12]	266	4	16	20	16	9	25
C18	Under Construction	Veo Mixed-Use Project 616 E. Carson Street	Condominium Retail	152 DU 13,313 GLSF	[6] [13]	883 568	11 8	56 5	67 13	53 24	26 25	79 49
C19	Approved	Boulevards at South Bay (formerly Carson Marketplace) 20400 S. Main Street	Regional Retail Center Neighborhood Retail Center Apartment Condominium Hotel Restaurant Commercial Recreation/Ent.	1,370,000 GLSF 130,000 GLSF 400 DU 1,150 DU 300 Rooms 81,125 GSF 214,000 GSF	[16]	36,129 5,285 2,554 5,117 3,058 11,127 5,681	466 100 40 62 98 418 82	280 64 160 302 62 328 48	746 164 200 364 160 746 130	1,576 228 155 298 94 383 221	1,710 240 83 147 83 273 270	3,286 468 238 445 177 656 491
C20	Under Construction	South Bay Pavilion Theatre Expansion 20700 S. Avalon Boulevard	Theater SouthBay Pavilion	14 Screens 971,590 GLSF	[17]	3,698	3	7	10	41	94	135
County of Los Angeles												
L1		22433 S. Vermont Avenue	Condominium	246 DU	[6]	1,429	18	90	108	86	42	128
TOTAL						**23,664**	**989**	**604**	**1,593**	**739**	**1,220**	**1,959**

[1] Source: City of Carson Department of Community Development Planning Division and the County of Los Angeles Department of Regional Planning. The City of Los Angeles Department of Transportation was contacted and no related project was identified within the project study area. Trip generation for the related projects are based on ITE "Trip Generation Manual", 9th Edition, 2012 (as referenced in the Project Data Source column).
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 842 (Recreational Vehicle Sales) trip generation average rates. Daily trip ends estimated based on that assumption that the PM peak hour trips represent 20 percent of the daily trips.
[4] ITE Land Use Code 210 (Single Family Detached Housing) trip generation average rates.
[5] ITE Land Use Code 140 (Manufacturing) trip generation average rates.
[6] ITE Land Use Code 230 (Residential Condominium/Townhouse) trip generation average rates.
[7] ITE Land Use Code 150 (Warehouse) trip generation average rates.
[8] ITE Land Use Code 710 (General Office) trip generation average rates.
[9] Source: Porsche Experience Driving Center Draft EIR, prepared by ESA, August 2012.
[10] Source: Traffic Study for the Shell Carson Revitalization Project, prepared by Fehr and Peers, September 2012.
[11] ITE Land Use Code 030 (Truck Terminal) trip generation average rates.
[12] ITE Land Use Code 220 (Apartment) trip generation average rates.
[13] ITE Land Use Code 820 (Shopping Center) trip generation average rates.
[14] ITE Land Use Code 933 (Fast-Food Restaurant without Drive-Through) trip generation average rates.
[15] ITE Land Use Code 841 (New Car Sales) trip generation average rates.
[16] Source: Draft Traffic Impact Study for the Carson Marketplace, prepared by Kaku Associates, October 2005. Based on coordination with City of Carson staff, this project would not be completed by year 2017 (i.e., the anticipated year of the proposed Avalon Mixed-Use project build-out). As a result, traffic associated with the Boulevards at South Bay project is not included in the related projects' total traffic generation. However, as requested by the City of Carson, a separate scenario assuming traffic associated with full buildout of the Boulevards at South Bay project is included in the traffic study for informational purposes.
[17] Source: Traffic Impact Analysis for Southbay Pavilion Theatre Expansion, prepared by LLG Engineers, April 2013.

Traffic Study for the

SHELL CARSON REVITALIZATION PROJECT



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September 2012
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and January 2014

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TABLE 7
FUTURE (YEAR 2017) INTERSECTION LEVEL OF SERVICE ANALYSIS

Intersection	Jurisdiction	Peak Hour	Future (Year 2017) Project Level						Mitigations (Year 2017)			
			Base Conditions		With Project (Project Level) Conditions							
			V/C	LOS	V/C	LOS	Change in V/C	Significant Impact?	V/C	LOS	Change in V/C	Significant Impact?
1. Wilmington Avenue & Victoria Street [a]	City of Carson	AM	0.614	B	0.618	B	0.004	NO	[e]			
		PM	0.775	C	0.783	C	0.008	NO				
	City of Compton	AM	0.614	B	0.618	B	0.004	NO	[e]			
		PM	0.775	C	0.783	C	0.008	NO				
2. Wilmington Avenue & University Drive [c]	City of Carson	AM	0.469	A	0.471	A	0.002	NO	[e]			
		PM	0.481	A	0.489	A	0.008	NO				
	LA County	AM	0.469	A	0.471	A	0.002	NO	[e]			
		PM	0.481	A	0.489	A	0.008	NO				
3. Avalon Boulevard & Del Amo Boulevard	City of Carson	AM	0.820	D	0.824	D	0.004	NO	[e]			
		PM	0.983	E	0.992	E	0.009	NO				
4. Central Avenue & Del Amo Boulevard	City of Carson	AM	0.715	C	0.723	C	0.008	NO	[e]			
		PM	0.719	C	0.735	C	0.016	NO				
5. Tajauta Avenue/Proposed 3rd Party Driveway & Del Amo Boulevard	City of Carson	AM	[b]	-	0.534	A	-	-	[e]			
		PM	[b]	-	0.630	B	-	-				
6. Wilmington Avenue & Del Amo Boulevard [c]	City of Carson	AM	0.671	B	0.693	B	0.022	NO	[e]			
		PM	0.678	B	0.738	C	0.060	NO				
	LA County	AM	0.671	B	0.693	B	0.022	NO	[e]			
		PM	0.678	B	0.738	C	0.060	NO				
7. Alameda Street & Del Amo Boulevard (location to the East) [c]	City of Carson	AM	0.533	A	0.549	A	0.016	NO	[e]			
		PM	0.603	B	0.619	B	0.016	NO				
	LA County	AM	0.533	A	0.549	A	0.016	NO	[e]			
		PM	0.603	B	0.619	B	0.016	NO				
Alameda Street & Del Amo Boulevard (location to the West) [c]	City of Carson	AM	0.407	A	0.423	A	0.016	NO	[e]			
		PM	0.507	A	0.513	A	0.006	NO				
	LA County	AM	0.407	A	0.423	A	0.016	NO	[e]			
		PM	0.507	A	0.513	A	0.006	NO				
8. Santa Fe Avenue & Del Amo Boulevard [c]	City of Carson	AM	0.758	C	0.767	C	0.009	NO	[e]			
		PM	0.813	D	0.821	D	0.008	NO				
	LA County	AM	0.758	C	0.767	C	0.009	NO	[e]			
		PM	0.813	D	0.821	D	0.008	NO				
9. Susana Road & I-710 Southbound On/Off-Ramps [d]	City of Long Beach	AM	0.708	C	0.714	C	0.006	NO	[e]			
		PM	0.620	B	0.626	B	0.006	NO				
	LA County	AM	0.708	C	0.714	C	0.006	NO	[e]			
		PM	0.620	B	0.626	B	0.006	NO				
10. Susana Road & Del Amo Boulevard [c]	City of Carson	AM	0.825	D	0.832	D	0.007	NO	[e]			
		PM	0.782	C	0.787	C	0.005	NO				
	LA County	AM	0.825	D	0.832	D	0.007	NO	[e]			
		PM	0.782	C	0.787	C	0.005	NO				
11. Wilmington Avenue & Proposed Boiler Street Project Driveway	City of Carson	AM	[b]	-	0.406	A	-	-	[e]			
		PM	[b]	-	0.449	A	-	-				
12. Avalon Boulevard & East Dominguez Street	City of Carson	AM	0.562	A	0.587	A	0.025	NO	[e]			
		PM	0.729	C	0.754	C	0.025	NO				
13. Avalon Boulevard & I-405 Northbound On/Off-Ramps	City of Carson	AM	0.777	C	0.790	C	0.013	NO	[e]			
		PM	1.028	F	1.046	F	0.018	NO				
14. Avalon Boulevard & I-405 Southbound On/Off-Ramps	City of Carson	AM	0.722	C	0.733	C	0.011	NO	[e]			
		PM	0.831	D	0.851	D	0.020	NO				
15. Wilmington Avenue & Dominguez Street	City of Carson	AM	0.419	A	0.416	A	-0.003	NO	[e]			
		PM	0.505	A	0.543	A	0.038	NO				
16. Avalon Boulevard & 213th Street	City of Carson	AM	0.533	A	0.534	A	0.001	NO	[e]			
		PM	0.697	B	0.700	B	0.003	NO				
17. Wilmington Avenue & 213th Street	City of Carson	AM	0.492	A	0.529	A	0.037	NO	[e]			
		PM	0.544	A	0.605	B	0.061	NO				
18. Wilmington Avenue & Carson Street	City of Carson	AM	0.625	B	0.664	B	0.039	NO	[e]			
		PM	0.672	B	0.709	C	0.037	NO				
19. Wilmington Avenue & I-405 NB On-/Off-Ramp	City of Carson	AM	0.696	B	0.717	C	0.021	NO	[e]			
		PM	0.721	C	0.747	C	0.026	NO				
20. Wilmington Avenue & I-405 SB On-/Off-Ramp	City of Carson	AM	0.797	C	0.802	D	0.005	NO	0.546	A	-0.251	NO
		PM	0.951	E	0.985	E	0.034	**YES**	0.624	B	-0.327	NO
21. Lenardo Drive & I-405 SB On-/Off-Ramp	City of Carson	AM	0.546	A	0.556	A	0.010	NO	[e]			
		PM	0.689	B	0.694	B	0.005	NO				

Notes:
[a] Intersection was analyzed under both City of Carson and Los Angeles County impact criteria
[b] Intersection not analyzed since intersection will remain unsignalized without the project.
[c] Intersection was analyzed under both City of Carson and Los Angeles County impact criteria
[d] Intersection was analyzed under both City of Long Beach and Los Angeles County impact criteria

TABLE 8
FUTURE (YEAR 2030) INTERSECTION LEVEL OF SERVICE ANALYSIS

Intersection	Jurisdiction	Peak Hour	Future (Year 2030) Program Level						Mitigations (Year 2030)			
			Base Conditions		With Project (Program Level) Conditions							
			V/C	LOS	V/C	LOS	Change in V/C	Significant Impact?	V/C	LOS	Change in V/C	Significant Impact?
1. Wilmington Avenue & Victoria Street [a]	City of Carson	AM	0.645	B	0.660	B	0.015	NO			[e]	
		PM	0.818	D	0.837	D	0.019	NO				
	City of Compton	AM	0.645	B	0.660	B	0.015	NO			[e]	
		PM	0.818	D	0.837	D	0.019	NO				
2. Wilmington Avenue & University Drive [c]	City of Carson	AM	0.492	A	0.495	A	0.003	NO			[e]	
		PM	0.503	A	0.522	A	0.019	NO				
	LA County	AM	0.492	A	0.495	A	0.003	NO			[e]	
		PM	0.503	A	0.522	A	0.019	NO				
3. Avalon Boulevard & Del Amo Boulevard	City of Carson	AM	0.860	D	0.886	D	0.026	NO	0.836	D	-0.024	NO
		PM	1.027	F	1.065	F	0.038	**YES**	0.990	E	-0.037	NO
4. Central Avenue & Del Amo Boulevard	City of Carson	AM	0.753	C	0.792	C	0.039	NO			[e]	
		PM	0.755	C	0.817	D	0.062	NO				
5. Tajauta Avenue/Proposed 3rd Party Driveway & Del Amo Boulevard	City of Carson	AM	[b]	-	0.642	B	-	-			[e]	
		PM	[b]	-	0.808	D	-	-				
6. Wilmington Avenue & Del Amo Boulevard [c]	City of Carson	AM	0.706	C	0.782	C	0.076	NO			[e]	
		PM	0.711	C	0.831	D	0.120	NO				
	LA County	AM	0.706	C	0.782	C	0.076	**YES**	0.744	C	0.038	NO
		PM	0.711	C	0.831	D	0.120	**YES**	0.731	C	0.020	NO
7. Alameda Street & Del Amo Boulevard (location to the East) [c]	City of Carson	AM	0.559	A	0.636	B	0.077	NO			[e]	
		PM	0.632	B	0.679	B	0.047	NO				
	LA County	AM	0.559	A	0.636	B	0.077	NO			[e]	
		PM	0.632	B	0.679	B	0.047	NO				
Alameda Street & Del Amo Boulevard (location to the West) [c]	City of Carson	AM	0.426	A	0.512	A	0.086	NO			[e]	
		PM	0.529	A	0.572	A	0.043	NO				
	LA County	AM	0.426	A	0.512	A	0.086	NO			[e]	
		PM	0.529	A	0.572	A	0.043	NO				
8. Santa Fe Avenue & Del Amo Boulevard [c]	City of Carson	AM	0.798	C	0.830	D	0.032	NO			[e]	
		PM	0.856	D	0.880	D	0.024	NO				
	LA County	AM	0.798	C	0.830	D	0.032	NO	0.830	D	0.032	NO
		PM	0.856	D	0.880	D	0.024	**YES**	0.851	D	-0.005	NO
9. Susana Road & I-710 Southbound On/Off-Ramps [d]	City of Long Beach	AM	0.745	C	0.762	C	0.017	NO			[e]	
		PM	0.652	B	0.671	B	0.019	NO				
	LA County	AM	0.745	C	0.762	C	0.017	NO			[e]	
		PM	0.652	B	0.671	B	0.019	NO				
10. Susana Road & Del Amo Boulevard [c]	City of Carson	AM	0.868	D	0.901	E	0.033	**YES**	0.790	C	-0.078	NO
		PM	0.823	D	0.842	D	0.019	NO	0.838	D	0.015	NO
	LA County	AM	0.868	D	0.901	E	0.033	**YES**	0.790	C	-0.078	NO
		PM	0.823	D	0.842	D	0.019	NO	0.838	D	0.015	NO
11. Wilmington Avenue & Proposed Boiler Street Project Driveway	City of Carson	AM	[b]	-	0.443	A	-	-			[e]	
		PM	[b]	-	0.491	A	-	-				
12. Avalon Boulevard & East Dominguez Street	City of Carson	AM	0.589	A	0.656	B	0.067	NO			[e]	
		PM	0.766	C	0.830	D	0.064	NO				
13. Avalon Boulevard & I-405 Northbound On/Off-Ramps	City of Carson	AM	0.815	D	0.844	D	0.029	NO				NO
		PM	1.076	F	1.116	F	0.040	**YES**			[f]	**YES**
14. Avalon Boulevard & I-405 Southbound On/Off-Ramps	City of Carson	AM	0.758	C	0.786	C	0.028	NO				NO
		PM	0.853	D	0.902	E	0.049	**YES**			[f]	**YES**
15. Wilmington Avenue & Dominguez Street	City of Carson	AM	0.438	A	0.781	C	0.343	NO			[e]	
		PM	0.529	A	0.825	D	0.296	NO				
16. Avalon Boulevard & 213th Street	City of Carson	AM	0.559	A	0.588	A	0.029	NO			[e]	
		PM	0.729	C	0.735	C	0.006	NO				
17. Wilmington Avenue & 213th Street	City of Carson	AM	0.516	A	0.755	C	0.239	NO			[e]	
		PM	0.570	A	0.844	D	0.274	NO				
18. Wilmington Avenue & Carson Street	City of Carson	AM	0.657	B	0.898	D	0.241	NO			[e]	
		PM	0.702	C	0.875	D	0.173	NO				
19. Wilmington Avenue & I-405 NB On-/Off-Ramp	City of Carson	AM	0.733	C	0.899	D	0.166	NO			[e]	
		PM	0.759	C	0.884	D	0.125	NO				
20. Wilmington Avenue & I-405 SB On-/Off-Ramp	City of Carson	AM	0.841	D	1.039	F	0.198	**YES**	0.751	C	-0.090	NO
		PM	1.004	F	1.176	F	0.172	**YES**	0.742	C	-0.262	NO
21. Lenardo Drive & I-405 SB On-/Off-Ramp	City of Carson	AM	0.569	A	0.608	B	0.039	NO			[e]	
		PM	0.714	C	0.725	C	0.011	NO				

Notes:
[a] Intersection was analyzed under both City of Carson and Los Angeles County impact criteria
[b] Intersection not analyzed since intersection will remain unsignalized without the project.
[c] Intersection was analyzed under both City of Carson and Los Angeles County impact criteria
[d] Intersection was analyzed under both City of Long Beach and Los Angeles County impact criteria
[e] Impact not significant. No mitigation required.
[f] Mitigation measures at intersection are not feasible. Impact is significant and unavoidable.

Table A
SUMMARY OF POTENTIAL VEHICLE QUEUING [1]
WEEKDAY AM AND PM PEAK HOURS

	RAMP LOCATION	PEAK HOUR	AVAILABLE 85TH PERCENTILE STORAGE [2] (FEET)	YEAR 2017 CUMULATIVE WITH PROJECT CONDITIONS	
				95TH PERCENTILE QUEUE [3] (FEET)	EXCEEDS 85TH PERCENTILE STORAGE? (YES/NO)
3	Avalon Boulevard/	AM	310	25	NO
	I-405 Freeway Northbound Ramps	PM	310	25	NO
4	Avalon Boulevard/	AM	330	223	NO
	I-405 Freeway Southbound Ramps	PM	330	128	NO
9	I-405 Freeway Southbound Ramps/	AM	550	253	NO
	Carson Street	PM	550	115	NO
10	I-405 Freeway Northbound Ramps- Recreation Road/	AM	540	50	NO
	Carson Street	PM	540	50	NO

[1] Intersection queuing analysis based on the Synchro 9 software which implements the Highway Capacity Manual (HCM2010) methodologies.
[2] Available 85th percentile storage was determined based on the total available storage capacity multiplied by 85% so as to provide a factor of safety equal to 15 percent. The available storage capacity was based on aerial measurements from Caltrans Earth and reflects the corresponding off-ramp movement with the maximum back of queue.
[3] The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. An average vehicle length of 25 feet (including vehicle separation) was assumed for analysis purposes.

Table B
SUMMARY OF POTENTIAL VEHICLE QUEUING [1]
WEEKDAY AM AND PM PEAK HOURS

	RAMP LOCATION	PEAK HOUR	AVAILABLE 85TH PERCENTILE STORAGE [2] (FEET)	YEAR 2017 CUMULATIVE WITH PROJECT CONDITIONS	
				95TH PERCENTILE QUEUE [3] (FEET)	EXCEEDS 85TH PERCENTILE STORAGE? (YES/NO)
3	Avalon Boulevard/	AM	310	30	NO
	I-405 Freeway Northbound Ramps	PM	310	30	NO
4	Avalon Boulevard/	AM	330	267	NO
	I-405 Freeway Southbound Ramps	PM	330	153	NO
9	I-405 Freeway Southbound Ramps/	AM	550	303	NO
	Carson Street	PM	550	138	NO
10	I-405 Freeway Northbound Ramps- Recreation Road/	AM	540	60	NO
	Carson Street	PM	540	60	NO

[1] Intersection queuing analysis based on the Synchro 9 software which implements the Highway Capacity Manual (HCM2010) methodologies.
[2] Available 85th percentile storage was determined based on the total available storage capacity multiplied by 85% so as to provide a factor of safety equal to 15 percent. The available storage capacity was based on aerial measurements from Caltrans Earth and reflects the corresponding off-ramp movement with the maximum back of queue.
[3] The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. An average vehicle length of 30 feet (including vehicle separation) was assumed for analysis purposes.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	382	1390	0	0	845	284	0	0	0	40	0	495
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	439	1598	0	0	971	0				46	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	534	2850	0	0	2925	911				158	0	71
Arrive On Green	0.31	1.00	0.00	0.00	0.58	0.00				0.04	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	439	1598	0	0	971	0				46	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	7.1	0.0	0.0	0.0	6.0	0.0				0.8	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.0	6.0	0.0				0.8	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	534	2850	0	0	2925	911				158	0	71
V/C Ratio(X)	0.82	0.56	0.00	0.00	0.33	0.00				0.29	0.00	0.00
Avail Cap(c_a), veh/h	591	2850	0	0	2925	911				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	0.0	6.7	0.0				27.7	0.0	0.0
Incr Delay (d2), s/veh	5.6	0.5	0.0	0.0	0.3	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	0.4	0.0	0.0	5.2	0.0				0.7	0.0	0.0
LnGrp Delay(d),s/veh	25.6	0.5	0.0	0.0	7.0	0.0				28.7	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		2037			971						46	
Approach Delay, s/veh		5.9			7.0						28.7	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.8			13.8	39.0		7.2
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			9.1	8.0		2.8
Green Ext Time (p_c), s		24.0			0.2	9.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	6.6
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	390	1177	0	0	1560	579	0	0	0	63	2	393
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	406	1226	0	0	1625	0				67	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	506	2810	0	0	2908	906				199	0	89
Arrive On Green	0.29	1.00	0.00	0.00	0.57	0.00				0.06	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	406	1226	0	0	1625	0				67	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	6.5	0.0	0.0	0.0	12.1	0.0				1.1	0.0	0.0
Cycle Q Clear(g_c), s	6.5	0.0	0.0	0.0	12.1	0.0				1.1	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	506	2810	0	0	2908	906				199	0	89
V/C Ratio(X)	0.80	0.44	0.00	0.00	0.56	0.00				0.34	0.00	0.00
Avail Cap(c_a), veh/h	591	2810	0	0	2908	906				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	20.4	0.0	0.0	0.0	8.1	0.0				27.2	0.0	0.0
Incr Delay (d2), s/veh	5.3	0.4	0.0	0.0	0.8	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.3	0.0	0.0	9.7	0.0				1.0	0.0	0.0
LnGrp Delay(d),s/veh	25.6	0.4	0.0	0.0	8.9	0.0				28.2	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		1632			1625						67	
Approach Delay, s/veh		6.7			8.9						28.2	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.1			13.3	38.8		7.9
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			8.5	14.1		3.1
Green Ext Time (p_c), s		25.6			0.3	4.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	8.2
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	568	1	414	0	0	0	0	1195	72	0	613	248
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	638	1	0				0	1343	81	0	689	279
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	833	857	383				3	2061	124	0	2151	962
Arrive On Green	0.24	0.24	0.00				0.00	0.61	0.61	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3390	204	0	3632	1583
Grp Volume(v), veh/h	638	1	0				0	700	724	0	689	279
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1824	0	1770	1583
Q Serve(g_s), s	10.3	0.0	0.0				0.0	15.4	15.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.3	0.0	0.0				0.0	15.4	15.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.11	0.00		1.00
Lane Grp Cap(c), veh/h	833	857	383				3	1076	1109	0	2151	962
V/C Ratio(X)	0.77	0.00	0.00				0.00	0.65	0.65	0.00	0.32	0.29
Avail Cap(c_a), veh/h	1119	1150	515				148	1076	1109	0	2151	962
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.94	0.94
Uniform Delay (d), s/veh	21.2	17.2	0.0				0.0	7.6	7.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0				0.0	3.1	3.0	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	0.0	0.0				0.0	13.0	13.4	0.0	0.2	0.3
LnGrp Delay(d),s/veh	23.4	17.2	0.0				0.0	10.7	10.7	0.0	0.4	0.7
LnGrp LOS	C	B						B	B		A	A
Approach Vol, veh/h		639						1424			968	
Approach Delay, s/veh		23.4						10.7			0.5	
Approach LOS		C						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		41.0		19.0	0.0	41.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		17.5		12.3	0.0	2.0		
Green Ext Time (p_c), s		11.2		1.5	0.0	15.0		

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	357	69	449	0	0	0	0	1222	131	0	1127	490
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	361	70	0				0	1234	132	0	1138	495
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	605	622	278				3	2174	232	0	2387	1068
Arrive On Green	0.18	0.18	0.00				0.00	0.67	0.67	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3224	344	0	3632	1583
Grp Volume(v), veh/h	361	70	0				0	676	690	0	1138	495
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1798	0	1770	1583
Q Serve(g_s), s	5.8	1.0	0.0				0.0	12.1	12.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.8	1.0	0.0				0.0	12.1	12.2	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.19	0.00		1.00
Lane Grp Cap(c), veh/h	605	622	278				3	1193	1213	0	2387	1068
V/C Ratio(X)	0.60	0.11	0.00				0.00	0.57	0.57	0.00	0.48	0.46
Avail Cap(c_a), veh/h	1119	1150	515				148	1193	1213	0	2387	1068
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.77	0.77
Uniform Delay (d), s/veh	22.8	20.8	0.0				0.0	5.1	5.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.1	0.0				0.0	1.9	1.9	0.0	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	0.9	0.0				0.0	10.6	10.8	0.0	0.3	0.6
LnGrp Delay(d),s/veh	23.7	20.9	0.0				0.0	7.1	7.1	0.0	0.5	1.1
LnGrp LOS	C	C						A	A		A	A
Approach Vol, veh/h		431						1366			1633	
Approach Delay, s/veh		23.3						7.1			0.7	
Approach LOS		C						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.0		15.0	0.0	45.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		14.2		7.8	0.0	2.0		
Green Ext Time (p_c), s		15.1		1.4	0.0	17.2		

Intersection Summary	
HCM 2010 Ctrl Delay	6.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	757	512	114	1394	11	39	4	287	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	3	823	557	124	1515	12	42	4	312			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	274	1609	1070	158	3220	26	376	36	366			
Arrive On Green	0.45	0.45	0.45	0.12	0.82	0.82	0.23	0.23	0.23			
Sat Flow, veh/h	340	3539	1549	1774	5204	41	1627	155	1583			
Grp Volume(v), veh/h	3	823	557	124	987	540	46	0	312			
Grp Sat Flow(s),veh/h/ln	340	1770	1549	1774	1695	1855	1781	0	1583			
Q Serve(g_s), s	0.3	9.9	10.6	4.1	5.0	5.0	1.2	0.0	11.3			
Cycle Q Clear(g_c), s	0.3	9.9	10.6	4.1	5.0	5.0	1.2	0.0	11.3			
Prop In Lane	1.00		1.00	1.00		0.02	0.91		1.00			
Lane Grp Cap(c), veh/h	274	1609	1070	158	2098	1148	412	0	366			
V/C Ratio(X)	0.01	0.51	0.52	0.79	0.47	0.47	0.11	0.00	0.85			
Avail Cap(c_a), veh/h	274	1609	1070	222	2098	1148	534	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	1.00			
Uniform Delay (d), s/veh	9.0	11.6	4.6	25.9	2.5	2.5	18.2	0.0	22.1			
Incr Delay (d2), s/veh	0.1	1.2	1.8	10.4	0.7	1.2	0.1	0.0	11.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.1	8.8	8.7	4.4	4.3	5.1	1.1	0.0	10.1			
LnGrp Delay(d),s/veh	9.1	12.8	6.4	36.3	3.2	3.7	18.3	0.0	33.3			
LnGrp LOS	A	B	A	D	A	A	B		C			
Approach Vol, veh/h		1383			1651			358				
Approach Delay, s/veh		10.2			5.8			31.3				
Approach LOS		B			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		18.4	9.8	31.8				41.6
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		13.3	6.1	12.6				7.0
Green Ext Time (p_c), s		0.6	0.0	7.6				20.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	945	649	120	1258	28	33	9	138	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	1	964	662	122	1284	29	34	9	141			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	356	2005	1073	155	3730	84	171	45	192			
Arrive On Green	0.57	0.57	0.57	0.12	0.97	0.97	0.12	0.12	0.12			
Sat Flow, veh/h	417	3539	1555	1774	5117	116	1417	375	1583			
Grp Volume(v), veh/h	1	964	662	122	851	462	43	0	141			
Grp Sat Flow(s),veh/h/ln	417	1770	1555	1774	1695	1842	1792	0	1583			
Q Serve(g_s), s	0.1	9.7	13.9	4.0	0.7	0.7	1.3	0.0	5.2			
Cycle Q Clear(g_c), s	0.1	9.7	13.9	4.0	0.7	0.7	1.3	0.0	5.2			
Prop In Lane	1.00		1.00	1.00		0.06	0.79		1.00			
Lane Grp Cap(c), veh/h	356	2005	1073	155	2472	1343	217	0	192			
V/C Ratio(X)	0.00	0.48	0.62	0.78	0.34	0.34	0.20	0.00	0.74			
Avail Cap(c_a), veh/h	356	2005	1073	222	2472	1343	538	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.7	7.8	5.1	26.0	0.3	0.3	23.8	0.0	25.4			
Incr Delay (d2), s/veh	0.0	0.8	2.7	10.3	0.4	0.6	0.4	0.0	5.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	8.6	10.9	4.3	0.6	0.8	1.2	0.0	4.6			
LnGrp Delay(d),s/veh	5.7	8.6	7.8	36.3	0.6	0.9	24.2	0.0	30.9			
LnGrp LOS	A	A	A	D	A	A	C		C			
Approach Vol, veh/h		1627			1435			184				
Approach Delay, s/veh		8.2			3.7			29.3				
Approach LOS		A			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		11.8	9.8	38.5				48.2
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		7.2	6.0	15.9				2.7
Green Ext Time (p_c), s		0.5	0.0	4.7				23.0

Intersection Summary	
HCM 2010 Ctrl Delay	7.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	90	898	55	0	938	306	25	16	2	21	39	554
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	100	998	61	0	1042	340	28	18	2	23	43	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	2628	161	120	2224	986	161	62	117	110	80	117
Arrive On Green	0.02	0.26	0.26	0.00	0.63	0.63	0.07	0.07	0.07	0.07	0.07	0.00
Sat Flow, veh/h	1774	3386	207	531	3539	1568	873	837	1583	392	1086	1583
Grp Volume(v), veh/h	100	522	537	0	1042	340	46	0	2	66	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1823	531	1770	1568	1710	0	1583	1479	0	1583
Q Serve(g_s), s	3.4	14.6	14.6	0.0	9.3	6.2	0.0	0.0	0.1	1.4	0.0	0.0
Cycle Q Clear(g_c), s	3.4	14.6	14.6	0.0	9.3	6.2	1.4	0.0	0.1	2.8	0.0	0.0
Prop In Lane	1.00		0.11	1.00		1.00	0.61		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	129	1374	1415	120	2224	986	223	0	117	190	0	117
V/C Ratio(X)	0.77	0.38	0.38	0.00	0.47	0.34	0.21	0.00	0.02	0.35	0.00	0.00
Avail Cap(c_a), veh/h	192	1374	1415	120	2224	986	566	0	475	566	0	475
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.8	10.4	10.4	0.0	5.9	5.3	26.4	0.0	25.8	27.1	0.0	0.0
Incr Delay (d2), s/veh	9.1	0.7	0.7	0.0	0.7	1.0	0.5	0.0	0.1	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	11.6	11.8	0.0	8.3	5.2	1.4	0.0	0.1	2.0	0.0	0.0
LnGrp Delay(d),s/veh	37.9	11.1	11.1	0.0	6.6	6.2	26.9	0.0	25.8	28.2	0.0	0.0
LnGrp LOS	D	B	B		A	A	C		C	C		
Approach Vol, veh/h		1159			1382			48			66	
Approach Delay, s/veh		13.4			6.5			26.8			28.2	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		8.9		51.1		8.9	8.9	42.2
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		3.4		16.6		4.8	5.4	11.3
Green Ext Time (p_c), s		0.4		12.5		0.4	0.0	8.8

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	117	912	46	6	730	450	63	45	5	29	33	610
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	123	960	48	6	768	474	66	47	5	31	35	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	2550	127	437	2053	909	193	84	168	123	91	168
Arrive On Green	0.06	0.50	0.50	0.58	0.58	0.58	0.11	0.11	0.11	0.11	0.11	0.00
Sat Flow, veh/h	1774	3428	171	555	3539	1567	918	794	1583	328	861	1583
Grp Volume(v), veh/h	123	496	512	6	768	474	113	0	5	66	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1830	555	1770	1567	1712	0	1583	1188	0	1583
Q Serve(g_s), s	4.1	10.4	10.4	0.3	7.0	10.9	0.0	0.0	0.2	0.4	0.0	0.0
Cycle Q Clear(g_c), s	4.1	10.4	10.4	0.8	7.0	10.9	3.6	0.0	0.2	4.0	0.0	0.0
Prop In Lane	1.00		0.09	1.00		1.00	0.58		1.00	0.47		1.00
Lane Grp Cap(c), veh/h	157	1316	1361	437	2053	909	277	0	168	214	0	168
V/C Ratio(X)	0.78	0.38	0.38	0.01	0.37	0.52	0.41	0.00	0.03	0.31	0.00	0.00
Avail Cap(c_a), veh/h	192	1316	1361	437	2053	909	575	0	475	520	0	475
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.6	6.5	6.5	5.6	6.8	7.6	25.5	0.0	24.0	25.1	0.0	0.0
Incr Delay (d2), s/veh	12.3	0.6	0.6	0.1	0.5	2.1	1.0	0.0	0.1	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	8.6	8.8	0.1	6.2	8.9	3.4	0.0	0.1	2.0	0.0	0.0
LnGrp Delay(d),s/veh	40.0	7.1	7.1	5.6	7.3	9.7	26.5	0.0	24.1	25.9	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	C		C	C		
Approach Vol, veh/h		1131			1248			118			66	
Approach Delay, s/veh		10.7			8.2			26.4			25.9	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		10.9		49.1		10.9	9.8	39.3
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		5.6		12.4		6.0	6.1	12.9
Green Ext Time (p_c), s		0.7		13.5		0.7	0.0	7.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

ERRATA

Changes to the Draft Initial Study and Mitigation Negative Declaration (IS/MND) are noted below. A double-underline indicates additions to the text; strikeout indicates deletions to the text. The changes to the Draft IS/MND do not affect the overall conclusions of the environmental document. Changes are listed by page and, where appropriate, by paragraph.

Page 4.16-17 of the Draft Initial Study and Mitigated Negative Declaration (IS/MND) will be modified in the Final IS/MND, as follows:

TRA-2	Prior to issuance of any building permits, the Community Development Director shall confirm that the project Applicant has dedicated ~~10~~ 11.5 feet of ~~the project frontage (south of the proposed southerly driveway) to the City. The project Applicant shall not be responsible for the construction of the southbound right-turn only lane.~~ additional right-of-way abutting the development to accommodate a right turn lane that is 210-feet in total length that consists of a 150-foot of turn pocket lane with a 60-feet taper along Avalon Boulevard. New right-of-way line shall be 61.5 feet from existing centerline. North of the proposed right turn lane, the applicant shall dedicate additional right-of-way along Avalon Boulevard to provide an 8-foot sidewalk. Dedications are subject to the review and approval of the City Engineer and Recordation with County Recorder's Office. All documents shall be approved and ready for recordation prior to issuance of Building Permits.

3.0 MITIGATION MONITORING AND REPORTING PROGRAM

CEQA requires that when a public agency completes an environmental document which includes measures to mitigate or avoid significant environmental effects, the public agency must adopt a reporting or monitoring plan. This requirement ensures that environmental impacts found to be significant will be mitigated. The reporting or monitoring plan must be designed to ensure compliance during project implementation (*Public Resources Code* Section 21081.6).

In compliance with *Public Resources Code* Section 21081.6, the attached *Mitigation Monitoring and Reporting Program* has been prepared for The Avalon Project (herein referenced as the "project"). This *Mitigation Monitoring and Reporting Program* is intended to provide verification that all mitigation measures identified in the Initial Study prepared for the project are monitored and reported. Monitoring will include 1) verification that each mitigation measure has been implemented; 2) recordation of the actions taken to implement each mitigation; and 3) retention of records in the project file.

This *Mitigation Monitoring and Reporting Program* delineates responsibilities for monitoring the project, but also allows the City of Carson flexibility and discretion in determining how best to monitor implementation. Monitoring procedures will vary according to the type of mitigation measure. Adequate monitoring consists of demonstrating that monitoring procedures took place and that mitigation measures were implemented.

Reporting consists of establishing a record that a mitigation measure is being implemented, and generally involves the following steps:

- The City distributes reporting forms to the appropriate entities for verification of compliance.
- Departments/agencies with reporting responsibilities will review the Initial Study, which provides general background information on the reasons for including specified mitigation measures.
- Problems or exceptions to compliance will be addressed to the City as appropriate.
- Periodic meetings may be held during project implementation to report on compliance of mitigation measures.
- Responsible parties provide the City with verification that monitoring has been conducted and ensure, as applicable, that mitigation measures have been implemented. Monitoring compliance may be documented through existing review and approval programs such as field inspection reports and plan review.
- The City prepares a reporting form periodically during the construction phase and an annual report summarizing all project mitigation monitoring efforts.
- Appropriate mitigation measures will be included in construction documents and/or conditions of permits/approvals.

Minor changes to the *Mitigation Monitoring and Reporting Program*, if required, would be made in accordance with CEQA and would be permitted after further review and approval by the City. Such changes could include reassignment of monitoring and reporting responsibilities, plan redesign to make any appropriate improvements, and/or modification, substitution or deletion of mitigation measures subject to conditions described in *CEQA Guidelines* Section 15162. No change will be permitted unless the *Mitigation Monitoring and Reporting Program* continues to satisfy the requirements of *Public Resources Code* Section 21081.6.

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MITIGATION MONITORING AND REPORTING CHECKLIST

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
					Initials	Date	Remarks
AESTHETICS							
AES-1	Prior to the issuance of grading permits, the Chief Building Official shall confirm that the Final Development Plans and Grading Plans require construction equipment staging areas to use appropriate screening (i.e., temporary fencing with opaque material) to buffer views of construction equipment and material, when feasible.	Prior to Issuance of Grading Permits, Approval of Final Development and Grading Plans; Construction Inspections	Ongoing During Construction	City of Carson Building and Safety Department			
AIR QUALITY							
AQ-1	Prior to issuance of any Grading Permit, the City Engineer and the Chief Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors: • All active portions of the construction site shall be watered every three hours during daily construction activities and when dust is observed migrating from the project site to prevent excessive amounts of dust;	Review of Project Plans; Construction Inspections	Prior to Issuance of Grading Permit; Ongoing During Construction	City of Carson Building and Safety Department; Public Works Construction Contractor			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
					Initials	Date	Remarks
	• Pave or apply water every three hours during daily construction activities or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas. More frequent watering shall occur if dust is observed migrating from the site during site disturbance; • Any on-site stockpiles of debris, dirt, or other dusty material shall be enclosed, covered, or watered twice daily, or non-toxic soil binders shall be applied; • All grading and excavation operations shall be suspended when wind speeds exceed 25 miles per hour; • Disturbed areas shall be replaced with ground cover or paved immediately after construction is completed in the affected area; • Gravel bed trackout aprons (3 inches deep, 25 feet long, 12 feet wide per lane and edged by rock berm or row of stakes) shall be installed to reduce mud/dirt trackout from unpaved truck exit routes; • On-site vehicle speed shall be limited to 15 miles per hour; • All on-site roads shall be paved as soon as feasible, watered twice daily, or chemically stabilized;						

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
					Initials	Date	Remarks
	• Visible dust beyond the property line which emanates from the project shall be prevented to the maximum extent feasible; • All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site; • Reroute construction trucks away from congested streets or sensitive receptor areas; • Track-out devices shall be used at all construction site access points; and • All delivery truck tires shall be watered down and/or scraped down prior to departing the job site.						
CULTURAL RESOURCES							
CUL-1	If evidence of subsurface archaeological resources is found during construction, excavation and other construction activity in that area shall cease and the construction contractor shall contact the City of Carson Community Development Department. With direction from the Community Development Department, an archaeologist certified by the County of Los Angeles shall be retained to evaluate the discovery prior to resuming grading in the immediate vicinity of the find. If warranted, the archaeologist shall collect the resource and prepare a technical report describing the results of the investigation. The test-level report shall	During Grading Activities; Preparation of Test-Level Report, if required	During Grading Activities	City of Carson City Engineer, or designee; City of Carson Community Development Director, or designee			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
					Initials	Date	Remarks
	evaluate the site including discussion of significance (depth, nature, condition, and extent of the resources), final mitigation recommendations, and cost estimates.						
CUL-2	If evidence of subsurface paleontological resources is found during construction, excavation and other construction activity in that area shall cease and the construction contractor shall contact the City of Carson Community Development Director. With direction from the Community Development Director, a paleontologist certified by the County of Los Angeles shall evaluate the find prior to resuming grading in the immediate vicinity of the find. If warranted, the paleontologist shall prepare and complete a standard Paleontological Resources Mitigation Program for the salvage and curation of identified resources.	During Grading Activities; Preparation of Paleontologist Resources Mitigation Program, if required	During Grading Activities	City of Carson City Engineer, or designee; City of Carson Community Development Director, or designee			
GEOLOGY AND SOILS							
GEO-1	Prior to issuance of a building permit, the Building Official shall ensure that final engineering plans meet the design parameters for seismic safety identified in the latest version of the City Building Code seismic design standards, California Building Code, and the *Geotechnical Investigation, Mixed-Use Development NWC of Avalon Boulevard and Carson Street, Carson, California*, (Geotechnical Investigation) prepared by Geotechnical Professionals, Inc. (dated November 24, 2014).	Review and Approval of Geotechnical Investigation	Prior to Issuance of Building Permit	City of Carson Building and Safety Department, City Engineer, or designee			
GREENHOUSE GASES							
GHG-1	The project shall include, but not be limited to, the following improvements, which shall be incorporated into the project site plans to ensure consistency with adopted statewide plans and	Review and Approval of Project Plans	Prior to Issuance of Building or Occupancy Permits	City of Carson Building and Safety Department, City Engineer, or			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
					Initials	Date	Remarks
	programs. The project applicant shall demonstrate compliance with this measure, before issuance of Building or Occupancy Permits, as noted below. *Transportation* • Compliance with Municipal Code Part 6, Division 5, *Transportation Demand and Trip Reduction Measures* (Building Permit). • Implement a trip reduction program, for which all employees shall be eligible to participate. These programs can include carpooling, ride-matching, preferential carpool parking, flexible work schedules for carpools, a half-time transportation coordinator, vanpool assistance, bicycle parking, showers, and locker facilities. Trip reduction programs shall achieve at least a 1 percent trip reduction (Occupancy Permit). This measure is not applicable to residential uses. • Provide a ride sharing program, for which all employees shall be eligible to participate (Occupancy Permit). This measure is not applicable to residential uses. *Energy Efficiency* • Install high efficiency lighting. High			designee			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
					Initials	Date	Remarks
	efficiency lighting shall achieve at least a 16 percent reduction in power rating by using either high efficiency fixtures and/or bulbs (Building Permit). *Water Conservation and Efficiency* • Compliance with Municipal Code Chapter 10, *Water Conservation and Sustainability Measure* (Building Permit). • Install water-efficient fixtures (e.g., low-flow faucets, toilets, showers) (Building Permit). *Solid Waste* • Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard) (Building Permit). • Provide interior and exterior storage areas for recyclables and adequate recycling containers located in public areas (Occupancy Permit).						
HAZARDS AND HAZARDOUS MATERIALS							
HAZ-1	Prior to issuance of a grading permit, an environmental consultant with Phase II/site characterization experience shall conduct sampling beneath the property located at 21615 Avalon Boulevard (Happy Cleaners) in order to confirm	Phase II Soil and Groundwater Sampling Prior to Demolition of Existing	Prior to Issuance of a Grading Permit	City of Carson Building and Safety Department, Construction Contractor			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
					Initials	Date	Remarks
	whether or not contaminated soil/groundwater underlies the project site. Should contamination above established regulatory levels be identified, the environmental consultant shall recommend remedial activities appropriate for the proposed future development at the site, in consultation with the Los Angeles Regional Water Quality Control Board (LARWQCB) and/or other applicable agencies.	Buildings					
HAZ-2	Prior to issuance of a grading permit, a Phase II/site characterization specialist shall confirm that that gasoline/oil concentrations (MTBE and TBA) within the on-site soil and groundwater have been remediated to within residential standards. Should contaminated soil and/or groundwater be present, the Phase II/site characterization specialist shall recommend appropriate remediation/safety measures in order to ensure worker safety during construction and public health during proposed project operations.	Phase II Soil and Groundwater Sampling Remediation if Necessary Prior to Demolition of Existing Buildings	Prior to Issuance of Grading Permit	City of Carson Building and Safety Department, Construction Contractor			
HAZ-3	Prior to demolition activities, the Applicant shall retain an Asbestos Hazard Emergency Response Act (AHERA) and California Division of Occupational Safety and Health (Cal/OSHA) certified building inspector to conduct an asbestos survey to determine the presence or absence of asbestos containing-materials (ACMs). If ACMs are located, the abatement of asbestos shall be completed by the Applicant prior to any activities that would disturb ACMs or create an airborne asbestos hazard. Asbestos removal shall be performed by a State certified asbestos containment contractor in accordance with the	Asbestos Survey and Removal if Needed Prior to Demolition of Existing Buildings	Prior to issuance of Grading Permit/ Demolition Activities	City of Carson Building and Safety Department, Construction Contractor			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
					Initials	Date	Remarks
	South Coast Air Quality Management District (SCAQMD) Rule 1403. Contractors performing asbestos abatement activities shall provide evidence of abatement activities to the City Building Official.						
HAZ-4	If paint is separated from building materials (chemically or physically) during demolition of the structures, the paint waste shall be evaluated independently from the building material by a qualified Lead Specialist. If lead-based paint is found, the Applicant shall retain a qualified Lead Specialist to conduct abatement prior to any activities that would create lead dust or fume hazard. Lead-based paint removal and disposal shall be performed in accordance with California Code of Regulation Title 8, Section 1532.1, which specifies exposure limits, exposure monitoring and respiratory protection, and mandates good worker practices by workers exposed to lead. Contractors performing lead-based paint removal shall provide evidence of abatement activities to the City Building Official.	During Demolition Activities, in Cooperation With Qualified Lead Specialist	During Construction /Demolition Activities	City of Carson Building and Safety Department, Construction Contractor			
HYDROLOGY AND WATER QUALITY							
HWQ-1	Prior to Grading Permit issuance and as part of the project's compliance with the NPDES requirements, a Notice of Intent (NOI) shall be prepared and submitted to the State Water Resources Quality Control Board (SWRQCB), providing notification and intent to comply with the State of California General Permit.	Review of Project Plans, Submitted to SWRCB	Prior to Issuance of Grading Permit	Construction Contractor, City of Carson Public Works Department			
HWQ-2	Prior to the issuance of grading permits, the Chief Building Official shall confirm that the project plans and specifications conform to the requirements of	Review and Approval of Final Plans,	Prior to Issuance of Grading Permit	City of Carson Chief Building Official or Designee			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
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	an approved Storm Water Pollution Prevention Plan (SWPPP) (to be applied for during the Grading Plan process) and the NPDES Permit for General Construction Activities No. CAS000002, Order No, 2009-0009-DWQ, including implementation of all recommended Best Management Practices (BMPs), as approved by the State Water Resources Quality Control Board (SWRQCB).	Confirmation of BMPs					
HWQ-3	Upon completion of project construction, the project applicant shall submit a Notice of Termination (NOT) to the State Water Resources Quality Control Board (SWRCB) to indicate that construction is completed.	Upon Completion of Project Construction	Upon Completion of Project Construction	Project Applicant/ Construction Contractor			
HWQ-4	As part of the plan review process (prior to the issuance of grading permits), the City of Carson shall ensure that project plans identify a suite of stormwater quality BMPs that are designed to address the most likely sources of stormwater pollutants resulting from operation of the proposed project, consistent with the SUSMP. Pollutant sources to be addressed by these BMPs include, but are not necessarily limited to landscaped areas, trash storage locations, and storm drain inlets. The design and location of these BMPs will be subject to review and comment by the City but shall generally adhere to the standards associated with the Phase II NPDES stormwater permit program. Implementation of these BMPs shall be assured by the City Engineer prior to the issuance of Grading or Building Permits.	Review and Approval of Project Plans	Prior to Issuance of Grading or Building Permit	City of Carson Building and Safety Department/ Public Works Department City Engineer			
NOISE							
NOI-1	Prior to Grading Permit issuance, the Project	On-going During	Prior to Grading	City of Carson			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
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	Applicant shall demonstrate, to the satisfaction of the Carson Planning Division that the project complies with the following: • Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices. • A sign, legible at a distance of 50 feet shall also be posted at the project construction site. All notices and signs shall be reviewed and approved by the City of Carson Planning Division, prior to mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints. • The Project Applicant shall provide, to the satisfaction of the City of Carson Planning Division, a qualified "Noise Disturbance Coordinator." The Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Disturbance Coordinator shall notify the	Construction	Permit Issuance; On-going During Construction	Planning Division; City of Carson Building and Safety Department; City Engineer, or designee			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
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	City within 24 hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, malfunctioning muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the Carson Planning Division. All signs posted at the construction site shall include the contact name and the telephone number for the Noise Disturbance Coordinator. • Prior to issuance of any Grading or Building Permit, the Project Applicant shall demonstrate to the satisfaction of the City's Building Official that construction noise reduction methods shall be used where feasible. These reduction methods include shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and electric air compressors and similar power tools. • Construction haul routes shall be designed to avoid noise sensitive uses (e.g., residences, convalescent homes, etc.), to the extent feasible. • During construction, stationary						

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	construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers. • Per the Carson Municipal Code, construction shall be limited to the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday, and Saturdays. In addition, for construction activities lasting more than 21 days, Section 5502(c) of the Noise Control Ordinance requires that construction activities be conducted in such a manner to ensure that the noise level at an affected single family residence not exceed 65 dBA between the hours of 7:00 a.m. and 8:00 p.m., and 55 dBA between the hours of 8:00 p.m. and 7:00 a.m. daily. Construction is not permitted on Sundays or legal holidays.						
NOI-2	In order to reduce construction noise to levels permitted by Section 5502(c) of the Noise Control Ordinance, during the demolition, site preparation, and grading/excavation phases, the proposed project shall use a temporary noise barrier or enclosure along the western and northern property lines to break the line of site between the construction equipment and the adjacent residences and other sensitive receptors. The temporary noise barrier shall have a sound transmission class (STC) of 35 or greater in accordance with American Society for Testing and Materials Test Method E90, or at least two pounds	During Review and Approval of Project Plans; Prior to Demolition, Site Preparation, and Grading/ Excavation Phases	Prior to Issuance of Grading Permit	City of Carson Planning Division and Building and Safety Department; Construction Contractor			

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	per square foot to ensure adequate transmission loss characteristics. In order to achieve this, the barrier may consist of steel tubular framing, welded joints, a layer of 18-ounce tarp, a two-inch thick fiberglass blanket, a half-inch thick weatherwood asphalt sheathing, and 7/16-inch sturdy board siding. In addition, to avoid objectionable noise reflections, the source side of the noise barrier shall be lined with an acoustic absorption material meeting a noise reduction coefficient rating of 0.70 or greater in accordance with American Society for Testing and Materials Test Method C423.						
TRANSPORTATION/TRAFFIC							
TRA-1	Prior to issuance of any grading and/or demolition permits, whichever occurs first, a Construction Management Plan shall be submitted for review and approval by the Community Development Director. The Construction Management Plan shall, at a minimum, address the following: • Traffic control for any street closure, detour, or other disruption to traffic circulation. • Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e., lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project. • Identify staging areas, stockpiling of	Review and Approval of Construction Management Plan	Prior to Issuance of Grading or Demolition Permit	City of Carson Community Development Director; Construction Contractor			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
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	materials, and fencing (i.e., temporary fencing with opaque material). Staging areas shall be sited and/or screened in order to minimize public views to the maximum extent practicable. • Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets. • Require the applicant to keep all haul routes clean and free of debris, including but not limited to gravel and dirt as a result of its operations. The applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas. • Hauling or transport of oversize loads shall be allowed between the hours of 9:00 a.m. and 3:00 p.m. only, Monday through Saturday, unless approved otherwise by the City. No hauling or transport will be allowed during nighttime hours, Sundays, or legal holidays, unless otherwise approved by the City. • Use of local residential streets shall be prohibited.						

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
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	• Haul vehicles entering or exiting public streets shall yield to public traffic. • If hauling operations cause any damage to existing pavement, streets, curbs, and/or gutters along the haul route, the applicant shall be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer. • All construction-related parking and staging of vehicles shall be kept out of the adjacent public roadways and shall occur on-site or in public parking lots. • This Plan shall meet standards established in the current California Manual on Uniform Traffic Control Device (MUTCD) as well as City of Carson requirements.						
TRA-2	Prior to issuance of any building permits, the Community Development Director shall confirm that the project Applicant has dedicated 11.5 feet of additional right-of-way abutting the development to accommodate a right turn lane that is 210-feet in total length that consists of a 150-foot of turn pocket lane with a 60-feet taper along Avalon Boulevard. New right-of-way line shall be 61.5 feet from existing centerline. North of the proposed right turn lane, the applicant shall dedicate additional right-of-way along Avalon Boulevard to provide an 8-foot sidewalk. Dedications are subject to the review and approval of the City	Review and Approval of Project Plans	Prior to Issuance of Building Permit	City of Carson Community Development Director			

Mitigation Number	Mitigation Measure	Monitoring and Reporting Process	Monitoring Milestones	Party Responsible for Monitoring	VERIFICATION OF COMPLIANCE		
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	Engineer and Recordation with County Recorder's Office. All documents shall be approved and ready for recordation prior to issuance of Building Permits.						