NOISE STUDY REPORT

San Diego Freeway (I-405) Improvement Project
SR-73 to I-605

Orange and Los Angeles Counties

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Noise Study Report

In Orange County from SR-73 to the I-605 Interchange

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Summary

The purpose of this Noise Study Report (NSR) is to evaluate traffic noise impacts and abatement under the requirements of Title 23, Part 772 of the Code of Federal Regulations (Title 23 CFR 772) "Procedures for Abatement of Highway Traffic Noise". Title 23 CFR 772 provides procedures for preparing operational and construction noise studies as well as evaluating noise abatement considered for federal and federal-aid highway projects. According to Title 23 CFR 772.3, all highway projects that are developed in conformance with this regulation are deemed to be in conformance with Federal Highway Administration (FHWA) noise standards.

The California Department of Transportation—District 12 (Caltrans), in cooperation with the Orange County Transportation Authority (OCTA), proposes to improve mainline freeway and interchanges on I-405 in Orange County for approximately 16 miles between Post Mile (PM) 9.3 – State Route 73 (SR-73) and PM 24.2 – Interstate 605 (I-605). The proposed project would relieve congestion on I-405 between SR-73 and I-605; enhance interchange operations; increase mobility, improve trip reliability, maximize throughput, and optimize operations; implement strategies that ensure the earliest project delivery; and enhance traffic safety.

A No Build Alternative and three Build Alternatives are being considered. The No Build Alternative provides a "baseline" for comparing impacts associated with the build alternatives. The baseline conditions under the No Build Alternative would provide no additional lanes or interchange improvements to the I-405 corridor. The project area would continue to operate with no additional improvements with the exception that following two committed projects would be implemented: SR 22 West County Connectors Project (EA 071631) and a project that would provide continuous ingress and egress from the HOV lanes for the entire length of I-405 in Orange County (EA 0J440K).

Build Alternative 1 would entail the construction of one general purpose (GP) lane in each direction of the I-405 extending from Euclid Street to the I-605 interchange. To ensure efficient and safe merge and diverge operations, auxiliary lanes would also be constructed. In addition, a number of interchange improvements are planned. A total of 16 local street overcrossings which span the I-405 would require replacement to accommodate the new GP lane.

Build Alternative 2 would entail the construction of one GP lane in each direction of I-405 extending from Euclid Street to the I-605 interchange. In addition, a second lane in the northbound direction from Brookhurst Street to the SR 22/7th Street interchange would be constructed. A second lane in the southbound direction from the Seal Beach Boulevard on-ramp to Brookhurst Street would also be constructed. To ensure efficient and safe merge and diverge operations, auxiliary lanes would also be constructed. In addition, a number of interchange improvements are planned. A total of 16 local street overcrossings which span I-405 would require replacement to accommodate the new GP lanes.

Build Alternative 3 would add one GP lane in each direction of I-405 from Euclid Street to the I-605 interchange (as in Alternatives 1 and 2), plus add a tolled express lane in each direction of I-405 from SR-73 to I-605. The tolled express lane would be placed beside the existing high occupancy vehicle (HOV) lane in each direction. The existing HOV lanes and new toll lanes would be managed jointly as an Express Lane Facility with two lanes in each direction.

Land uses along the I-405 project corridor are predominantly residential with pockets of commercial and recreational parcels as well as various schools and hotels. Topography along the corridor is relatively flat where the majority of local traffic roadways cross over I-405. Traffic on I-405 is the dominant source of noise in the area. The noise study divided the project alignment into six distinct segments for analysis purposes. These segments are based on major local interchanges. The six segments are: 1) I-405 – south of Bristol Street to Euclid Street; SR-73 – south to Bear Street; 2) I-405 – Euclid Street to Magnolia Street; 3) I-405 – Magnolia Street to Bolsa Avenue / Goldenwest Street; 4) I-405 – Bolsa Avenue / Goldenwest Street to SR-22 / Valley View Street; SR-22 – east to Springdale Street; 5) I-405 – SR-22 / Valley View Street to Seal Beach Boulevard; and 6) I-405 – Seal Beach Boulevard to I-605; I-605 – north to south of Katella Avenue.

Noise measurements were conducted at selected locations to evaluate the existing noise environment and to calibrate the traffic noise model. Short-term noise monitoring was conducted at 61 locations in June 2010, and one additional location in August 2010; using Type 1 sound level meters. Measurements were taken for a duration of 20-minutes at each site. Meteorological conditions (temperature, wind speed and direction, relative humidity) were logged for each measurement session using a hand-held weather station. Long-term noise monitoring was conducted at 30 locations using Type 1 sound level meters for a duration of at least 24 hours. Concurrent with the collection of sound level data at 32 locations, traffic counts on I-405 were also performed. Traffic was counted on I-405 and ramps near a measurement site and classified by vehicle type (e.g. autos, medium trucks, heavy trucks). The purpose of the field traffic counts is to calibrate the TNM 2.5 model so that the prediction of future noise levels can be made more accurately. Measured hourly averaged peak hour noise levels ranged from 54 to 73 dBA.

Level of service (LOS) C and year (2040) forecasted traffic information were utilized to predict traffic noise levels and analyze noise impacts at receivers located on both sides of the freeway. In general, modeled noise levels were higher than measured noise levels ranging typically from 0 to 2 dB and up to 10 dB above the existing peak hour noise levels. However, there are some areas where the measured noise levels were higher than the modeled noise levels by as much as 7 dB. These situations are generally caused by some construction feature such as an overcrossing embankment or a retaining wall that would provide traffic noise shielding in the future case that currently does not exist. The range of predicted future traffic noise levels with project under Alternative 1 is 52 to 79 dBA. Alternative 2 predicted future traffic noise levels range from 53 to 80 dBA, and the range for Alternative 3 is 52 to 80 dBA.

This report analyzes noise barriers with heights from 8 to 16 feet to determine feasible noise abatement. Soundwalls are considered feasible when they provide at least 5 dB noise reduction. In most areas, there are either existing soundwalls that will remain intact or soundwalls that will need to be replaced as part of the project. For those soundwalls which will remain intact because the project widening will not encroach upon them, analysis was conducted for barrier heights above the existing heights at the same location. For soundwalls which will need to be demolished due to the widening of the alignment or due to other construction details such as the construction of retaining walls, it has been assumed that in-kind replacement soundwalls will be constructed as part of the project. These in-kind replacement soundwalls would be the same length and height as the soundwall it is replacing but at a new and typically similar location and

have been included in the noise analysis. The noise prediction analysis with barrier of these in-kind replacement soundwalls are of heights that are greater than the in-kind heights.

The identified feasible soundwalls fall into one of three categories: 1) new soundwalls, 2) soundwalls which would be in-kind replacements with greater heights at new locations due to the project widening, and 3) extensions of either existing soundwalls or in-kind replacement soundwalls. There will be several soundwalls that would not be considered feasible that need to be considered because they are either an in-kind replacement or an extension soundwall. The extension soundwalls are needed where the reconfigured embankments would increase the exposure of nearby frequent outdoor use areas to freeway traffic noise and these soundwalls would provide protection from the increased exposure to freeway traffic noise. The following summarizes the soundwalls identified for each alternative:

Alternative 1: Total Number of Soundwalls = 48

- Number of Feasible Soundwalls = 32
- Number of Non-Feasible Soundwalls = 16

Alternative 2: Total Number of Soundwalls = 51

- Number of Feasible Soundwalls = 32
- Number of Non-Feasible Soundwalls = 19

Alternative 3: Total Number of Soundwalls = 56

- Number of Feasible Soundwalls: 33
- Number of Non-Feasible Soundwalls: 23

Throughout the project limits, there are two areas under Alternative 1 and four areas under Alternatives 2 and 3 where the predicted peak hour noise level is at or above 75 dBA; therefore, these residences would be considered severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If the soundwall is determined to be unreasonable based on cost, providing the soundwall will still be required for these residences.

Construction noise control shall conform to the provisions in Section 14-8.02, "Noise Control," of the Standard Specifications and S5-310 “Noise Control” of the Standard Special Provisions. The requirements state that all equipment shall be fitted with adequate mufflers and operated according to the manufacturers’ specifications. Construction noise varies greatly depending on the construction process, type and condition of equipment used, as well as layout of the construction site. Temporary construction noise impacts would be unavoidable at areas located immediately adjacent to the proposed project alignment.

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List of Abbreviated Terms

CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CIDH	Cast-in-drilled-hole
CNEL	Community Noise Equivalent Level
dB	Decibels
ED	Environmental Document
FHWA	Federal Highway Administration
GP	general purpose
HOV	high-occupancy vehicle
Hz	Hertz
kHz	Kilohertz
L_{dn}	Day-Night Level
L_{eq}	Equivalent Sound Level
$L_{eq(h)}$	Equivalent Sound Level over one hour
L_{max}	Maximum Sound Level
LOS	Level of Service
L_n	Percentile-Exceeded Sound Level
μPa	micro Pascals
mph	miles per hour
NAC	Noise Abatement Criteria
NADR	Noise Abatement Decision Report
NEPA	National Environmental Policy Act
NSR	Noise Study Report
Protocol	Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects
PSR	Project Study Report
PTE	Permit to Enter
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SPL	sound pressure level
SR	State Route
TeNS	Caltrans' Technical Noise Supplement
TNM 2.5	FHWA Traffic Noise Model Version 2.5

Chapter 1. Introduction

1.1. Purpose of the Noise Study Report

The purpose of this Noise Study Report (NSR) is to evaluate noise impacts and abatement under the requirements of Title 23, Part 772 of the Code of Federal Regulations (Title 23 CFR 772) "Procedures for Abatement of Highway Traffic Noise". Title 23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. According to Title 23 CFR 772.3, all highway projects that are developed in conformance with this regulation are deemed to be in conformance with Federal Highway Administration (FHWA) noise standards.

The California Department of Transportation (Caltrans) Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (Protocol) (Caltrans, 2006) provides Caltrans policy for implementing Title 23 CFR 772 in California. The Protocol outlines the requirements for preparing noise study reports (NSR) in support of State highway projects. Noise impacts associated with this project under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) are evaluated in the I-405 Improvement Project Environmental Document (ED).

The project area has been divided into six distinct segments for noise analysis purposes. The following are these segments, which are based on major local interchanges:

1) I-405 – south of Bristol Street to Euclid Street; SR-73 – south to Bear Street
2) I-405 – Euclid Street to Magnolia Street
3) I-405 – Magnolia Street to Bolsa Avenue / Goldenwest Street
4) I-405 – Bolsa Avenue / Goldenwest Street to SR-22 / Valley View Street; SR-22 – east to Springdale Street
5) I-405 – SR-22 / Valley View Street to Seal Beach Boulevard
6) I-405 – Seal Beach Boulevard to I-605; I-605 – north to south of Katella Avenue

The study includes (a) short-term measurements; (b) long-term noise measurements; (c) roadway traffic noise modeling using FHWA's Traffic Noise Model 2.5 (TNM 2.5); and (d) feasible noise abatement measures which included new soundwalls and specifications for in-kind replacement soundwalls.

1.2. Project Purpose and Need

I-405 is considered a bypass route to the Interstate 5 (I-5) Santa Ana/Golden State Freeway through Orange County and an important component of the county's transportation system. Within Orange County, I-405 extends 24 miles northwesterly from I-5 freeway in Mission Viejo to the Los Angeles/Orange County line. I-405 is a controlled access facility with a fenced right-of-way (ROW) separated by grade from crossing traffic, with vehicular access limited to interchanges. Within the project area, I-405 crosses (or is adjacent to) residential, commercial,

recreational, and industrial urbanized uses that have developed directly up to the Caltrans' ROW boundary.

Figure 1-1 shows the project's regional vicinity location and Figure 1-2 shows the project's location. Figure 1-2 identifies a quarter-mile buffer area for the proposed action, including portions of SR-73 and I-605. Within the proposed project limits, I-405 currently consists of eight to 12 mixed-flow general purpose (GP) lanes, two high occupancy volume (HOV) lanes, auxiliary lanes along selected portions of the route, and 21 arterial crossings.

The project area is in an urbanized setting with commercial office towers at the southern end of the project in Irvine and suburban, single family residences in the northern end in Seal Beach. There are eight incorporated cities within the project area: Costa Mesa, Fountain Valley, Garden Grove, Huntington Beach, Long Beach, Los Alamitos, Seal Beach, and Westminster, and also the unincorporated community of Rossmoor. Approximately 1.2 miles of the I-605 facility north of Katella Avenue is in Los Angeles County. However, no new lanes are added to this portion of the project; therefore, the noise study has stopped just south of Katella Avenue.

The purpose of the proposed action is to:

- Add capacity and reduce congestion on the GP and HOV lanes along the entire I-405 corridor from SR-73 to I-605;
- Enhance interchange operations;
- Increase mobility, improve trip reliability, maximize throughput, and optimize operations;
- Implement strategies that ensure the earliest project delivery; and
- Enhance safety.

In furtherance of the project's purpose, the following objectives are established:

- Minimize ROW acquisition;
- Ensure financial viability;
- Meet, at a minimum, the commitments of Orange County's Renewed Measure M transportation sales tax initiative to add capacity to the I-405 within the project area;
- Maintain or improve future traffic performance within the corridor; and
- Improve the corridor so as to ensure the facility is maintained as an effective link in the National Strategic Highway Network.

Current deficiencies of I-405 within the project limits are summarized below:

- The I-405 mainline GP lanes peak period traffic demand exceeds available capacity;
- The I-405 mainline HOV lanes peak period traffic demand exceeds available capacity;
- The I-405 mainline GP traffic lanes have operational and geometric deficiencies;
- The interchanges along I-405 within the study area have geometric, storage, and operational capacity deficiencies; and
- I-405 currently has limitations in detecting traffic incidents and providing rapid response and clearance (due to lack of capacity and technological infrastructure).

Figure 1-1. Regional Vicinity Map

Source: Parsons 2010

Figure 1-2. Project Location Map

Projected population and employment growth trends indicate that transportation demand in the I-405 corridor will continue to increase in future years, exacerbating capacity deficiencies. With the forecast future growth of traffic volumes along the I-405 corridor, level of service (LOS) is expected to degrade further, even with implementation of the following two committed projects along the I-405 corridor:

- An additional HOV lane in each direction between SR-22 East and I-605, including HOV direct connectors at I-405/SR-22 East and I-405/I-605 (EA 071631); and
- Providing continuous ingress and egress from the HOV lanes for continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County the entire length of I-405 in Orange County (EA 0J440K).

The geometric and operational deficiencies within the project corridor also pose potential safety concerns, and are incompatible with the goals of the Southern California Association of Governments (SCAG) 2008 Regional Transportation Plan (RTP).

Chapter 2. Project Description

The project is located in Orange County on I-405 between SR-73 (PM 9.3) and I-605 (PM 24.2). The project covers a distance of approximately 16 miles. Within the limits of the proposed project, I-405 is a controlled-access highway facility with a fenced ROW, separated from crossing traffic, with vehicular access limited to interchanges. Within the project area, I-405 consists of eight to 12 mixed-flow general purpose (GP) lanes and two high-occupancy vehicle (HOV) lanes.

Build Alternatives 1, 2, and 3 and a no Build alternative have been analyzed as part of this noise study. The project limits of the noise analysis for Alternatives 1 and 2 are from south of Euclid Street to the I-605 interchange. There are no changes to the alignment proposed outside of these limits under these alternatives. The project limits of the noise analysis for Alternative 3 are south of Bristol Street including the SR-73 interchange south to Bear Street to the I-605 interchange including I-605 south of Katella Avenue.

2.1. Project Alternatives

2.1.1. Common Design Features of the Build Alternatives

Build Alternatives 1, 2, and 3 would include the following features:

- One GP lane would be added in each direction of I-405 from Euclid Street to the I-605 interchange.
- Travel lanes on the I-405 mainline would be 12-foot-wide, and right side shoulders would be 10-foot-wide.
- Due to the added travel lanes and shoulder widths proposed on the I-405 mainline, the following 16 local street overcrossings and a pedestrian bridge over I-405 within the project limits would require complete replacement to accommodate the additional proposed width of the freeway underneath the bridges:
    - Ward Street
    - Talbert Avenue
    - Brookhurst Street
    - Slater Avenue
    - Bushard Street
    - Warner Avenue
    - Magnolia Street
    - Pedestrian overcrossing near Heil Avenue
    - Newland Street
    - Edinger Avenue
    - McFadden Avenue
    - Bolsa Avenue
    - Goldenwest Street
    - Edwards Street
    - Westminster Boulevard

  - Springdale Street
  - Bolsa Chica Road

- The I-405/Seal Beach Boulevard overcrossing and various freeway-to-freeway connector structures at the I-405/SR-22 and I-405/I-605 interchanges will be replaced as part of the SR-22 West County Connectors Project, which is currently in the construction phase. The new (replacement) Seal Beach Boulevard overcrossing and freeway-to-freeway connectors to be constructed by the SR-22 West County Connectors Project have been designed to consider the future widening of I-405 proposed by Build Alternatives 1, 2, and 3 of the proposed project.
- The Euclid Street/Ellis Avenue undercrossing bridge would be modified and extended.
- Two railroad overheads would be modified and extended.
- Each build alternative would include interchange reconfigurations at Euclid Street, Ellis Avenue, Brookhurst Street, Magnolia Street, Warner Avenue, Beach Boulevard, and Westminster Boulevard.
- Maintenance vehicle pullouts would be included in various locations under each build alternative.

2.1.2. Unique Features of Build Alternatives

2.1.2.1. ALTERNATIVE 1 – ADD ONE GP LANE IN EACH DIRECTION

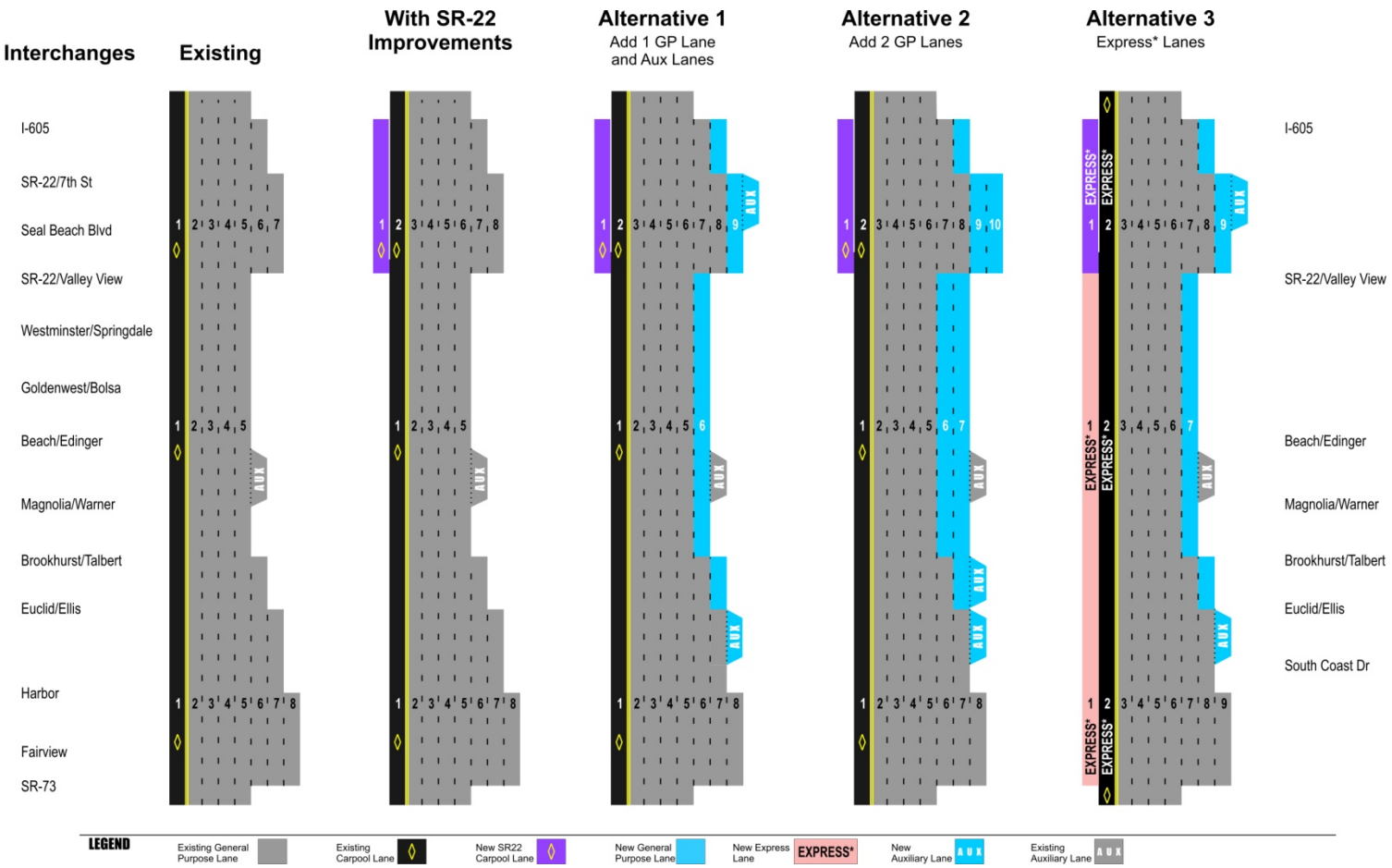
Alternative 1 would add a single GP lane in each direction of I-405 from Euclid Street to the I-605 interchange. Figures 2-1 and 2-2 display the proposed I-405 lane configurations associated with the proposed build alternatives. Alternative 1 would provide a full standard highway cross section, with 12-foot-wide mainline travel lanes as well as 10-foot-wide shoulders on both left (inside) and right (outside) sides in both directions.

Under Alternative 1, auxiliary lanes would be added at various locations to provide efficient merge and diverge operations. The existing northbound auxiliary lane from the Magnolia Street on-ramp to the Beach Boulevard off-ramp would be retained. Additional northbound auxiliary lanes would be provided between ramps at the following locations:

- At the approach of the Euclid Street/Ellis Avenue off-ramp
- From the Seal Beach Boulevard on-ramp to the westbound SR-22/7th Street off-ramp

In the southbound direction, the existing auxiliary lane from the Beach Boulevard on-ramp to the Magnolia Street off-ramp would not be retained. The existing auxiliary lane from the SR-22/7th Street on-ramp to Seal Beach Boulevard would be retained, as would the existing auxiliary lane from the Harbor Boulevard on-ramp to the Fairview off-ramp. An additional auxiliary lane would be included between the Euclid/Ellis on-ramp and the Harbor Boulevard off-ramp

In the northern segment of the project area where SR-22 and I-405 overlap, Alternative 1 would result in a freeway with nine through lanes in each direction. For traffic in the left lanes, including the HOV lanes, signage would be provided far enough upstream to accommodate the required number of lane changes to properly exit the freeway.



Source: Parsons 2010

Figure 2-1. Lane Configurations of Northbound Build Alternatives

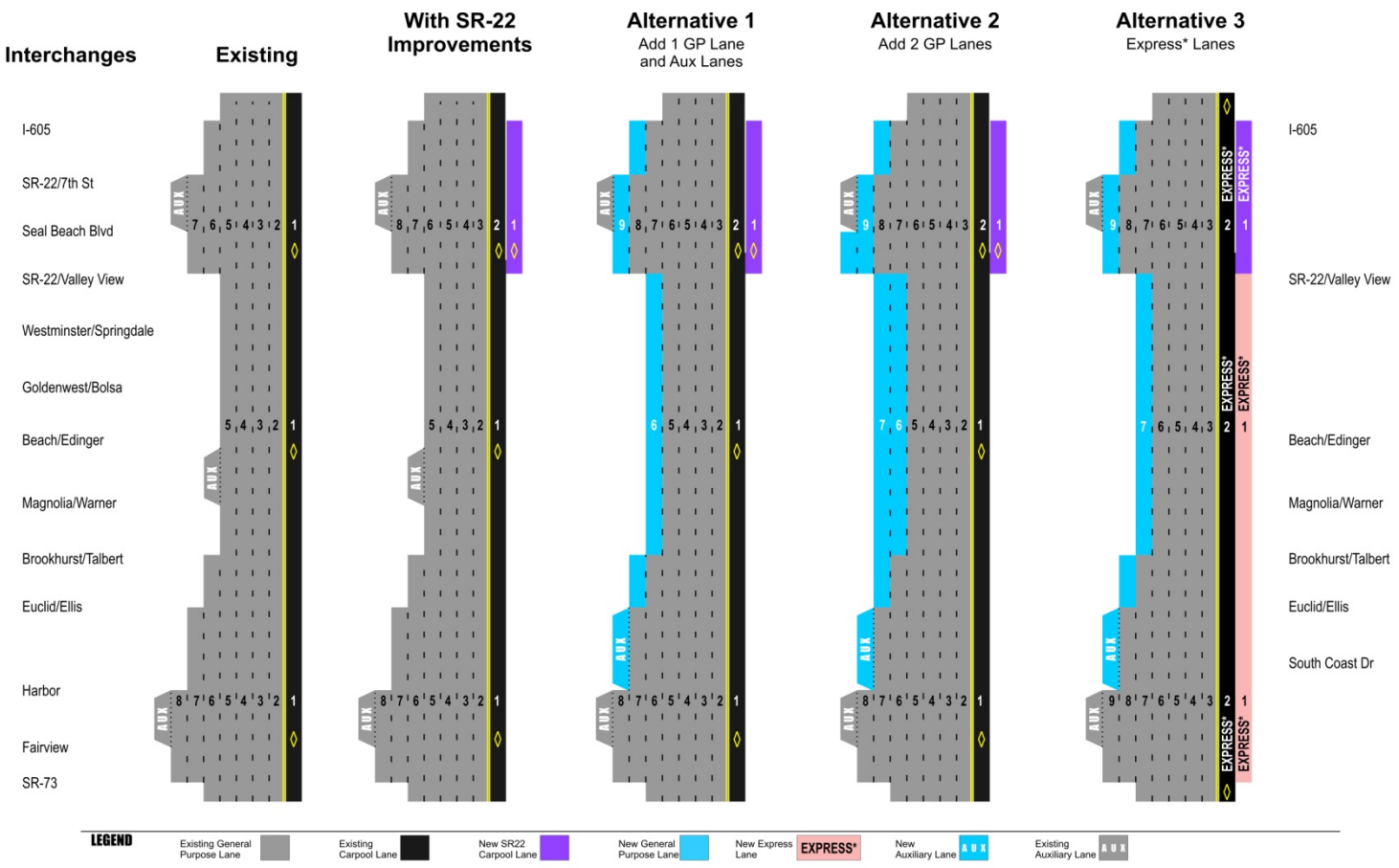


Figure 2-2. Lane Configurations of Southbound Build Alternatives

2.1.2.2. ALTERNATIVE 2 – ADD TWO GP LANES IN EACH DIRECTION

Alternative 2 would add one GP lane in each direction of I-405 from Euclid Street to the I-605 interchange (as in Alternative 1), plus add a second GP lane in the northbound direction from Brookhurst Street to the SR-22/7th Street interchange and a second GP lane in the southbound direction from the Seal Beach Boulevard on-ramp to Brookhurst Street. Figures 2-1 and 2-2 display the proposed I-405 lane configurations associated with the proposed build alternatives.

Alternative 2 would provide a full standard highway cross section, with 12-foot-wide mainline travel lanes and shoulders on the left and right sides in both directions. Right side (outside) shoulders would be 10-foot-wide, while left side (inside) shoulders would have a maximum width of 10 feet with a provision for a widened left shoulder for HOV enforcement areas under consideration.

Alternative 2 would provide continuous access between the HOV and GP lanes. On July 31, 2007, the Department approved a PSR for a separate project (EA 0J440K) to provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County. This separate project has not yet been programmed or funded; however, the proposed continuous access would be implemented as part of Alternative 2 of the proposed project for the segment of I-405 between Euclid Street and I-605.

Under Alternative 2, auxiliary lanes would be added at various locations to provide efficient merge and diverge operations. In the northbound direction, the existing auxiliary lane from the Magnolia Street on-ramp to the Beach Boulevard off-ramp would be retained. A northbound auxiliary lane would be provided at the northerly approach to the Euclid/Ellis off-ramp, as well as between the Euclid/Ellis on-ramp and the Brookhurst Street/Magnolia Street off-ramp.

In the southbound direction, the existing auxiliary lane from the Beach Boulevard on-ramp to the Magnolia Street off-ramp would not be retained. The existing auxiliary lane from the SR-22/7th Street on-ramp to Seal Beach Boulevard would be retained, as would the existing auxiliary lane from the Harbor Boulevard on-ramp to the Fairview off-ramp. An additional auxiliary lane would be included between the Euclid/Ellis on-ramp and the Harbor Boulevard off-ramp.

2.1.2.3. ALTERNATIVE 3 – EXPRESS FACILITY

Alternative 3 would add one GP lane in each direction of I-405 from Euclid Street to the I-605 interchange (as in Alternatives 1 and 2), plus add a tolled express lane in each direction of I-405 from SR-73 to I-605. The tolled express lane would be placed beside the existing HOV lane in each direction. The existing HOV lanes and new toll lanes would be managed jointly as an Express Lane Facility with two lanes in each direction. Figures 2-1 and 2-2 display the proposed I-405 lane configurations associated with the proposed build alternatives

Alternative 3 would provide a full standard highway cross section, with 12-foot-wide mainline travel lanes and shoulders on the left and right sides in both directions. Right side (outside) shoulders would be 10-foot-wide, while left side (inside) shoulders would have a maximum width of 10 feet with a provision for a widened left shoulder for enforcement areas under consideration. The joint HOV/toll lane Express Lane Facility would be separated from the GP lanes by a 1 to 4 feet buffer.

Under Alternative 3, auxiliary lanes would be added at various locations to provide efficient merge and diverge operations. The existing auxiliary lane from the Magnolia Street on-ramp to the Beach Boulevard off-ramp would be retained. Additional northbound auxiliary lanes would be provided at the northerly approach to the Euclid/Ellis off-ramp, and between the Seal Beach Boulevard on-ramp and the SR-22/7th Street off-ramp.

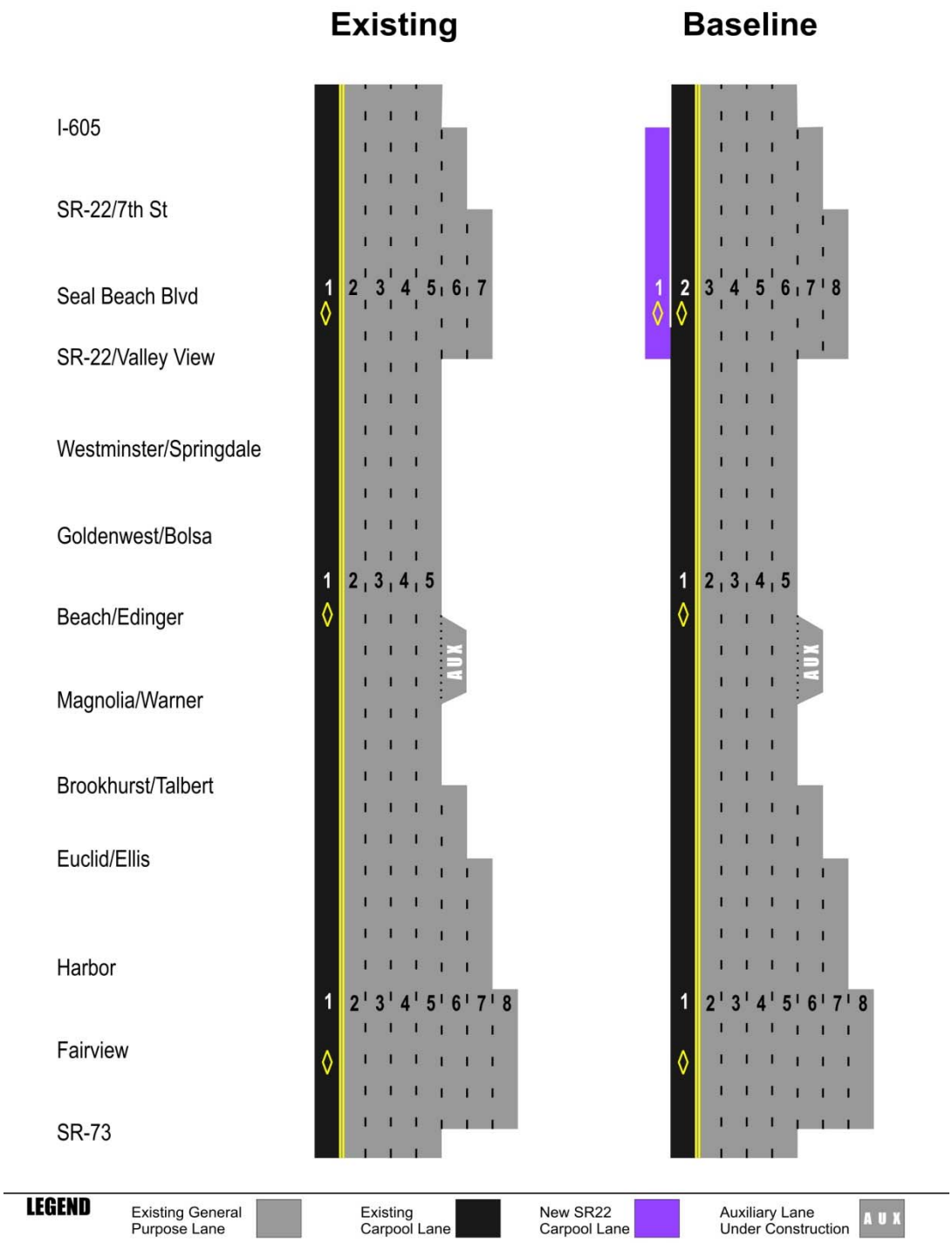
In the southbound direction, the existing auxiliary lane from the Beach Boulevard on-ramp to the Magnolia Street off-ramp would not be retained. The existing auxiliary lane from the SR-22/7th Street on-ramp to Seal Beach Boulevard would be retained, as would the existing auxiliary lane from the Harbor Boulevard on-ramp to the Fairview off-ramp. An additional auxiliary lane would be included between the Euclid/Ellis on-ramp and the Harbor Boulevard off-ramp.

2.1.3. No Build (No Action) Alternative

The No Build Alternative provides a “baseline” for comparing impacts associated with the build alternatives because environmental review must consider the effects of not implementing the proposed project. The Project Baseline conditions under the No Build Alternative would provide no additional lanes or interchange improvements to the I-405 corridor. The project area would continue to operate with no additional improvements and would not achieve the project’s stated purpose and need.

Compared to the existing condition, the future project baseline assumed under the No Build Alternative includes the future completion of the SR-22 West County Connectors Project.

Figure 2-3 displays the I-405 lane configuration under existing conditions and future project baseline conditions associated with the No Build Alternative.



Source: Parsons 2010

Figure 2-3. I-405 Lane Configuration – Existing and Future Project Baseline Conditions

Chapter 3. Fundamentals of Traffic Noise

The following is a brief discussion of fundamental traffic noise concepts. For a detailed discussion, please refer to Caltrans' Technical Noise Supplement (TeNS) (Caltrans, 2009), a technical supplement to the Protocol, that is available on the Caltrans Web site (http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf).

3.1. Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors that are affecting the propagation path to the receiver determine the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

3.2. Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

3.3. Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (μPa). One μPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 μPa. Because of this huge range of values, sound is rarely expressed in terms of μPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 μPa.

3.4. Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB—rather, they would

combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

3.5. A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-weighted levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with highway-traffic noise. Noise levels for traffic noise reports are typically reported in terms of A-weighted decibels or dBA. Table 3-1 describes typical A-weighted noise levels for various noise sources.

3.6. Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3 dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels, when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3 dB increase in sound, would generally be perceived as detectable by the average person.

Table 3-1. Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	**— 70 —**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher next room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

Source: Caltrans, 2009.

3.7. Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in traffic noise analysis:

- **Equivalent Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level (L_{eq}[h]) is the energy average of A-weighted sound levels occurring during a one-hour period, and is the basis for noise abatement criteria (NAC) used by Caltrans and FHWA.

- **Percentile-Exceeded Sound Level (L_n):** L_n represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10% of the time, and L_{90} is the sound level exceeded 90% of the time).

- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period.

- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 p.m. and 7 a.m.

- **Community Noise Equivalent Level (CNEL):** Similar to L_{dn}, CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m., and a 5 dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

3.8. Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

3.8.1. Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 decibels for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 decibels for each doubling of distance from a line source.

3.8.2. Ground Absorption

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective-wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water,), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 decibels per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 decibels per doubling of distance for a line source.

3.8.3. Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) from the highway due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

3.8.4. Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. Taller barriers provide increased noise reduction. Heavy vegetation between the highway and receiver could provide additional noise reduction.

Chapter 4. Federal Regulations and State Policies

This report focuses on the requirements of Title 23 CFR 772, as discussed below.

4.1. Federal Regulations

4.1.1. Title 23 CFR 772

Title 23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. Under Title 23 CFR 772.7, projects are categorized as either Type I or Type II projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment.

Type I projects include those that create a completely new noise source, as well as those that increase the volume or speed of traffic or move the traffic closer to a receiver. Type I projects include the addition of an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway, or the widening an existing ramp by a full lane width for its entire length. Projects unrelated to increased noise levels, such as striping, lighting, signing, and landscaping projects, are not considered Type I projects.

Under Title 23 CFR 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, Title 23 CFR 772 requires that the project sponsor "consider" noise abatement before adoption of the final NEPA document. This process involves identification of noise abatement measures that are reasonable, feasible, and likely to be incorporated into the project, and of noise impacts for which no apparent solution is available.

Traffic noise impacts, as defined in Title 23 CFR 772.5, occur when the predicted noise level in the design year approaches or exceeds the Noise Abatement Criteria (NAC) specified in Title 23 CFR 772, or a predicted noise level substantially exceeds the existing noise level (a "substantial" noise increase). Title 23 CFR 772 does not specifically define the terms "substantial increase" or "approach"; these criteria are defined in the Protocol, as described below. Table 4-1summarizes NAC corresponding to various land use activity categories. Activity categories and related traffic noise impacts are determined based on the actual land use in a given area.

Table 4-1. Activity Categories and Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level (dBA-L_{eq}[h])	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in categories A or B above
D	—	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: 23 CFR Part 772, 2010

In identifying noise impacts, primary consideration is given to exterior areas of frequent human use. In situations where there are no exterior activity areas, or where the exterior activities occur far from the roadway or physically shielded in a manner that prevents an impact on exterior activities, the interior criterion (Activity Category E) is used as the basis for determining a noise impact.

4.2. State Regulations and Policies

4.2.1. Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects

The Protocol specifies the policies, procedures, and practices to be used by agencies that sponsor new construction or reconstruction of federal or federal-aid highway projects. The NAC specified in the Protocol are the same as those specified in Title 23 CFR 772. The Protocol defines a noise increase as substantial when the predicted noise levels with project implementation exceed existing noise levels by 12 dB. The Protocol also states that a sound level is considered to approach an NAC level when the sound level is within 1 dB of the NAC identified in Title 23 CFR 772 (e.g., 66 dBA is considered to approach the NAC of 67 dBA, but 65 dBA is not).

The TeNS to the Protocol provides detailed technical guidance for the evaluation of highway traffic noise. This includes field measurement methods, noise modeling methods, and report preparation guidance.

4.2.2. Section 216 of the California Streets and Highways Code

Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed an L_{eq}(h) of 52 dBA in the interior of public or private elementary or secondary classrooms,

libraries, multipurpose rooms, or spaces. This requirement does not replace the "approach or exceed" NAC criterion for FHWA Activity Category E for classroom interiors, but it is a requirement that must be addressed in addition to the requirements of Title 23 CFR 772.

If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below an $L_{eq}(h)$ of 52 dBA. If the noise levels generated from freeway and non-freeway sources exceed an $L_{eq}(h)$ of 52 dBA prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

Chapter 5. Study Methods and Procedures

5.1. Methods for Identifying Land Uses and Selecting Noise Measurement and Modeling Locations

An in depth field investigation was conducted to identify frequent outdoor use areas that could be subject to traffic noise impacts and to consider the physical setting of the freeway alignment relative to those areas. Land uses in the project area were categorized as defined in the Activity Category of Table 4-1. As stated in the Protocol, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, such as residential backyards and common use areas at multi-family residences. A few temporary lodging facilities such as motels and inns are also located within the project study area. Because they currently have frequent human use areas such as a pool or common area where people congregate for 1 hour or more on a daily basis, those areas were also evaluated for exterior noise impacts. Figures in Appendix A indicate the locations of relevant land use types within the study corridor.

Multiple outdoor noise measurements were taken throughout the project study corridor in order to evaluate existing noise levels and to calibrate the TNM 2.5 computer noise model. Specific measurement sites were chosen to be representative of receiver sites with similar topography, orientation to the highway, exposure angles, etc. with respect to frequent outdoor use areas adjacent to I-405. Locations that are expected to receive the greatest traffic noise impacts, such as the first row of houses from the highway, were generally chosen. However, noise measurements at second row residences were also conducted in several areas.

Noise measurements were mainly conducted in frequent outdoor human-use areas along the project alignment primarily in backyard locations. Where permits to enter were not obtained, short-term measurements were conducted within a nearby sidewalk or cul-de-sac location determined to be acoustically representative of the actual frequent use area.

5.2. Field Measurement Procedures

Noise measurements were conducted at selected locations to evaluate the existing noise environment. Noise measurements were conducted in conformance with the TeNS and with the guidelines outlined in the FHWA's "Measuring of Highway Related Noise," FHWA-DP-96-046. The following is a brief description of the measurement procedures used for this project:

- Microphones were primarily placed approximately 5 feet above the ground and were positioned more than 10 feet from any wall or building to prevent reflections or unrepresentative shielding of the noise. In one location this was not possible due to the small outdoor use areas.
- Sound level meters were calibrated before and after each set of measurements.
- Following the calibration of equipment, a windscreen was placed over the microphone.
- Frequency weighting was set on "A", and the slow detector response was selected.

- Results of the short-term noise measurements were recorded on data sheets in the field. Long-term measured data were downloaded to the computer for tabulation and graphing.
- During the short-term noise measurements, any noise contaminations such as barking dogs, local traffic, etc. were noted. Measurements were repeated if it was determined that there were non-traffic related noise contributions which affected the results. Calibration measurements were free of contaminating sounds. Whenever possible, measurements that were determined to be unreliable due to transient contaminants were repeated at the offending site.
- Traffic was counted for model calibration measurements. Vehicle types were separated into three vehicle groups: automobiles, medium trucks (2-axle with 6-wheels but not including dually pick-up trucks), and heavy trucks (3 or more axle vehicles). Average traffic speeds were measured using a radar gun or by driving on the roadways before and after a calibration measurement.
- Wind speed, temperature, humidity, and sky conditions were observed and documented during the short-term noise measurements.

The instruments used for the noise measurements included the following:

- Sound Level Meters – Larson Davis models 812, 820, and 870; Brüel & Kjær models 2238 and 2250.
- Microphone Systems:
  - Larson Davis 812 and 820 Systems – Larson Davis model PRM 828 microphone preamp; Larson Davis model 2560, ½-inch pressure microphone.
  - Larson Davis 870 System – Larson Davis model 900B microphone preamps; Larson Davis model 2559, ½-inch pressure microphone.
  - Brüel & Kjær 2238 System – Brüel & Kjær model ZC-0030 microphone preamp; Brüel & Kjær model 4188, ½-inch pressure microphone.
  - Brüel & Kjær 2250 System – Brüel & Kjær model ZC-0032 microphone preamp; Brüel & Kjær model 4189, ½-inch pressure microphone.
- Acoustic Field Calibrators:
  - Larson Davis Systems – Larson Davis model CAL 200 and CA250 constant pressure microphone calibrators.
  - Brüel & Kjær Systems – Brüel & Kjær 4231 constant pressure microphone calibrators.
- Microphone cables; 4-inch diameter windscreens; and tripods.
- Wind Monitor/Temperature and Humidity Gauge – Kestrel 3000 Pocket Weather Meter.
- Stationary Handheld Traffic Radar Detector – Astro Products Phantom Radar Detector.

Appendix F contains the calibration records for the sound level meters, microphone systems, and acoustical field calibrators.

5.2.1. Short-Term Measurements

Short-term monitoring was conducted at 61 locations in June of 2010 and one additional location in August of 2010 using Larson-Davis and Brüel & Kjær Precision Type 1 sound level meters. Measurements were taken at20-minute durations at each site. During the short-term measurements, field staff attended each meter to identify and log the dominant noise sources. The calibration of the meter was checked before and after the measurement using Larson-Davis and Brüel & Kjær calibrators. Short-term monitoring was mostly conducted at Activity Category B land uses. The short-term measurement locations are identified in Appendix A.

Temperature, wind speed, and humidity were recorded manually during the short-term monitoring session using a Kestrel 3000 portable weather station. During the short-term measurements, wind speeds typically ranged from 0 to 4 mile per hour (mph). Temperatures ranged from 66 to 81°F, with relative humidity typically 50–80%.

Traffic on I-405 was recorded using a camcorder during several of the measurements; then, it was later classified and counted for the calibration of the prediction software. Vehicles were classified as automobiles, medium-duty trucks, or heavy-duty trucks. An automobile was defined as a vehicle with two axles and four tires that are designed primarily to carry passengers. Small vans and light trucks were included in this category. Medium-duty trucks included all cargo vehicles with two axles and six tires. Heavy-duty trucks included all vehicles with three or more axles. Heavy trucks appeared to be moving at a slightly lower speed than passenger cars and medium trucks.

5.2.2. Long -Term Measurements

Long-term monitoring was conducted at 30 locations using a Larson-Davis Type 1 sound level meters. The purpose of these measurements was to identify variations in sound levels throughout the day. The long-term sound level data was collected for a 24-hour period. Long-term monitoring locations are shown on figures included in Appendix A.

5.3. Prediction Methods

The FHWA Traffic Noise Model Version 2.5 (TNM 2.5) was used for the noise computations (FHWA, 2004). TNM 2.5 inputs are based on a three-dimensional grid created for the study area to be modeled. All roadway, barrier, terrain lines, and receiver points are defined by their x, y, and z coordinates. Roadways, terrain lines, and barriers are coded into TNM 2.5 as line segments defined by their end points. Receivers, defined as single points, are typically located at frequent outdoor use areas such as residences, schools, and recreational areas. In general, receivers are modeled at a height of 5 feet above ground elevation. Appendix B lists the addresses and year built of modeled noise receivers.

In order to determine the noise levels generated by traffic, the TNM 2.5 computer program requires inputs of traffic volumes, speeds, and vehicle types. Three vehicle types were input into the model: cars, medium trucks, and heavy trucks. The propagation path between the source and receiver is modeled in TNM 2.5 by specifying special terrain features, rows of houses or building structures, and existing walls. Propagation of noise can be further specified by selecting ground types such as hard soil, loose soil, pavement, lawn, and field grass. The lawn option was chosen as the overall ground type for this study, because the grounds between receivers and I-405 are

generally vegetated. All other natural obstructions, such as cuts and fills that could affect the future predicted noise levels were also included in the input files.

Traffic noise is a function of traffic type, volume, and speed. Generally, noise increases with increased speed and with higher volumes of traffic. However, at much higher volumes, travel speed decreases (stop and go conditions), so the worst-case noise levels are experienced when there is an optimum balance between the volume and speed. For purposes of determining noise impacts, the worst-case traffic noise occurs when traffic is operating under Level-of-Service (LOS) C conditions. Under these conditions, traffic is heavy, but remains free flowing. The volume on any lane is a function of its traffic type (main lane, HOV lane, and ramp) for LOS C conditions. Appendix C presents the comprehensive listing of the future traffic volumes and traffic distribution per direction of travel used for the noise analysis for the existing, future No Build, and Build Alternatives.

Truck percentages relative to the total traffic volume were obtained from *Annual Average Daily Truck Traffic on the California Highway System* in the Caltrans web site (Caltrans, 2009). The future truck traffic percentages for use in this analysis are shown in Appendix C for northbound and southbound mainline lanes and modeled ramps. It was assumed that the truck percentages in the future would remain similar to the existing conditions. Furthermore, because land use along the proposed project alignment is predominantly residential, heavy truck percentages on ramps and exit lanes are assumed to be half that of the mainline percentages. It is assumed that only a portion of the heavy trucks will enter and exit the freeway in this area except at the Harbor Boulevard ramps where the surrounding area is largely commercial.

There are generally four to five general lanes of travel in each direction. Typically, heavy trucks do not travel in the inner or “fast” lanes; thus, heavy truck traffic volumes were modeled only in the outer two lanes. In the modeling of the Build Alternative conditions, it was assumed that heavy trucks would not travel in the HOV lane. The LOS C volumes of general traffic lanes and HOV/auxiliary lanes/connectors were assumed to be 1,850 and 1,500 vph/lane, respectively. For modeled freeway ramps, traffic volumes were based on modeled future demand volumes (Traffic Report, 2010) or 1,000 vph/lane, whichever was lower.

TNM 2.5 was used to compare measured traffic noise levels to modeled noise levels at field measurement locations to validate the accuracy of the model. Traffic volumes counted during each measurement period were normalized to 1-hour volumes. These normalized volumes were assigned to the corresponding project area roadways to simulate the noise source strength at the roadways during the actual measurement periods. Modeled and corresponding measured sound levels were then compared to determine the accuracy of the model and if additional calibration of the model was necessary.

5.4. Methods for Identifying Traffic Noise Impacts and Consideration of Abatement

Traffic noise impacts are considered to occur at receiver locations where predicted design-year traffic noise levels are at least 12 dB greater than existing noise levels, or where predicted design year traffic noise levels approach or exceed the NAC for the applicable activity category. Where traffic noise impacts are identified, noise abatement must be considered for reasonableness and feasibility as required by Title 23 CFR 772 and the Protocol.

According to the Protocol, abatement measures are considered acoustically feasible if a minimum noise reduction of 5 dB at receiver locations is predicted with implementation of the abatement measures. In addition, barriers should be designed to intercept the line-of-sight from the exhaust stack of a truck to the first tier of receivers, as suggested by the Highway Design Manual, Chapter 1100. Other factors that affect feasibility include topography, access requirements for driveways and ramps, presence of local cross streets, utility conflicts, train crossings, and safety considerations. The overall reasonableness of noise abatement is determined by considering factors such as cost; absolute predicted noise levels; predicted future increase in noise levels; expected noise abatement benefits; build date of surrounding residential development along the highway; environmental impacts of abatement construction; opinions of affected residents; input from the public and local agencies; and social, legal, and technological factors.

The Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. A cost-per-residence allowance is calculated for each benefited residence (i.e., residences that receive at least 5 dB of noise reduction from a noise barrier). The 2009 base allowance of $31,000 is used for this project. Additional allowance dollars are added to the base allowance based on absolute noise levels, the increase in noise levels resulting from the project, achievable noise reduction, and the date of building construction in the area. Total allowances are calculated by multiplying the cost-per-residence by the number of benefited residences.

Chapter 6. Existing Noise Environment

6.1. Existing Land Uses

A field investigation was conducted to identify land uses that could be subject to traffic noise impacts from the proposed project. Single-family residences, multi-family residences, schools, parks, religious institutions, and hotel/motels were identified as Activity Category B land uses with outdoor frequent use areas along the proposed project alignment. Numerous commercial uses in the area are Activity Category C land uses with no outdoor frequent use areas.

The dominant land uses within the project study area include low and medium density residential (single- and multiple-family), commercial (neighborhood and regional), and light industrial (general manufacturing). Topography along the corridor is relatively flat where the majority of local traffic roadways cross over I-405. There are also two train tracks that I-405 cross over; the first runs north/south between McFadden and Bolsa Avenues and the second runs east/west between Goldenwest and Edwards Streets. Traffic on I-405 is the dominant source of noise in the study area. Additionally, there are several drainage structures that follow the corridor and/or cross under I-405 including the Santa Ana River which I-405 crosses over.

The project corridor has been divided into six segments for the noise study based upon major local interchanges. The following describes groups of neighborhoods in each segment:

Segment 1 – I-405 South of Bristol Street to Euclid Street, SR-73 South to Bear Street: The land uses along I-405 in this area include commercial development such as South Coast Plaza Mall, (Activity Category C) as well as single- and multi-family residences, three neighborhood parks, and a hotel (Activity Category B). There is also a patch of farm land on the northbound side of I-405 between Fairview Road and Harbor Boulevard. The single-family residences and parks are largely on the southbound side of I-405 except between Bear Street and Fairview Road where there are both single-and multi-family residences. Located along SR-73 between Bear Street and the I-405 interchange are single-family residences. Throughout this segment, soundwalls and masonry property walls provide freeway traffic noise reduction to the majority of residences and other Activity Category B land uses.

Segment 2 - Euclid Street to Magnolia Street: Between these two interchanges the adjacent areas on both sides of the corridor are predominantly residential, including single-family residences, townhouses, and apartments, as well as outdoor use areas of Fountain Valley High School, a pre-school associated with Huntington Baptist Church, Los Alamos Park, and outdoor pool areas of Courtyard Inn and Residence Inn. The majority of residential developments have masonry property walls as well as existing soundwalls. At the south end of this segment between Euclid and Ward Streets, the surrounding areas are commercial.

Segment 3 - Magnolia Street to Bolsa Avenue / Goldenwest Street: This area along the project corridor is largely residential including single-family residences, apartment complexes, a mobile home park, and also includes Pleasant View and College Parks. Throughout this area, existing property walls and/or soundwalls protect most of the outdoor use areas from freeway traffic noise.

Segment 4 - Bolsa Avenue / Goldenwest Street to SR-22 / Valley View Street, SR-22 East to Springdale Street: In this segment of the highway, the adjacent land use is predominantly residential with pockets of commercial including the Westminster Mall. The land uses along I-405 include single-family residences, four schools, three neighborhood parks, an outdoor pool area of Motel 6, and a mobile home park. Land uses along SR-22 include single-family residences and two mobile home parks as well as an apartment complex without any frequent outdoor use areas exposed to traffic noise. Existing masonry property walls and soundwalls provide shielding from freeway traffic noise at the majority of residential land uses.

Segment 5 - Valley View Street to Seal Beach Boulevard: Activity Category B land use areas in this segment along I-405 consist of single-family residences, Shapell Park, Blue Bell Park, Seal Beach Tennis Court Center, and Sunrise Senior Living. Other land uses along this segment of the corridor include the Old Ranch Golf Practice Range and the Seal Beach Naval Weapons Station along the eastbound side. Existing soundwalls and masonry property walls provide freeway traffic noise reduction at Activity Category B land uses.

Segment 6 - Seal Beach Boulevard to I-605, I-605 North to South of Katella Avenue: Along I-405 in this segment, the predominant Activity Category B land use is single-family residential and multi-family residential of Leisure World Retirement Community. Other Category B land use areas include a gazebo area of First Christian Church of Leisure World. Also located in this area is the Leisure World Library which is an Activity Category E land use. The residential land uses are protected from freeway traffic noise by existing soundwalls and property walls.

6.2. Noise Measurement Results

The existing noise environment in the project area is characterized in the following sections based on short-term and long-term noise monitoring that was conducted.

6.2.1. Short-term Monitoring

Short-term measurements were conducted at a total of 61 measurement sites in June of 2010 for a duration of 20 minutes each. An additional short-term measurement was conducted in August of 2010 for noise model calibration purposes. Table 6-1 summarizes the short-term measurement results. The primary objectives of the short-term measurements were to evaluate the existing noise environment and calibrate the traffic noise prediction model.

Also included in Table 6-1 are the land use types for each of the measurement sites. Project layout plans in Appendix A presents the measurement locations. Appendix D includes noise measurement data sheets recorded in the field and Appendix E includes the noise measurement site photographs. Appendix F contains the calibration records for the sound level meters, microphone systems, and acoustical field calibrators. Although some noise measurements were conducted at areas that are not considered outdoor frequent use areas such as front yards, sidewalks, or cul-de-sacs, the data collected is acoustically representative of geographically larger areas of frequent use areas. Noise measurements conducted at sidewalks or cul-de-sacs was necessary because permissions to enter (PTEs) could not be obtained at some prospective noise measurement locations.

As summarized in Table 6-1 many measurement sites along the project corridor already approach or exceed the NAC of 67 dBA. Some of the short-term measurements were conducted during time intervals outside of the peak noise hour. These measurements have been adjusted to reflect peak hourly noise levels using the results of the nearby long-term noise measurements. The peak noise hour was determined by a long-term measurement running simultaneously with each short-term measurement. The difference in noise levels between the hour in which the short-term level was recorded and the hour that the actual peak hour level occurred was then applied to each of the short-term levels to adjust it to the peak hour.

6.2.2. Long-Term Monitoring

Long-term measurements were conducted at 30 locations for at least 24 hours using Type 1 sound level meters. The long-term measurements were conducted to observe hourly noise distribution and identify the peak noise hours. Table 6-2 summarizes long-term monitoring results and shows addresses of these monitoring locations. Project layout plans in Appendix A presents the measurement locations. Appendix D includes field survey sheets and hourly L_{eq} graphs and Appendix E includes the site photographs of the noise measurements. Appendix F contains the calibration records for the sound level meters, microphone systems, and acoustical field calibrators.

Table 6-1. Short-Term Noise Measurement Results

Site No.	Street Address, City	Land Use[1]	Noise Abatement Category (Criterion)[2]	Meter Location	Meas. Dates	Start Time	Meas. Leq, dBA[3]	Adjusted Peak-Hour Leq, dBA	Adjusted to Long-Term Site
ST1	13671 Olympic Ave., Costa Mesa	SFR	B (67)	Backyard	06/08/10	13:40	64.6	67.6	LT1
ST1A	3049 Yukon Cir., Costa Mesa	SFR	B (67)	Backyard	06/07/10	11:20	54.4	56.4	LT1A
ST1B	960 Springfield St., Costa Mesa	SFR	B (67)	Sidewalk	06/07/10	12:20	54.1	56.1	LT1B
ST1C [4]	910 Liard Pl., Costa Mesa	SFR	B (67)	Sidewalk	06/07/10	14:00	61.8	62.8	LT1A
ST2	990 Hartford Way, Costa Mesa	SFR	B (67)	Sidewalk	06/07/10	15:20	55.6	56.6	LT1B
ST2A	1052 Concord St., Costa Mesa	SFR	B (67)	Backyard	06/08/10	11:20	57.4	59.4	LT2
ST3	1000 S. Coast Dr., Costa Mesa	MFR	B (67)	Common area	06/09/10	12:20	58.9	60.9	LT3
ST4	Wimbledon Glen Apts., Costa Mesa	MFR	B (67)	Pool area	06/09/10	12:00	58.6	60.6	LT3
ST5	Gisler Park, Costa Mesa	REC	B (67)	Playground	06/09/10	09:20	66.4	68.4	LT4
ST6	1376 Garlingford St., Costa Mesa	SFR	B (67)	Backyard	06/09/10	09:40	57.7	59.7	LT4
ST7	Vagabond Inn, 3205 Harbor Blvd., Costa Mesa	MOT	B (67)	Pool area	06/09/10	16:00	55.6	58.6	LT5
ST8	1630 Iowa St. #D, Costa Mesa	MFR	B (67)	Backyard	06/09/10	17:00	67.6	69.6	LT5
ST9	3342 Nevada Ave., Costa Mesa	SFR	B (67)	Backyard	06/09/10	15:00	60.9	63.9	LT5
ST9A	3324 Wyoming Cir., Costa Mesa	SFR	B (67)	Backyard	06/10/10	10:00	56.3	58.3	LT5
ST10	La Quinta Inn, 1515 S. Coast Dr., Costa Mesa	MOT	B (67)	Pool area	06/09/10	10:40	71.0	72.0	LT3
ST11	10242 Durango River Ct., Fountain Valley	MFR	B (67)	Backyard	06/10/10	13:40	59.1	62.1	LT6

Notes:

1. SFR – Single-family residential; MFR – Multi-family residential; MH – Mobile home; REC – Recreational; SCH – School; MOT – Hotel/Motel.
2. According to Caltrans Traffic Noise Analysis Protocol.
3. All short-term measured noise levels are 20-minutes Leq.
4. Short-term measurement levels were suspicious and have not been included in the noise barrier analysis.

Table 6-1. Short-Term Noise Measurement Results (Cont'd)

Site No.	Street Address, City	Land Use[1]	Noise Abatement Category (Criterion)[2]	Meter Location	Meas. Dates	Start Time	Meas. Leq, dBA[3]	Adjusted Peak-Hour Leq, dBA	Adjusted to Long-Term Site
ST12	10328 La Despensa Ave., Fountain Valley	SFR	B (67)	Backyard	06/10/10	11:20	56.5	56.5	LT7
ST12A	17828 Montezuma Cir., Fountain Valley	SFR	B (67)	Front yard	06/10/10	12:40	60.0	60.0	LT7
ST13	17701 San Rafael St., Fountain Valley	SFR	B (67)	Backyard	06/10/10	12:00	57.5	57.5	LT7
ST14 [4]	17820 Toiyabe St., Fountain Valley	SFR	B (67)	Sidewalk	06/10/10	15:40	53.6	57.6	LT8
ST15	Fountain Valley High School, Fountain Valley	SCH	B (67)	Soccer field	06/10/10	16:20	59.2	63.2	LT8
ST16	Huntington Valley Preschool, Fountain Valley	SCH	B (67)	Playground	06/15/10	17:40	64.6	67.6	LT9
ST17	Corte Bella Apts., 9580 El Rey Ave., Fountain Valley	MFR	B (67)	Pool area	06/16/10	17:00	56.7	59.7	LT10
ST17A	Corte Bella Apts., 9580 El Rey Ave., Fountain Valley	MFR	B (67)	Entrance /Garages	06/16/10	16:40	63.9	65.9	LT10
ST18 [4]	9197 El Cortez St., Fountain Valley	SFR	B (67)	Backyard	06/15/10	18:20	53.3	55.3	LT10
ST19	Grande Apts., 9350 Emery Ct., Fountain Valley	MFR	B (67)	Patio	06/14/10	10:00	60.4	61.4	LT11
ST20	Archstone Apts., 8945 Riverbend Dr., Huntington Beach	MFR	B (67)	Common area	06/16/10	16:00	51.4	54.4	LT12
ST21	16450 Ross Cr., Westminster	SFR	B (67)	Backyard	06/16/10	13:00	62.8	65.8	LT12

Notes:

1. SFR – Single-family residential; MFR – Multi-family residential; MH – Mobile home; REC – Recreational; SCH – School; MOT – Hotel/Motel.
2. According to Caltrans Traffic Noise Analysis Protocol.
3. All short-term measured noise levels are 20-minutes Leq.
4. Short-term measurement levels were suspicious and have not been included in the noise barrier analysis.

Table 6-1. Short-Term Noise Measurement Results (Cont'd)

Site No.	Street Address, City	Land Use[1]	Noise Abatement Category (Criterion)[2]	Meter Location	Meas. Dates	Start Time	Meas. Leq, dBA[3]	Adjusted Peak-Hour Leq, dBA	Adjusted to Long-Term Site
ST22	Casa Tiempo Apts., 8882 Heil Ave., Westminster	MFR	B (67)	Pool area	06/14/10	16:00	63.9	64.9	LT13
ST23	8541 Universe Ave., Westminster	SFR	B (67)	Sidewalk	06/14/10	12:40	65.6	67.6	LT13
ST24	Huntington Creek Apartments, 8211 San Angelo Dr., Huntington Beach	MFR	B (67)	Common area	06/16/10	15:20	59.8	61.8	LT14
ST25	8172 Crown Ct., Westminster	SFR	B (67)	Backyard	06/14/10	10:20	61.7	62.7	LT13
ST25A	8172 Crown Ct., Westminster	SFR	B (67)	Common area	06/14/10	10:40	60.2	61.2	LT13
ST26	8095 Worthy Dr., Westminster	MFR	B (67)	Pool area	06/14/10	18:00	58.9	59.9	LT13
ST27	53 Maplewood Ln., Westminster	MH	B (67)	Front yard	06/14/10	17:00	62.2	63.2	LT15
ST28	College Park, 15422 Vermont St., Westminster	REC	B (67)	Playground	06/15/10	14:40	60.6	64.6	LT16
ST29	7141 Rutgers Ave., Westminster	MFR	B (67)	Backyard	06/16/10	10:20	61.7	64.7	LT16
ST30	6722 Hazard Ave., Westminster	SFR	B (67)	Sidewalk	06/21/10	15:00	60.1	61.1	LT17
ST31	Buckingham Park, 6502 Homer St., Westminster	REC	B (67)	Playground	06/21/10	16:00	65.8	66.8	LT17
ST32	Hollybrook Apts., 14221 Edwards St., Westminster	MFR	B (67)	Patio	06/22/10	12:00	67.3	68.3	LT18
ST32A	Hollybrook Apts., 14221 Edwards St., Westminster	MFR	B (67)	Common area	06/22/10	12:00	63.1	64.1	LT18
ST33	Motel 6, 6266 Westminster Blvd., Westminster	MOT	B (67)	Pool area	06/22/10	11:20	72.6	72.6	LT18

Notes:

1. SFR – Single-family residential; MFR – Multi-family residential; MH – Mobile home; REC – Recreational; SCH – School; MOT – Hotel/Motel.
2. According to Caltrans Traffic Noise Analysis Protocol.
3. All short-term measured noise levels are 20-minutes Leq.
4. Short-term measurement levels were suspicious and have not been included in the noise barrier analysis.

Table 6-1. Short-Term Noise Measurement Results (Cont'd)

Site No.	Street Address, City	Land Use[1]	Noise Abatement Category (Criterion)[2]	Meter Location	Meas. Dates	Start Time	Meas. Leq, dBA[3]	Adjusted Peak-Hour Leq, dBA	Adjusted to Long-Term Site
ST34 [4]	Cascade Park, 14100 Cascade St., Westminster	REC	B (67)	Playground	06/22/10	10:20	65.5	68.5	LT19
ST35	Indian Village Park, 6060 Hefley St., Westminster	REC	B (67)	Playground	06/21/10	10:40	69.2	69.2	LT20
ST35A	5551 Norma Dr., Westminster	SFR	B (67)	Sidewalk	06/21/10	09:20	59.7	59.7	LT20
ST36	13842 Sherwood St., Westminster	SFR	B (67)	Backyard	06/22/10	9:20	62.1	64.1	LT21
ST37	434/435 Via Valencia, Westminster	MH	B (67)	Common area	06/21/10	17:00	66.4	66.4	LT20
ST37A	5842 Anthony Ave., Garden Grove	SFR	B (67)	Backyard	06/24/10	09:00	59.2	62.2	LT20A
ST37B	79 Via Del Norte, Garden Grove	MH	B (67)	Common area	06/24/10	15:40	59.7	60.7	LT20B
ST38	5382 Duncannon Ave., Westminster	SFR	B (67)	Backyard	06/22/10	08:20	63.2	65.2	LT21
ST38A	13131 Buckingham Cir., Westminster	SFR	B (67)	Backyard	06/22/10	10:00	62.7	64.7	LT21
ST39	5232 Chrystal Ave., Garden Grove	SFR	B (67)	Backyard	06/23/10	14:20	61.7	61.7	LT22
ST40	3560 Wisteria St., Seal Beach	SFR	B (67)	Backyard	06/23/10	08:40	59.5	61.5	LT22
ST41	Shapell Park, Seal Beach	REC	B (67)	Playground	06/23/10	08:00	66.7	68.7	LT22
ST41A	3521 Daisy St., Seal Beach	SFR	B (67)	Sidewalk	06/23/10	09:20	66.4	68.4	LT22
ST42	City of Seal Beach Tennis Court, 3501-3579 Aster St., Seal Beach	REC	B (67)	Tennis court	06/23/10	09:20	64.2	66.2	LT22
ST43	276H Northwood Rd., Seal Beach	MFR	B (67)	Front yard	06/23/10	11:40	61.5	63.5	LT24

Notes:

1. SFR – Single-family residential; MFR – Multi-family residential; MH – Mobile home; REC – Recreational; SCH – School; MOT – Hotel/Motel.
2. According to Caltrans Traffic Noise Analysis Protocol.
3. All short-term measured noise levels are 20-minutes Leq.
4. Short-term measurement levels were suspicious and have not been included in the noise barrier analysis.

Table 6-1. Short-Term Noise Measurement Results (Cont'd)

Site No.	Street Address, City	Land Use[1]	Noise Abatement Category (Criterion)[2]	Meter Location	Meas. Dates	Start Time	Meas. Leq, dBA[3]	Adjusted Peak-Hour Leq, dBA	Adjusted to Long-Term Site
ST44	12835 Martha Ann Dr., Los Alamitos	SFR	B (67)	Backyard	06/22/10	16:20	60.4	62.4	LT23
ST45	12311 Martha Ann Dr., Los Alamitos	SFR	B (67)	Backyard	06/23/10	12:40	60.8	62.8	LT25
ST46	11411 Martha Ann Dr., Los Alamitos	SFR	B (67)	Backyard	06/23/10	12:40	63.9	64.9	LT26
CAL18	8832 Savoy Cir., Huntington Beach	SFR	B (67)	Cul-du-sac	08/31/10	12:47	63.9	--	--

Notes:

1. SFR – Single-family residential; MFR – Multi-family residential; MH – Mobile home; REC – Recreational; SCH – School; MOT – Hotel/Motel.
2. According to Caltrans Traffic Noise Analysis Protocol.
3. All short-term measured noise levels are 20-minutes Leq.
4. Short-term measurement levels were suspicious and have not been included in the noise barrier analysis.

Table 6-2. Long-Term Noise Measurement Results

Site No.	Street Address, City	Land Use[1]	Noise Abatement Category (Criterion)[2]	Meter Location	Meas. Dates	Start Time	Measured Peak Hour Leq, dBA
LT1	920 Tanana Pl., Costa Mesa	SFR	B (67)	Backyard	06/07/10	15:40	59
LT1A	3077 Yukon Ave., Costa Mesa	SFR	B (67)	Backyard	06/07/10	11:00	60
LT1B	938 Cheyenne St., Costa Mesa	SFR	B (67)	Backyard	06/07/10	10:20	59
LT2	1142 Charleston St., Costa Mesa	SFR	B (67)	Backyard	06/07/10	15:00	61
LT3	1063 Leandro Ln., Costa Mesa	SFR	B (67)	Backyard	06/8/10	11:40	65
LT4	1288 Londonderry St., Costa Mesa	SFR	B (67)	Backyard	06/8/10	11:00	62
LT5	3334 Maryland Ct., Costa Mesa	SFR	B (67)	Backyard	06/9/10	12:00	68
LT6	18125 Sand Dunes Ct., Fountain Valley	MFR	B (67)	Backyard	06/9/10	16:20	68
LT7	17893 San Rafael St., Fountain Valley	SFR	B (67)	Backyard	06/9/10	16:00	67
LT8	9849 Oscar Cir., Fountain Valley	SFR	B (67)	Backyard	06/9/10	17:20	64
LT9	17231 Buttonwood St., Fountain Valley	SFR	B (67)	Backyard	06/15/10	15:20	65
LT10	9460 Andalusia Ave., Fountain Valley	SFR	B (67)	Backyard	06/15/10	17:20	67
LT11	16841 Daisy Ave, Fountain Valley	SFR	B (67)	Backyard	06/11/10	13:20	66
LT12	8711 Heil Ave., Westminster	SFR	B (67)	Backyard	06/15/10	16:20	64
LT13	16381 Venus St., Westminster	SFR	B (67)	Backyard	06/11/10	13:40	68
LT14	8480 Wells Rd., Westminster	SFR	B (67)	Backyard	06/15/10	14:20	70
LT15	15431 Cascade Ln., Westminster	SFR	B (67)	Backyard	06/11/10	15:00	66
LT16	15272 Vermont St., Westminster	SFR	B (67)	Backyard	06/15/10	14:20	67
LT17	6872 Sowell Ave., Westminster	SFR	B (67)	Backyard	06/21/10	10:20	64
LT18	14151 Wynn St., Westminster	SFR	B (67)	Backyard	06/21/10	11:00	71
LT19	6251 Mahogany Ave., Westminster	SFR	B (67)	Backyard	06/21/10	12:00	70
LT20	5741 Meinhardt Rd., Westminster	SFR	B (67)	Backyard	06/21/10	08:40	68
LT20A	3142 Anthony Ave., Garden Grove	SFR	B (67)	Backyard	06/23/10	17:40	63
LT20B	655 Via Descanso, Garden Grove	SFR	B (67)	Backyard	06/24/10	10:00	60
LT21	5721 Vallecito Ave., Westminster	SFR	B (67)	Backyard	06/21/10	09:40	67

Notes:
1. SFR – Single-family residential; MFR – Multi-family residential.
2. According to Caltrans Traffic Noise Analysis Protocol.

Table 6-2 – Long-Term Noise Measurement Results (Cont'd)

Site No.	Street Address, City	Land Use[1]	Noise Abatement Category (Criterion)[2]	Meter Location	Meas. Dates	Start Time	Measured Peak Hour Leq, dBA
LT22	3520 Camellia St., Seal Beach	SFR	B (67)	Backyard	06/22/10	18:40	68
LT23	3002 Yellowtail Dr., Rossmoor	SFR	B (67)	Backyard	06/22/10	16:00	67
LT24	Leisure World, Seal Beach	MFR	B (67)	Patio	06/23/10	11:40	64
LT25	12621 Martha Ann Dr., Rossmoor	SFR	B (67)	Backyard	06/23/10	11:40	64
LT26	11541 Martha Ann Dr., Rossmoor	SFR	B (67)	Backyard	06/23/10	10:20	65

Notes:

1. SFR – Single-family residential; MFR – Multi-family residential.
2. According to Caltrans Traffic Noise Analysis Protocol.

6.3. Traffic Noise Model Calibration

Noise measurements for the calibration were conducted with simultaneous traffic counts at 31 locations in June 2010 and one additional measurement was conducted in August 2010. These measurements were conducted to calibrate the Traffic Noise Model (TNM 2.5). Concurrent with the measurements, traffic volumes were recorded using a video camera and/or manually counted and traffic speeds were noted. The traffic counts were tabulated according to three vehicle types, including automobiles, medium trucks (2-axle with 6-wheels but not including pick-up trucks), and heavy trucks (3 or more axles). As a general rule, the noise model is considered to be calibrated if the field measured values versus the modeled noise levels (using field collected traffic data) agree within 2 dB of each other. If differences are more than 2 dB, refinement of the noise model is performed until there is agreement between the two values. If after thorough re-evaluation calibration still cannot be achieved due to complex topography or other unusual circumstances, then a calibration constant is added such that the measured versus modeled values agree before any predictions can be made with the model.

Tables 6-3 and 6-4 summarize the calibration results of 32 long- and short-term measurement locations as well as the traffic volumes that were used in the calibration process, respectively. Out of the 32 calibration sites, nine of them had more than a 1-dB difference between measured and modeled noise levels. Furthermore, amongst these nine calibration sites with more than a 1-dB difference, only four calibration sites had more than a 2-dB difference between measured and modeled noise levels. Five calibration factors and one adjustment factor, or "K" factors, have been applied to the noise model results to the areas acoustically represented by the calibration sites. Tables G-1 through G-18 in Appendix G show the "K" factors applied and to which receivers. The following explains possible causes of the differences at the six sites where "K" factors were applied:

- A calibration or "K" factor of -4.0 dB has been applied to the residences that have similar acoustical and geometrical characteristics to Calibration Site 7 (measurement site LT4). These calibration factors are needed to account for the elements that effect sound propagation that are not accounted for in the noise model. This adjustment factor was applied to Receivers R1.57 through R1.62.

- A calibration or "K" factor of +1.5 dB has been applied to the area that has similar acoustical and geometrical characteristics to Calibration Site 12 (measurement site LT7). This calibration factor is applied to increase the modeled No Build noise levels to at least that of the measured noise levels of the area. This adjustment factor was applied to Receivers R2.14 through R2.20, R2.22, R2.24, R2.25, and R2.27.

- The calibration or "K" factors of -3.0 and -2.5 dB has been applied to the areas that have similar acoustical and geometrical characteristics to Calibration Sites 13, 18, and 22 (measurement sites ST13, CAL18, and ST29). These calibration factors are needed to account for the elements that effect sound propagation that are not accounted for in the noise model. The adjustment factor of -3.0 dB was applied to Receivers R2.28, R2.29, and R2.30. The adjustment factor of -2.5 dB was applied to Receivers R3.24 through R3.42 as well as R3.99, R3.99A, R3.100, R100A, and R101.

- An adjustment "K" factor of -2.0 dB has been applied to the residences that have similar acoustical and geometrical characteristics to measurement site ST2A. According to simultaneous measurements at sites ST2A and LT2, there should be a difference of 2 dB between these two receivers in the noise model. The adjustment factor is needed to account for the elements that effect sound propagation that are not accounted for in the noise model due to double/parallel soundwalls in front of the measurement site and neighboring receivers. This adjustment factor was applied to Receivers R1.41 through R1.46.
- A calibration or "K" factor of +1.8 dB has been applied to the residences that have similar acoustical and geometrical characteristics to Calibration Site 31 (measurement site LT22). This calibration factor is needed to account for the elements that effect sound propagation that is not accounted for in the noise model. This adjustment factor was applied to Receivers R5.11 through R5.38.
- An adjustment "K" factor of -1.0 dB has been applied to receivers that have similar acoustical and geometrical characteristics to measurement site ST42. The adjustment factor is needed to account for the mesh tarps that cover fences around the tennis courts represented by Receivers R5.39 and R5.40.

Table 6-3. Noise Model Calibration Results

Calibration Site	Measurement Site	Modeled Rec. No.	Date	Time	Noise Levels, Leq(h), dBA		Deviation, dB	Applied Adjustment, dB
					Measured	Modeled		
1	ST1	R1.7	06/08/10	1:40 PM	64.6	65.2	0.6	--
2	LT1	R1.12	06/08/10	12:40 PM	58.6	58.4	-0.2	--
3	LT1A	R1.16	06/07/10	12:20 PM	58.0	58.8	0.8	--
4	LT1B	R1.30	06/07/10	12:20 PM	57.0	56.9	-0.1	--
5	LT3	R1.71	06/08/10	12:40 PM	64.7	64.8	0.1	--
6	LT2	R1.49	06/08/10	12:40 PM	61.1	60.7	-0.4	--
7	LT4	R1.62	06/08/10	12:40 PM	58.3	62.1	3.8	-4.0
8	LT5	R1.92	06/10/10	10:00 AM	66.2	66.2	0.0	--
9	ST9A	R1.94	06/10/10	10:00 AM	56.3	56.1	-0.2	--
10	LT6	R2.3	06/10/10	11:20 AM	64.4	64.1	-0.3	--
11	ST12	R2.13	06/10/10	11:20 AM	56.5	57.3	0.8	--
12	LT7	R2.19	06/10/10	12:00 PM	67.0	65.4	-1.6	+2.0

Source: Parsons, 2010

Table 6-3. Noise Model Calibration (Cont'd)

Calibration Site	Measurement Site	Modeled Rec. No.	Date	Time	Noise Levels, $L_{eq(h)}$, dBA		Deviation, dB	Applied Adjustment, dB
					Measured	Modeled		
13	ST13	R2.28	06/10/10	12:00 PM	57.5	60.1	2.6	-3.0
14	LT9	R2.56	06/16/10	11:20 AM	65.4	65.2	-0.2	--
15	LT10	R2.65	06/16/10	11:20 AM	65.9	66.0	0.1	--
16	LT11	R2.84	06/14/10	11:40 AM	65.4	65.1	-0.3	--
17	LT13	R3.9	06/15/10	10:20 AM	66.2	66.2	0.0	--
18	CAL18	R3.28A	08/31/10	12:47 PM	63.9	66.6	2.7	-2.5
19	ST25A	R3.60	06/15/10	10:20 AM	60.2	59.3	-0.9	--
20	LT15	R3.81A	06/15/10	11:20 AM	65.2	65.2	0.0	--
21	LT16	R3.93A	06/16/10	10:20 AM	65.2	65.8	0.6	--
22	ST29	R3.99A	06/16/10	10:20 AM	61.7	64.0	2.3	-2.5
23	LT17	R4.15	06/21/10	12:40 PM	64.1	64.3	0.2	--
24	LT18	R4.32	06/21/10	12:40 PM	71.3	70.7	-0.6	--
25	LT19	R4.6	06/21/10	12:40 PM	66.2	67.1	0.9	--
26	LT20	R4.72	06/21/10	1:40 PM	67.5	66.6	-0.9	--
27	LT21	R4.43	06/21/10	1:40 PM	64.6	66.4	1.8	--
28	LT20A	R4.103	06/24/10	2:20 PM	62.5	62.2	-0.3	--
29	LT20B	R4.87	06/24/10	2:20 PM	59.0	58.1	-0.9	--
30	ST39	R5.3	06/24/10	2:20 PM	61.7	60.9	-0.8	--
31	LT22	R5.37	06/24/10	2:20 PM	67.6	65.8	-1.8	+1.8
32	LT26	R6.77	06/24/10	11:00 AM	63.5	62.4	-1.1	--

Source: Parsons, 2010

Table 6-4. Noise Model Calibration Traffic Volumes

Description of Traffic Lane	Number of Lanes	Total Traffic Volumes	Auto Travel Speeds, mph	Truck Travel Speeds, mph	Hourly Volumes by Vehicle Type		
					Cars	Medium Trucks	Heavy Trucks
Hourly Traffic Counts for Calibration 1 dated 06/08/2010 from 13:40 to 14:00							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	6	7,200	70	65	6,945	141	114
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	6	7,335	70	65	6,978	204	153
Hourly Traffic Counts for Calibrations 3 & 4 dated 06/07/2010 from 12:20 to 12:40							
State Route 73 Northbound Traffic							
NB SR-73 Thru Lanes	4	2,598	65	65	2,535	33	30
NB Bear St. On-Ramp	1	282	10 to 65	10 to 65	273	9	0
State Route 73 Southbound Traffic							
SB SR-73 Thru Lanes	4	2,640	65	65	2,592	36	12
SB Bear St. Off-Ramp	1	273	65 to 10	65 to 10	270	3	0
Hourly Traffic Counts for Calibrations 2, 5, 6, & 7 dated 06/08/2010 from 12:40 to 13:00							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5 / 8	8,421	65	65	8,115	186	120
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5 / 8	6,945	65	65	6,630	126	189
SB Fairview Dr. Entrance to SB SR-73 and I-405	1	1,149	50	50	1,074	45	30
NB SR-73 to NB I-405 Connector	3	1,764	55	55	1,713	45	6
SB I-405 to SB SR-73 Connector	3	2,400	55	55	2,349	45	6
NB I-405 / SR-73 Traffic Fairview Off-Ramp							
To Fairview Dr. from NB I-405	2	495	50	50	465	18	12
To Fairview Dr. from NB SR-73	1	354	50	50	345	6	3
NB I-405 / SR-73 Traffic Harbor Exits							
To Harbor Blvd. from NB I-405	1	864	50	50	840	12	12
To Harbor Blvd. with NB I-405 / SR-73 Counts	2	1,344	50 to 10	50 to 10	1,299	33	12
South Coast Drive							
Westbound Thru Lanes	2	774	40	40	774	0	0
Eastbound Thru Lanes	2	909	40	40	909	0	0
Hourly Traffic Counts for Calibration 8 & 9 dated 06/10/2010 from 10:00 to 10:20							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	7,233	70	65	6,873	168	192
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	7,938	70	65	7,518	201	219
Hourly Traffic Counts for Calibration 10 & 11 dated 06/10/2010 from 11:20 to 11:40							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	6	8,025	65	65	7,587	228	210
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	6	7,302	65	65	7,014	168	120
SB Talbert Ave. On-Ramp	1	711	10 to 65	10 to 65	663	36	12

Table 6-4. Noise Model Calibration Traffic Volumes (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Traffic Volumes	Auto Travel Speeds,	Truck Travel Speeds,	Hourly Volumes by Vehicle Type		
					Cars	Medium Trucks	Heavy Trucks
Hourly Traffic Counts for Calibration 12 & 13 dated 06/10/2010 from 12:00 to 12:20							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	6,420	70	70 and 65	6,072	165	183
NB Brookhurst Ave. Off-Ramp	1	594	65 to 10	65 to 10	588	6	0
SB Brookhurst Ave. Off-Ramp	1	663	65 to 10	65 to 10	645	15	3
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	7,122	70	70 and 65	6,756	135	231
SB Brookhurst Ave. On-Ramp	1	597	10 to 65	10 to 65	588	6	3
Hourly Traffic Counts for Calibrations 14 & 15 dated 06/16/2010 from 11:20 to 11:40							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	7,416	70	65	7,038	180	198
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	7,524	70	65	7,176	168	180
SB Warner Ave. On-Ramp	1	711	10 to 65	10 to 65	660	36	15
Hourly Traffic Counts for Calibration 16 dated 06/14/2010 from 11:40 to 12:00							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	6,180	70	65	5,832	138	210
NB Warner Ave. On-Ramp	1	681	10 to 65	10 to 65	666	6	9
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	6,504	70	65	6,159	135	210
SB Warner Ave. Off-Ramp	1	261	65 to 10	65 to 10	249	12	0
Hourly Traffic Counts for Calibration 17 dated 06/15/2010 from 10:20 to 10:40							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	6,162	65	65	5,883	126	153
NB Magnolia St. On-Ramp	1	981	10 to 65	10 to 65	963	15	3
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	6,186	65	65	5,850	141	195
Hourly Traffic Counts for Calibration 18 dated 08/31/2010 from 12:47 to 01:07							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	6,843	65	65	6,492	177	174
NB Magnolia St. On-Ramp	1	903	10 to 65	10 to 65	873	18	12
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	7,347	65	65	6,999	159	189
SB Magnolia St. Off-Ramp	1	489	65 to 10	65 to 10	480	9	0
Hourly Traffic Counts for Calibration 19 dated 06/15/2010 from 10:20 to 10:40							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	6,162	65	65	5,883	126	153
NB Beach Blvd. Off-Ramp	1	489	65 to 10	65 to 10	486	3	0
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	6,186	65	65	5,850	141	195

Table 6-4. Noise Model Calibration Traffic Volumes (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Traffic Volumes	Auto Travel Speeds,	Truck Travel Speeds,	Hourly Volumes by Vehicle Type		
					Cars	Medium Trucks	Heavy Trucks
Hourly Traffic Counts for Calibration 20 dated 06/15/2010 from 11:20 to 11:40							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	7,068	65	65	6,708	153	207
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	7,365	65	65	7,035	153	177
Hourly Traffic Counts for Calibration 21 & 22 dated 06/16/2010 from 10:20 to 10:40							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	6,894	65	65	6,567	141	186
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	6,285	65	65	5,898	153	234
SB Bolsa Ave. On-Ramp	1	582	10 to 65	10 to 65	564	15	3
Hourly Traffic Counts for Calibration 23, 24, & 25 dated 06/21/2010 from 12:40 to 13:00							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	6,288	65	65	5,979	99	210
NB Westminster Blvd. Off-Ramp	1	480	65 - 10	65 - 10	468	12	0
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	6,972	65	65	6,732	93	147
SB Westminster Blvd. On-Ramp	1	522	10 - 65	10 - 65	513	9	0
Hourly Traffic Counts for Calibration 26 & 27 dated 06/21/2010 from 13:40 to 14:00							
Interstate 405 Northbound Traffic							
NB I-405 Thru Lanes	5	7,014	65	65	6,705	84	225
NB Westminster Blvd. On-Ramp	1	678	10 - 65	10 - 65	657	6	15
Interstate 405 Southbound Traffic							
SB I-405 Thru Lanes	5	6,561	65	65	6,336	75	150
SB Westminster Blvd. Distributor	1	651	55 - 45	55 - 45	621	12	18
SB Springdale St. Off-Ramp	1	495	65 - 10	65 - 10	471	12	12
SB Westminster Blvd. Off-Ramp	1	156	65 - 10	65 - 10	150	0	6
Hourly Traffic Counts for Calibration 28 & 29 dated 06/24/2010 from 14:20 to 14:40							
State Route 22 Eastbound Traffic							
EB SR-22 Thru Lanes	4	3,258	65	65	3,126	90	42
State Route Westbound Traffic							
WB SR-22 Thru Lanes	4	3,399	65	65	3,165	69	165
WB Valley View St. Off-Ramp	1	906	65 - 10	65 - 10	861	36	9
WB Valley View St. Loop On-Ramp	1	471	10 - 65	10 - 65	459	6	6

Table 6-4. Noise Model Calibration Traffic Volumes (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Traffic Volumes	Auto Travel Speeds,	Truck Travel Speeds,	Hourly Volumes by Vehicle Type		
					Cars	Medium Trucks	Heavy Trucks
Hourly Traffic Counts for Calibration 30 & 31 dated 06/24/2010 from 14:20 to 14:40							
Interstate 405 Northbound Traffic							
NB 405 south of SR 22	5	7,479	65	65	7,083	195	201
Interstate 405 Southbound Traffic							
SB 405 south of SR 22	5	8,232	65	65	7,965	126	141
State Route 22 Eastbound Traffic							
EB SR 22 east of I-405	3	3,258	65	65	3,126	90	42
EB Valley View St. On-Ramp	1	816	10 - 65	10 - 65	807	9	0
State Route 22 Westbound Traffic							
WB SR 22 east of I-405	3	3,399	65	65	3,165	69	165
WB Valley View St. Off-Ramp	1	906	65 - 10	65 - 10	861	36	9
WB Valley View St. (NB) On-Ramp	1	471	10 - 65	10 - 65	459	6	6
WB Valley View St. (SB) On-Ramp	1	639	10 - 65	10 - 65	615	15	9
Hourly Traffic Counts for Calibration 32 dated 06/24/2010 from 11:00 to 11:20							
Interstate 605 Northbound Traffic							
NB I-605 Thru Lanes	6	4,395	65	65	4,209	96	90
Interstate 605 Southbound Traffic							
SB I-605 Thru Lanes	4	3,822	65	65	3,672	78	72

Chapter 7. Future Noise Environment, Impacts, and Considered Abatement

This noise study was conducted to determine future traffic noise impacts of the proposed project at frequent human use areas within the freeway corridor. The future worst case traffic noise impact at frequent outdoor human use areas along the project corridor was modeled for the No Build Alternative and three Build Alternatives (Alternatives 1, 2, and 3), in order to determine appropriate abatement measures. This section discusses the future noise environment and feasible noise abatement measures for impacted locations.

7.1. Future Noise Environment and Impacts

Tables in Appendix G summarize traffic noise levels for the existing, design-year No Build, and design-year Build conditions. Predicted design-year Build traffic noise levels are compared to existing conditions. The comparison to existing conditions is included in the analysis to identify traffic noise impacts under Title 23 CFR 772. The comparison of existing noise conditions to future No Build conditions indicates the direct effect of the project.

As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made. In some cases, this can result in relative changes that may not appear intuitive. An example would be a comparison between sound levels of 64.4 and 64.5 dBA. The difference between these two values is 0.1 dB. However, after rounding, the difference is reported as 1 dB.

Modeling results in Appendix G indicate that predicted traffic noise levels ($L_{eq[h]}$) for the design-year with-project conditions approach or exceed the NAC of 67 dBA for Activity Category B land uses at most of residences near I-405 throughout the study corridor. Therefore, traffic noise impacts are predicted to occur at Activity Category B land use within the project area. Accordingly, noise abatement must be considered at those locations.

7.2. Preliminary Noise Abatement Analysis

In accordance with Title 23 CFR 772, noise abatement is considered where traffic noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Potential noise abatement measures identified in the Protocol include the following:

- Avoiding the impact by using design alternatives, such as altering the horizontal and vertical alignment of the project;
- Constructing noise barriers;
- Acquiring property to serve as a buffer zone;
- Using traffic management measures to regulate types of vehicles and speeds; and
- Acoustically insulating public-use or nonprofit institutional structures.

These abatement options have been considered. However, because of the constrained configuration and suburban location of the project, abatement in the form of noise barrier walls is the only abatement measure considered to be feasible. Noise barrier analysis was conducted by placing soundwalls at the highway mainline shoulders, on/off-ramp shoulders, right-of-way

lines, and in one case within private property. Predicted noise levels are shown in Appendix G, and tables showing top-of-wall heights of feasible sound walls are included in Appendix H.

Each noise barrier has been evaluated for feasibility based on achievable noise reduction (5 dB or more). For each noise barrier determined to be acoustically feasible, reasonable cost allowances were calculated. Worksheets provided in Appendix I summarize the reasonable cost allowance calculations at critical design receivers based on the allowance calculation procedure identified in the Protocol. Refer to the Protocol for the definition of the critical design receiver. Tables in Appendix G summarize the results at receiver locations for soundwalls that have been evaluated in detail for this project.

To be considered reasonable from a cost perspective, the estimated cost to build the noise barrier should be equal to or less than the total cost allowance of benefited receivers calculated for the barrier. The cost calculations of the noise barrier should include all items appropriate and necessary for construction of the barrier, such as traffic control, drainage modification, retaining walls, and among others. Construction cost estimates are not provided in this NSR, but are presented in the Noise Abatement Decision Report (NADR). The NADR is a design responsibility and is prepared to compile information from the NSR, other relevant environmental studies, and design considerations into a single, comprehensive document before public review of the project. The NADR is prepared by the project engineer after completion of the NSR and prior to publication of the draft environmental document. The NADR includes noise abatement construction cost estimates that have been prepared and signed by the project engineer based on site-specific conditions. Construction cost estimates are compared to reasonableness allowances in the NADR to identify which wall configurations are reasonable from a cost perspective.

The design of noise barriers presented in this report is preliminary and has been conducted at a level appropriate for environmental review and not for final design of the project. Preliminary information on the physical location, length, and height of noise barriers is provided in this report. If pertinent parameters change substantially during the final project design, preliminary noise barrier designs may be modified or eliminated from the final project. A final decision on the construction of location specific noise abatement will be made upon completion of the project design.

The analysis was conducted with barrier heights ranging from 8 to 16 feet. The barriers heights and locations were evaluated to determine if a minimum 5 dB attenuation at the outdoor frequent use areas of the representative receivers could be achieved. The reason for limiting the maximum sound wall height to 16 feet above the ground line is to comply with the suggestions set forth by Highway Design Manual (Caltrans, 2007). The minimum barrier height required to cut the line-of-sight from each receiver to the exhaust stacks of heavy trucks has been calculated for all feasible barriers. These heights were evaluated through calculations performed by TNM 2.5.

Throughout the project area, there are existing soundwalls which currently protect the majority of outdoor frequent use areas from freeway traffic noise. These existing soundwalls fall into one of two categories: soundwalls that will remain and soundwalls that will need to be demolished due to the project. For those soundwalls which will remain intact because the project widening will not encroach upon them, analysis was conducted for barrier heights above the existing

heights at the same location. For soundwalls which will need to be demolished due to the widening of the alignment or due to other construction details such as the construction of retaining walls, it has been assumed that in-kind replacement soundwalls will be constructed as part of the project. These in-kind replacement soundwalls would be the same length and height as the soundwall it is replacing but at a new and typically similar location and have been included in the noise analysis. The noise prediction analysis with barrier of these in-kind replacement soundwalls are of heights that are greater than the in-kind heights.

The minimum heights and locations of the soundwalls that would provide feasible abatement are shown graphically on the figures in Appendix A. Worksheets of the cost analysis for the feasible soundwalls are included in Appendix I.

The following discussion considers six segments of the corridor where feasible abatement was identified and warranted. Tables 7-1 through Table 7-70 summarize the data used to assess the abatement cost allowances at each of the considered barrier heights. The following analysis presents predicted future traffic noise levels at various receivers and abatement measures for the three Build Alternatives. In most cases, feasible wall heights and the number of benefited residences between the three alternatives are similar throughout the corridor.

7.2.1. Alternative 1

Tables G-1 through G-6 in Appendix G present the results of the barrier analysis. Tables H-1 through H-6 in Appendix H present a summary of soundwall locations and the minimum heights and lengths to achieve at least 5 dB of noise reduction. Appendix H also presents the locations, heights, and lengths of in-kind replacement soundwalls that do not provide feasible abatement. The project limits of the noise analysis for Alternative 1 are from south of Euclid Street to the I-605 interchange. Figures 5 through 26 in Appendix A1 show the proposed alignment of Alternative 1.

7.2.1.1. SEGMENT 1 – SOUTH OF BRISTOL STREET TO EUCLID STREET

Areas with Noise Abatement

Soundwall S649: Soundwall S649 would be an in-kind replacement of the existing 12-foot high soundwall and would be located at the southbound edge of shoulder. This soundwall would need to be replaced due to the widening of I-405 in this area. Soundwall S649 would tie into a solid 3-foot safety barrier on the structure of the southbound on-ramp from Euclid Street. The solid 3-foot high safety barrier along the on-ramp is considered in the noise impact analysis and it must be kept for noise reduction in addition to the safety related issues. Traffic noise impacts are predicted within the outdoor frequent use areas of 14 single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figures 5 and 6 in Appendix A1 show the location and height of in-kind replacement Soundwall S649.

Areas without Feasible Noise Abatement

Receivers R1.88 through R1.90, R1.92, R1.93, and R1.95: Traffic noise impacts would occur at 25 single-family residences along the southbound side of I-405 between New Hampshire Drive and Nevada Avenue despite the presence of existing 14- and 16-foot high soundwalls as well as a 12-foot high in-kind replacement soundwall. The soundwall analysis summarized in Table G-1 demonstrates that replacing the existing soundwall with one at a greater height and increasing the height of the in-kind replacement soundwall would not provide 5 dB or more noise reduction at these residences. Figure 5 in Appendix A1 shows these receivers.

7.2.1.2. SEGMENT 2 – EUCLID STREET TO MAGNOLIA STREET

Areas with Noise Abatement

Soundwalls S699 and S705: Soundwalls S699 and S705 would be in-kind replacements of the existing 16- and 12-foot high soundwalls due to the widening of I-405 in this area. These soundwalls would be located at the southbound right-of-way and edge of shoulder. Soundwall S699 will be on a retaining wall. Traffic noise impacts are not predicted under Alternative 1 with replacement of these existing soundwalls. Figures 7 and 8 in Appendix A1 show the location and height of these in-kind replacement Soundwalls S699 and S705.

Soundwalls S708, S710, and S718: These soundwalls which act as a system would be located along the northbound I-405 edge of shoulder and right-of-way line. The purpose of Soundwall S708 is to extend the coverage to the south of in-kind replacement Soundwall S710 to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 1. The reconfigured embankment would increase the exposure to three single-family residences to freeway traffic noise. Soundwall S718, which is a new soundwall, would extend in-kind replacement Soundwall S710 further to the north and would end where the retaining wall with safety barrier begins along the northbound Brookhurst Street off-ramp. Due to the elevation differences, the solid 3-foot high safety barrier along the off-ramp is considered in the noise impact analysis and it must be kept for noise reduction in addition to the safety related issues. Traffic noise impacts are predicted at 24 single family residences and Los Alamos Park. Together, Soundwalls S708, S710, and S718 would provide at least 5 dB of noise reduction for 21 single-family residences. A 5 dB noise reduction would not be achieved at three single-family residences represented by Receivers R2.14 and R2.17 as well as Los Alamos Park represented by Receiver R2.15. Figures 7 and 8 in Appendix A1 show the minimum heights and lengths of Soundwalls S708, S710, and S718 to provide feasible abatement. Table 7-1 summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S733: Soundwall S733 would be located at the shoulder of the southbound off-ramp to Brookhurst Street along the southbound side of I-405 and connects to the safety barrier on top of the retaining wall. Due to the elevation differences, the solid 3-foot high safety barrier along the off-ramp is considered in the noise impact analysis and it must be kept for noise reduction in addition to the safety related issues. Traffic noise impacts are predicted within the outdoor frequent use areas of a single-family residence in this area. Soundwall S733 would provide at least 5 dB of noise reduction for this residence. Figure 8 in Appendix A1 shows the minimum heights and length of Soundwall S733 to provide feasible abatement. Table 7-2 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-1. Summary of Reasonableness Determination Data – Alternative 1 – Soundwalls S708, S710, and S718

Barrier I.D.: S708, S710, & S718					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.20					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	1	2	4	7	7
Number of Benefited Residences	N/A	N/A	N/A	19	21
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$45,000	$45,000
Total Reasonable Allowance	N/A	N/A	N/A	$855,000	$945,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-2. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S733

Barrier I.D.: S733					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.34					
Design Year Noise Level, dBA L_{eq}(h): 66					
Design Year Noise Level Minus Existing Noise Level: 0					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	4	4	5	6
Number of Benefited Residences	N/A	N/A	N/A	1	1
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$43,000	$45,000
Total Reasonable Allowance	N/A	N/A	N/A	$43,000	$45,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S746: Soundwall S746 would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend an existing soundwall to the south and would also extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing Slater Avenue overcrossing embankment that would occur under Alternative 1. The reconfigured embankment would increase the exposure of nearby homes to freeway traffic noise. Traffic noise impacts are predicted at one single-family residence represented by Receiver R2.45 as well as at the preschool playground associated with

Huntington Baptist Church represented by Receiver R2.46. Soundwall S746 would provide at least 5 dB of noise reduction for the single-family residence and the playground of the school. Figure 9 in Appendix A1 shows the minimum height and length of Soundwall S746 to provide feasible abatement. Table 7-3. summarizes predicted soundwall performance and associated cost allowance information.

Table 7-3. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S746

Barrier I.D.: S746					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.46					
Design Year Noise Level, dBA L_{eq}(h): 74					
Design Year Noise Level Minus Existing Noise Level: 6					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	5	6	7	7	7
Number of Benefited Residences	1	2	2	2	2
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$47,000	$49,000	$49,000	$49,000	$49,000
Total Reasonable Allowance	$47,000	$98,000	$98,000	$98,000	$98,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S747: This soundwall would be located at the right-of-way line and inside the right-of-way along the southbound side of I-405 and would extend an existing soundwall to the south. Traffic noise impacts in this area are predicted within the outdoor frequent use areas of two single-family residences and two frontage units of an athletic field of Fountain Valley High School. Soundwall S747 would also extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 1. The reconfigured embankment would increase the exposure of nearby homes and apartment complex to freeway traffic noise. Soundwall S747 would provide at least 5 dB of noise reduction for the two single-family residences and two frontage units of the athletic field. Figure 9 in Appendix A1 shows the minimum heights and length of Soundwall S747 to provide feasible abatement. Table 7-4 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-4. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S747

Barrier I.D.: S747					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.41					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 4					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	4	4	5	6	6
Number of Benefited Residences	N/A	N/A	1	1	4
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	No	No	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	$37,000	$39,000	$49,000
Total Reasonable Allowance	N/A	N/A	$37,000	$39,000	$196,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S765: This soundwall would be located along the southbound I-405 right-of-way line. The purpose of Soundwall S765 is to extend the coverage of an existing 16-foot high soundwall and an existing 14-foot high property wall to compensate for the encroachment of I-405 onto the existing Bushard Street overcrossing embankment that would occur under Alternative 1. The reconfigured embankment would increase the exposure to three single-family residences to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 9 in Appendix A1 shows the location and height of Soundwall S765.

Soundwall S766: Soundwall S766 would be located along the northbound I-405 right-of-way line. The purpose of Soundwall S766 is to extend the coverage of an existing 14-foot 6-inch high soundwall to the north to compensate for the encroachment of I-405 onto the existing Bushard Street overcrossing embankment that would occur under Alternative 1. The reconfigured embankment would increase the exposure to six single-family residences to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 9 in Appendix A1 shows the location and height of Soundwall S766.

Soundwalls S788 and S792: Soundwalls S788 and S792 which act as a system would be located along the northbound off-ramp to Magnolia Street. The purpose of Soundwall S788 is to extend the coverage to the south of Soundwall S792 to compensate for the exposure of freeway traffic noise to five single-family residences due to the opening provided by the structure of the northbound on-ramp from Warner Avenue over the northbound off-ramp to Magnolia Street. Soundwall S792 is an in-kind replacement of existing soundwall. Furthermore, due to the configuration of these ramps, absorptive materials/panels will be required on the traffic side of

Soundwall S792 and on the retaining wall associated with the Warner Avenue on-ramp to prevent the traffic noise from reflecting between the soundwall and retaining wall. Traffic noise impacts are predicted within the outdoor frequent use areas of nine single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figures 10 and 11 in Appendix A1 show the location and height of Soundwalls S788 and S792.

Areas without Feasible Noise Abatement

Receivers R2.14, R2.15, and R2.17: Traffic noise impacts would occur at three single family residences as well as Los Alamos Park along the northbound side of I-405 just north of Talbert Avenue. These receivers would be protected by Soundwalls S708, S710, and S718; however, the soundwall analysis summarized in Table G-2 demonstrates that increasing the heights of these soundwalls would not provide 5 dB or more of noise reduction at the three impacted residences and the park. Figures 7 and 8 in Appendix A1 show these receivers.

Receivers R2.35 and R2.37 through R2.39: Traffic noise impacts would occur at 11 single-family residences along the southbound side of I-405 between Sturgeon Avenue and Fremont Street despite the presence of an existing 12-foot high property wall. The soundwall analysis summarized in Table G-2 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more noise reduction at these residences. Figures 8 and 9 in Appendix A1 show these receivers.

Receivers R2.47 through R2.49, R2.51 through R2.53, R2.55, and R2.56: Traffic noise impacts would occur at 23 first row single family residences along the northbound side of I-405 between Slater Avenue and Bushard Street. These receivers are protected by an existing 14-foot 6-inch high existing soundwall. The soundwall analysis is summarized in Table G-2 demonstrates that a higher replacement soundwall would not provide 5 dB or more of noise reduction at the 23 impacted residences. Figure 9 in Appendix A1 shows these receivers.

Receivers R2.58 and R2.59: Traffic noise impacts would occur at four single-family residences along the northbound side of I-405 just south of Bushard Street despite the addition of the new Soundwall S766. The soundwall analysis summarized in Table G-2 demonstrates that the addition of Soundwall S766 would not provide 5 dB or more of noise reduction at these residences. Figure 9 in Appendix A1 shows these receivers.

Receivers R2.63 through R2.66: Traffic noise impacts would occur at the frequent outdoor use areas of seven first row single-family residences along the southbound side of I-405 between Bushard Street and Warner Avenue despite the presence of an existing 14-foot high property wall and the addition of the new Soundwall S765. Receivers R2.65 and R2.66 are located in the new Tremont housing development. The soundwall analysis summarized in Table G-2 demonstrates that replacing the existing property wall with one at a greater height and the addition of Soundwall S765 would not provide 5 dB or more of noise reduction at these residences. Figures 9 through 10 in Appendix A1 show these receivers.

Receivers R2.81, R2.82, and R2.85: Traffic noise impacts would occur at nine single-family residences along the northbound side of I-405 between Warner Avenue and Magnolia Street despite the addition of Soundwall S788 and in-kind replacement Soundwall S792. The soundwall analysis summarized in Table G-2 demonstrates that increasing the heights of

Soundwalls S788 and S792 would not provide 5 dB or more of noise reduction at these residences. Figure 10 Appendix A1 shows these receivers.

7.2.1.3. SEGMENT 3 – MAGNOLIA STREET TO BOLSA AVENUE / GOLDENWEST STREET

Areas with Noise Abatement

Soundwalls S807 and S811: Soundwall S807 would be located at the edge of the shoulder along the southbound I-405 off-ramp at Magnolia Street. It would provide a southward extension of the coverage currently provided by an existing soundwall. The southernmost portion of the existing 10 feet 6 inch soundwall would be replaced by Soundwall S811, which is an in-kind replacement and would follow the right-of-way line. Soundwall S811 would be higher than the portion of existing soundwall it would replace. Traffic noise impacts are predicted at Pleasant View Park and at two residences within this area. Soundwalls S807 and S811 together would provide at least 5 dB of noise reduction at the residences and at seven frontage units associated with the park. Figure 11 in Appendix A1 shows the minimum heights and length of Soundwalls S807 and S811 to provide feasible abatement along with the portion of the associated existing soundwall that would remain. Table 7-5 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-5. Summary of Reasonableness Determination Data – Alternative 1 – Soundwalls S807 and S811

Barrier I.D.: S807 & S811					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.23B					
Design Year Noise Level, dBA L_{eq}(h): 68					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	4	6	6	7
Number of Benefited Residences	NA	NA	7	9	9
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	No	No	No
Reasonable Allowance Per Benefited Residence	NA	NA	$37,000	$37,000	$37,000
Total Reasonable Allowance	NA	NA	$259,000	$333,000	$333,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S819: Soundwall S819 would follow the right-of-way line along the southbound side of I-405. It would replace a portion of the existing 12 feet 6 inch soundwall in this area which would need to be demolished due to the construction of a new pedestrian overcrossing. With the replacement soundwall, outdoor frequent use areas at three first-row single family residences that are positioned behind this segment of soundwall would experience no traffic noise impacts. Figure 11 in Appendix A1 shows the height and location of Soundwall S819 to provide in-kind replacement for the existing soundwall along with the portions of the associated existing soundwall that would remain.

Soundwall S828: Soundwall S828 would be located at the edge of shoulder along the northbound side of the I-405 mainline and the westbound Magnolia Street to northbound I-405 on-ramp. The southern portion of this soundwall would replace the majority of an existing 10 feet 6 inch soundwall, leaving only the southernmost portion of the existing soundwall. The northern portion of Soundwall S828 would be a new soundwall. Soundwall S828 would be a higher soundwall than the portion of existing soundwall it would replace. If the replacement soundwall is not increased relative to the existing soundwall, traffic noise impacts are predicted at the outdoor frequent use areas associated with 28 of the residences – two ground-level multifamily residential units and 26 single family residences. Soundwall S828 would provide at least 5 dB of noise reduction at eight of these residences – three that are currently behind the existing soundwall and five that are north of the existing soundwall. Based on a design that focuses on abatement at impacted residences, this soundwall would provide feasible abatement at three additional single family residences as well. Figures 11 and 12 in Appendix A1 show the minimum heights and length of Soundwall S828 to provide feasible abatement along with the portion of the associated existing soundwall that would remain. Table 7-6 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-6. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S828

Barrier I.D.: S828					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.16					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	NA	NA	NA	NA	5
Number of Benefited Residences	NA	NA	NA	NA	12
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	NA	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	NA	NA	$45,000
Total Reasonable Allowance	NA	NA	NA	NA	$540,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S841: Soundwall S841 would be located at the edge of shoulder along the southbound side of I-405. The purpose of Soundwall S841 is to extend the coverage of the adjoining existing 12 feet 6 inch soundwall to the south and carport / property wall to the north to compensate for the removal of some of the existing embankment at the Newland Street overcrossing. A gap would be created due to the construction of a longer bridge, requiring the embankment to be moved outward. That change in the embankment configuration would increase the exposure of nearby receivers to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four of the residences and at a basketball court located near the gap. Soundwall S841 would provide at least 5 dB of noise reduction at each of these receivers as well as two non-impacted residences. At two of the impacted residences –

represented by Receivers R3.48 and R3.50 -- the predicted peak hour noise level is at or above 75 dBA without a soundwall in place; thus, these residences would be considered severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If Soundwall S841 is determined to be unreasonable based on cost, providing the soundwall will still be required for these residences. If building a soundwall is not reasonable due to other factors besides cost, then building acoustical treatment must be provided for these two houses. Figure 12 in Appendix A1 shows the minimum heights and length of Soundwall S841 to provide feasible abatement along with the associated soundwall and carport structure / property wall that would flank it. Table 7-7 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-7. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S841

Barrier I.D.: S841					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.48					
Design Year Noise Level, dBA L_{eq}(h): 76					
Design Year Noise Level Minus Existing Noise Level: 9					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	7	9	11	11	12
Number of Benefited Residences	2	2	5	6	7
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$53,000	$55,000	$55,000	$55,000	$57,000
Total Reasonable Allowance	$106,000	$110,000	$275,000	$330,000	$399,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S857: Soundwall S857 would be located at the edge of shoulder along the southbound I-405 on-ramp at Edinger Avenue. Without abatement, traffic noise impacts are predicted at outdoor frequent use areas associated with seven ground-floor multifamily residential units. Soundwall S857 would provide at least 5 dB of noise reduction at each of these residential units. Figures 12 and 13 in Appendix A1 show the minimum heights and length of Soundwall S857 to provide feasible abatement. Table 7-8 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-8. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S857

Barrier I.D.: S857					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.56					
Design Year Noise Level, dBA L_{eq}(h): 70					
Design Year Noise Level Minus Existing Noise Level: 3					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	4	5	5	5
Number of Benefited Residences	NA	NA	7	7	7
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	$47,000	$47,000	$47,000
Total Reasonable Allowance	NA	NA	$329,000	$329,000	$329,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S868: This soundwall would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend beyond the northernmost portion of an existing 14- to 18-foot high property wall in this area. The outdoor frequent use area of one single-family property represented by Receiver R3.63 would experience traffic noise impacts in the absence of abatement. Soundwall S868 would provide feasible noise abatement at this residence. Figure 13 in Appendix A1 shows the minimum height and length of Soundwall S868 to provide feasible abatement along with the portion of the adjoining property wall. Table 7-9 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-9. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S868

Barrier I.D.: S868					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.63					
Design Year Noise Level, dBA L_{eq}(h): 66					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	2	3	4	6
Number of Benefited Residences	NA	NA	NA	NA	1
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	NA	No
Reasonable Allowance Per Benefited Residence	NA	NA	NA	NA	$35,000
Total Reasonable Allowance	NA	NA	NA	NA	$35,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S896: Soundwall S896 would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend underneath the McFadden Avenue overcrossing. The purpose of Soundwall S896 is to extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 1. The reconfigured embankment would increase the exposure of nearby mobile homes to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of five mobile homes. Soundwall S896 would not provide 5 or more dB of noise reduction at these residences but it would prevent additional noise exposure from reconfiguration of the bridge embankment. Figure 14 in Appendix A1 shows the height and length of Soundwall S896 along with the existing soundwall that it would connect with.

Soundwalls S902, S910, and S916: Soundwalls S902, S910, and S916 would be located at the edge of shoulder along the northbound side of I-405. Soundwalls S902 and S910 would represent an in-kind replacement of an existing 8-foot high soundwall. Soundwall S902 would be at the same height as the original soundwall but Soundwall S910 would be higher. Soundwall S916 would be a new soundwall. Traffic noise impacts are predicted at the outdoor frequent use areas of five single family residences behind Soundwall S902. These residences are represented by Receivers R3.81 and R3.81A. Greater heights were considered for Soundwall S902, but these greater heights would not provide 5 or more dB of additional noise reduction at these residences. Soundwalls S910 and S916 together are intended to provide abatement at seven single family residences represented by Receivers R3.85 to R3.86A. Together, they would provide at least 5 dB of noise reduction for each of these seven residences. Figure 14 in Appendix A1 shows the heights and lengths of replacement Soundwall S902 as well as the minimum heights for Soundwalls S910 and S916 to provide feasible abatement. Table 7-10 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-10. Summary of Reasonableness Determination Data – Alternative 1 – Soundwalls S910 and S916

Barrier I.D.: S910 & S916					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.86A					
Design Year Noise Level, dBA L_{eq}(h): 66					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	4	5	6	7
Number of Benefited Residences	NA	NA	5	7	7
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	$43,000	$45,000	$45,000
Total Reasonable Allowance	NA	NA	$215,000	$315,000	$315,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S909, S911, and S141: Soundwalls S909, S911, and S141 would be located at the edge of shoulder along the southbound side of I-405. Soundwalls S911 and S141 would replace two existing soundwalls -- one 8-foot high soundwall at the edge of shoulder and one 12 feet 6 inch high soundwall along the right-of-way line. Soundwall S911 would be a higher soundwall than the portion of existing soundwall it would replace. Relative to its base, Soundwall S141 would not be as tall as the existing 12 feet 6 inch high soundwall. However, the base of Soundwall S141 would be at a higher elevation than the existing 12 feet 6 inch high soundwall, and the elevation of the top of Soundwall S141 would not be below the top-of-wall elevation of the existing soundwall. Traffic noise impacts are predicted within the outdoor frequent use areas of 27 single family residences in this area. Raising in-kind replacement Soundwall S141 above the heights of the existing replaced soundwalls would not provide 5 or more dB of noise reduction at these residences for its entire length except for a small portion on the south end. Traffic noise impacts are also predicted at College Park. Soundwalls S909 and S911 would combine to provide at least 5 dB of noise reduction for this park. Figures 14 and 15 in Appendix A1 show the minimum heights and lengths of Soundwalls S909 and S911 to provide feasible abatement, as well as the height and location of in-kind replacement Soundwall S141. Table 7-11 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-11. Summary of Reasonableness Determination Data – Alternative 1 – Soundwalls S909 and S911

Barrier I.D.: S909 & S911					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.87					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	4	5	6	6	6
Number of Benefited Residences	NA	4	4	6	6
New Highway or More than 50% of Residences Predate 1978[b]	NA	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	NA	$43,000	$45,000	$45,000	$45,000
Total Reasonable Allowance	NA	$172,000	$180,000	$270,000	$270,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S935: This soundwall would follow the right-of-way line along the southbound I-405 on-ramp from eastbound Bolsa Avenue. It would connect an existing soundwall to an existing 6-foot high property wall south of Bolsa Avenue. Without abatement, traffic noise impacts are predicted within the outdoor frequent use area of one residence in this area. With minimum feasible soundwall heights, one house would receive 5 or more dB of noise reduction. Figure 15 in Appendix A1 shows the minimum height and length of Soundwall S935 to provide feasible abatement along with the adjacent replacement soundwall and property wall. Table 7-12 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-12. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S935

Barrier I.D.: S935					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.99					
Design Year Noise Level, dBA L_{eq}(h): 66					
Design Year Noise Level Minus Existing Noise Level: 3					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	3	4	5	5
Number of Benefited Residences	NA	NA	NA	3	5
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	Yes	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	NA	$45,000	$45,000
Total Reasonable Allowance	NA	NA	NA	$135,000	$225,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R3.7 through R3.10, R3.14, R3.17, and R3.18: At 17 first row single family residences along the northbound side of I-405 between Magnolia and Newland Streets, traffic noise impacts would occur but raising the in-kind replacement and the new portions of Soundwall S828 would not provide 5 dB or more of noise reduction. The southern portion of Soundwall S828 would replace an existing 10 feet 6 inch high soundwall. Therefore, the minimum height required to replace this soundwall in kind is 10 feet 6 inches. This establishes the baseline sound exposure condition against which the noise reduction of Soundwall S828 is judged for greater heights. The soundwall analysis summarized in Table G-3 demonstrates that 5 dB or more of noise reduction cannot be achieved at these residences. Figures 11 and 12 in Appendix A1 show these receivers.

Receivers R3.26 through R3.28: Traffic noise impacts would occur at eight single-family residences along the southbound side of I-405 between De Ville Circle and Landau Lane despite the presence of an existing 10 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-3 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 11 in Appendix A1 shows these receivers.

Receivers R3.32, R3.35, and R3.38: Traffic noise impacts would occur at seven single-family residences along the southbound side of I-405 between Heil Avenue and Newland Street despite the presence of an existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-3 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 11 and 12 in Appendix A1 show these receivers.

Receivers R3.53, R3.54, and R3.55: Traffic noise impacts would occur at 14 multi-family residential units of the Huntington Creek Apartments along the southbound side of I-405

between Newland Street and Edinger Avenue despite the presence of an intervening existing 15 feet 6 inch high carport structure / property wall. The edge of shoulder in this area is higher than ground level at the carport structure / property wall. Accordingly, a soundwall was considered at the edge of shoulder. The soundwall analysis summarized in Table G-3 demonstrates that such a soundwall would not provide 5 dB or more of noise reduction at these residences. Figure 12 in Appendix A1 shows these receivers.

Receivers R3.70 through R3.75: Receivers R3.70 through R3.75 represent 37 units of the Driftwood Mobile Home Park along the northbound side of I-405 between Beach Boulevard and McFadden Avenue. These units would experience traffic noise impacts. The impacts would occur despite the presence of an intervening existing 10 feet 6 inches to 14-foot high soundwall. The soundwall analysis summarized in Table G-3 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 13 and 14 in Appendix A1 show these receivers.

Receivers R3.76 and R3.77: Receivers R3.76 and R3.77 represent the northernmost five units of the Driftwood Mobile Home Park that would experience traffic noise impacts. The impacts would occur despite the presence of an intervening existing 14-foot high soundwall. In this area, the embankment at the McFadden Avenue overcrossing would be moved outward under Alternative 1 to accommodate the widening of I-405. Soundwall S896 would compensate for the additional noise exposure that the mobile homes would receive due to the reconfiguration of this embankment. However, further increases in the height of Soundwall S896 and the existing soundwall to the south would not provide 5 dB or more of noise reduction at these residences, as demonstrated in Table G-15. Figure 14 in Appendix A1 shows these receivers.

Receivers R3.81 and R3.81A: Traffic noise impacts would occur at five single family residences along the northbound side of I-405 north of McFadden Avenue despite the presence of an in-kind replacement 8-foot high soundwall. The soundwall analysis summarized in Table G-3 demonstrates that such a soundwall would not provide 5 dB or more of noise reduction at these residences. Figure 14 in Appendix A1 shows these receivers.

Receivers R3.93 and R3.93A: Traffic noise impacts would occur at seven single family residences located behind an existing soundwall positioned at the edge of the freeway shoulder along the southbound side of I-405 north of the Union Pacific Railroad Underpass. The impacts would occur despite the presence of an in-kind replacement for the existing 8-foot high soundwall. The soundwall analysis summarized in Table G-3 demonstrates that raising the replacement soundwall would not provide 5 dB or more of noise reduction at these residences. Figures 14 and 15 in Appendix A1 show these receivers.

Receivers R3.95, R3.96, and R3.98: Receivers R3.95, R3.96, and R3.98 represent the northernmost 20 residences north of the Union Pacific Railroad underpass that would experience traffic noise impacts. These impacts would occur despite the presence of the combination of an in-kind replacement of an 8- to 10-foot high soundwall and the portion of an existing 12 feet 6 inch high soundwall that would remain. The soundwall analysis summarized in Table G-3 demonstrates that raising the in-kind replacement soundwall or a higher soundwall replacing the existing soundwall would not provide 5 dB or more of noise reduction at these residences. Figure 15 in Appendix A1 shows these receivers.

7.2.1.4. SEGMENT 4 – BOLSA AVENUE / GOLDENWEST STREET TO SR-22 / VALLEY VIEW STREET, SR-22 EAST TO SPRINGDALE STREET

Areas with Noise Abatement

Soundwalls S182, S972, and S978: These soundwalls which act as a system would be located along the northbound I-405 edge of shoulder. Soundwalls S182 and S972 would be in-kind replacement soundwalls; however, Soundwall S972 would be a higher wall than the wall it is replacing. Soundwall S978 would extend Soundwall S972 further to the north. Traffic noise impacts are predicted at 11 single family residences, the track and field area of Westminster High School, and Buckingham Park. Together, Soundwalls S182, S992, and S978 would provide at least 5 dB of noise reduction for three frontage units of the high school and six frontage units of the neighborhood park. Figures 16 and 17 in Appendix A1 show the minimum heights and lengths of Soundwalls S972 and S978 to provide feasible abatement along with the adjoining in-kind soundwall replacement, Soundwall S182. Table 7-13 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-13. Summary of Reasonableness Determination Data – Alternative 1 – Soundwalls S972 and S978

Barrier I.D.: S972 & S978					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.25A					
Design Year Noise Level, dBA L_{eq}(h): 70					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	5	6	7	8	9
Number of Benefited Residences	2	4	6	9	9
New Highway or More than 50% of Residences Predate 1978[b]	No	No	No	No	No
Reasonable Allowance Per Benefited Residence	$35,000	$37,000	$37,000	$37,000	$39,000
Total Reasonable Allowance	$70,000	$148,000	$222,000	$333,000	$351,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S995: Soundwall S995 would be located at the right-of-way line along the southbound side of I-405. Soundwall S995 would replace an existing soundwall at the same location with a new height. Traffic noise impacts are predicted within the outdoor frequent use areas of five single-family residences in this area. Soundwall S995 would provide at least 5 dB of noise reduction for two of these residences. Figure 17 in Appendix A1 shows the minimum heights and length of Soundwall S995 to provide feasible abatement. Table 7-14 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-14. Summary of Reasonableness Determination Data – Alternative 1 -- Soundwall S995

Barrier I.D.: S995					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.1					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	2	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	2
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	No
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$35,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$70,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S998: This soundwall would be located at the right-of-way line along the northbound side of I-405 and would extend an existing soundwall to the north. Traffic noise impacts are predicted within the outdoor frequent use areas of two single-family residences and a multi-family unit in this area. Soundwall S998 would provide at least 5 dB of noise reduction for the two single-family residences. Figure 17 in Appendix A1 shows the minimum heights and length of Soundwall S995 to provide feasible abatement. Table 7-15 summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S1006: Soundwall S1006 would be located along the right-of-way line on the northbound side of I-405. The outdoor pool area of the Motel 6 represented by Receiver R4.33 as well as the interior rooms facing the freeway represented by Receiver R4.33A would experience traffic noise impacts. Furthermore, the pool area is predicted to be exposed to traffic noise levels of above 75 dBA; therefore, it is considered to be severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If Soundwall S1006 is determined to be unreasonable based on cost, providing the soundwall will still be required for this hotel. Soundwall S1006 would provide at least 5 dB of noise reduction for the pool and interior of the first floor motel rooms facing the freeway and would reduce to noise level of the pool area to be below the severe impact criteria. Figure 17 in Appendix A1 shows the minimum height and length of Soundwall S1006 to provide feasible. Table 7-16 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-15. Summary of Reasonableness Determination Data – Alternative 1 -- Soundwall S998

Barrier I.D.: S998					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.32					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	3	4	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	2
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$45,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$90,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-16. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S1006

Barrier I.D.: S1006					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.33					
Design Year Noise Level, dBA L_{eq}(h): 77					
Design Year Noise Level Minus Existing Noise Level: 4					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	7	8	9	10	11
Number of Benefited Residences	7	7	7	7	7
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$51,000	$51,000	$53,000	$53,000	$53,000
Total Reasonable Allowance	$357,000	$357,000	$371,000	$371,000	$371,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S1009: This soundwall would follow the right-of-way and transition to the top of a retaining wall along the southbound I-405 on-ramp from Westminster Boulevard. Soundwall S1009 would extend an existing soundwall. Traffic noise impacts are predicted at two single-family residences represented by Receiver R4.8 as well as at Cascade Park represented by Receivers R4.10 through R4.12. Short-term noise measurement ST34 was conducted in the park; however, the measurement levels were suspicious and have not been included in the

analysis. With minimum feasible soundwall heights, the six frontage units of the park would be benefited. In addition, a 5 dB noise reduction would be achieved at five non-impacted single-family residences represented by Receiver R4.13. Figures 17 and 18 in Appendix A1 show the minimum height and length of Soundwall S1009 to provide feasible abatement. Table 7-17 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-17. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S1009

Barrier I.D.: S1009					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.11					
Design Year Noise Level, dBA L_{eq}(h): 74					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	7	8	9	11	12
Number of Benefited Residences	2	6	11	11	11
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$47,000	$47,000	$49,000	$49,000	$51,000
Total Reasonable Allowance	$94,000	$282,000	$539,000	$539,000	$561,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S1016, S1020, and S1024: Soundwalls S1016 and S1020 would be located at the edge of shoulder along the northbound on-ramp from Westminster Boulevard and Soundwall S1024 would be located within the right-of-way. Soundwall S1020 would be an in-kind replacement soundwall with a new height. The purpose of Soundwall S1024 is to extend the coverage of replacement Soundwall S1020 to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 1. The reconfigured embankment would increase the exposure of a portion of Indian Village Park to freeway traffic noise. Traffic noise impacts are predicted to occur at the outdoor use areas of two different schools associated with the Westminster Lutheran Church and Temple Beth David. Traffic noise impacts are also predicted at Indian Village Park in this area. Soundwalls S1016, S1020, and S1024 would combine to provide at least 5 dB of noise reduction for each of the schools and six frontage units of the park. Figure 18 in Appendix A1 shows the minimum heights and lengths of Soundwalls S1016, S1020, and S1024 to provide feasible abatement. Table 7-18 summarizes predicted soundwall performance and associated cost allowance information.

Soundwalls S1026 and S1028: These soundwalls would be located at the right-of-way line along the northbound side of I-405. Soundwall S1026 would be a southern extension of Soundwall S1028 which would replace and heighten a portion of the south end of an existing soundwall at its current location. Soundwall S1026 would also extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 1. The reconfigured embankment would

increase the exposure of nearby homes to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four single family residences in this area; however, feasible noise reduction could only be obtained at one of the residences represented by Receiver R4.66. Together, Soundwalls S1026 and S1028 would provide at least 5 dB of noise reduction for this residence. Figure 18 in Appendix A1 shows the minimum heights and lengths of Soundwalls S1026 and S1028 to provide feasible abatement. Table 7-19 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-18. Summary of Reasonableness Determination Data – Alternative 1 – Soundwalls S1016, S1020, and S1024

Barrier I.D.: S1016, S1020, S1024					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.65					
Design Year Noise Level, dBA L_{eq}(h): 73					
Design Year Noise Level Minus Existing Noise Level: 4					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	0	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	8
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$47,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$376,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S1079 and S1083: Soundwalls S1079 and S1083 would be located at the right-of-way line along the southbound side of I-405. Soundwall S1079 would replace and heighten a portion of an existing soundwall at its current location and Soundwall S1083 would extend Soundwall S1079 to the north. Soundwall S1083 would replace an existing soundwall that was located within the right-of way; however, due to the widening of I-405 and the topography of the area, an in-kind replacement soundwall within the right-of-way was not analyzed because the most effective location of a soundwall for this area would be at the right-of way line. Traffic noise impacts are predicted within the outdoor frequent use areas of nine single-family residences in this area. Together, Soundwalls S1079 and S1083 would provide at least 5 dB of noise reduction for five of the nine residences. Figure 20 in Appendix A1 shows the minimum heights and lengths of Soundwalls S1079 and S1083 to provide feasible abatement. Table 7-20 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-19. Summary of Reasonableness Determination Data – Alternative 1 – Soundwalls S1026 and S1028

Barrier I.D.: S1026,1028					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.66					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	0	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	1
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$45,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$45,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-20. Summary of Reasonableness Determination Data – Alternative 1 – Soundwalls S1079 and S1083

Barrier I.D.: S1079, S1083					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.60					
Design Year Noise Level, dBA L_{eq}(h): 73					
Design Year Noise Level Minus Existing Noise Level: 9					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	4	4	5	7
Number of Benefited Residences	N/A	N/A	N/A	5	5
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$49,000	$51,000
Total Reasonable Allowance	N/A	N/A	N/A	$245,000	$255,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R4.2 through R4.7: Traffic noise impacts would occur at 10 single-family residences as well as Willow Lane Town and Country School along the southbound side of I-405 along Willow Lane and Mahogany Avenue despite the presence of an existing 10 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-4 demonstrates that replacing the

existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 17 in Appendix A1 shows these receivers.

Receivers R4.14A through R4.15 and R4.17: Traffic noise impacts would occur at 11 first row single family residences along the northbound side of I-405 along Sowell Avenue north of Goldenwest Street. These receivers would be protected by Soundwall S182 located at the edge of the shoulder which would be an in-kind replacement of the existing soundwall located at the current edge of shoulder. However, Soundwall S182 would not provide 5 dB or more of noise reduction when raised above the in-kind height of 10-feet. The soundwall analysis is summarized in Table G-4 demonstrates that Soundwall S182 would not provide 5 dB or more of noise reduction at the 11 impacted residences. Figure 16 in Appendix A1 show these receivers.

Receivers R4.27, R4.29, and R4.31A: Traffic noise impacts would occur at the patio areas of three multi-family residences along the northbound side of I-405 between Edwards Street and Westminster Boulevard despite the presence of an existing 14 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-4 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 17 in Appendix A1 shows these receivers.

Receivers R4.35 through R4.58: Traffic noise impacts would occur at the frequent outdoor use areas of 54 first row and four second row single-family residences along the southbound side of I-405 between Springdale Street and Valley View Street despite the presence of an existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-4 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 18 through 20 in Appendix A1 show these receivers.

Receivers R4.67 through R4.83A: Traffic noise impacts would occur at 49 single-family residential units and 28 mobile homes along the northbound side of I-405 between Springdale Street and Valley View Street despite the presence of an intervening existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-4 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 18 through 20 in Appendix A1 show these receivers.

7.2.1.5. SEGMENT 5 – VALLEY VIEW STREET TO SEAL BEACH BOULEVARD

Areas with Noise Abatement

Soundwall S1162: Soundwall S1162 would be located at the edge of shoulder along the northbound side of I-405. It would provide abatement for the City of Seal Beach Tennis Court Center, an area that already experiences some noise reduction from a combination of an existing property wall and berm. The noise analysis indicates that a 5 dB noise reduction would only be achieved at one of the two modeled receivers positioned behind this barrier. Figures 22 and 23 in Appendix A1 show the minimum heights and location of Soundwall S1162 to achieve at least 5 dB noise reduction at this tennis facility. Table 7-21 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-21. Summary of Reasonableness Determination Data – Alternative 1 – Soundwall S1162

Barrier I.D.: S1162					
Predicted Sound Level without Barrier					
Critical Design Receiver: R5.40					
Design Year Noise Level, dBA L_{eq}(h): 68					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier[c]**
Barrier Noise Reduction, dB	1	2	5	5	4
Number of Benefited Residences	N/A	N/A	1	1	N/A
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	Yes	Yes	N/A
Reasonable Allowance Per Benefited Residence	N/A	N/A	$43,000	$43,000	N/A
Total Reasonable Allowance	N/A	N/A	$43,000	$43,000	N/A

Note: NA-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] An NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

[c] These results are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver.

Areas without Feasible Noise Abatement

Receivers R5.19, R5.23, R5.28, R5.30, R5.32, R5.33, R5.35, R5.37, and R5.38: Along the northbound side of I-405 between Primrose Circle and Aster Street, 24 single family residences as well as Shapell and Blue Bell Parks would be exposed to traffic noise impacts under Alternative 1. These impacts would occur in spite of the presence of an existing 18-foot high soundwall between Violet and Aster Streets along northbound I-405 that would not need to be replaced due to encroachment of I-405 under Alternative 1. Figures 21 and 22 in Appendix A1 show these receivers.

Receiver R5.39: The noise impact analysis indicates that Soundwall S1162 would not provide 5 or more dB of noise reduction at a portion of the tennis courts represented by Receiver R5.39. Figure 23 in Appendix A1 shows this receiver.

7.2.1.6. SEGMENT 6 –SEAL BEACH BOULEVARD TO I-605

Areas with Noise Abatement

Soundwall S431: Soundwall S431 would be an in-kind replacement of the existing 10- to 14-foot high soundwall at the right-of-way line due to the necessity of constructing a retaining wall at the edge of shoulder in this area. At 20 of the residences behind this soundwall, traffic noise impacts are predicted under Alternative 1 even with the in-kind replacement of the existing soundwall and increasing the height would not provide feasible noise reduction. Figures 24 and 25 in Appendix A1 show the location and height of Soundwall S431.

Soundwall S434: Soundwall S434 would replace a portion of an existing soundwall along the northbound side of I-405. It would be located at the edge of shoulder. Soundwall S434 has been proposed for the SR-22 West County Connectors Project and currently does not exist; however,

due to the widening of I-405, the proposed soundwall under the SR-22 project will need to be moved to follow the I-405 project's proposed on-ramp from Old Ranch Parkway. At nine of the residences behind this soundwall, traffic noise impacts are predicted under Alternative 1 even with the in-kind replacement of this segment of the existing soundwall and increasing the height would not provide feasible noise reduction. Figure 24 in Appendix A1 shows the location and height of Soundwall S434 along with the portions of the associated existing soundwall that would remain.

Soundwall S445: Soundwall S445 would replace a portion of an existing soundwall along the southbound side of the eastbound SR-22 to southbound I-405 connector edge of shoulder. Soundwall S445 has been proposed for the SR-22 West County Connectors Project and currently does not exist; however, due to the widening of I-405, the proposed soundwall under the SR-22 project will need to be moved to follow the I-405 project's proposed alignment. There would be no traffic noise impacts behind this soundwall. Figure 25 in Appendix A1 shows the location and height of Soundwall S445 along with the portions of the associated existing soundwall that would remain.

Soundwall S1226: This soundwall would be located at the right-of-way line along the northbound side of I-405 and would extend to connect to an existing soundwall to the east. The purpose of Soundwall S1226 is to extend the coverage of the existing soundwall to compensate for the encroachment of I-405 onto the existing northbound I-405 to westbound SR-22 embankment that would occur under Alternative 1. The existing embankment currently protects this area; however, the reconfigured embankment/retaining wall would expose this area to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of nine single-family residences in this area. Soundwall S1226 would provide at least 5 dB of noise reduction for four single-family residences. Figure 25 in Appendix A1 shows the minimum heights and length of Soundwall S1226 to provide feasible abatement. Table 7-22 summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S464: Soundwall S464 would be an in-kind replacement soundwall of a proposed soundwall under the SR-22 West County Connectors Project that would need to be replaced due to the additional widening of I-405 under the I-405 project. Traffic noise impacts are predicted within the outdoor frequent use areas of two single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 26 in Appendix A1 shows the location and height of Soundwall S464.

Table 7-22. Summary of Reasonableness Determination Data – Alternative 1 -- Soundwall S1226

Barrier I.D.: S1226					
Predicted Sound Level without Barrier					
Critical Design Receiver: R6.36A					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	1	3	4	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	4
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$47,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$188,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R6.2, R6.3, R6.6, and R6.8 through R6.11: Traffic noise impacts would occur at 20 multi-family residential units of Leisure World retirement community along the southbound side of I-405 between Beverly Manor and Del Monte Drives despite the presence of 10- to 14-foot high Soundwall S431, which is an in-kind replacement soundwall. The soundwall analysis summarized in Table G-6 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 24 and 25 in Appendix A1 show these receivers.

Receiver R6.24: Traffic noise impacts would occur at three single-family residences along the northbound side of I-405 on Yellowtail Drive between Silverfox Road and Druid Lane. This receiver is protected by an existing 10-foot high soundwall located along Old Ranch Parkway. However, replacing the existing soundwall with a higher soundwall would not provide 5 dB or more of noise reduction. The soundwall analysis is summarized in Table G-6 demonstrates that 5 dB or more of noise reduction would not be achieved at the impacted residences. Figure 16 in Appendix A1 shows this receiver.

Receivers R6.26 through R6.29: Traffic noise impacts would occur at nine single-family residences along the northbound side of I-405 on Yellowtail Drive between Silverfox Road and Druid Lane despite the presence of Soundwall S434 which is a 14-foot high in-kind replacement soundwall. The soundwall analysis summarized in Table G-6 demonstrates that replacing the in-kind replacement soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 24 in Appendix A1 shows these receivers.

Receivers R6.31 and R6.34A: Traffic noise impacts would occur at the frequent outdoor use areas of five single-family residences along the northbound side of I-405 on Yellowtail Drive east of Druid Lane and on Martha Ann Drive at Spur Lane despite the presence of an existing 14

to 14 feet 4 inch high soundwall. This existing soundwall has been proposed for the SR-22 West County Connectors Project and currently does not exist. The soundwall analysis summarized in Table G-6 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 24 and 25 in Appendix A1 show these receivers.

Receivers R6.37 through R6.39, R6.41 through R6.43, R6.45, and R6.46: Traffic noise impacts would occur at 20 single-family residences along the northbound side of I-405 on Martha Ann Drive between Tigertail and Salmon Drives despite the presence of an intervening existing and an in-kind replacement soundwall. Noise reduction of a soundwall higher than 16 feet was not analyzed as part of this traffic noise impact study. Figures 25 and 26 in Appendix A1 show these receivers.

Areas with Unusual and Extraordinary Abatement

Receivers where the predicted peak hour noise level is at or above 75 dBA are to be considered severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If a soundwall is determined to be unreasonable based on cost, providing the soundwall for frequent outdoor use areas will still be required when a 5 dB reduction in traffic noise levels is acoustically feasible.

Receivers R3.48 and R3.50: Predicted peak hour traffic noise levels are at or above 75 dBA for these receivers and would be considered severely impacted. Receivers R3.48 and R3.50 each represent one single family residence. Soundwall S841 would provide the required 5 dB reduction in traffic noise levels at these residences.

Receiver R4.33: The predicted peak hour traffic noise level is above 75 dBA for this receiver and would be considered severely impacted. Receiver R4.33 represents one frontage unit of the pool area at the Motel 6. Soundwall S1006 would provide the required minimum 5 dB reduction in traffic noise to below the severe impact criteria.

7.2.2. Alternative 2

Tables G-7 through G-12 in Appendix G present the results of the barrier analysis. Tables H-7 through H-12 in Appendix H present a summary of soundwall locations and the minimum heights and lengths to achieve at least 5 dB of noise reduction. Appendix H also presents the locations, heights, and lengths of in-kind replacement soundwalls that do not provide feasible abatement. The project limits of the noise analysis for Alternative 2 are from south of Euclid Street to the I-605 interchange. Figures 5 through 26 in Appendix A2 show the proposed alignment of Alternative 2.

7.2.2.1. Segment 1 – South of Bristol Street to Euclid Street

Areas with Noise Abatement

Soundwall S649: Soundwall S649 would be an in-kind replacement of the existing 12-foot high soundwall and would be located at the southbound edge of shoulder. This soundwall would need to be replaced due to the widening of I-405 in this area. Soundwall S649 would tie into a solid 3-foot high safety barrier on the structure of the southbound on-ramp from Euclid Street. The solid 3-foot high safety barrier along the on-ramp is considered in the noise impact analysis and it must be kept for noise reduction in addition to the safety related issues. Traffic noise impacts

are predicted within the outdoor frequent use areas of 14 single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figures 5 and 6 in Appendix A2 show the location and height of in-kind replacement Soundwall S649.

Areas without Feasible Noise Abatement

Receivers R1.88 through R1.90, R1.92, R1.93, and R1.95: Traffic noise impacts would occur at 25 single-family residences along the southbound side of I-405 between New Hampshire Drive and Nevada Avenue despite the presence of existing 14- and 16-foot high soundwalls as well as a 12-foot high in-kind replacement soundwall. The soundwall analysis summarized in Table G-7 demonstrates that replacing the existing soundwall with one at a greater height and increasing the height of the in-kind replacement soundwall would not provide 5 dB or more noise reduction at these residences. Figure 5 in Appendix A2 shows these receivers.

7.2.2.2. SEGMENT 2 – EUCLID STREET TO MAGNOLIA STREET

Areas with Noise Abatement

Soundwalls S699 and S705: Soundwalls S699 and S705 would be in-kind replacements of the existing 16- and 12-foot high soundwalls due to the widening of I-405 in this area. These soundwalls would be located at the southbound right-of-way and edge of shoulder. Soundwall S699 will be on a retaining wall. Traffic noise impacts are not predicted under Alternative 2 with replacement of these existing soundwalls. Figures 7 and 8 in Appendix A2 show the location and height of these in-kind replacement Soundwalls S699 and S705.

Soundwalls S708, S710, and S718: These soundwalls which act as a system would be located along the northbound I-405 edge of shoulder and right-of-way line. The purpose of Soundwall S708 is to extend the coverage to the south of in-kind replacement Soundwall S710 to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 2. The reconfigured embankment would increase the exposure to three single-family residences to freeway traffic noise. Soundwall S718, which is a new soundwall, would extend in-kind replacement Soundwall S710 further to the north and would end where the retaining wall with safety barrier ends along the northbound Brookhurst Street off-ramp. Traffic noise impacts are predicted at 24 single family residences and Los Alamos Park. Together, Soundwalls S708, S710, and S718 would provide at least 5 dB of noise reduction for 24 single-family residences. A 5 dB noise reduction would not be achieved at three single-family residences represented by Receivers R2.14 and R2.17 as well as Los Alamos Park represented by Receiver R2.15. A 5 dB noise reduction would be achieved at three non-impacted single-family residences represented by Receiver R2.28. Figures 7 and 8 in Appendix A2 show the minimum heights and lengths of Soundwalls S708, S710, and S718 to provide feasible abatement. Table 7-23 summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S733: Soundwall S733 would be located at the shoulder of the southbound off-ramp to Brookhurst Street along the southbound side of I-405 and connects to the safety barrier on top of the retaining wall. Due to the elevation differences, the solid 3-foot high safety barrier along the off-ramp is considered in the noise impact analysis and it must be kept for noise reduction in addition to the safety related issues. Traffic noise impacts are predicted within the outdoor frequent use areas of a single-family residence in this area. Soundwall S733 would provide at

least 5 dB of noise reduction for this residence. Figure 8 in Appendix A2 shows the minimum heights and length of Soundwall S733 to provide feasible abatement. Table 7-24 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-23. Summary of Reasonableness Determination Data – Alternative 2 – Soundwalls S708, S710, and S718

Barrier I.D.: S708, S710, & S718					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.24					
Design Year Noise Level, dBA L_{eq}(h): 68					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	1	4	6	6
Number of Benefited Residences	N/A	N/A	N/A	20	24
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$45,000	$45,000
Total Reasonable Allowance	N/A	N/A	N/A	$900,000	$1,080,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-24. Summary of Reasonableness Determination Data – Alternative 2 -- Soundwall S733

Barrier I.D.: S733					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.34					
Design Year Noise Level, dBA L_{eq}(h): 68					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	4	5	5	6	7
Number of Benefited Residences	N/A	1	1	1	1
New Highway or More than 50% of Residences Predate 1978[b]	N/A	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	$43,000	$43,000	$45,000	$45,000
Total Reasonable Allowance	N/A	$43,000	$43,000	$45,000	$45,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S745: This soundwall would be located at the right-of-way line and inside the right-of-way along the southbound side of I-405 and would extend an existing soundwall to the south. Traffic noise impacts in this area are predicted within the outdoor frequent use areas of two single-family residences and two frontage units of an athletic field of Fountain Valley High School. Soundwall S745 would also extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 2. The reconfigured embankment would increase the exposure of nearby homes and apartment complex to freeway traffic noise. Soundwall S745 would provide at least 5 dB of noise reduction for the two single-family residences and two frontage units of the athletic field. Figure 9 in Appendix A2 shows the minimum heights and length of Soundwall S745 to provide feasible abatement. Table 7-25 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-25. Summary of Reasonableness Determination Data – Alternative 2 -- Soundwall S745

Barrier I.D.: S745					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.41					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	5	6	8
Number of Benefited Residences	N/A	N/A	1	4	4
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	No	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	$37,000	$49,000	$49,000
Total Reasonable Allowance	N/A	N/A	$37,000	$196,000	$196,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S746: Soundwall S746 would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend an existing soundwall to the south and would also extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing Slater Avenue overcrossing embankment that would occur under Alternative 2. The reconfigured embankment would increase the exposure of nearby homes to freeway traffic noise. Traffic noise impacts are predicted at the preschool playground associated with Huntington Baptist Church represented by Receiver R2.46. Furthermore, the playground is predicted to be exposed to traffic noise levels of 75 dBA; therefore, it is considered to be severely impacted. Soundwall S746 would provide at least 5 dB of noise reduction for the playground of the school. Even if this soundwall is not reasonable based on cost, it must be built because of the severe impact. Figure 9 in Appendix A2 shows the minimum height and length of Soundwall S746 to provide feasible abatement. Table 7-26. summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S765: This soundwall would be located along the southbound I-405 right-of-way line. The purpose of Soundwall S765 is to extend the coverage of an existing 16-foot high soundwall and an existing 14-foot high property wall to compensate for the encroachment of I-405 onto the existing Bushard Street overcrossing embankment that would occur under Alternative 2. The reconfigured embankment would increase the exposure to four single-family residences to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 9 in Appendix A2 shows the location and height of Soundwall S765.

Table 7-26. Summary of Reasonableness Determination Data – Alternative 2 -- Soundwall S746

Barrier I.D.: S746					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.46					
Design Year Noise Level, dBA L_{eq}(h): 75					
Design Year Noise Level Minus Existing Noise Level: 7					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	6	7	7	7	8
Number of Benefited Residences	1	1	1	2	2
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$51,000	$51,000	$51,000	$51,000	$51,000
Total Reasonable Allowance	$51,000	$51,000	$51,000	$102,000	$102,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S766: Soundwall S766 would be located along the northbound I-405 right-of-way line. The purpose of Soundwall S766 is to extend the coverage of an existing 14-foot 6-inch high soundwall to the north to compensate for the encroachment of I-405 onto the existing Bushard Street overcrossing embankment that would occur under Alternative 2. The reconfigured embankment would increase the exposure to six single-family residences to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of six single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 9 in Appendix A2 shows the location and height of Soundwall S766.

Soundwalls S786, S788, and S792: These soundwalls which act as a system would be located along the northbound on-ramp from Warner Avenue and northbound off-ramp to Magnolia Street. Soundwall S786 would be a new wall and the purpose of Soundwall S788 is to extend the coverage to the south of Soundwall S792 to compensate for the exposure of freeway traffic noise to five single-family residences due to the opening provided by the structure of the northbound on-ramp from Warner Avenue over the northbound off-ramp to Magnolia Street. Soundwall S792 is an in-kind replacement of existing soundwall. Furthermore, due to the

configuration of these ramps, absorptive materials/panels will be required on the traffic side of Soundwall S792 and on the retaining wall associated with the Warner Avenue on-ramp to prevent the traffic noise from reflecting between the soundwall and retaining wall. Traffic noise impacts are predicted within the outdoor frequent use areas of 13 single-family residences in this area; however, Soundwalls S786, S788, and S792 would only provide at least 5 dB of noise reduction for three impacted single-family residences represented by Receiver R2.81. Figures 10 and 11 in Appendix A2 show the location and height of Soundwalls S786, S788, and S792. Table 7-27 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-27. Summary of Reasonableness Determination Data – Alternative 2 – Soundwalls S786, S788, and S792

Barrier I.D.: S786, S788, & S792					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.81					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: -2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	0	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	3
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$43,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$129,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R2.14, R2.15, and R2.17: Traffic noise impacts would occur at three single family residences as well as Los Alamos Park along the northbound side of I-405 just north of Talbert Avenue. These receivers would be protected by Soundwalls S708, S710, and S718; however, the soundwall analysis summarized in Table G-8 demonstrates that increasing the heights of these soundwalls would not provide 5 dB or more of noise reduction at the three impacted residences and the park. Figures 7 and 8 in Appendix A2 show these receivers.

Receivers R2.35 and R2.37 through R2.39: Traffic noise impacts would occur at 11 single-family residences along the southbound side of I-405 between Sturgeon Avenue and Fremont Street despite the presence of an existing 12-foot high property wall. The soundwall analysis summarized in Table G-8 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more noise reduction at these residences. Figures 8 and 9 in Appendix A2 show these receivers.

Receivers R2.47 through R2.49, R2.51 through R2.53, R2.55, and R2.56: Traffic noise impacts would occur at 23 first row single family residences along the northbound side of I-405 between

Slater Avenue and Bushard Street. These receivers are protected by an existing 14-foot 6-inch high existing soundwall. The soundwall analysis is summarized in Table G-8 demonstrates that a higher replacement soundwall would not provide 5 dB or more of noise reduction at the 23 impacted residences. Figure 9 in Appendix A2 shows these receivers.

Receivers R2.58 and R2.59: Traffic noise impacts would occur at four single-family residences along the northbound side of I-405 just south of Bushard Street despite the addition of the new Soundwall S766. The soundwall analysis summarized in Table G-8 demonstrates that the addition of Soundwall S766 would not provide 5 dB or more of noise reduction at these residences. Figure 9 in Appendix A2 shows these receivers.

Receivers R2.63 through R2.66 and R2.69: Traffic noise impacts would occur at the frequent outdoor use areas of 10 first row single-family residences along the southbound side of I-405 between Bushard Street and Warner Avenue despite the presence of an existing 14-foot and 16-foot 8-inch high property walls as well as the addition of the new Soundwall S765. Receivers R2.65, R2.66, and R2.69 are located in the new Tremont housing development. The soundwall analysis summarized in Table G-8 demonstrates that replacing the existing property wall with one at a greater height and the addition of Soundwall S765 would not provide 5 dB or more of noise reduction at these residences. Figures 9 through 10 in Appendix A2 show these receivers.

Receivers R2.82, R2.84, and R2.85: Traffic noise impacts would occur at 10 single-family residences along the northbound side of I-405 between Warner Avenue and Magnolia Street despite the addition of Soundwalls S786 and S788 as well as in-kind replacement Soundwall S792. The soundwall analysis summarized in Table G-8 demonstrates that increasing the heights of Soundwalls S786, S788, and S792 would not provide 5 dB or more of noise reduction at these residences. Figure 10 Appendix A2 shows these receivers.

7.2.2.3. SEGMENT 3 – MAGNOLIA STREET TO BOLSA AVENUE / GOLDENWEST STREET

Areas with Noise Abatement

Soundwalls S807, S811, and S827: Soundwall S807 would be located at the edge of the shoulder along the southbound I-405 off-ramp at Magnolia Street. It would provide a southward extension of the coverage currently provided by an existing soundwall. The southernmost portion of the existing 10 feet 6 inch soundwall would be replaced by Soundwall S811, which is an in-kind replacement and would follow the right-of-way line. A portion of Soundwall S811 would be higher than the portion of existing soundwall it would replace. Traffic noise impacts are predicted at Pleasant View Park and the outdoor frequent use areas of two residences within this area. Soundwalls S807 and S811 together would provide at least 5 dB of noise reduction at seven frontage units within the park and at both residences. Soundwall S827 would connect with Soundwall S811 and would represent an in-kind replacement for the remainder of the existing soundwall in this area. Figure 11 in Appendix A2 shows the minimum heights and lengths of Soundwalls S807 and S811 to provide feasible abatement at the park and the two residences. Figures 11 and 12 in Appendix A2 show the required height and location of Soundwall S827 serving as an in-kind replacement. Table 7-28 summarizes predicted soundwall performance and associated cost allowance information for Soundwalls S807 and S811.

Soundwall S834: Soundwall S834 would be located at the edge of shoulder along the northbound side of the I-405 mainline. Traffic noise impacts are predicted at the outdoor

frequent use areas of 11 single family residences. Soundwall S834 would provide at least 5 dB of noise reduction at six of these residences. Figures 11 and 12 in Appendix A2 show the minimum height and length of Soundwall S834 to provide feasible abatement along with the portion of the associated existing soundwall that would remain. Table 7-29 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-28. Summary of Reasonableness Determination Data – Alternative 2 – Soundwalls S807 and S811

Barrier I.D.: S807 & S811					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.23B					
Design Year Noise Level, dBA L_{eq}(h): 70					
Design Year Noise Level Minus Existing Noise Level: 7					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	5	5	7	8	8
Number of Benefited Residences	7	7	7	7	9
New Highway or More than 50% of Residences Predate 1978[b]	No	No	No	No	No
Reasonable Allowance Per Benefited Residence	$37,000	$37,000	$39,000	$39,000	$39,000
Total Reasonable Allowance	$259,000	$259,000	$273,000	$273,000	$351,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-29. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S834

Barrier I.D.: S834					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.16					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	NA	NA	3	4	5
Number of Benefited Residences	NA	NA	NA	NA	6
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	NA	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	NA	NA	$45,000
Total Reasonable Allowance	NA	NA	NA	NA	$270,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S841: Soundwall S841 would be located at the edge of shoulder along the southbound side of I-405. The purpose of Soundwall S841 is to extend the coverage of the adjoining existing 12 feet 6 inch soundwall to the south and carport / property wall to the north to compensate for the removal of some of the existing embankment at the Newland Street overcrossing. A gap would be created due to the construction of a longer bridge, requiring the embankment to be moved outward. That change in the embankment configuration would increase the exposure of nearby receivers to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four of the residences and at a basketball court located near the gap. Soundwall S841 would provide at least 5 dB of noise reduction at each of these receivers as well as two non-impacted residences. At two of the impacted residences – represented by Receivers R3.48 and R3.50 -- the predicted peak hour noise level is at or above 75 dBA without a soundwall in place; thus, these residences would be considered severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If Soundwall S841 is determined to be unreasonable based on cost, providing the soundwall will still be required for these residences. If building a soundwall is not reasonable due to other factors besides cost, then building acoustical treatment must be provided for these two houses. Figure 12 in Appendix A2 shows the minimum heights and length of Soundwall S841 to provide feasible abatement along with the associated soundwall and carport structure / property wall that would flank it. Table 7-30 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-30. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S841

Barrier I.D.: S841					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.48					
Design Year Noise Level, dBA L_{eq}(h): 76					
Design Year Noise Level Minus Existing Noise Level: 9					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	7	9	10	10	11
Number of Benefited Residences	2	3	4	7	7
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$53,000	$55,000	$55,000	$55,000	$55,000
Total Reasonable Allowance	$106,000	$165,000	$220,000	$385,000	$385,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S857: Soundwall S857 would be located at the edge of shoulder along the southbound I-405 on-ramp at Edinger Avenue. Without abatement, traffic noise impacts are predicted at outdoor frequent use areas associated with seven ground-floor multifamily residential units. Soundwall S857 would provide at least 5 dB of noise reduction at each of these residential units. Figures 12 and 13 in Appendix A2 show the minimum heights and length of

Soundwall S857 to provide feasible abatement. Table 7-31 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-31. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S857

Barrier I.D.: S857					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.56					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 4					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	4	5	6	6
Number of Benefited Residences	NA	NA	7	7	7
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	$47,000	$49,000	$49,000
Total Reasonable Allowance	NA	NA	$329,000	$343,000	$343,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S868: This soundwall would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend beyond the northernmost portion of an existing 14- to 18-foot high property wall in this area. The outdoor frequent use area of one single-family property represented by Receiver R3.63 would experience traffic noise impacts in the absence of abatement. Soundwall S868 would provide feasible noise abatement at this residence. Figure 13 in Appendix A2 shows the minimum height and length of Soundwall S868 to provide feasible abatement along with the portion of the adjoining property wall. Table 7-32. summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S896: Soundwall S896 would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend underneath the McFadden Avenue overcrossing. The purpose of Soundwall S896 is to extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the overcrossing embankment that would occur under Alternative 2. The reconfigured embankment would increase the exposure of nearby mobile homes to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of five mobile homes. Soundwall S896 would not provide 5 or more dB of noise reduction at these residences but it would prevent additional noise exposure from reconfiguration of the bridge embankment. Figure 14 in Appendix A2 shows the height and location of Soundwall S896 along with the existing soundwall that it would connect with.

Table 7-32. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S868

Barrier I.D.: S868					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.63					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	2	3	4	7
Number of Benefited Residences	NA	NA	NA	NA	1
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	NA	No
Reasonable Allowance Per Benefited Residence	NA	NA	NA	NA	$35,000
Total Reasonable Allowance	NA	NA	NA	NA	$35,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S900, S908, and S916: Soundwalls S900, S908, and S916 would be located at the edge of shoulder along the northbound side of I-405. Soundwalls S900 and S908 would represent an in-kind replacement of an existing soundwall. Soundwall S900 would be at the same height as the original soundwall but Soundwall S908 would be higher. Soundwall S916 would be a new soundwall. Traffic noise impacts are predicted at the outdoor frequent use areas of five single family residences behind Soundwall S900. These residences are represented by Receivers R3.81 and R3.81A. Greater heights were considered for Soundwall S900, but these greater heights would not provide 5 or more dB of additional noise reduction at these residences. Soundwalls S908 and S916 together are intended to provide abatement at seven single family residences represented by Receivers R3.85 to R3.86A. Together, they would provide at least 5 dB of noise reduction for each of these seven residences. Figures 14 and 15 in Appendix A2 show the heights and lengths of replacement Soundwall S900 as well as the minimum heights for Soundwalls S908 and S916 to provide feasible abatement. Table 7-33. summarizes predicted soundwall performance and associated cost allowance information.

Soundwalls S907 and S141: Soundwall S907 would be located at the edge of shoulder along the southbound side of I-405. Soundwall S141 would be located on top of a retaining wall that would be built under Alternative 2. Soundwall S907 would be a new barrier. Soundwall S141 is an in-kind replacement which would replace two existing soundwalls -- one 8-foot high soundwall at the edge of shoulder and one 12 feet 6 inch high soundwall along the right-of-way line. Relative to its base, a portion of Soundwall S141 would not be as tall as the existing 12 feet 6 inch high soundwall. However, the base of Soundwall S141 would be at a higher elevation than the existing 12 feet 6 inch high soundwall, and the elevation of the top of Soundwall S141 would not be below the top-of-wall elevation of the existing soundwall. Traffic noise impacts are predicted within the outdoor frequent use areas of 20 single family residences in this area. Raising Soundwall S141 above the heights of the existing, replaced soundwalls would not provide 5 or more dB of noise reduction at these residences for its entire length except for a

small portion on the south end. Traffic noise impacts are also predicted at College Park. Together with replacement Soundwall S141, new Soundwall S907 would provide at least 5 dB of noise reduction for the six frontage units associated with this park. Figures 14 and 15 in Appendix A2 show the minimum heights and lengths of Soundwall S907 to provide feasible abatement, as well as the height and location of in-kind replacement Soundwall S141. Table 7-34 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-33. Summary of Reasonableness Determination Data – Alternative 2 – Soundwalls S908 and S916

Barrier I.D.: S908 & S916					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.86A					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	5	6	7	7
Number of Benefited Residences	NA	2	5	5	7
New Highway or More than 50% of Residences Predate 1978[b]	NA	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	NA	$43,000	$45,000	$45,000	$45,000
Total Reasonable Allowance	NA	$86,000	$225,000	$225,000	$315,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-34. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S907

Barrier I.D.: S907					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.88					
Design Year Noise Level, dBA L_{eq}(h): 68					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	5	5	5	6	6
Number of Benefited Residences	1	4	6	6	6
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$43,000	$43,000	$43,000	$45,000	$45,000
Total Reasonable Allowance	$43,000	$172,000	$258,000	$270,000	$270,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S935: This soundwall would follow the right-of-way line along the southbound I-405 on-ramp from eastbound Bolsa Avenue. It would connect an existing soundwall to an existing 6-foot high property wall south of Bolsa Avenue. Without abatement, traffic noise impacts are predicted within the outdoor frequent use area of one residence in this area. With minimum feasible soundwall heights, one house would receive 5 or more dB of noise reduction. Figure 15 in Appendix A2 shows the minimum height and length of Soundwall S935 to provide feasible abatement along with the adjacent replacement soundwall and property wall. Table 7-35 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-35. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S935

Barrier I.D.: S935					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.99					
Design Year Noise Level, dBA L_{eq}(h): 66					
Design Year Noise Level Minus Existing Noise Level: 3					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	3	4	4	5
Number of Benefited Residences	NA	NA	NA	NA	4
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	NA	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	NA	NA	$45,000
Total Reasonable Allowance	NA	NA	NA	NA	$180,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R3.3 through R3.10 and R3.12: Under Alternative 2, traffic noise impacts would occur at the outdoor frequent use areas associated with nine apartment units and at 18 first row single family residences along the northbound side of I-405 between Magnolia and Lunar Streets. These impacts would occur in spite of the presence of an existing 10 feet 6 inch soundwall. Because the existing soundwall provides substantial insertion loss, increases in height would provide limited additional noise reduction. The soundwall analysis summarized in Table G-9 demonstrates that 5 dB or more of noise reduction would not be achieved at these residences. Figures 11 and 12 in Appendix A2 show these receivers.

Receivers R3.14, R3.17, and R3.18: Traffic noise impacts would occur at 11 single family residences along the northbound side of I-405 between Lunar and Newland Streets. A soundwall at the shoulder would provide 5 dB or more of noise reduction at as many as six of these residences. However, the soundwall analysis summarized in Table G-9 demonstrates that the remaining five residences would not be provided with 5 dB or more of noise reduction. Figure 12 in Appendix A2 shows these receivers.

Receivers R3.26 through R3.28: Traffic noise impacts would occur at eight single-family residences along the southbound side of I-405 between De Ville Circle and Landau Lane despite the presence of an existing 10 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-9 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 11 in Appendix A2 shows these receivers.

Receiver R3.42: Traffic noise impacts would occur at two single-family residences along the southbound side of I-405 between Heil Avenue and Newland Street despite the presence of an existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-9 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 12 in Appendix A2 shows this receiver.

Receivers R3.53, R3.54, R3.55, and R3.55A: Traffic noise impacts would occur at 18 multi-family residential units of the Huntington Creek Apartments along the southbound side of I-405 between Newland Street and Edinger Avenue despite the presence of an intervening existing 15 feet 6 inch high carport structure / property wall. The edge of shoulder in this area is higher than ground level at the carport structure / property wall. Accordingly, a soundwall was considered at the edge of shoulder. However, the soundwall analysis summarized in Table G-9 demonstrates that supplementing the carport structure / property wall with a new soundwall would not provide 5 dB or more of noise reduction at these residences. Figure 12 in Appendix A2 shows these receivers.

Receivers R3.70 through R3.75: Receivers R3.70 through R3.75 represent 37 units of the Driftwood Mobile Home Park along the northbound side of I-405 between Beach Boulevard and McFadden Avenue. Traffic noise impacts would occur at these receivers despite the presence of an intervening existing 10 feet 6 inches to 14-foot high soundwall. The soundwall analysis summarized in Table G-9 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 13 and 14 in Appendix A2 show these receivers.

Receivers R3.76 and R3.77: Receivers R3.76 and R3.77 represent the northernmost five units of the Driftwood Mobile Home Park that would experience traffic noise impacts. The impacts would occur despite the presence of an intervening existing 14-foot high soundwall. In this area, the embankment at the McFadden Avenue overcrossing would be moved outward under Alternative 2 to accommodate the widening of I-405. Soundwall S896 would compensate for the additional noise exposure that the mobile homes would receive due to the reconfiguration of this embankment. However, further increases in the height of Soundwall S896 and the existing soundwall to the south would not provide 5 dB or more of noise reduction at these residences, as demonstrated in Table G-15. Figure 14 in Appendix A2 shows these receivers.

Receivers R3.81 and R3.81A: Traffic noise impacts would occur at five single family residences along the northbound side of I-405 north of McFadden Avenue despite the presence of an in-kind replacement 8-foot high soundwall. The soundwall analysis summarized in Table G-9 demonstrates that the replacement soundwall would not provide 5 dB or more of noise reduction at the five residences. Figure 14 in Appendix A2 shows these receivers.

Receivers R3.95, R3.96, and R3.98: Traffic noise impacts would occur at 20 single family residences along the southbound side of I-405 north of the Union Pacific Railroad underpass. These impacts would occur despite the presence of an in-kind replacement 8-foot high soundwall and an existing 12 feet 6 inch soundwall. The soundwall analysis summarized in Table G-9 demonstrates that the in-kind replacement soundwall or a higher soundwall replacing the existing soundwall would not provide 5 dB or more of noise reduction at these 20 residences. Figure 15 in Appendix A2 shows these receivers.

7.2.2.4. SEGMENT 4 – BOLSA AVENUE / GOLDENWEST STREET TO SR-22 / VALLEY VIEW STREET, SR-22 EAST TO SPRINGDALE STREET

Areas with Noise Abatement

Soundwalls S182, S972, and S978: These soundwalls which act as a system would be located along the northbound I-405 edge of shoulder. Soundwalls S182 and S972 would be in-kind replacement soundwalls; however, Soundwall S972 would be a higher soundwall than the wall it is replacing. Soundwall S978 would extend Soundwall S972 further to the north. Traffic noise impacts are predicted at 11 single family residences, the track and field area of Westminster High School, and Buckingham Park. Together, Soundwalls S182, S992, and S978 would provide at least 5 dB of noise reduction for three frontage units of the high school and six frontage units of the neighborhood park as well as two non-impacted single-family residences. Figures 16 and 17 in Appendix A2 show the minimum heights and lengths of Soundwalls S972 and S978 to provide feasible abatement along with the adjoining in-kind soundwall replacement, Soundwall S182. Table 7-36 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-36. Summary of Reasonableness Determination Data – Alternative 2 – Soundwalls S972 and S978

Barrier I.D.: S972 & S978					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.25A					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	5	6	8	8	9
Number of Benefited Residences	4	6	6	6	13
New Highway or More than 50% of Residences Predate 1978[b]	No	No	No	No	No
Reasonable Allowance Per Benefited Residence	$35,000	$37,000	$37,000	$37,000	$39,000
Total Reasonable Allowance	$140,000	$222,000	$222,000	$222,000	$507,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S995: Soundwall S995 would be located at the right-of-way line along the southbound side of I-405. Soundwall S995 would replace an existing soundwall at the same location with a new height. Traffic noise impacts are predicted within the outdoor frequent use

areas of five single-family residences in this area. Soundwall S995 would provide at least 5 dB of noise reduction for two of these residences. Figure 17 in Appendix A2 shows the minimum heights and length of Soundwall S995 to provide feasible abatement. Table 7-37 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-37. Summary of Reasonableness Determination Data – Alternative 2 -- Soundwall S995

Barrier I.D.: S995					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.1					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 3					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	2	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	2
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	No
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$37,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$74,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S998: This soundwall would be located at the right-of-way line along the northbound side of I-405 and would extend an existing soundwall to the north. Traffic noise impacts are predicted within the outdoor frequent use areas of two single-family residences and a multi-family unit in this area. Soundwall S998 would provide at least 5 dB of noise reduction for the two single-family residences. Figure 17 in Appendix A2 shows the minimum heights and length of Soundwall S995 to provide feasible abatement. Table 7-38. summarizes predicted soundwall performance and associated cost allowance information.

Soundwalls S1005 and S1009: These soundwalls would follow the right-of-way along the southbound I-405 on-ramp from Westminster Boulevard. Soundwall S1005 would replace and heighten an existing soundwall at its current location and Soundwall S1009 would extend SoundwallS1005 to the north. Traffic noise impacts are predicted at six single-family residences represented by Receivers R4.7 through R4.9 as well as at Cascade Park represented by Receivers R4.10 through R4.12. Short-term noise measurement ST34 was conducted in the park; however, the measurement levels were suspicious and have not been included in the analysis. With minimum feasible soundwall heights, the six frontage units of the park would be benefited. In addition, a 5 dB noise reduction would be achieved at five non-impacted single-family residences represented by Receiver R4.13. Figures 17 and 18 in Appendix A2 show the minimum height and length of Soundwall S1009 to provide feasible abatement. Table 7-39 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-38. Summary of Reasonableness Determination Data – Alternative 2 -- Soundwall S998

Barrier I.D.: S998					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.32					
Design Year Noise Level, dBA L_{eq}(h): 73					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	3	4	5	7
Number of Benefited Residences	N/A	N/A	N/A	2	2
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$45,000	$47,000
Total Reasonable Allowance	N/A	N/A	N/A	$90,000	$94,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-39. Summary of Reasonableness Determination Data – Alternative 2 – Soundwalls S1005 and S1009

Barrier I.D.: S1005 & S1009					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.11					
Design Year Noise Level, dBA L_{eq}(h): 75					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	8	9	10	11	12
Number of Benefited Residences	2	5	11	11	11
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$49,000	$51,000	$51,000	$51,000	$53,000
Total Reasonable Allowance	$98,000	$255,000	$561,000	$561,000	$583,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S1006: Soundwall S1006 would be located along the right-of-way line on the northbound side of I-405. The outdoor pool area of the Motel 6 represented by Receiver R4.33 as well as the interior rooms facing the freeway represented by Receiver R4.33A would experience traffic noise impacts. Furthermore, the pool area is predicted to be exposed to traffic noise levels of above 75 dBA; therefore, it is considered to be severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If Soundwall S1006 is determined to be unreasonable based on cost, providing the soundwall will still be required for this hotel. Soundwall S1006 would provide at least 5 dB of noise reduction for the

pool and interior of the first floor motel rooms facing the freeway and would reduce to noise level of the pool area to be below the severe impact criteria. Figure 17 in Appendix A2 shows the minimum height and length of Soundwall S1006 to provide feasible abatement. Table 7-40 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-40. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S1006

Barrier I.D.: S1006					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.33					
Design Year Noise Level, dBA L_{eq}(h): 78					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	7	8	10	11	12
Number of Benefited Residences	7	7	7	7	7
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$51,000	$51,000	$53,000	$53,000	$55,000
Total Reasonable Allowance	$357,000	$357,000	$371,000	$371,000	$385,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S1016, S1020, S1022, and S1024: Soundwalls S1016 and S1020 would be located at the edge of shoulder along the northbound on-ramp from Westminster Boulevard and Soundwalls S1022 and S1024 would be located within the right-of-way. Soundwall S1020 would be an in-kind replacement soundwall with a new height at a new location and Soundwall S1022 would replace an existing soundwall with a taller wall at the existing location. The purpose of Soundwall S1024 is to extend the coverage of replacement Soundwall S1022 to compensate for the encroachment of I-405 onto the existing embankment of the Springdale Avenue overcrossing that would occur under Alternative 2. The reconfigured embankment would increase the exposure of a portion of Indian Village Park to freeway traffic noise. Traffic noise impacts are predicted to occur at the playgrounds of two different schools associated with the Westminster Lutheran Church and Temple Beth David. Traffic noise impacts are also predicted at Indian Village Park in this area. Soundwalls S1016, S1020, S1022, and S1024 would combine to provide at least 5 dB of noise reduction for each of the schools and six frontage units of the park. Figure 18 in Appendix A2 shows the minimum heights and lengths of Soundwalls S1016, S1020, and S1024 to provide feasible abatement. Table 7-41 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-41. Summary of Reasonableness Determination Data – Alternative 2 – Soundwalls S1016, S1020, S1022, and S1024

Barrier I.D.: S1016, S1020, S1022, S1024					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.65					
Design Year Noise Level, dBA L_{eq}(h): 74					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	0	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	8
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$47,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$376,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S1026 and S1028: These soundwalls would be located at the right-of-way line along the northbound side of I-405. Soundwall S1026 would be a southern extension of Soundwall S1028 which would replace and heighten a portion of the south end of an existing soundwall at its current location. Soundwall S1026 would also extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing embankment of the Springdale Street overcrossing that would occur under Alternative 2. The reconfigured embankment would increase the exposure of nearby homes to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four single family residences in this area; however, feasible noise reduction could only be obtained at one of the residences represented by Receiver R4.66. Together, Soundwalls S1026 and S1028 would provide at least 5 dB of noise reduction for this residence. Figure 18 in Appendix A2 shows the minimum heights and lengths of Soundwalls S1026 and S1028 to provide feasible abatement. Table 7-42 summarizes predicted soundwall performance and associated cost allowance information.

Soundwalls S1083: Soundwall S1083 would be located at the right-of-way line along the southbound side of I-405. Soundwall S1083 would extend an existing soundwall to the north. Soundwall S1083 would replace an existing soundwall that was located within the right-of way; however, due to the widening of I-405 and the topography of the area, an in-kind replacement soundwall within the right-of-way was not analyzed because the most effective location of a soundwall for this area would be at the right-of way line. Traffic noise impacts are predicted within the outdoor frequent use areas of nine single-family residences in this area. Soundwall S1083 would provide at least 5 dB of noise reduction for five of the nine residences. Figure 20 in Appendix A2 shows the minimum heights and lengths of Soundwall S1083 to provide feasible abatement. Table 7-43 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-42. Summary of Reasonableness Determination Data – Alternative 2 -- Soundwalls S1026 and S1028

Barrier I.D.: S1026, S1028					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.66					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	0	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	1
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$45,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$45,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-43. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S1083

Barrier I.D.: S1083					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.62					
Design Year Noise Level, dBA L_{eq}(h): 70					
Design Year Noise Level Minus Existing Noise Level: 8					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	5	6	7	8
Number of Benefited Residences	N/A	2	3	5	5
New Highway or More than 50% of Residences Predate 1978[b]	N/A	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	$49,000	$51,000	$51,000	$51,000
Total Reasonable Allowance	N/A	$98,000	$153,000	$255,000	$255,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R4.2 through R4.6: Traffic noise impacts would occur at eight single-family residences as well as Willow Lane Town and Country School along the southbound side of I-405 along Willow Lane and Mahogany Avenue despite the presence of an existing 10 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-10 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 17 in Appendix A2 shows these receivers.

Receivers R4.14A through R4.15 and R4.17: Traffic noise impacts would occur at 11 first row single family residences along the northbound side of I-405 along Sowell Avenue north of Goldenwest Street. These receivers would be protected by Soundwall S182 located at the edge of the shoulder which would be an in-kind replacement of the existing soundwall located at the current edge of shoulder. However, Soundwall S182 would not provide 5 dB or more of noise reduction when raised above the in-kind height of 10-feet. The soundwall analysis is summarized in Table G-10 demonstrates that Soundwall S182 would not provide 5 dB or more of noise reduction at the 11 impacted residences. Figure 16 in Appendix A2 show these receivers.

Receivers R4.27 through R4.29, and R4.31A: Traffic noise impacts would occur at the patio areas of six multi-family residences along the northbound side of I-405 between Edwards Street and Westminster Boulevard despite the presence of an existing 14 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-10 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 17 in Appendix A2 shows these receivers.

Receivers R4.35 through R4.58: Traffic noise impacts would occur at the frequent outdoor use areas of 59 first row and eight second row single-family residences along the southbound side of I-405 between Springdale Street and Valley View Street despite the presence of an existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-10 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 18 through 20 in Appendix A2 show these receivers.

Receivers R4.67 through R4.83B: Traffic noise impacts would occur at 49 single-family residential units and 30 mobile homes along the northbound side of I-405 between Springdale Street and Valley View Street despite the presence of an intervening existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-10 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 18 through 20 in Appendix A2 show these receivers.

7.2.2.5. SEGMENT 5 – VALLEY VIEW STREET TO SEAL BEACH BOULEVARD

Areas with Noise Abatement

Soundwall S1116: Soundwall S1116 would replace a portion of an existing soundwall along the northbound side of I-405. It would be located at the edge of shoulder. This in-kind replacement would be necessitated by the encroachment of the project onto this portion of the existing soundwall. At two of the residences behind this soundwall, traffic noise impacts are predicted under Alternative 2 even with in-kind replacement of this segment of the existing 18-foot high soundwall. Figure 21 in Appendix A2 shows the location and height of in-kind replacement Soundwall S1116 along with the portions of the associated existing soundwall that would remain.

Soundwall S1142: Soundwall S1142 would replace a portion of an existing soundwall along the northbound side of I-405. It would be located at the edge of shoulder. This in-kind replacement would be necessitated by the encroachment of the project onto this portion of the existing soundwall. At 24 of the residences behind this soundwall, traffic noise impacts are predicted

under Alternative 2 even with in-kind replacement of this segment of the existing 18-foot high soundwall. Figures 21 and 22 in Appendix A2 show the location and height of in-kind replacement Soundwall S1142 along with the portions of the associated existing soundwall that would remain.

Soundwall S1162: Soundwall S1162 would be located at the edge of shoulder along the northbound side of I-405. It would provide abatement for the City of Seal Beach Tennis Court Center, an area that already experiences some noise reduction from a combination of an existing property wall and berm. The noise analysis indicates that a 5 dB noise reduction would only be achieved at one of the two modeled receivers positioned behind this barrier. Figures 22 and 23 in Appendix A2 show the minimum heights and length of Soundwall S1162 to achieve at least a 5 dB noise reduction at this tennis facility. Table 7-44 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-44. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S1162

Barrier I.D.: S1162					
Predicted Sound Level without Barrier					
Critical Design Receiver: R5.39					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier[c]**	**16-Foot Barrier[c]**
Barrier Noise Reduction, dB	0	2	5	2	3
Number of Benefited Residences	N/A	N/A	1	N/A	N/A
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	Yes	N/A	N/A
Reasonable Allowance Per Benefited Residence	N/A	N/A	$43,000	N/A	N/A
Total Reasonable Allowance	N/A	N/A	$43,000	N/A	N/A

Note: NA-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] An NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

[c] These results are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver.

Areas without Feasible Noise Abatement

Receivers R5.17 and R5.23: Receivers R5.17 and R5.23 are behind portions of an existing 18-foot high soundwall between Violet and Aster Streets along northbound I-405 that would not need to be replaced under Alternative 2. They would experience traffic noise impacts despite the presence of the soundwall. These receivers represent two single family residences and Shapell Park. Figure 21 in Appendix A2 shows these receivers.

Receiver R5.19: Receiver R5.19 would be behind a portion of an existing 18-foot high soundwall between Violet and Aster Streets that would need to be replaced in kind by Soundwall S1116 because it would be demolished under Alternative 2. This receiver represents two single

family residences that would experience traffic noise impacts despite the presence of the reconfigured soundwall. Figure 21 in Appendix A2 shows this receiver.

Receivers R5.28, R5.30, R5.32, R5.33, R5.35, R5.37, and R5.38: Along the northbound side of I-405 between Iris Circle and Aster Street, 22 single family residences and Blue Bell Park would be exposed to traffic noise impacts under Alternative 2. These impacts would occur in spite of the presence of an 18-foot high replacement Soundwall S1142. Figure 22 in Appendix A2 shows these receivers.

Receiver R5.40: The noise impact analysis indicates that Soundwall S1162 would not provide 5 or more dB of noise reduction at a portion of the tennis courts represented by Receiver R5.40. Figure 23 in Appendix A2 shows this receiver.

7.2.2.6. SEGMENT 6 –SEAL BEACH BOULEVARD TO I-605

Areas with Noise Abatement

Soundwall S431: Soundwall S431 would be an in-kind replacement of the existing 10- to 14-foot high soundwall at the right-of-way line due to the necessity of constructing a retaining wall at the edge of shoulder in this area. At 20 of the residences behind this soundwall, traffic noise impacts are predicted under Alternative 2 even with the in-kind replacement of the existing soundwall and increasing the height would not provide feasible noise reduction. Figures 24 and 25 in Appendix A2 show the location and height of Soundwall S431.

Soundwall S434: Soundwall S434 would replace a portion of an existing soundwall along the northbound side of I-405. It would be located at the edge of shoulder. Soundwall S434 has been proposed for the SR-22 West County Connectors Project and currently does not exist; however, due to the widening of I-405, the proposed soundwall under the SR-22 project will need to be moved to follow the I-405 project's proposed on-ramp from Old Ranch Parkway. At nine of the residences behind this soundwall, traffic noise impacts are predicted under Alternative 2 even with the in-kind replacement of this segment of the existing soundwall and increasing the height would not provide feasible noise reduction. Figure 24 in Appendix A2 shows the location and height of Soundwall S434 along with the portions of the associated existing soundwall that would remain.

Soundwall S445: Soundwall S445 would replace a portion of an existing soundwall along the southbound side of the eastbound SR-22 to southbound I-405 connector edge of shoulder. Soundwall S445 has been proposed for the SR-22 West County Connectors Project and currently does not exist; however, due to the widening of I-405, the proposed soundwall under the SR-22 project will need to be moved to follow the I-405 project's proposed alignment. There would be no traffic noise impacts behind this soundwall. Figure 25 in Appendix A2 shows the location and height of Soundwall S445 along with the portions of the associated existing soundwall that would remain.

Soundwall S1226: This soundwall would be located at the right-of-way line along the northbound side of I-405 and would extend to connect to an existing soundwall to the east. The purpose of Soundwall S1226 is to extend the coverage of the existing soundwall to compensate for the encroachment of I-405 onto the existing northbound I-405 to westbound SR-22 embankment that would occur under Alternative 2. The existing embankment currently protects

this area; however, the reconfigured embankment/retaining wall would expose this area to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of nine single-family residences in this area. Soundwall S1226 would provide at least 5 dB of noise reduction for three single-family residences. Figure 25 in Appendix A2 shows the minimum heights and length of Soundwall S1226 to provide feasible abatement. Table 7-45 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-45. Summary of Reasonableness Determination Data – Alternative 2 – Soundwall S1226

Barrier I.D.: S1226					
Predicted Sound Level without Barrier					
Critical Design Receiver: R6.36A					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	1	3	4	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	3
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$47,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$141,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S464: Soundwall S464 would be an in-kind replacement soundwall of a proposed soundwall under the SR-22 West County Connectors Project that would need to be replaced due to the additional widening of I-405 under the I-405 project. Traffic noise impacts are predicted within the outdoor frequent use areas of two single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 26 in Appendix A2 shows the location and height of Soundwall S464.

Areas without Feasible Noise Abatement

Receivers R6.2, R6.3, R6.6, and R6.8 through R6.11: Traffic noise impacts would occur at 20 multi-family residential units of Leisure World retirement community along the southbound side of I-405 between Beverly Manor and Del Monte Drives despite the presence of 10- to 14-foot high Soundwall S431, which is an in-kind replacement soundwall. The soundwall analysis summarized in Table G-12 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 24 and 25 in Appendix A2 show these receivers.

Receiver R6.24: Traffic noise impacts would occur at three single-family residences along the northbound side of I-405 on Yellowtail Drive between Silverfox Road and Druid Lane. This receiver is protected by an existing 10-foot high soundwall located along Old Ranch Parkway. However, replacing the existing soundwall with a higher soundwall would not provide 5 dB or

more of noise reduction. The soundwall analysis is summarized in Table G-12 demonstrates that 5 dB or more of noise reduction would not be achieved at the impacted residences. Figure 16 in Appendix A2 shows this receiver.

Receivers R6.26 through R6.29: Traffic noise impacts would occur at nine single-family residences along the northbound side of I-405 on Yellowtail Drive between Silverfox Road and Druid Lane despite the presence of Soundwall S434 which is a 14-foot high in-kind replacement soundwall. The soundwall analysis summarized in Table G-12 demonstrates that replacing the in-kind replacement soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 24 in Appendix A2 shows these receivers.

Receivers R6.31 and R6.34A: Traffic noise impacts would occur at the frequent outdoor use areas of five single-family residences along the northbound side of I-405 on Yellowtail Drive east of Druid Lane and on Martha Ann Drive at Spur Lane despite the presence of an existing 14 to 14 feet 4 inch high soundwall. This existing soundwall has been proposed for the SR-22 West County Connectors Project and currently does not exist. The soundwall analysis summarized in Table G-12 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 24 and 25 in Appendix A2 show these receivers.

Receivers R6.37 through R6.39, R6.41 through R6.43, R6.45, and R6.46: Traffic noise impacts would occur at 20 single-family residences along the northbound side of I-405 on Martha Ann Drive between Tigertail and Salmon Drives despite the presence of an intervening existing and an in-kind replacement soundwall. Noise reduction of a soundwall higher than 16 feet was not analyzed as part of this traffic noise impact study. Figures 25 and 26 in Appendix A2 show these receivers.

Areas with Unusual and Extraordinary Abatement

Receivers where the predicted peak hour noise level is at or above 75 dBA are to be considered severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If a soundwall is determined to be unreasonable based on cost, providing the soundwall for frequent outdoor use areas will still be required when a 5 dB reduction in traffic noise levels is acoustically feasible.

Receiver R2.46: The predicted peak hour traffic noise level is 75 dBA for this receiver and would be considered severely impacted. Receiver R2.46 represents the frontage unit of the preschool playground associated with Huntington Baptist Church. Soundwall S746 would provide the required 5 dB reduction in traffic noise levels.

Receivers R3.48 and R3.50: Predicted peak hour traffic noise levels are at or above 75 dBA for these receivers and would be considered severely impacted. Receivers R3.48 and R3.50 each represent one single family residence. Soundwall S841 would provide the required 5 dB reduction in traffic noise levels at these residences.

Receivers R4.10 and R4.11: Receivers R4.10 and R4.11 respectively represent three and two frontage units of Cascade Park. The predicted peak hour noise level is 75 dBA for these

receivers. Soundwalls S1005 and S1009 would provide the minimum 5 dB reduction in traffic noise for Cascade Park.

Receiver R4.33: The predicted peak hour traffic noise level is above 75 dBA for this receiver and would be considered severely impacted. Receiver R4.33 represents one frontage unit of the pool area at the Motel 6. Soundwall S1006 would provide the required minimum 5 dB reduction in traffic noise to below the severe impact criteria.

7.2.3. Alternative 3

Tables G-13 through G-18 in Appendix G present the results of the barrier analysis. Tables H-13 through H-18 in Appendix H present a summary of soundwall locations and the minimum heights and lengths to achieve at least 5 dB of noise reduction. Appendix H also presents the locations, heights, and lengths of in-kind replacement soundwalls that do not provide feasible abatement. The project limits of the noise analysis for Alternative 3 are south of Bristol Street including the SR-73 interchange south to Bear Street to the I-605 interchange including I-605 south of Katella Avenue. Figures 1 through 28 in Appendix A3 show the proposed alignment for Alternative 3.

7.2.3.1. SEGMENT 1 – SOUTH OF BRISTOL STREET TO EUCLID STREET

Areas with Noise Abatement

Soundwall S502: Soundwall S502 would be an in-kind replacement of the existing 14-foot high soundwall. This soundwall would be located at the edge of shoulder of the northbound off-ramp to Fairview Road and would need to be replaced due to the widening of I-405 in this area. Traffic noise impacts are predicted within the outdoor frequent use areas of eight single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figures 2 and 3 in Appendix A3 show the location and height of this soundwall.

Soundwall S583: Soundwall S583 would be an in-kind replacement of the existing 14-foot high soundwall. This soundwall would be located at the edge of shoulder of the southbound Harbor Boulevard on-ramp and southbound Fairview Road off-ramp and need to be replaced due to the widening of I-405 and the construction of a proposed retaining wall at the shoulder in this area. Traffic noise impacts are predicted within the outdoor frequent use areas of Gisler Park but this soundwall would not provide 5 dB or more of traffic noise reduction. Figures 3 and 4 in Appendix A3 show the location and height of this soundwall.

Soundwall S614A: Soundwall S614A would be located at the shoulder of the northbound on-ramp from Harbor Boulevard along the northbound side of I-405. Traffic noise impacts are predicted at the pool area of a La Quinta Inn. Soundwall S614A would provide at least 5 dB of noise reduction for this outdoor use area. Figure 4 in Appendix A3 shows the minimum heights and length of Soundwall S614A to provide feasible abatement. Table 7-46 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-46. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S614A

Barrier I.D.: S614A					
Predicted Sound Level without Barrier					
Critical Design Receiver: R1.75					
Design Year Noise Level, dBA L_{eq}(h): 73					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	7	8	10	11	12
Number of Benefited Residences	1	1	1	1	1
New Highway or More than 50% of Residences Predate 1978[b]	No	No	No	No	No
Reasonable Allowance Per Benefited Residence	$37,000	$37,000	$39,000	$39,000	$41,000
Total Reasonable Allowance	$37,000	$37,000	$39,000	$39,000	$41,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S614B (Option): Soundwall S614B would be located on private property along the northbound side of I-405. This soundwall is an option to Soundwall S614A. Traffic noise impacts are predicted at the pool area of a La Quinta Inn in this area. Soundwall S614B would provide at least 5 dB of noise reduction for this outdoor use area. Figure 4 in Appendix A3 shows the minimum heights and length of Soundwall S614A to provide feasible abatement. Table 7-47 summarizes predicted soundwall performance and associated cost allowance information.

Soundwalls S629, S639, and S649: Soundwalls S629, S639, and S649 would be an in-kind replacement of the existing 14-, 16-, and 12-foot high soundwalls, respectively. These soundwalls would be located at the southbound edge of shoulder on retaining walls and need to be replaced due to the widening of I-405 and the construction of a proposed retaining wall at the shoulder in this area. Soundwall S649 would tie into a solid 3-foot high safety barrier on the structure of the southbound on-ramp from Euclid Street. The solid 3-foot high safety barrier along the on-ramp is considered in the noise impact analysis and it must be kept for noise reduction in addition to the safety related issues. Traffic noise impacts are predicted within the outdoor frequent use areas of five multi-family and 25 single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figures 5 and 6 in Appendix A1 show the location and height of these soundwalls.

Table 7-47. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S614B

Barrier I.D.: S614B					
Predicted Sound Level without Barrier					
Critical Design Receiver: R1.75					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 0					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	8	10	12	14	14
Number of Benefited Residences	1	1	1	1	1
New Highway or More than 50% of Residences Predate 1978[b]	No	No	No	No	No
Reasonable Allowance Per Benefited Residence	$37,000	$39,000	$41,000	$41,000	$41,000
Total Reasonable Allowance	$37,000	$39,000	$41,000	$41,000	$41,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R1.4 through R1.8: Traffic noise impacts would occur at 11 single-family residences along the southbound side of I-405 between Bristol and Bear Streets despite the presence of an existing 13 feet 4 inch high soundwall. There are no project-related changes in this area that would affect traffic noise levels; therefore, this area was not analyzed as part of this traffic noise impact study Figure 1 in Appendix A3 shows these receivers.

Receivers R1.55 and R1.56: Traffic noise impacts would occur at eight frontage units of Gisler Park along the southbound side of I-405 between Fairview Road and Harbor Boulevard despite the presence of an in-kind replacement 14-foot high soundwall. The soundwall analysis summarized in Table G-13 demonstrates that increasing the height of the in-kind replacement soundwall would not provide 5 dB or more of noise reduction at this park. Figure 3 in Appendix A3 shows this receiver.

Receivers R1.71 and R1.72: Traffic noise impacts would occur at eight single-family residences along the northbound side of I-405 north of San Leandro Lane despite the presence of an intervening existing and in-kind replacement 14-foot high soundwalls. The soundwall analysis summarized in Table G-13 demonstrates that that replacing the existing soundwall with one at a greater height and increasing the height of the replacement soundwall would not provide 5 dB or more of noise reduction at these residences. Figure 2 in Appendix A3 shows these receivers.

Receivers R1.80 through R1.86: Receivers R1.80 through R1.86 represent 18 multi-family residential units along the southbound side of I-405 along Iowa Street north of Harbor Boulevard. Traffic noise impacts would occur at these receivers despite the presence of an intervening existing 12-foot 7-inch high soundwall as well as a 14-foot high in-kind replacement soundwall. The soundwall analysis summarized in Table G-13 demonstrates that replacing the

existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 4 and 5 in Appendix A3 show these receivers.

Receivers R1.88 through R1.90, R1.92, R1.93, and R1.95: Traffic noise impacts would occur at 25 single-family residences along the southbound side of I-405 between New Hampshire Drive and Nevada Avenue despite the presence of 14-, 16-, and12-foot high in-kind replacement soundwall. The soundwall analysis summarized in Table G-13 demonstrates that replacing the existing soundwall with a higher soundwall and/or increasing the height of the in-kind replacement soundwall would not provide 5 dB or more noise reduction at these residences. Figure 5 in Appendix A3 shows these receivers.

7.2.3.2. SEGMENT 2 – EUCLID STREET TO MAGNOLIA STREET

Areas with Noise Abatement

Soundwalls S699 and S705: Soundwalls S699 and S705 would be in-kind replacements of the existing 16- and 12-foot high soundwalls due to the widening of I-405 in this area. These soundwalls would be located at the southbound right-of-way and edge of shoulder. Soundwall S699 will be on a retaining wall. Traffic noise impacts are not predicted under Alternative 3 with replacement of these existing soundwalls. Figures 7 and 8 in Appendix A3 show the location and height of these in-kind replacement Soundwalls S699 and S705.

Soundwalls S708, S710, and S718: These soundwalls which act as a system would be located along the northbound I-405 edge of shoulder and right-of-way line. The purpose of Soundwall S708 is to extend the coverage to the south of in-kind replacement Soundwall S710 to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 3. The reconfigured embankment would increase the exposure to three single-family residences to freeway traffic noise. Soundwall S718, which is a new soundwall, would extend in-kind replacement Soundwall S710 further to the north and would end where the retaining wall with safety barrier begins along the northbound Brookhurst Street off-ramp. Due to the elevation differences, the solid 3-foot high safety barrier along the off-ramp is considered in the noise impact analysis and it must be kept for noise reduction in addition to the safety related issues. Traffic noise impacts are predicted at 24 single family residences and Los Alamos Park. Together, Soundwalls S708, S710, and S718 would provide at least 5 dB of noise reduction for 21 single-family residences. A 5 dB noise reduction would not be achieved at three single-family residences represented by Receivers R2.14 and R2.17 as well as Los Alamos Park represented by Receiver R2.15. Figures 7 and 8 in Appendix A3 show the minimum heights and lengths of Soundwalls S708, S710, and S718 to provide feasible abatement. Table 7-48 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-48. Summary of Reasonableness Determination Data – Alternative 3 – Soundwalls S708, S710, and S718

Barrier I.D.: S708, S710, & S718					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.24					
Design Year Noise Level, dBA L_{eq}(h): 68					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	1	2	4	6	7
Number of Benefited Residences	N/A	N/A	N/A	19	21
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$45,000	$45,000
Total Reasonable Allowance	N/A	N/A	N/A	$855,000	$945,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S733: Soundwall S733 would be located at the shoulder of the southbound off-ramp to Brookhurst Street along the southbound side of I-405 and connects to the safety barrier on top of the retaining wall. Due to the elevation differences, the solid 3-foot high safety barrier along the off-ramp is considered in the noise impact analysis and it must be kept for noise reduction in addition to the safety related issues. Traffic noise impacts are predicted within the outdoor frequent use areas of a single-family residence in this area. Soundwall S733 would provide at least 5 dB of noise reduction for this residence. Figure 8 in Appendix A3 shows the minimum heights and length of Soundwall S733 to provide feasible abatement. Table 7-49. summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S745: This soundwall would be located at the right-of-way line and inside the right-of-way along the southbound side of I-405 and would extend an existing soundwall to the south. Traffic noise impacts in this area are predicted within the outdoor frequent use areas of two single-family residences and two frontage units of an athletic field of Fountain Valley High School. Soundwall S745 would also extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 3. The reconfigured embankment would increase the exposure of nearby homes and apartment complex to freeway traffic noise. Soundwall S745 would provide at least 5 dB of noise reduction for the two single-family residences and one frontage unit of the athletic field. Figure 9 in Appendix A3 shows the minimum heights and length of Soundwall S745 to provide feasible abatement. Table 7-50 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-49. Summary of Reasonableness Determination Data – Alternative 3 -- Soundwall S733

Barrier I.D.: S733					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.34					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	4	5	5	6
Number of Benefited Residences	N/A	N/A	1	1	1
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	$43,000	$43,000	$45,000
Total Reasonable Allowance	N/A	N/A	$43,000	$43,000	$45,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-50. Summary of Reasonableness Determination Data – Alternative 3 -- Soundwall S745

Barrier I.D.: S745					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.41					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 4					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	4	6	7
Number of Benefited Residences	N/A	N/A	N/A	1	3
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	No	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$39,000	$49,000
Total Reasonable Allowance	N/A	N/A	N/A	$39,000	$147,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S746: Soundwall S746 would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend an existing soundwall to the south and would also extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the existing Slater Avenue overcrossing embankment that would occur under Alternative 3. The reconfigured embankment would increase the exposure of nearby homes to freeway traffic noise. Traffic noise impacts are predicted at one single-family residence and the preschool playground associated with Huntington Baptist Church represented

by Receivers R2.45 and R2.46, respectively. Furthermore, the playground is predicted to be exposed to traffic noise levels of 75 dBA; therefore, it is considered to be severely impacted. Soundwall S746 would provide at least 5 dB of noise reduction for the impacted residence as well as the playground of the school. Even if this soundwall is not reasonable based on cost, it must be built because of the severe impact. Figure 9 in Appendix A3 shows the minimum height and length of Soundwall S746 to provide feasible abatement. Table 7-51 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-51. Summary of Reasonableness Determination Data – Alternative 3 -- Soundwall S746

Barrier I.D.: S746					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.46					
Design Year Noise Level, dBA L_{eq}(h): 75					
Design Year Noise Level Minus Existing Noise Level: 7					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	6	6	7	7	8
Number of Benefited Residences	1	2	2	2	2
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$51,000	$51,000	$51,000	$51,000	$51,000
Total Reasonable Allowance	$51,000	$102,000	$102,000	$102,000	$102,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S765: This soundwall would be located along the southbound I-405 right-of-way line. The purpose of Soundwall S765 is to extend the coverage of an existing 16-foot high soundwall and an existing 14-foot high property wall to compensate for the encroachment of I-405 onto the existing Bushard Street overcrossing embankment that would occur under Alternative 3. The reconfigured embankment would increase the exposure to four single-family residences to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 9 in Appendix A3 shows the location and height of Soundwall S765.

Soundwall S766: Soundwall S766 would be located along the northbound I-405 right-of-way line. The purpose of Soundwall S766 is to extend the coverage of an existing 14-foot 6-inch high soundwall to the north to compensate for the encroachment of I-405 onto the existing Bushard Street overcrossing embankment that would occur under Alternative 3. The reconfigured embankment would increase the exposure to six single-family residences to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of six single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 9 in Appendix A3 shows the location and height of Soundwall S766.

Soundwalls S786, S788, and S792: These soundwalls which act as a system would be located along the northbound on-ramp from Warner Avenue and northbound off-ramp to Magnolia Street. Soundwall S786 would be a new wall and the purpose of Soundwall S788 is to extend the coverage to the south of Soundwall S792 to compensate for the exposure of freeway traffic noise to five single-family residences due to the opening provided by the structure of the northbound on-ramp from Warner Avenue over the northbound off-ramp to Magnolia Street. Soundwall S 792 is an in-kind replacement of existing soundwall. Furthermore, due to the configuration of these ramps, absorptive materials/panels will be required on the traffic side of Soundwall S792 and on the retaining wall associated with the Warner Avenue on-ramp to prevent the traffic noise from reflecting between the soundwall and retaining wall. Traffic noise impacts are predicted within the outdoor frequent use areas of 13 single-family residences in this area; however, Soundwalls S786, S788, and S792 would only provide at least 5 dB of noise reduction for three impacted single-family residences represented by Receiver R2.81. Figures 10 and 11 in Appendix A3 show the location and height of Soundwalls S786, S788, and S792. Table 7-52 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-52. Summary of Reasonableness Determination Data – Alternative 3 – Soundwalls S786, S788, and S792

Barrier I.D.: S786, S788, & S792					
Predicted Sound Level without Barrier					
Critical Design Receiver: R2.81					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: -2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	0	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	3
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$43,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$129,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R2.14, R2.15, and R2.17: Traffic noise impacts would occur at three single family residences as well as Los Alamos Park along the northbound side of I-405 just north of Talbert Avenue. These receivers would be protected by Soundwalls S708, S710, and S718; however, the soundwall analysis summarized in Table G-14 demonstrates that increasing the heights of these soundwalls would not provide 5 dB or more of noise reduction at the three impacted residences and the park. Figures 7 and 8 in Appendix A3 show these receivers.

Receivers R2.35 and R2.37 through R2.39: Traffic noise impacts would occur at 11 single-family residences along the southbound side of I-405 between Sturgeon Avenue and Fremont

Street despite the presence of an existing 12-foot high property wall. The soundwall analysis summarized in Table G-14 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more noise reduction at these residences. Figures 8 and 9 in Appendix A3 show these receivers.

Receivers R2.47 through R2.49, R2.51 through R2.53, R2.55, and R2.56: Traffic noise impacts would occur at 23 first row single family residences along the northbound side of I-405 between Slater Avenue and Bushard Street. These receivers are protected by an existing 14-foot 6-inch high existing soundwall. The soundwall analysis is summarized in Table G-14 demonstrates that a higher replacement soundwall would not provide 5 dB or more of noise reduction at the 23 impacted residences. Figure 9 in Appendix A3 shows these receivers.

Receivers R2.58 and R2.59: Traffic noise impacts would occur at four single-family residences along the northbound side of I-405 just south of Bushard Street despite the addition of the new Soundwall S766. The soundwall analysis summarized in Table G-14 demonstrates that the addition of Soundwall S766 would not provide 5 dB or more of noise reduction at these residences. Figure 9 in Appendix A3 shows these receivers.

Receivers R2.63 through R2.66 and R2.69: Traffic noise impacts would occur at the frequent outdoor use areas of 10 first row single-family residences along the southbound side of I-405 between Bushard Street and Warner Avenue despite the presence of an existing 14-foot and 16-foot 8-inch high property walls as well as the addition of the new Soundwall S765. Receivers R2.65, R2.66, and R2.69 are located in the new Tremont housing development. The soundwall analysis summarized in Table G-14 demonstrates that replacing the existing property wall with one at a greater height where possible and the addition of Soundwall S765 would not provide 5 dB or more of noise reduction at these residences. Figures 9 through 10 in Appendix A3 show these receivers.

Receivers R2.82, R2.84, and R2.85: Traffic noise impacts would occur at 10 single-family residences along the northbound side of I-405 between Warner Avenue and Magnolia Street despite the addition of Soundwalls S786 and S788 as well as in-kind replacement Soundwall S792. The soundwall analysis summarized in Table G-14 demonstrates that increasing the heights of Soundwalls S786, S788, and S792 would not provide 5 dB or more of noise reduction at these residences. Figure 10 Appendix A3 shows these receivers.

7.2.3.3. SEGMENT 3 – MAGNOLIA STREET TO BOLSA AVENUE / GOLDENWEST STREET

Areas with Noise Abatement

Soundwalls S807, S811, and S827: Soundwall S807 would be located at the edge of the shoulder along the southbound I-405 off-ramp at Magnolia Street. It would provide a southward extension of the coverage currently provided by an existing soundwall. The southernmost portion of the existing 10 feet 6 inch soundwall would be replaced by Soundwall S811, which is an in-kind replacement and would follow the right-of-way line. A portion of Soundwall S811 would be higher than the portion of existing soundwall it would replace. Traffic noise impacts are predicted at Pleasant View Park and the outdoor frequent use areas of two residences within this area. Soundwalls S807 and S811 together would provide at least 5 dB of noise reduction at the park and at both residences. Soundwall S827 would connect with Soundwall S811 and would represent an in-kind replacement for the remainder of the existing soundwall in this area.

Figure 11 in Appendix A3 shows the minimum heights and lengths of Soundwalls S807 and S811 to provide feasible abatement at the park and the two residences. Figures 11 and 12 in Appendix A3 show the height and location of Soundwall S827 required to serve as an in-kind replacement. Table 7-53 summarizes predicted soundwall performance and associated cost allowance information for Soundwalls S807 and S811.

Table 7-53. Summary of Reasonableness Determination Data – Alternative 3 – Soundwalls S807 and S811

Barrier I.D.: S807 & S811					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.23B					
Design Year Noise Level, dBA L_{eq}(h): 69					
Design Year Noise Level Minus Existing Noise Level: 6					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	4	4	6	7	7
Number of Benefited Residences	NA	NA	7	7	9
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	No	No	No
Reasonable Allowance Per Benefited Residence	NA	NA	$37,000	$37,000	$37,000
Total Reasonable Allowance	NA	NA	$259,000	$259,000	$333,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S834: Soundwall S834 would be located at the edge of shoulder along the northbound side of the I-405 mainline. Traffic noise impacts are predicted at the outdoor frequent use areas of 11 single family residences. Soundwall S834 would provide at least 5 dB of noise reduction at six of these residences. Figures 11 and 12 in Appendix A3 show the minimum height and length of Soundwall S834 to provide feasible abatement along with the portion of the associated existing soundwall that would remain. Table 7-54. summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S841: Soundwall S841 would be located at the edge of shoulder along the southbound side of I-405. The purpose of Soundwall S841 is to extend the coverage of the adjoining existing 12 feet 6 inch soundwall to the south and carport / property wall to the north to compensate for the removal of some of the existing embankment at the Newland Street overcrossing. A gap would be created due to the construction of a longer bridge, requiring the embankment to be moved outward. That change in the embankment configuration would increase the exposure of nearby receivers to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four residences and at a basketball court located near the gap. Soundwall S841 would provide at least 5 dB of noise reduction at each of these receivers as well as two non-impacted residences. At two of the impacted residences – represented by Receivers R3.48 and R3.50 -- the predicted peak hour noise level is at or above 75 dBA without a soundwall in place; thus, these residences would be considered severely

impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If Soundwall S841 is determined to be unreasonable based on cost, providing the soundwall will still be required for these residences. If building a soundwall is not reasonable due to other factors besides cost, then building acoustical treatment must be provided for these two houses. Figure 12 in Appendix A3 shows the minimum heights and length of Soundwall S841 to provide feasible abatement along with the associated soundwall and carport structure / property wall that would flank it. Table 7-55 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-54. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S834

Barrier I.D.: S834					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.16					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	NA	NA	3	4	5
Number of Benefited Residences	NA	NA	NA	NA	11
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	NA	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	NA	NA	$45,000
Total Reasonable Allowance	NA	NA	NA	NA	$495,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S857: Soundwall S857 would be located at the edge of shoulder along the southbound I-405 on-ramp at Edinger Avenue. Without abatement, traffic noise impacts are predicted at outdoor frequent use areas associated with seven ground-floor multifamily residential units. Soundwall S857 would provide at least 5 dB of noise reduction at each of these residential units. Figures 12 and 13 in Appendix A3 show the minimum heights and length of Soundwall S857 to provide feasible abatement. Table 7-56 summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S868: This soundwall would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend beyond the northernmost portion of an existing 14- to 18-foot high property wall. The outdoor frequent use area of one single-family property represented by Receiver R3.63 would experience traffic noise impacts in the absence of abatement. Soundwall S868 would provide feasible noise abatement at this residence. Figure 13 in Appendix A3 shows the minimum height and length of Soundwall S868 to provide feasible abatement along with the portion of the adjoining property wall. Table 7-57 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-55. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S841

Barrier I.D.: S841					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.48					
Design Year Noise Level, dBA L_{eq}(h): 76					
Design Year Noise Level Minus Existing Noise Level: 9					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	7	8	10	10	11
Number of Benefited Residences	2	3	4	7	7
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$53,000	$53,000	$55,000	$55,000	$55,000
Total Reasonable Allowance	$106,000	$159,000	$220,000	$385,000	$385,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-56. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S857

Barrier I.D.: S857					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.56					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 4					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	4	5	6	6
Number of Benefited Residences	NA	NA	7	7	7
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	$47,000	$49,000	$49,000
Total Reasonable Allowance	NA	NA	$329,000	$343,000	$343,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-57. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S868

Barrier I.D.: S868					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.63					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	3	4	4	7
Number of Benefited Residences	NA	NA	NA	NA	1
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	NA	No
Reasonable Allowance Per Benefited Residence	NA	NA	NA	NA	$35,000
Total Reasonable Allowance	NA	NA	NA	NA	$35,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S896: Soundwall S896 would be located along the right-of-way line on the northbound side of I-405. This soundwall would extend underneath the McFadden Avenue overcrossing. The purpose of Soundwall S896 is to extend the coverage of the adjoining existing soundwall to compensate for the encroachment of I-405 onto the overcrossing embankment that would occur under Alternative 3. The reconfigured embankment would increase the exposure of nearby mobile homes to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of five mobile homes. Soundwall S896 would not provide 5 or more dB of noise reduction at these residences but it would prevent additional noise exposure from reconfiguration of the bridge embankment. Figure 14 in Appendix A3 shows the height and location of Soundwall S896 along with the existing soundwall that it would connect with.

Soundwalls S902, S910, and S916: Soundwalls S902, S910, and S916 would be located at the edge of shoulder along the northbound side of I-405. Soundwalls S902 and S910 would represent an in-kind replacement of an existing soundwall. Soundwall S902 would be at the same height as the original soundwall but Soundwall S910 would be higher. Soundwall S916 would be a new soundwall. Traffic noise impacts are predicted at the outdoor frequent use areas of five single family residences behind Soundwall S902. These residences are represented by Receivers R3.81 and R3.81A. Greater heights were considered for Soundwall S902, but these greater heights would not provide 5 or more dB of additional noise reduction at these residences. Soundwalls S910 and S916 together are intended to provide abatement at seven single family residences represented by Receivers R3.85 to R3.86A. Together, they would provide at least 5 dB of noise reduction for each of these seven residences. Figures 14 and 15 in Appendix A3 show the heights and locations of replacement Soundwall S902 as well as the minimum heights and lengths for Soundwalls S910 and S916 to provide feasible abatement. Table 7-58 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-58. Summary of Reasonableness Determination Data – Alternative 3 – Soundwalls S910 and S916

Barrier I.D.: S910 & S916					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.86A					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	5	5	7	7
Number of Benefited Residences	NA	2	7	7	7
New Highway or More than 50% of Residences Predate 1978[b]	NA	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	NA	$43,000	$43,000	$45,000	$45,000
Total Reasonable Allowance	NA	$86,000	$301,000	$315,000	$315,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S907 and S141: Soundwall S907 would be located at the edge of shoulder along the southbound side of I-405. Soundwall S141 would be located on top of a retaining wall that would be built under Alternative 3. Soundwall S907 would be a new barrier. Soundwall S141 is an in-kind replacement which would replace two existing soundwalls -- one 8-foot high soundwall at the edge of shoulder and one 12 feet 6 inch high soundwall along the right-of-way line. Relative to its base, a portion of Soundwall S141 would not be as tall as the existing 12 feet 6 inch high soundwall. However, the base of Soundwall S141 would be at a higher elevation than the existing 12 feet 6 inch high soundwall; therefore, the elevation of the top of Soundwall S141 would not be below the top-of-wall elevation of the existing soundwall. Traffic noise impacts are predicted within the outdoor frequent use areas of 20 single family residences in this area. Raising in-kind replacement Soundwall S141 above the heights of the existing replaced soundwalls would not provide 5 or more dB of noise reduction at these residences for its entire length except for a small portion on the south end. Traffic noise impacts are also predicted at College Park. Together with replacement Soundwall S141, new Soundwall S907 would provide at least 5 dB of noise reduction for the six frontage units associated with this park. Figures 14 and 15 in Appendix A3 show the minimum heights and lengths of Soundwall S907 to provide feasible abatement, as well as the height and location of in-kind replacement Soundwall S141. Table 7-59 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-59. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S907

Barrier I.D.: S907					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.88					
Design Year Noise Level, dBA L_{eq}(h): 68					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	5	5	6	6	6
Number of Benefited Residences	1	4	6	6	6
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$43,000	$43,000	$45,000	$45,000	$45,000
Total Reasonable Allowance	$43,000	$172,000	$270,000	$270,000	$270,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S935: This soundwall would follow the right-of-way line along the southbound I-405 on-ramp from eastbound Bolsa Avenue. It would connect an existing soundwall to an existing 6-foot high property wall south of Bolsa Avenue. Without abatement, traffic noise impacts are predicted within the outdoor frequent use area of one residence in this area. With minimum feasible soundwall heights, one house would receive 5 or more dB of noise reduction. Figure 15 in Appendix A3 shows the minimum height and length of Soundwall S935 to provide feasible abatement along with the adjacent replacement soundwall and property wall. Table 7-60. summarizes predicted soundwall performance and associated cost allowance information.

Areas without Feasible Noise Abatement

Receivers R3.4 through R3.10 and R3.12: Under Alternative 3, traffic noise impacts would occur at outdoor frequent use areas associated with two ground-floor apartment units and at 18 first row single family residences along the northbound side of I-405 between Magnolia and Lunar Streets. These impacts would occur in spite of the presence of an existing 10 feet 6 inch soundwall. Because the existing soundwall provides substantial insertion loss, increases in height would provide only limited additional noise reduction. The soundwall analysis summarized in Table G-15 demonstrates that 5 dB or more of noise reduction would not be achieved at these residences. Figures 11 and 12 in Appendix A3 show these receivers.

Receivers R3.14, R3.17, and R3.18: Traffic noise impacts would occur at 11 single family residences along the northbound side of I-405 between Lunar and Newland Streets. A soundwall at the shoulder would provide 5 dB or more of noise reduction at as many as six of these residences. However, the soundwall analysis summarized in Table G-15 demonstrates that the remaining five residences would not be provided with 5 dB or more of noise reduction. Figure 12 in Appendix A3 shows these receivers.

Table 7-60. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S935

Barrier I.D.: S935					
Predicted Sound Level without Barrier					
Critical Design Receiver: R3.99					
Design Year Noise Level, dBA L_{eq}(h): 66					
Design Year Noise Level Minus Existing Noise Level: 3					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	3	4	4	5
Number of Benefited Residences	NA	NA	NA	NA	4
New Highway or More than 50% of Residences Predate 1978[b]	NA	NA	NA	NA	Yes
Reasonable Allowance Per Benefited Residence	NA	NA	NA	NA	$45,000
Total Reasonable Allowance	NA	NA	NA	NA	$180,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Receivers R3.26 through R3.28: Traffic noise impacts would occur at eight single-family residences along the southbound side of I-405 between De Ville Circle and Landau Lane despite the presence of an existing 10 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-15 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 11 in Appendix A3 shows these receivers.

Receiver R3.42: Traffic noise impacts would occur at two single-family residences along the southbound side of I-405 between Heil Avenue and Newland Street despite the presence of an existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-15 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 12 in Appendix A3 shows this receiver.

Receivers R3.53, R3.54, R3.55, and R3.55A: Traffic noise impacts would occur at 18 multi-family residential units of the Huntington Creek Apartments along the southbound side of I-405 between Newland Street and Edinger Avenue despite the presence of an intervening existing 15 feet 6 inch high carport structure / property wall. The edge of shoulder in this area is higher than ground level at the carport structure / property wall. Accordingly, a soundwall was considered at the edge of shoulder. However, the soundwall analysis summarized in Table G-15 demonstrates that supplementing the carport structure / property wall with a new soundwall would not provide 5 dB or more of noise reduction at these residences. Figure 12 in Appendix A3 shows these receivers.

Receivers R3.69 through R3.75: Receivers R3.69 through R3.75 represent 41 units of the Driftwood Mobile Home Park along the northbound side of I-405 between Beach Boulevard and McFadden Avenue. Traffic noise impacts would occur at these receivers despite the presence of an intervening existing 10 feet 6 inches to 14-foot high soundwall. The soundwall analysis

summarized in Table G-15 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 13 and 14 in Appendix A3 show these receivers.

Receivers R3.76 and R3.77: Receivers R3.76 and R3.77 represent the northernmost five units of the Driftwood Mobile Home Park that would experience traffic noise impacts. The impacts would occur despite the presence of an intervening existing 14-foot high soundwall. In this area, the embankment at the McFadden Avenue overcrossing would be moved outward under Alternative 3 to accommodate the widening of I-405. Soundwall S896 would compensate for the additional noise exposure that the mobile homes would receive due to the reconfiguration of this embankment. However, further increases in the height of Soundwall S896 and the existing soundwall to the south would not provide 5 dB or more of noise reduction at these residences, as demonstrated in Table G-15. Figure 14 in Appendix A3 shows these receivers.

Receivers R3.81 and R3.81A: Traffic noise impacts would occur at five single family residences along the northbound side of I-405 north of McFadden Avenue despite the presence of an in-kind replacement 8-foot high soundwall. The soundwall analysis summarized in Table G-15 demonstrates that the replacement soundwall would not provide 5 dB or more of noise reduction at the five residences. Figure 14 in Appendix A3 shows these receivers.

Receivers R3.95, R3.96, and R3.98: Traffic noise impacts would occur at 20 single family residences along the southbound side of I-405 north of the Union Pacific Railroad underpass. These impacts would occur despite the presence of an in-kind replacement 8-foot high soundwall and an existing 12 feet 6 inch soundwall. The soundwall analysis summarized in Table G-15 demonstrates that the in-kind replacement soundwall or a higher soundwall replacing the existing soundwall would not provide 5 dB or more of noise reduction at these 20 residences. Figure 15 in Appendix A3 shows these receivers.

7.2.3.4. SEGMENT 4 – BOLSA AVENUE / GOLDENWEST STREET TO SR-22 / VALLEY VIEW STREET, SR-22 EAST TO SPRINGDALE STREET

Areas with Noise Abatement

Soundwalls S182, S972, and S978: These soundwalls which act as a system would be located along the northbound I-405 edge of shoulder. Soundwalls S182 and S972 would be in-kind replacement soundwalls; however, Soundwall S972 would be a higher wall than the wall it is replacing. Soundwall S978 would extend Soundwall S972 further to the north. Traffic noise impacts are predicted at 11 single family residences, the track and field area of Westminster High School, and Buckingham Park. Together, Soundwalls S182, S992, and S978 would provide at least 5 dB of noise reduction for three frontage units of the high school and six frontage units of the neighborhood park as well as two non-impacted single-family residences. Figures 16 and 17 in Appendix A3 show the minimum heights and lengths of Soundwalls S972 and S978 to provide feasible abatement along with the adjoining in-kind soundwall replacement, Soundwall S182. Table 7-61 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-61. Summary of Reasonableness Determination Data – Alternative 3 – Soundwalls S972 and S978

Barrier I.D.: S972 & S978					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.25A					
Design Year Noise Level, dBA L_{eq}(h): 70					
Design Year Noise Level Minus Existing Noise Level: 1					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	5	5	7	8	8
Number of Benefited Residences	2	4	6	9	11
New Highway or More than 50% of Residences Predate 1978[b]	No	No	No	No	No
Reasonable Allowance Per Benefited Residence	$35,000	$35,000	$37,000	$37,000	$37,000
Total Reasonable Allowance	$70,000	$140,000	$222,000	$333,000	$407,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S995: Soundwall S995 would be located at the right-of-way line along the southbound side of I-405. Soundwall S995 would replace an existing soundwall at the same location with a new height. Traffic noise impacts are predicted within the outdoor frequent use areas of five single-family residences in this area. Soundwall S995 would provide at least 5 dB of noise reduction for two of these residences. Figure 17 in Appendix A3 shows the minimum heights and length of Soundwall S995 to provide feasible abatement. Table 7-62 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-62. Summary of Reasonableness Determination Data – Alternative 3 -- Soundwall S995

Barrier I.D.: S995					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.1					
Design Year Noise Level, dBA L_{eq}(h): 72					
Design Year Noise Level Minus Existing Noise Level: 3					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	3	4	6
Number of Benefited Residences	N/A	N/A	N/A	N/A	2
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	No
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$39,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$78,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S998: This soundwall would be located at the right-of-way line along the northbound side of I-405 and would extend an existing soundwall to the north. Traffic noise impacts are predicted within the outdoor frequent use areas of two single-family residences and a multi-family unit in this area. Soundwall S998 would provide at least 5 dB of noise reduction for the two single-family residences. Figure 17 in Appendix A3 shows the minimum heights and length of Soundwall S995 to provide feasible abatement. Table 7-63 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-63. Summary of Reasonableness Determination Data – Alternative 3 -- Soundwall S998

Barrier I.D.: S998					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.32					
Design Year Noise Level, dBA L_{eq}(h): 73					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	2	3	4	5	7
Number of Benefited Residences	N/A	N/A	N/A	2	2
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$45,000	$47,000
Total Reasonable Allowance	N/A	N/A	N/A	$90,000	$94,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S1005 and S1009: These soundwalls would follow the right-of-way along the southbound I-405 on-ramp from Westminster Boulevard. Soundwall S1005 would replace and heighten an existing soundwall at its current location and Soundwall S1009 would extend S1005 to the north. Traffic noise impacts are predicted at six single-family residences represented by Receivers R4.7 through R4.9 as well as at Cascade Park represented by Receivers R4.10 through R4.12. Short-term noise measurement ST34 was conducted in the park; however, the measurement levels were suspicious and have not been included in the analysis. With minimum feasible soundwall heights, the six frontage units of the park would be benefited. In addition, a 5 dB noise reduction would be achieved at five non-impacted single-family residences represented by Receiver R4.13. Figures 17 and 18 in Appendix A3 show the minimum height and length of Soundwall S1009 to provide feasible abatement. Table 7-64 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-64. Summary of Reasonableness Determination Data – Alternative 3 – Soundwalls S1005 and S1009

Barrier I.D.: S1005 & S1009					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.11					
Design Year Noise Level, dBA L_{eq}(h): 75					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	8	9	10	11	12
Number of Benefited Residences	2	11	11	11	11
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$49,000	$51,000	$51,000	$51,000	$53,000
Total Reasonable Allowance	$98,000	$561,000	$561,000	$561,000	$583,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwall S1006: Soundwall S1006 would be located along the right-of-way line on the northbound side of I-405. The outdoor pool area of the Motel 6 represented by Receiver R4.33 as well as the interior rooms facing the freeway represented by Receiver R4.33A would experience traffic noise impacts. Furthermore, the pool area is predicted to be exposed to traffic noise levels of above 75 dBA; therefore, it is considered to be severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If Soundwall S1006 is determined to be unreasonable based on cost, providing the soundwall will still be required for this hotel. Soundwall S1006 would provide at least 5 dB of noise reduction for the pool and interior of the first floor motel rooms facing the freeway and would reduce to noise level of the pool area to be below the severe impact criteria. Figure 17 in Appendix A3 shows the minimum height and length of Soundwall S1006 to provide feasible. Table 7-65. summarizes predicted soundwall performance and associated cost allowance information.

Soundwalls S1016, S1020, S1022, and S1024: Soundwalls S1016 and S1020 would be located at the edge of shoulder along the northbound on-ramp from Westminster Boulevard and Soundwalls S1022 and S1024 would be located within the right-of-way. Soundwall S1020 would be an in-kind replacement soundwall with a new height at a new location and Soundwall S1022 would replace an existing soundwall with a taller wall at the existing location. The purpose of Soundwall S1024 is to extend the coverage of the replacement Soundwall S1022 to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 3. The reconfigured embankment would increase the exposure of a portion of Indian Village Park to freeway traffic noise. Traffic noise impacts are predicted to occur at the outdoor use areas of two different preschools associated with the Westminster Lutheran Church and Temple Beth David. Traffic noise impacts are also predicted at Indian Village Park in this area. Soundwalls S1016, S1020, S1022, and S1024 would combine to provide at least 5 dB of noise reduction for each of the schools and six frontage units of the park.

Figure 18 in Appendix A3 shows the minimum heights and lengths of Soundwalls S1016, S1020, and S1024 to provide feasible abatement. Table 7-66 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-65. Summary of Reasonableness Determination Data – Alternative 3 -- Soundwall S1006

Barrier I.D.: S1006					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.33					
Design Year Noise Level, dBA L_{eq}(h): 78					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	6	8	9	10	12
Number of Benefited Residences	7	7	7	7	7
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	$51,000	$51,000	$53,000	$53,000	$55,000
Total Reasonable Allowance	$357,000	$357,000	$371,000	$371,000	$385,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Table 7-66. Summary of Reasonableness Determination Data – Alternative 3 -- Soundwalls S1016, S1020, S1022, and S1024

Barrier I.D.: S1016, S1020, S1022, and S1024					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.65					
Design Year Noise Level, dBA L_{eq}(h): 74					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	0	5	6
Number of Benefited Residences	N/A	N/A	N/A	5	8
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	$47,000	$49,000
Total Reasonable Allowance	N/A	N/A	N/A	$235,000	$392,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S1026 and S1028: These soundwalls would be located at the right-of-way line along the northbound side of I-405. Soundwall S1026 would be a southern extension of Soundwall S1028 which would replace and heighten a portion of the south end of an existing soundwall at its current location. Soundwall S1026 would also extend the coverage of the adjoining existing

soundwall to compensate for the encroachment of I-405 onto the existing overcrossing embankment that would occur under Alternative 3. The reconfigured embankment would increase the exposure of nearby homes to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of four single family residences in this area; however, feasible noise reduction could only be obtained at one of the residences represented by Receiver R4.66. Together, Soundwalls S1026 and S1028 would provide at least 5 dB of noise reduction for this residence. Figure 18 in Appendix A3 shows the minimum heights and lengths of Soundwalls S1026 and S1028 to provide feasible abatement. Table 7-67 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-67. Summary of Reasonableness Determination Data – Alternative 3 – Soundwalls S1026 and S1028

Barrier I.D.: S1026 and S1028					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.66					
Design Year Noise Level, dBA L_{eq}(h): 73					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	0	0	0	4	6
Number of Benefited Residences	N/A	N/A	N/A	N/A	1
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$47,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$47,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Soundwalls S1083: Soundwall S1083 would be located at the right-of-way line along the southbound side of I-405. Soundwall S1083 would extend an existing soundwall to the north. Soundwall S1083 would replace an existing soundwall that was located within the right-of way; however, due to the widening of I-405 and the topography of the area, an in-kind replacement soundwall within the right-of-way was not analyzed because the most effective location of a soundwall for this area would be at the right-of way line. Traffic noise impacts are predicted within the outdoor frequent use areas of nine single-family residences in this area. Soundwall S1083 would provide at least 5 dB of noise reduction for five of the nine residences. Figure 20 in Appendix A3 shows the minimum heights and length of Soundwall S1083 to provide feasible abatement. Table 7-68 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-68. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S1083

Barrier I.D.: S1083					
Predicted Sound Level without Barrier					
Critical Design Receiver: R4.62					
Design Year Noise Level, dBA L_{eq}(h): 70					
Design Year Noise Level Minus Existing Noise Level: 8					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	3	5	6	7	8
Number of Benefited Residences	N/A	2	2	5	5
New Highway or More than 50% of Residences Predate 1978[b]	N/A	Yes	Yes	Yes	Yes
Reasonable Allowance Per Benefited Residence	N/A	$49,000	$51,000	$51,000	$51,000
Total Reasonable Allowance	N/A	$98,000	$102,000	$255,000	$255,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R4.2 through R4.6: Traffic noise impacts would occur at eight single-family residences as well as Willow Lane Town and Country School along the southbound side of I-405 along Willow Lane and Mahogany Avenue despite the presence of an existing 10 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-16 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 17 in Appendix A3 shows these receivers.

Receivers R4.14A through R4.17: Traffic noise impacts would occur at the frequent outdoor use areas of 11 first row and two second row single family residences along the northbound side of I-405 along Sowell Avenue north of Goldenwest Street. These receivers would be protected by Soundwall S182 located at the edge of the shoulder which would be an in-kind replacement of the existing soundwall located at the current edge of shoulder. However, Soundwall S182 would not provide 5 dB or more of noise reduction when raised above the in-kind height of 10-feet. The soundwall analysis is summarized in Table G-16 demonstrates that Soundwall S182 would not provide 5 dB or more of noise reduction at the 11 impacted residences. Figure 16 in Appendix `A3 show these receivers.

Receivers R4.27 through R4.29, and R4.31A: Traffic noise impacts would occur at the patio areas of six multi-family residences along the northbound side of I-405 between Edwards Street and Westminster Boulevard despite the presence of an existing 14 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-16 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 17 in Appendix A3 shows these receivers.

Receivers R4.35 through R4.58: Traffic noise impacts would occur at the frequent outdoor use areas of 59 first row and eight second row single-family residences along the southbound side of

I-405 between Springdale Street and Valley View Street despite the presence of an existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table C-16 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 18 through 20 in Appendix A3 show these receivers.

Receivers R4.67 through R4.83B: Traffic noise impacts would occur at 49 single-family residential units and 30 mobile homes along the northbound side of I-405 between Springdale Street and Valley View Street despite the presence of an intervening existing 12 feet 6 inch high soundwall. The soundwall analysis summarized in Table G-16 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 18 through 20 in Appendix A3 show these receivers.

7.2.3.5. SEGMENT 5 – VALLEY VIEW STREET TO SEAL BEACH DRIVE

Areas with Noise Abatement

Soundwall S1116: Soundwall S1116 would replace a portion of an existing soundwall along the northbound side of I-405. It would be located at the edge of shoulder. This in-kind replacement would be necessitated by the encroachment of the project onto this portion of the existing soundwall. At two of the residences behind this soundwall, traffic noise impacts are predicted under Alternative 3 even with in-kind replacement of this segment of the existing 18-foot high soundwall. Figure 21 in Appendix A3 shows the location and height of in-kind replacement Soundwall S1116 along with the portions of the associated existing soundwall that would remain.

Soundwall S1132: Soundwall S1132 would replace a portion of an existing soundwall along the northbound side of I-405. It would be located at the edge of shoulder. This in-kind replacement would be necessitated by the encroachment of the project onto this portion of the existing soundwall. At 10 of the residences behind this soundwall, traffic noise impacts are predicted under Alternative 3 even with in-kind replacement of this segment of the existing 18-foot high soundwall. Figures 21 and 22 in Appendix A3 show the location and height of in-kind replacement Soundwall S1132 along with the portions of the associated existing soundwall that would remain.

Soundwall S1162: Soundwall S1162 would be located at the edge of shoulder along the northbound side of I-405. It would provide abatement for the City of Seal Beach Tennis Court Center, an area that already experiences some noise reduction from a combination of an existing property wall and berm. Figures 22 and 23 in Appendix A3 show the minimum heights and length of Soundwall S1162 to achieve at least 5 dB noise reduction at this tennis facility. Table 7-69 summarizes predicted soundwall performance and associated cost allowance information.

Table 7-69. Summary of Reasonableness Determination Data – Alternative 3 – Soundwall S1162

Barrier I.D.: S1162					
Predicted Sound Level without Barrier					
Critical Design Receiver: R5.39					
Design Year Noise Level, dBA L_{eq}(h): 67					
Design Year Noise Level Minus Existing Noise Level: 2					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier[c]**
Barrier Noise Reduction, dB	1	3	6	6	3
Number of Benefited Residences	N/A	N/A	2	2	N/A
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	Yes	Yes	N/A
Reasonable Allowance Per Benefited Residence	N/A	N/A	$45,000	$45,000	N/A
Total Reasonable Allowance	N/A	N/A	$90,000	$90,000	N/A

Note: NA-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] An NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

[c] These results are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver.

Areas without Feasible Noise Abatement

Receivers R5.15, R5.17, R5.23, R5.35, R5.37, and R5.38: These receivers are behind portions of an existing 18-foot high soundwall between Violet and Aster Streets along northbound I-405 that would not need to be replaced under Alternative 3. They would experience traffic noise impacts despite the presence of the soundwall. These receivers represent 16 single family residences as well as Shapell and Blue Bell Parks. Figures 21 and 22 in Appendix A3 show these receivers.

Receiver R5.19: Receiver R5.19 would be behind a portion of an existing 18-foot high soundwall between Violet and Aster Streets that would need to be replaced in kind by Soundwall S1116 because it would be demolished under Alternative 3. This receiver represents two single family residences that would experience traffic noise impacts despite the presence of the reconfigured soundwall. Figure 21 in Appendix A3 shows this receiver.

Receivers R5.28, R5.30, R5.32, and R5.33: Along the northbound side of I-405 between Jasmin and Dahlia Circles, 10 single family residences would be exposed to traffic noise impacts under Alternative 3. These impacts would occur in spite of the presence of an 18-foot high replacement Soundwall S1132. Figure 22 in Appendix A3 shows these receivers.

7.2.3.6. SEGMENT 6 –SEAL BEACH BOULEVARD TO I-605, I-605 NORTH TO SOUTH OF KATELLA AVENUE

Areas with Noise Abatement

Soundwall S431: Soundwall S431 would be an in-kind replacement of the existing 10- to 14-foot high soundwall at the right-of-way line due to the necessity of constructing a retaining wall at the edge of shoulder in this area. At 20 of the residences behind this soundwall, traffic noise impacts

are predicted under Alternative 3 even with the in-kind replacement of the existing soundwall and increasing the height would not provide feasible noise reduction. Figures 24 and 25 in Appendix A3 show the location and height of Soundwall S431.

Soundwall S434: Soundwall S434 would replace a portion of an existing soundwall along the shoulder of northbound side of I-405. Soundwall S434 has been proposed for the SR-22 West County Connectors Project and currently does not exist; however, due to the widening of I-405, the proposed soundwall under the SR-22 project will need to be moved to follow the I-405 project's proposed on-ramp from Old Ranch Parkway. At nine of the residences behind this soundwall, traffic noise impacts are predicted under Alternative 3 even with the in-kind replacement of this segment of the existing soundwall and increasing the height would not provide feasible noise reduction. Figure 24 in Appendix A3 shows the location and height of Soundwall S434 along with the portions of the associated existing soundwall that would remain.

Soundwall S445: Soundwall S445 would replace a portion of an existing soundwall along the southbound side of the eastbound SR-22 to southbound I-405 connector edge of shoulder. Soundwall S445 has been proposed for the SR-22 West County Connectors Project and currently does not exist; however, due to the widening of I-405, the proposed soundwall under the SR-22 project will need to be moved to follow the I-405 project's proposed alignment. There would be no traffic noise impacts behind this soundwall. Figure 25 in Appendix A3 shows the location and height of Soundwall S445 along with the portions of the associated existing soundwall that would remain.

Soundwall S1226: This soundwall would be located at the right-of-way line along the northbound side of I-405 and would extend to connect to an existing soundwall to the east. The purpose of Soundwall S1226 is to extend the coverage of the existing soundwall to compensate for the encroachment of I-405 onto the existing northbound I-405 to westbound SR-22 embankment that would occur under Alternative 3. The existing embankment currently protects this area; however, the reconfigured embankment/retaining wall would expose this area to freeway traffic noise. Traffic noise impacts are predicted within the outdoor frequent use areas of nine single-family residences in this area. Soundwall S1226 would provide at least 5 dB of noise reduction for three single-family residences. Figure 25 in Appendix A3 shows the minimum heights and location of Soundwall S1226 to provide feasible abatement. Table 7-70. summarizes predicted soundwall performance and associated cost allowance information.

Soundwall S464: Soundwall S464 would be an in-kind replacement soundwall of a proposed soundwall under the SR-22 West County Connectors Project that would need to be replaced due to the additional widening of I-405 under the I-405 project. Traffic noise impacts are predicted within the outdoor frequent use areas of two single-family residences in this area but this soundwall would not provide 5 dB or more of traffic noise reduction. Figure 26 in Appendix A3 shows the location and height of Soundwall S464.

Table 7-70. Summary of Reasonableness Determination Data – Alternative 3 -- Soundwall S1226

Barrier I.D.: S1226					
Predicted Sound Level without Barrier					
Critical Design Receiver: R6.36A					
Design Year Noise Level, dBA L_{eq}(h): 71					
Design Year Noise Level Minus Existing Noise Level: 5					
Design Year with Barrier	**8-Foot Barrier**	**10-Foot Barrier**	**12-Foot Barrier**	**14-Foot Barrier**	**16-Foot Barrier**
Barrier Noise Reduction, dB	1	3	4	4	5
Number of Benefited Residences	N/A	N/A	N/A	N/A	3
New Highway or More than 50% of Residences Predate 1978[b]	N/A	N/A	N/A	N/A	Yes
Reasonable Allowance Per Benefited Residence	N/A	N/A	N/A	N/A	$47,000
Total Reasonable Allowance	N/A	N/A	N/A	N/A	$141,000

Note: N/A-Not applicable. Barrier does not provide 5 dB of noise reduction.

[a] A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

[b] This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

Areas without Feasible Noise Abatement

Receivers R6.2, R6.3, R6.6, and R6.8 through R6.11: Traffic noise impacts would occur at 20 multi-family residential units of Leisure World retirement community along the southbound side of I-405 between Beverly Manor and Del Monte Drives despite the presence of 10- to 14-foot high Soundwall S431, which is an in-kind replacement soundwall. The soundwall analysis summarized in Table G-18 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 24 and 25 in Appendix A3 show these receivers.

Receiver R6.24: Traffic noise impacts would occur at three single-family residences along the northbound side of I-405 on Yellowtail Drive between Silverfox Road and Druid Lane. This receiver is protected by an existing 10-foot high soundwall located along Old Ranch Parkway. However, replacing the existing soundwall with a higher soundwall would not provide 5 dB or more of noise reduction. The soundwall analysis is summarized in Table G-18 demonstrates that 5 dB or more of noise reduction would not be achieved at the impacted residences. Figure 16 in Appendix A3 shows this receiver.

Receivers R6.26 through R6.29: Traffic noise impacts would occur at nine single-family residences along the northbound side of I-405 on Yellowtail Drive between Silverfox Road and Druid Lane despite the presence of Soundwall S434 which is a 14-foot high in-kind replacement soundwall. The soundwall analysis summarized in Table G-18 demonstrates that replacing the in-kind replacement soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figure 24 in Appendix A3 shows these receivers.

Receivers R6.31 and R6.34A: Traffic noise impacts would occur at the frequent outdoor use areas of five single-family residences along the northbound side of I-405 on Yellowtail Drive east of Druid Lane and on Martha Ann Drive at Spur Lane despite the presence of an existing 14 to 14 feet 4 inch high soundwall. This existing soundwall has been proposed for the SR-22 West

County Connectors Project and currently does not exist. The soundwall analysis summarized in Table G-18 demonstrates that replacing the existing soundwall with one at a greater height would not provide 5 dB or more of noise reduction at these residences. Figures 24 and 25 in Appendix A3 show these receivers.

Receivers R6.37 through R6.39, R6.41 through R6.43, R6.45, and R6.46: Traffic noise impacts would occur at 20 single-family residences along the northbound side of I-405 on Martha Ann Drive between Tigertail and Salmon Drives despite the presence of an intervening existing and an in-kind replacement soundwall. Noise reduction of a soundwall higher than 16 feet was not analyzed as part of this traffic noise impact study. Figures 25 and 26 in Appendix A3 show these receivers.

Receivers R6.73 through R6.75, R6.77, R6.79, and R6.80: Traffic noise impacts would occur at 35 single-family residences along the northbound side of I-405 on Martha Ann Drive between Piedmont Avenue and Shakespeare Drive despite the presence of an existing and 16-foot high soundwall. Noise reduction of a soundwall higher than 16 feet was not analyzed as part of this traffic noise impact study. Figures 25 and 26 in Appendix A3 show these receivers.

Areas with Unusual and Extraordinary Abatement

Receivers where the predicted peak hour noise level is at or above 75 dBA are to be considered severely impacted. Where severe impacts are identified, unusual and extraordinary abatement must be considered. If a soundwall is determined to be unreasonable based on cost, providing the soundwall for frequent outdoor use areas will still be required when a 5 dB reduction in traffic noise levels is acoustically feasible.

Receiver R2.46: The predicted peak hour traffic noise level is 75 dBA for this receiver and would be considered severely impacted. Receiver R2.46 represents the frontage unit of the preschool playground associated with Huntington Baptist Church. Soundwall S746 would provide the required 5 dB reduction in traffic noise levels.

Receivers R3.48 and R3.50: Predicted peak hour traffic noise levels are at or above 75 dBA for these receivers and would be considered severely impacted. Receivers R3.48 and R3.50 each represent one single family residence. Soundwall S841 would provide the required 5 dB reduction in traffic noise levels at these residences.

Receivers R4.10 and R4.11: Receivers R4.10 and R4.11 respectively represent three and two frontage units of Cascade Park. The predicted peak hour noise level is 75 dBA for these receivers. Soundwalls S1005 and S1009 would provide the minimum 5 dB reduction in traffic noise for Cascade Park.

Receiver R4.33: The predicted peak hour traffic noise level is above 75 dBA for this receiver and would be considered severely impacted. Receiver R4.33 represents one frontage unit of the pool area at the Motel 6. Soundwall S1006 would provide the required minimum 5 dB reduction in traffic noise to below the severe impact criteria.

Chapter 8. Construction Noise

During the construction phases of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 8-1 summarizes noise levels produced by construction equipment commonly used on roadway construction projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 80 to 89 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 8-1. Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration, 2006

Construction noise varies greatly depending on the construction process, type and condition of equipment used, as well as layout of the construction site. Many of these factors are traditionally left to the contractor's discretion, which makes it difficult to accurately estimate levels of construction noise. Construction noise estimates are approximate because of the lack of specific information available at the time of the assessment. Temporary construction noise impacts would be unavoidable at areas located immediately adjacent to the proposed project alignment.

The noise level requirement specified herein shall apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers or transient equipment that may or may not be owned by the Contractor.

Sound control shall conform to the provisions in Section 14-8.02, "Noise Control," of the Standard Specifications and S5-310 “Noise Control” of the Standard Special Provisions. According to requirements of these specifications, construction noise cannot exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.

Using alternative warning methods instead of a sound signal should be considered unless required by safety laws. All internal combustion engines must be equipped with the manufacturer-recommended muffler. An internal combustion engine cannot be operated on the job site without the appropriate muffler.

Minor deviations from this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the Contractor, if in the opinion of the Resident Engineer, the work will be expedited and sound levels resulting from this work will not cause adverse public reaction.

Chapter 9. References

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FTA, 2006. Federal Transit Administration. *Transit Noise and Vibration Impact Assessment*, May.

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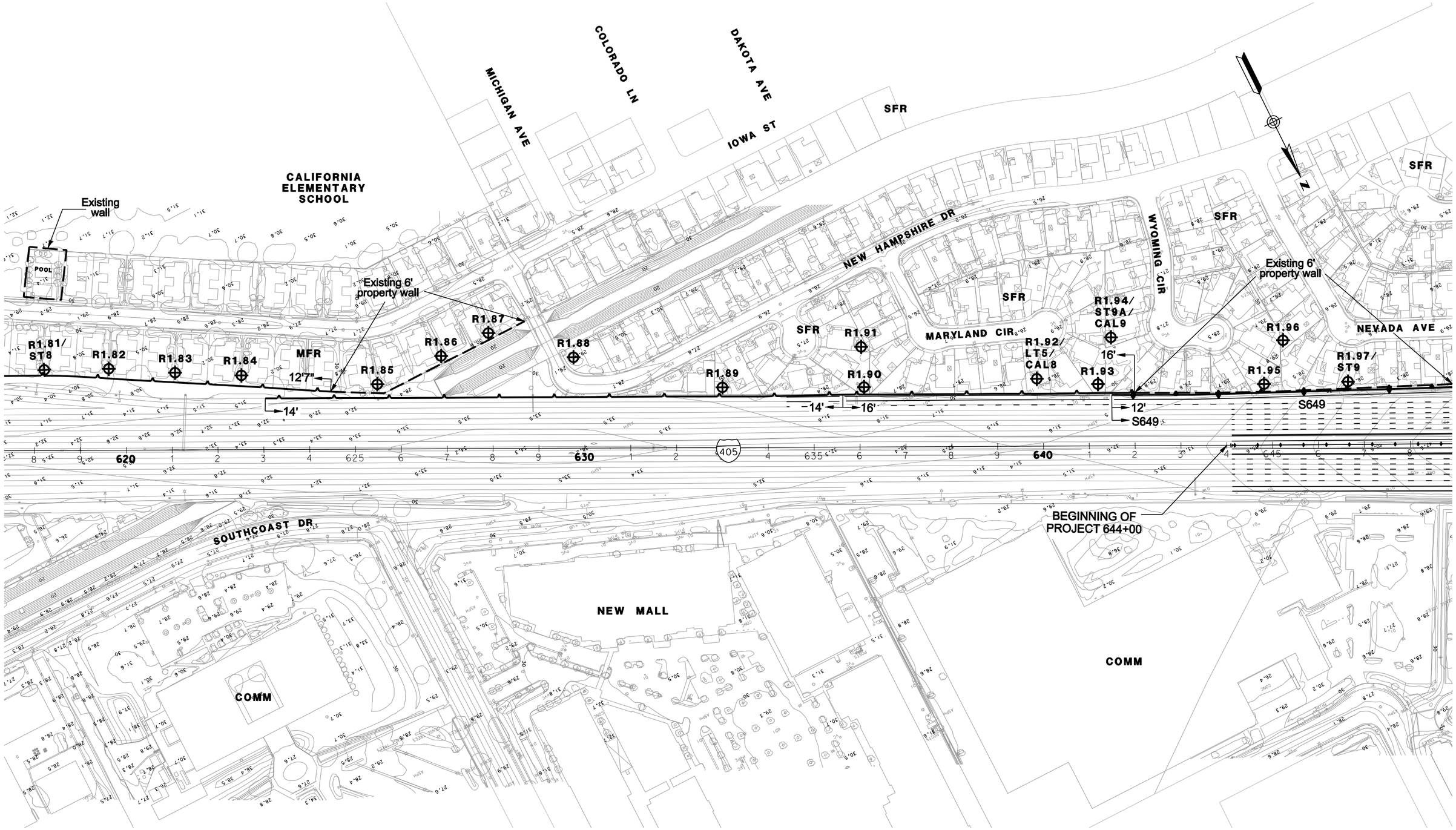
Appendix A Modeled Receiver and Feasible Noise Barrier Locations

Appendix A1 Alternative 1



LEGEND

- RXX – RECEIVER SITE
- LT – LONGTERM MEASUREMENT
- ST – SHORTTERM MEASUREMENT
- CAL – CALIBRATION SITE
- EXISTING WALL
- SOUNDWALL
- EXISTING SOUNDWALL
- REPLACEMENT IN KIND SOUNDWALL
- SFR – SINGLE FAMILY RESIDENCE
- MFR – MULTI-FAMILY RESIDENCE
- COMM – COMMERCIAL
- b – BENEFITED RESIDENCE

1in : 200ft

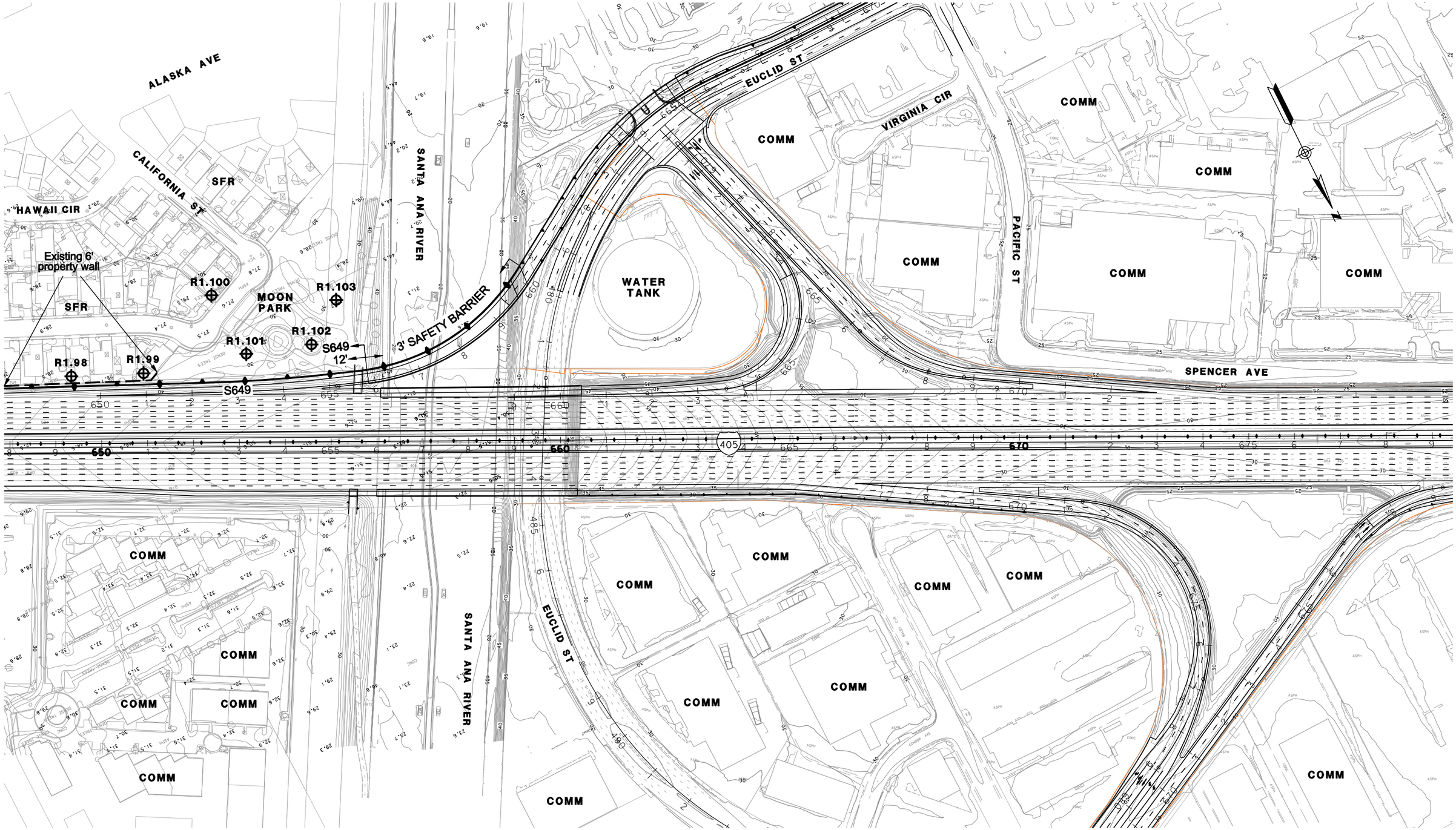
0 ft 100ft 200ft 300ft

PARSONS
100 WEST WALNUT ST.
PASADENA, CA 91124
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT1

FEBRUARY 23, 2011

FIGURE 5



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PARSONS
100 WEST WALNUT ST.
PASADENA, CA 91124
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT1

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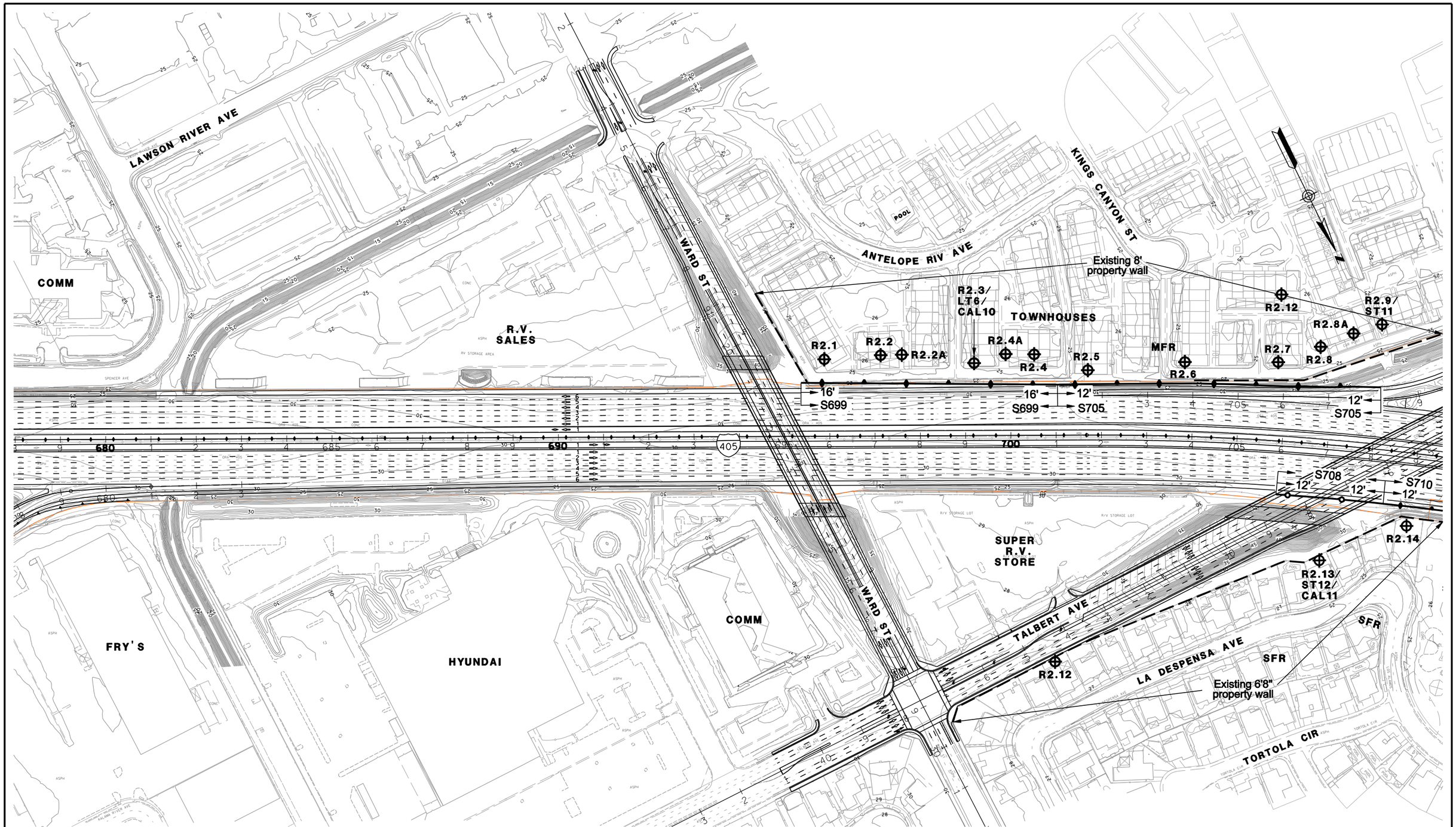
FIGURE 6



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1in : 200ft

0 ft 100ft 200ft 300ft

PARSONS
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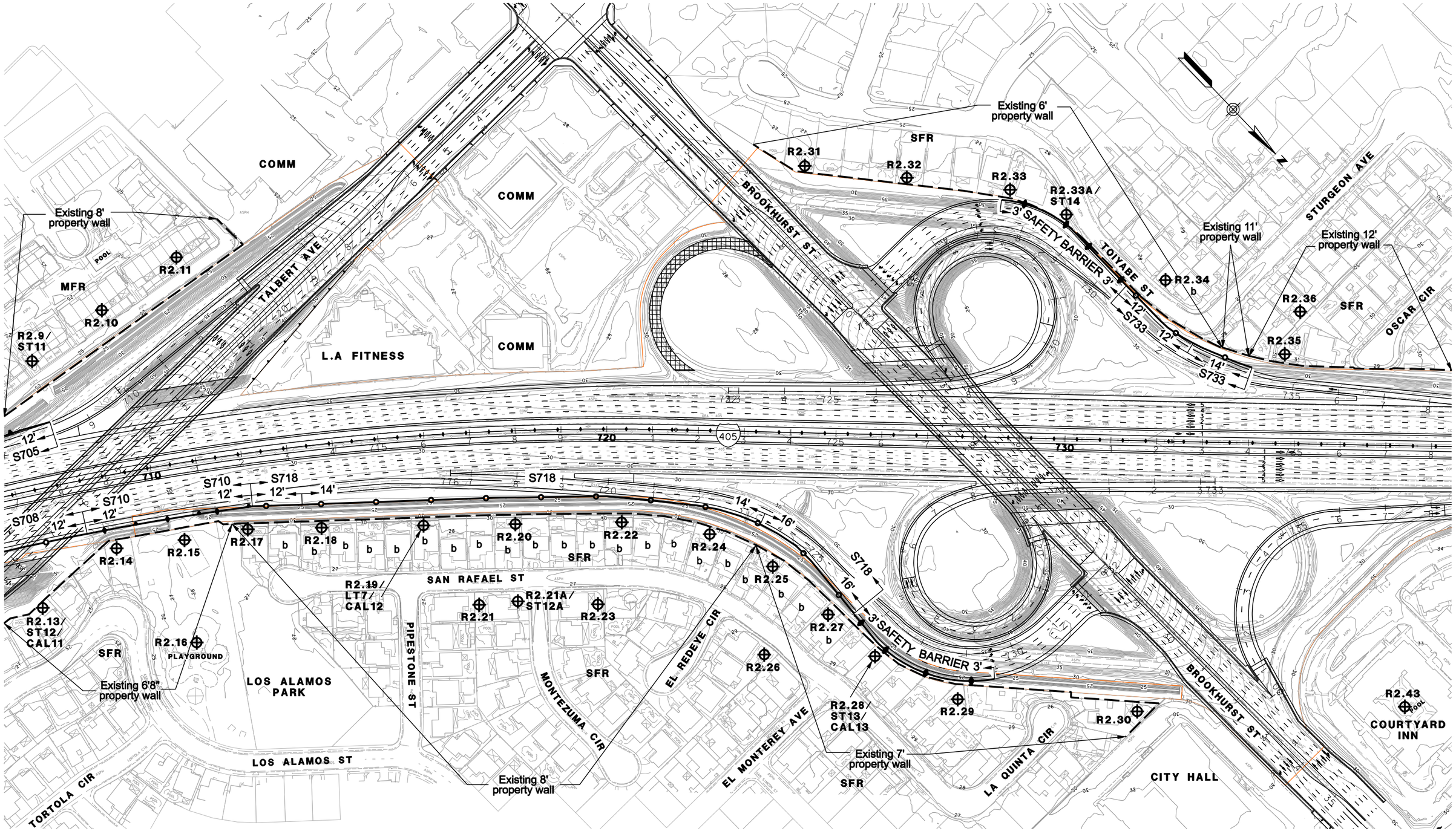
PASADENA, CA 91124
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT1

FEBRUARY 23, 2011

FIGURE 7



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1in : 200ft

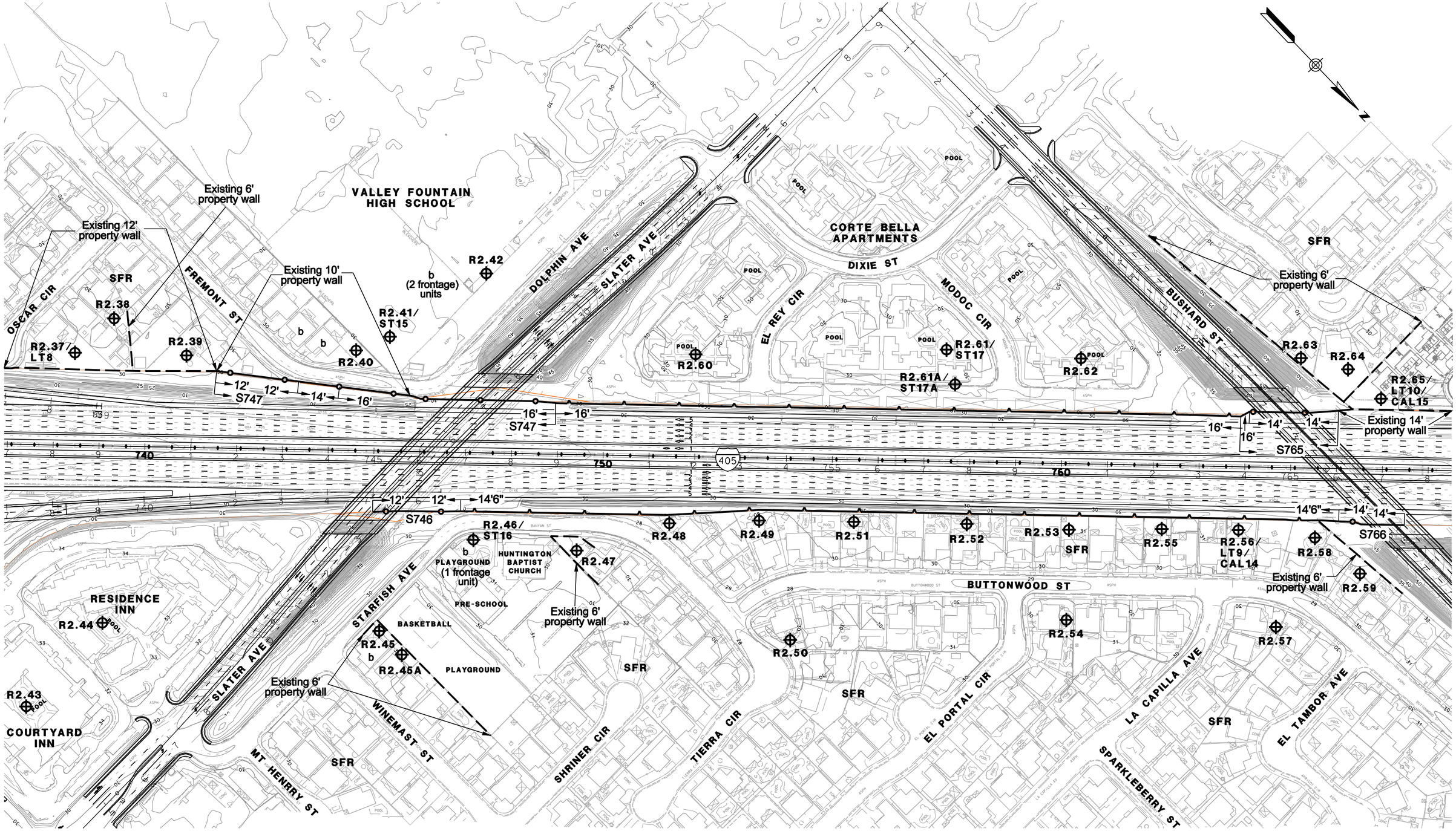
0 ft 100ft 200ft 300ft

PARSONS
100 WEST WALNUT ST.
PASADENA, CA 91124
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT1

FEBRUARY 23, 2011

FIGURE 8



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- SOUNDWALL
- EXISTING SOUNDWALL
- REPLACEMENT IN KIND SOUNDWALL
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- COMM – COMMERCIAL
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1in : 200ft

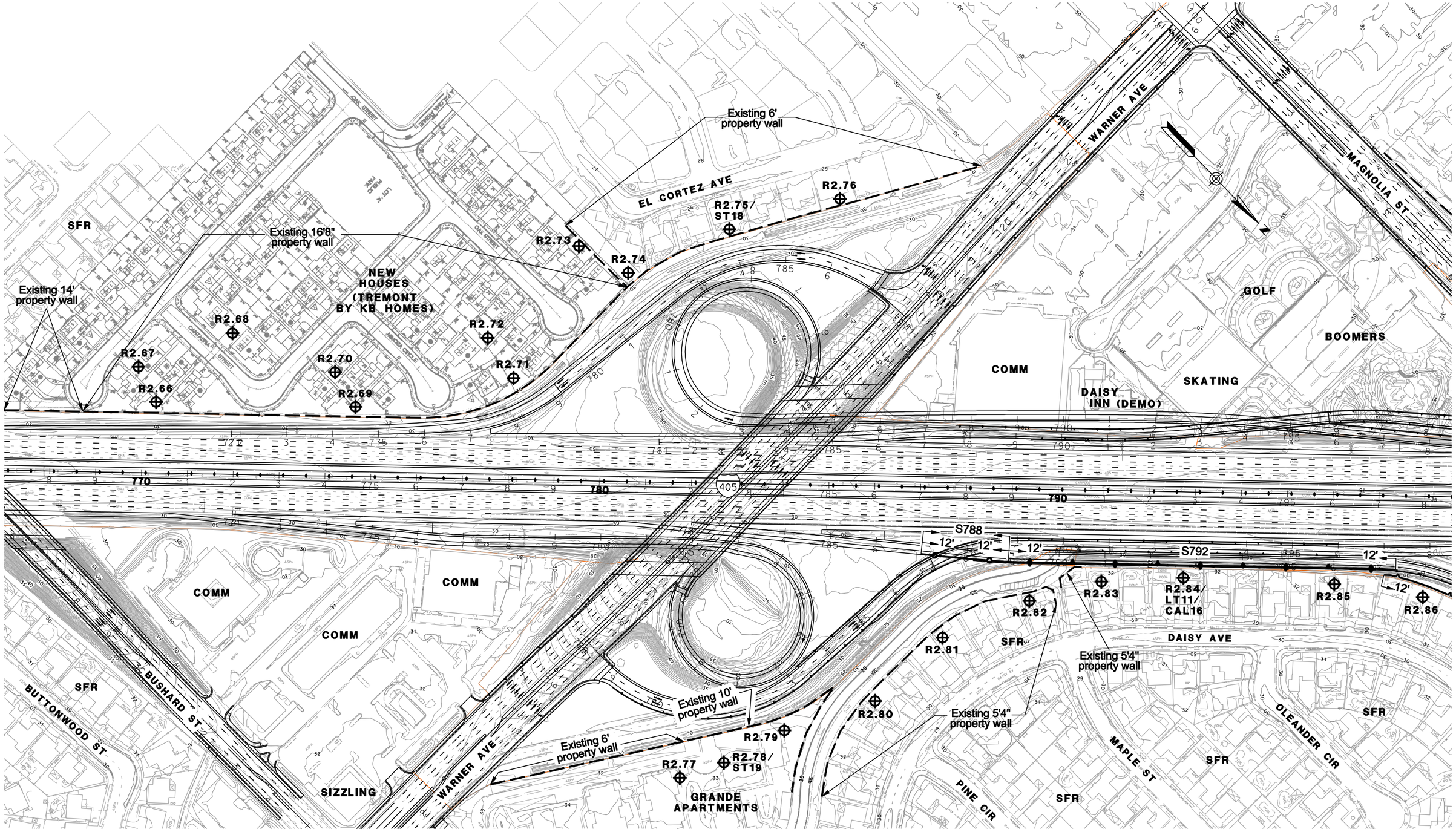
0 ft 100ft 200ft 300ft

PARSONS
100 WEST WALNUT ST.
PASADENA, CA 91124
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT1

FEBRUARY 23, 2011

FIGURE 9



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- EXISTING WALL
- SOUNDWALL
- EXISTING SOUNDWALL
- REPLACEMENT IN KIND SOUNDWALL
- SFR – SINGLE FAMILY RESIDENCE
- MFR – MULTI-FAMILY RESIDENCE
- COMM – COMMERCIAL
- b – BENEFITED RESIDENCE

1in : 200ft

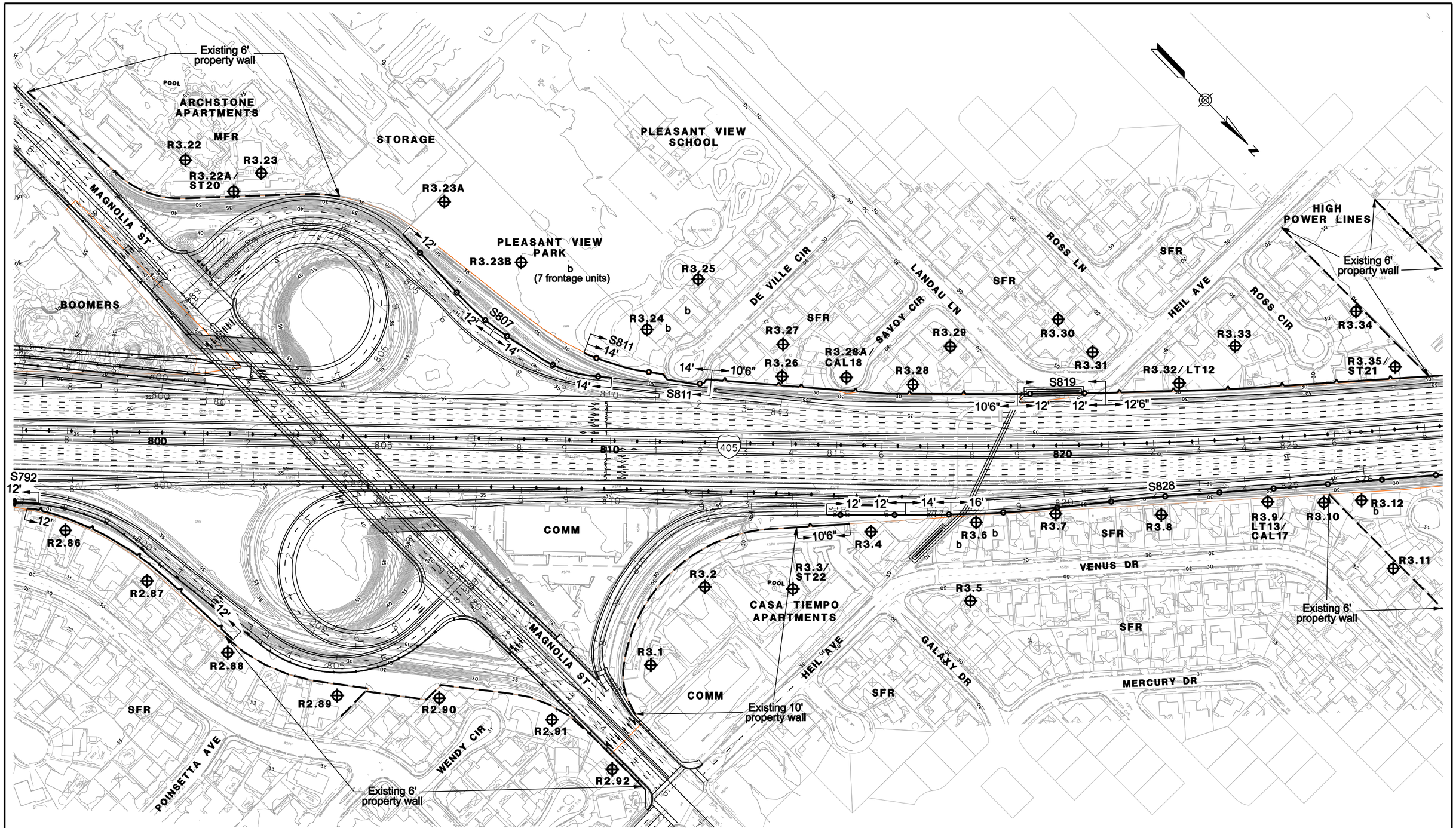
0 ft 100ft 200ft 300ft

PARSONS
100 WEST WALNUT ST.
PASADENA, CA 91124
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT1

FEBRUARY 23, 2011

FIGURE 10



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1in : 200ft

0 ft 100ft 200ft 300ft

PARSONS
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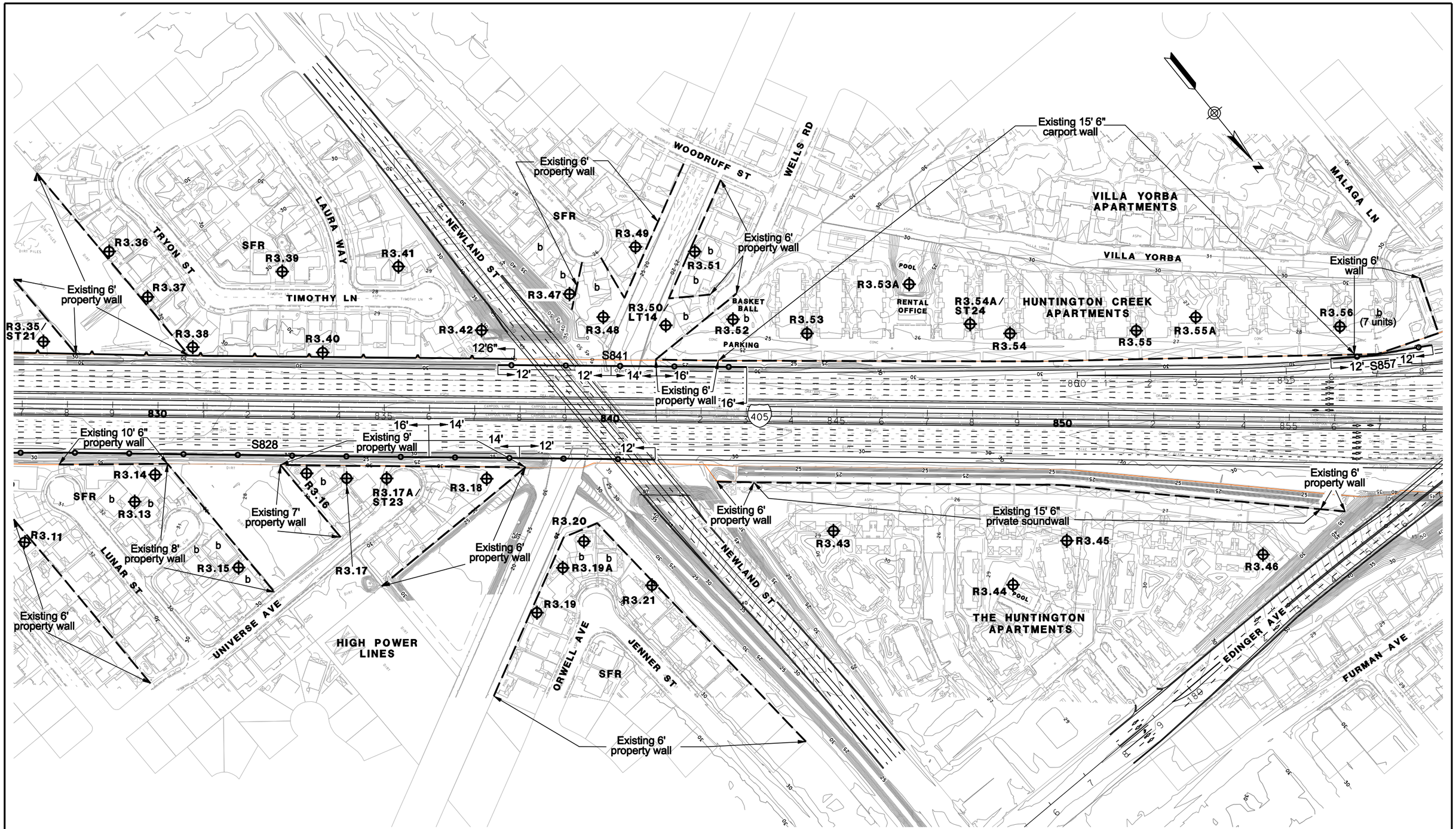
FIGURE 11



LEGEND

- RXX – RECEIVER SITE
- LT – LONGTERM MEASUREMENT
- ST – SHORTTERM MEASUREMENT
- CAL – CALIBRATION SITE
- EXISTING WALL
- SOUNDWALL
- EXISTING SOUNDWALL
- REPLACEMENT IN KIND SOUNDWALL
- SFR – SINGLE FAMILY RESIDENCE
- MFR – MULTI-FAMILY RESIDENCE
- COMM – COMMERCIAL
- b – BENEFITED RESIDENCE

1in : 200ft

0 ft 100ft 200ft 300ft

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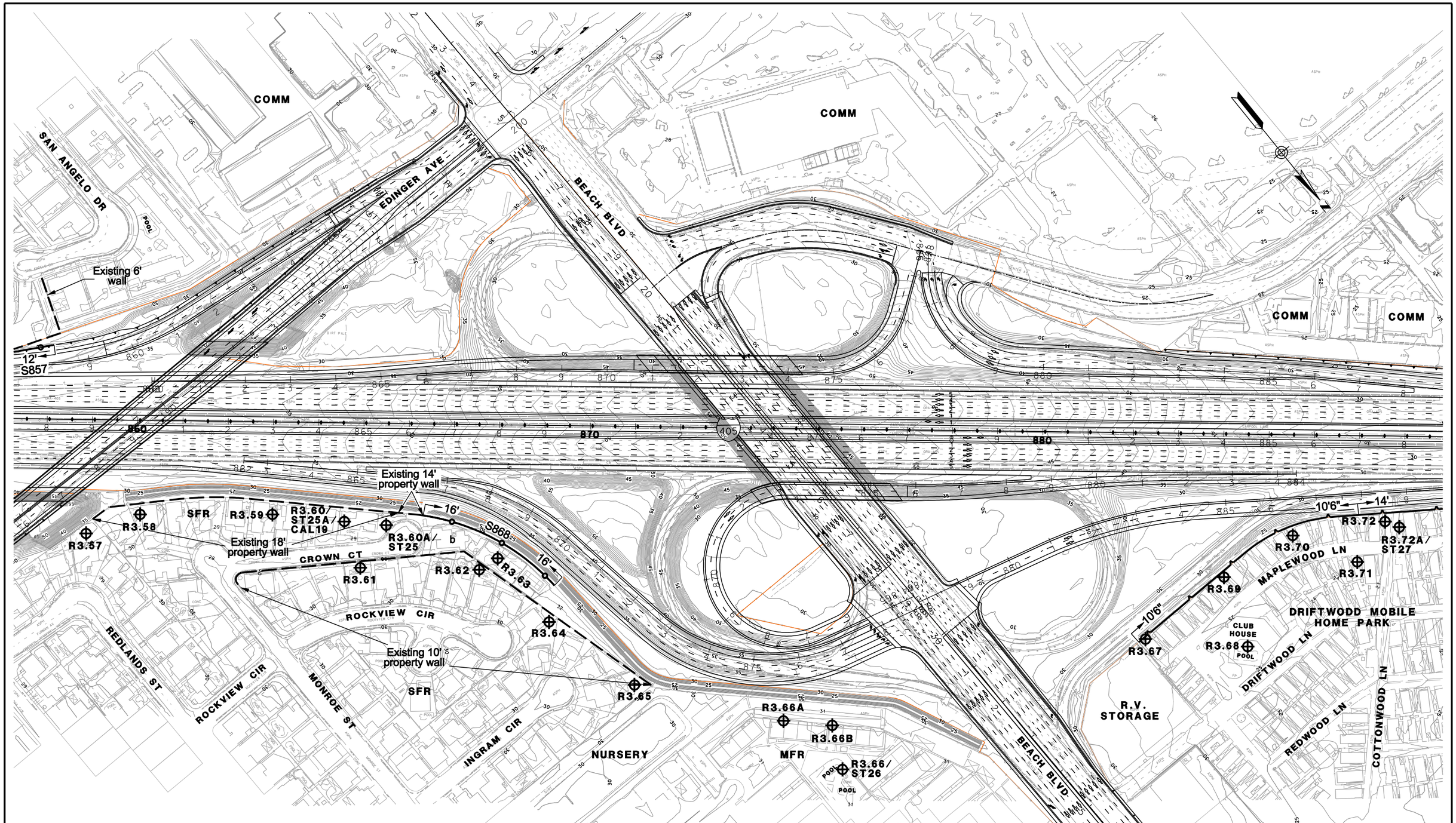
FIGURE 12



LEGEND

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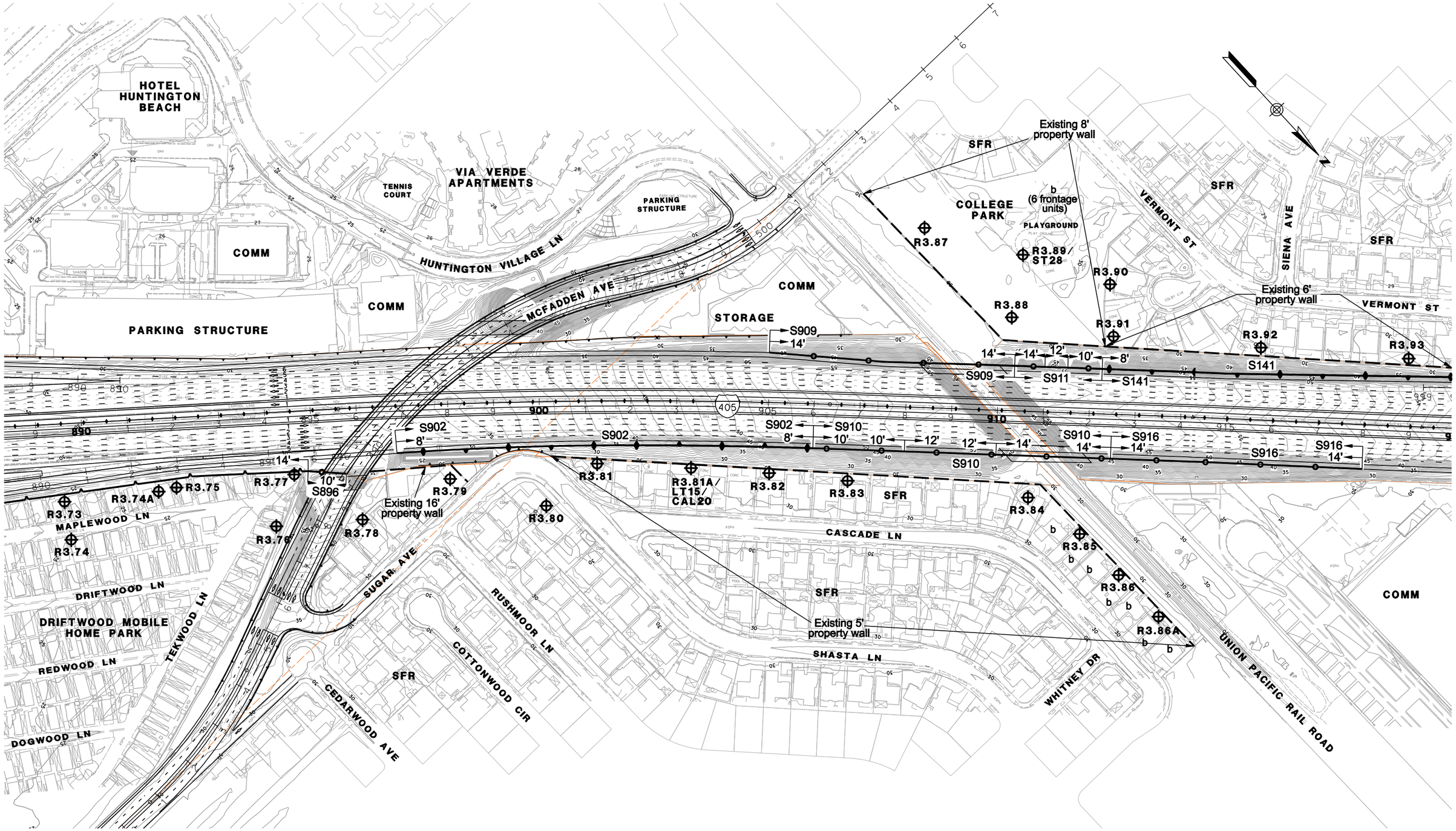
FIGURE 13



LEGEND

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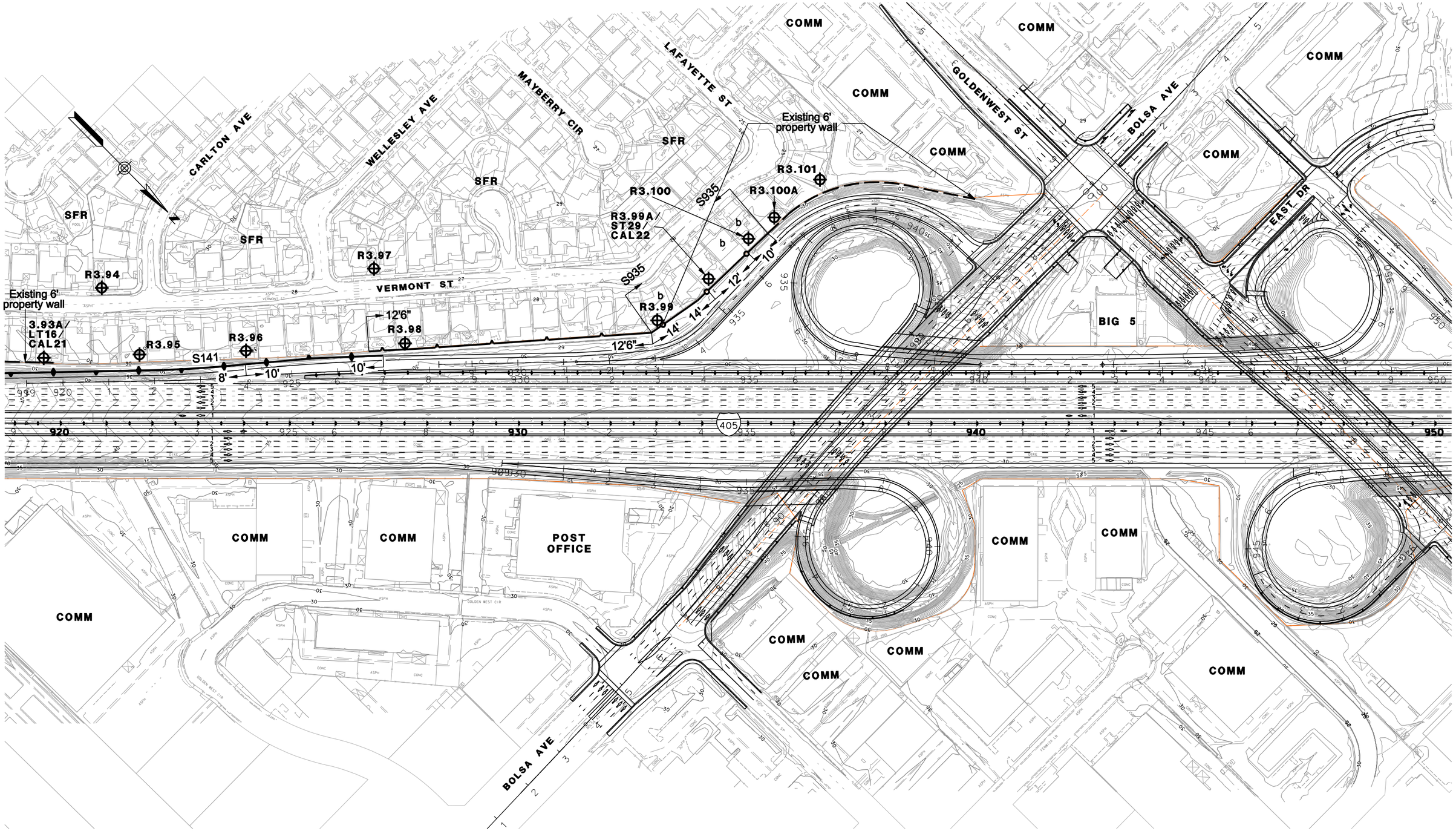
FIGURE 14



LEGEND

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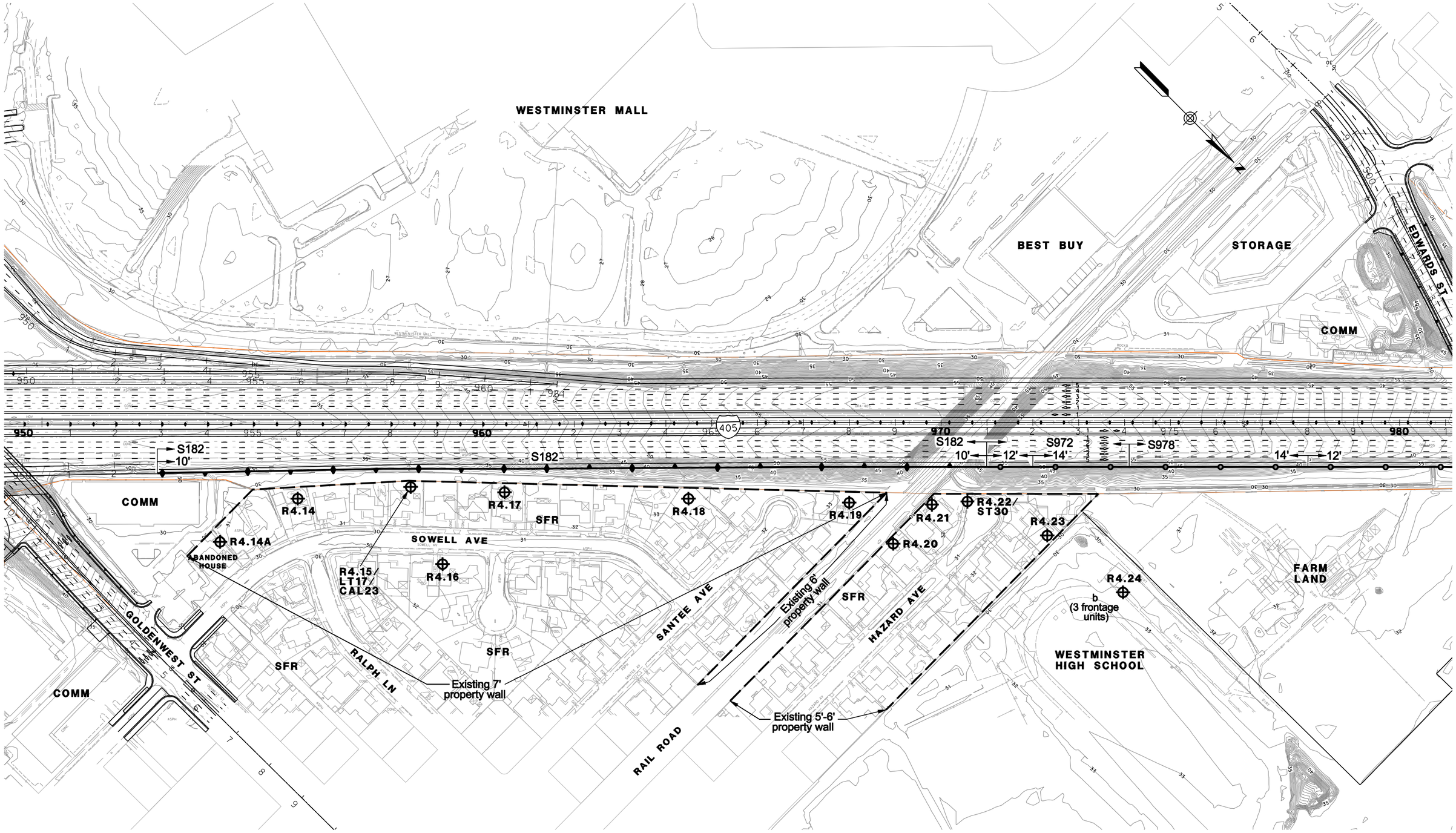
FIGURE 15



LEGEND

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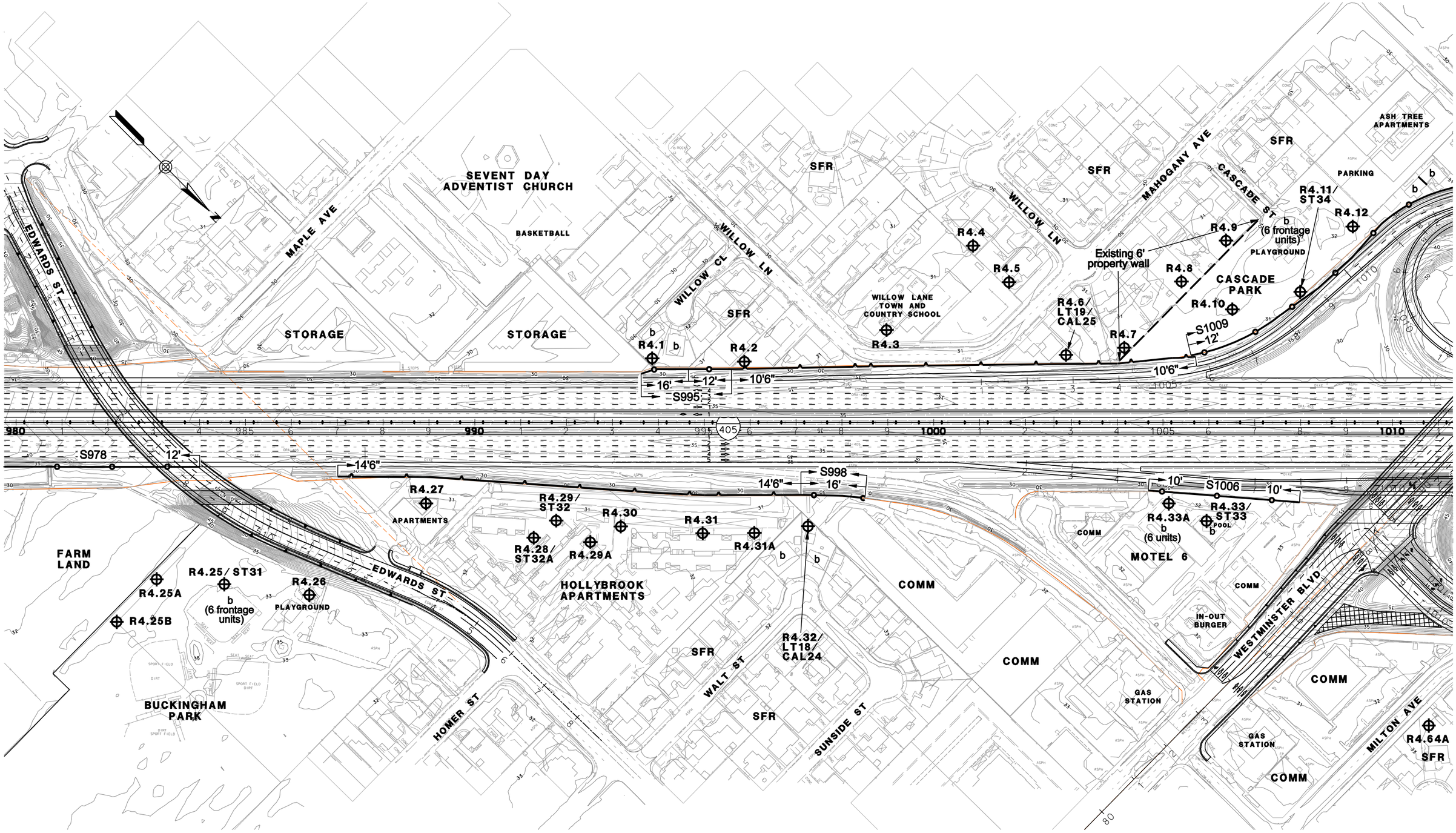
FIGURE 16



LEGEND

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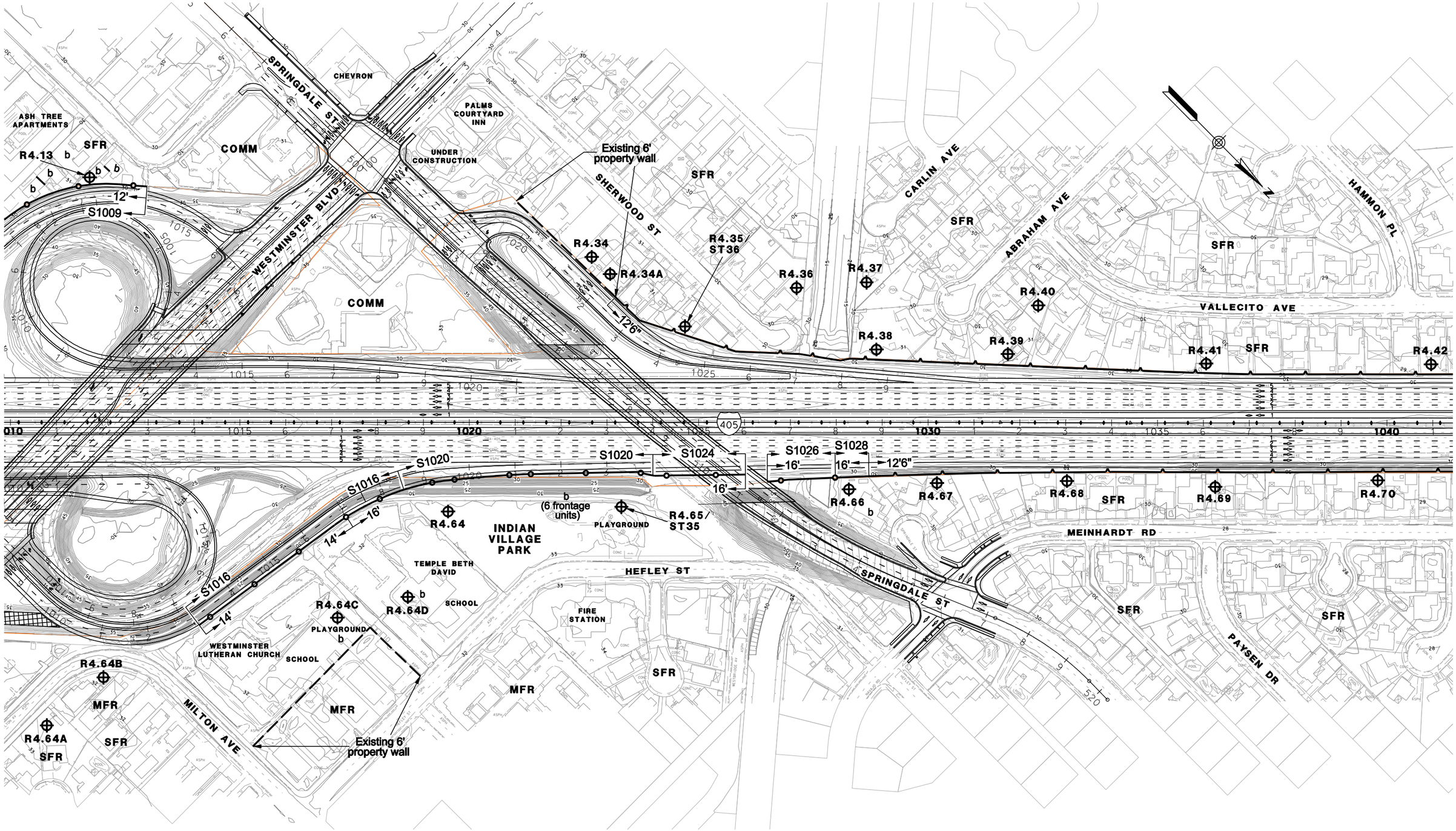
FIGURE 17



LEGEND

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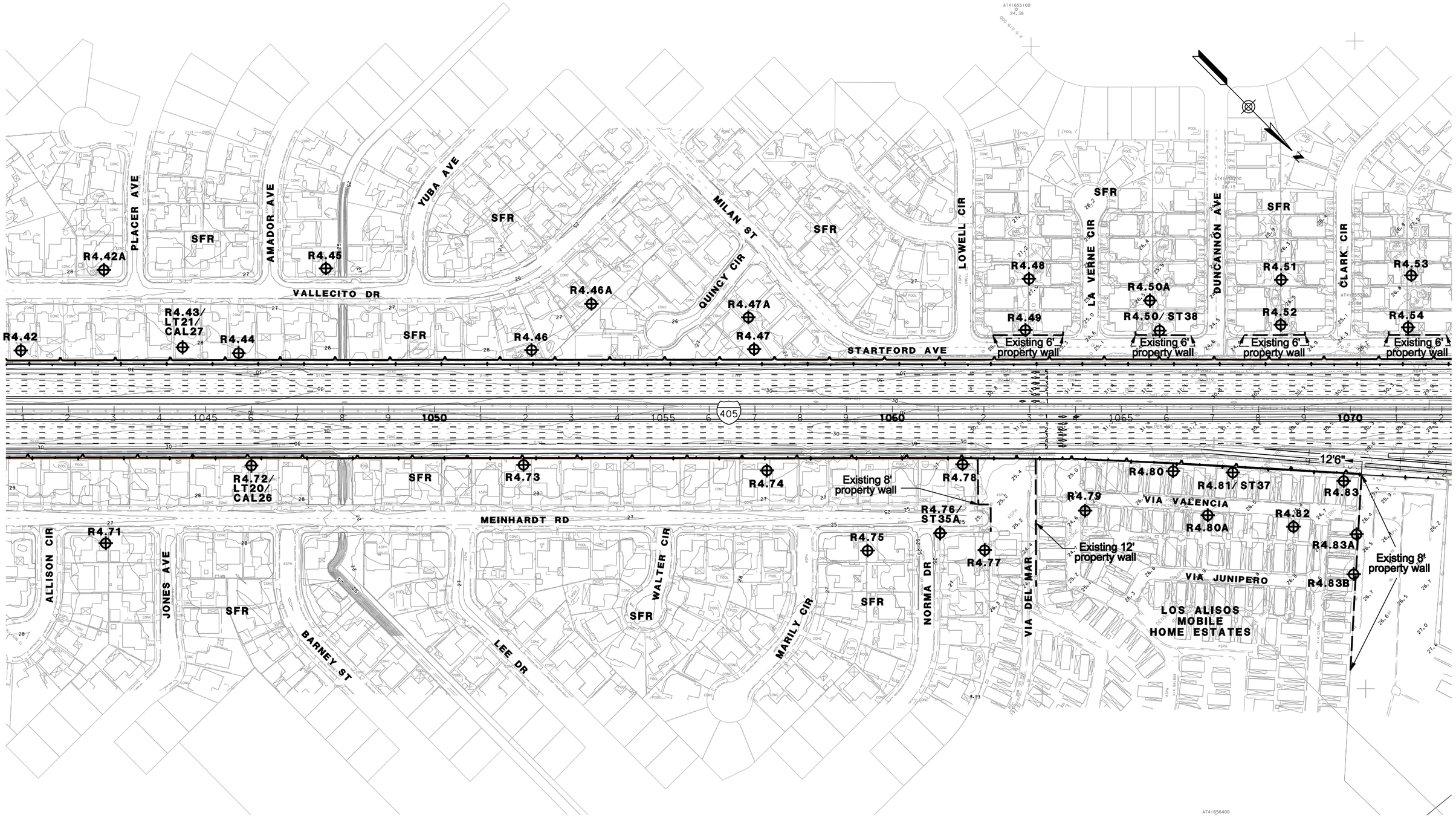
FIGURE 18



LEGEND

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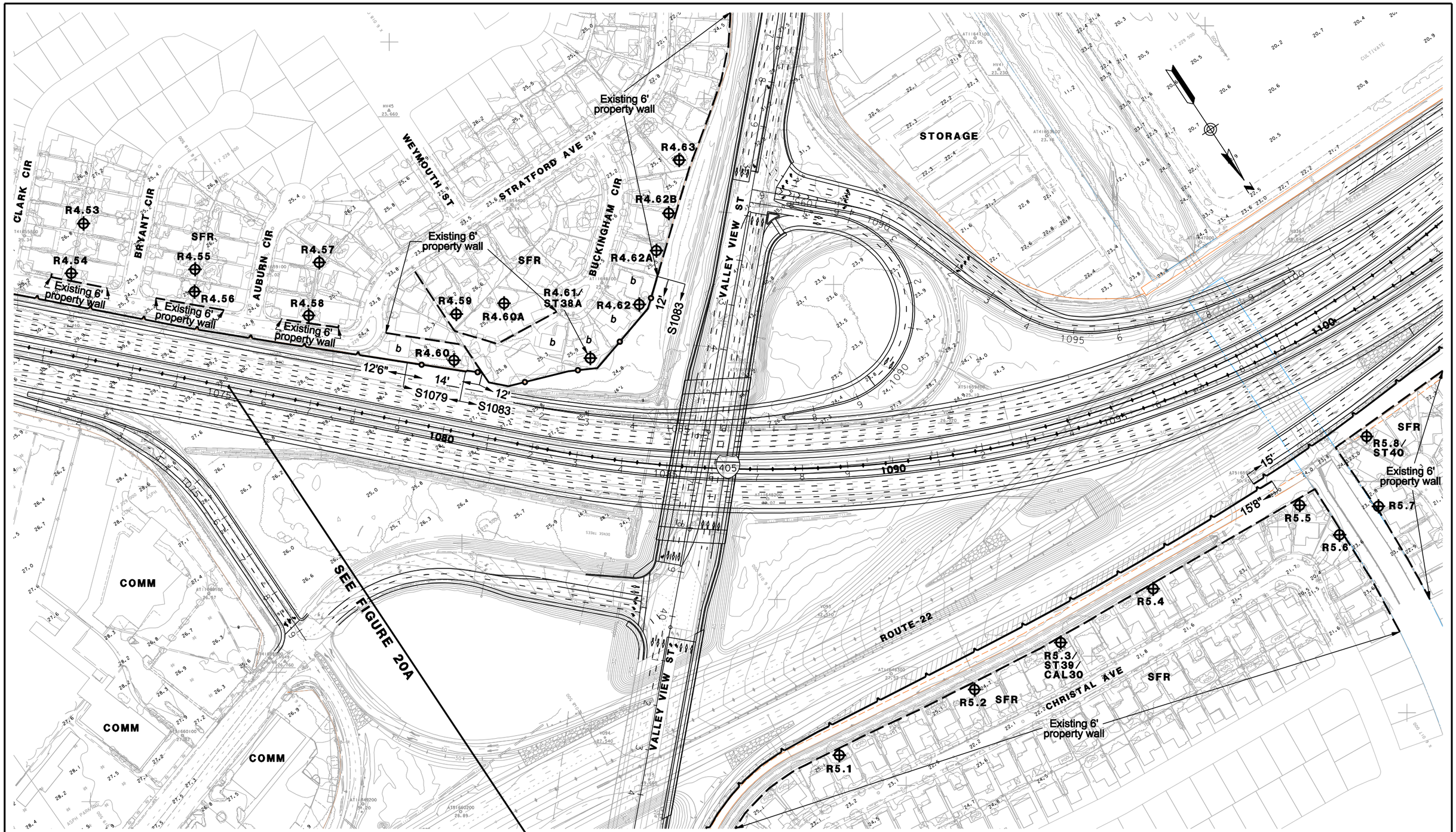
FIGURE 19



LEGEND

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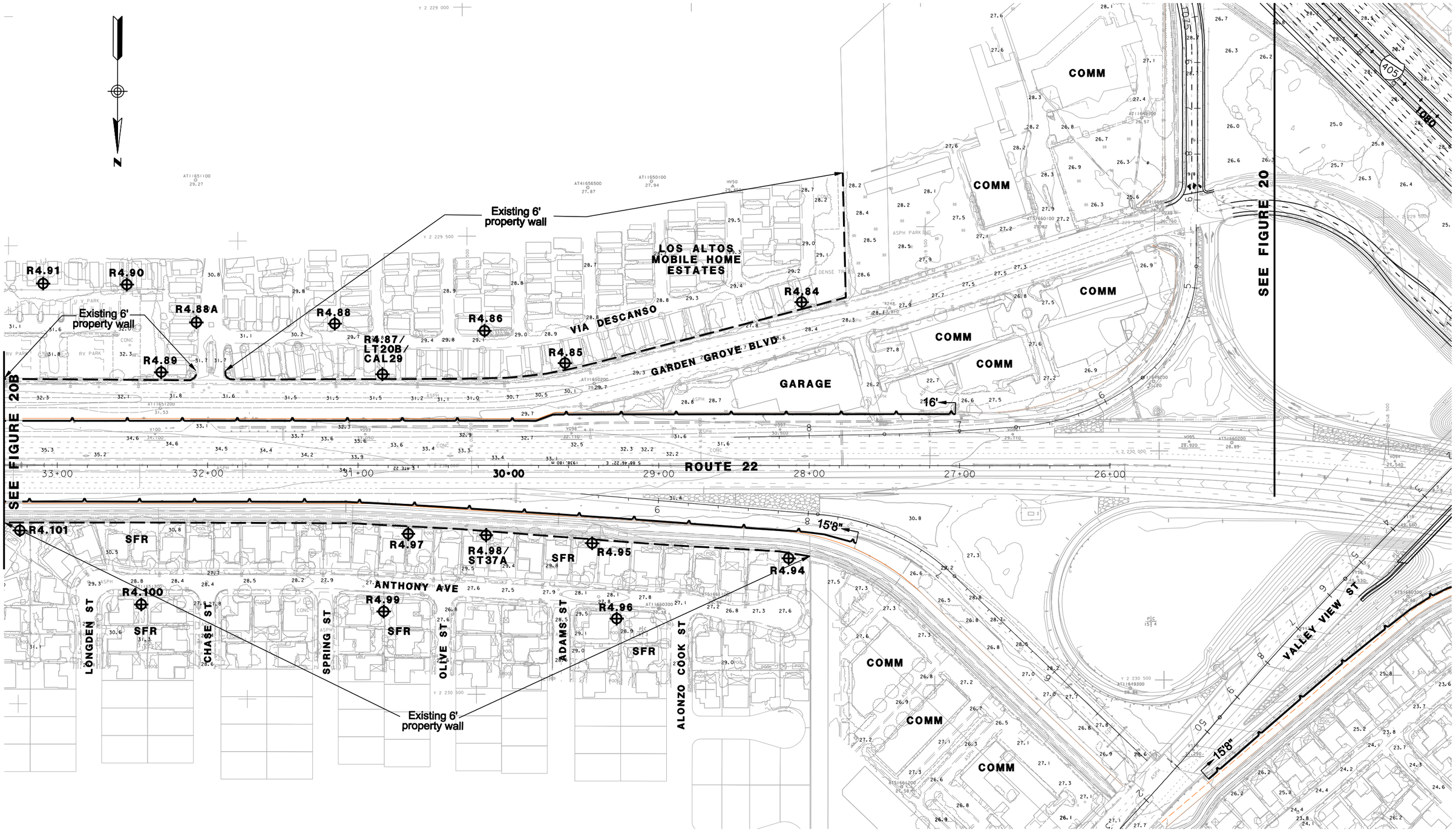
FIGURE 20



LEGEND

- RXX – RECEIVER SITE
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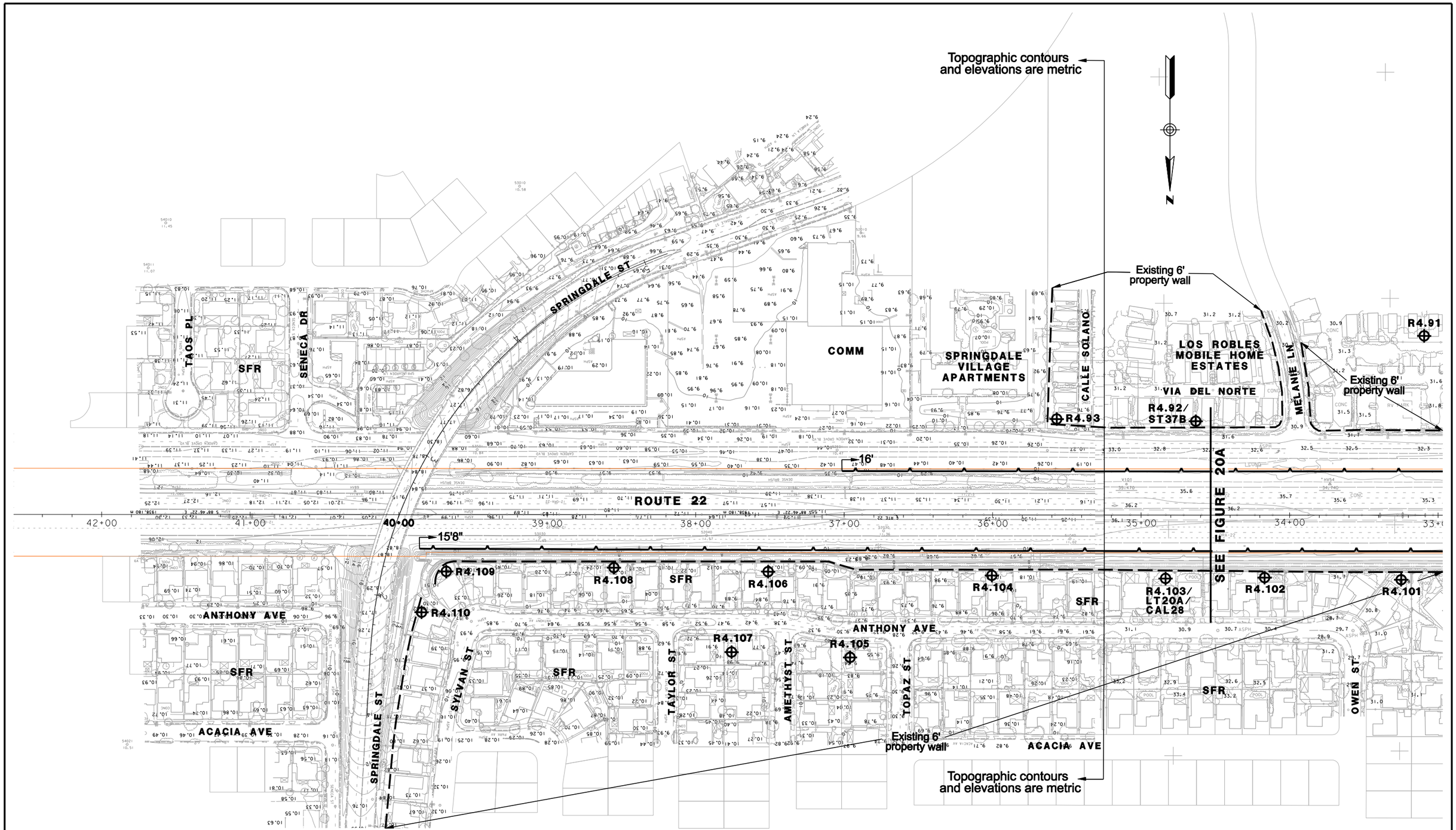
FIGURE 20A



LEGEND

- ⊕RXX – RECEIVER SITE
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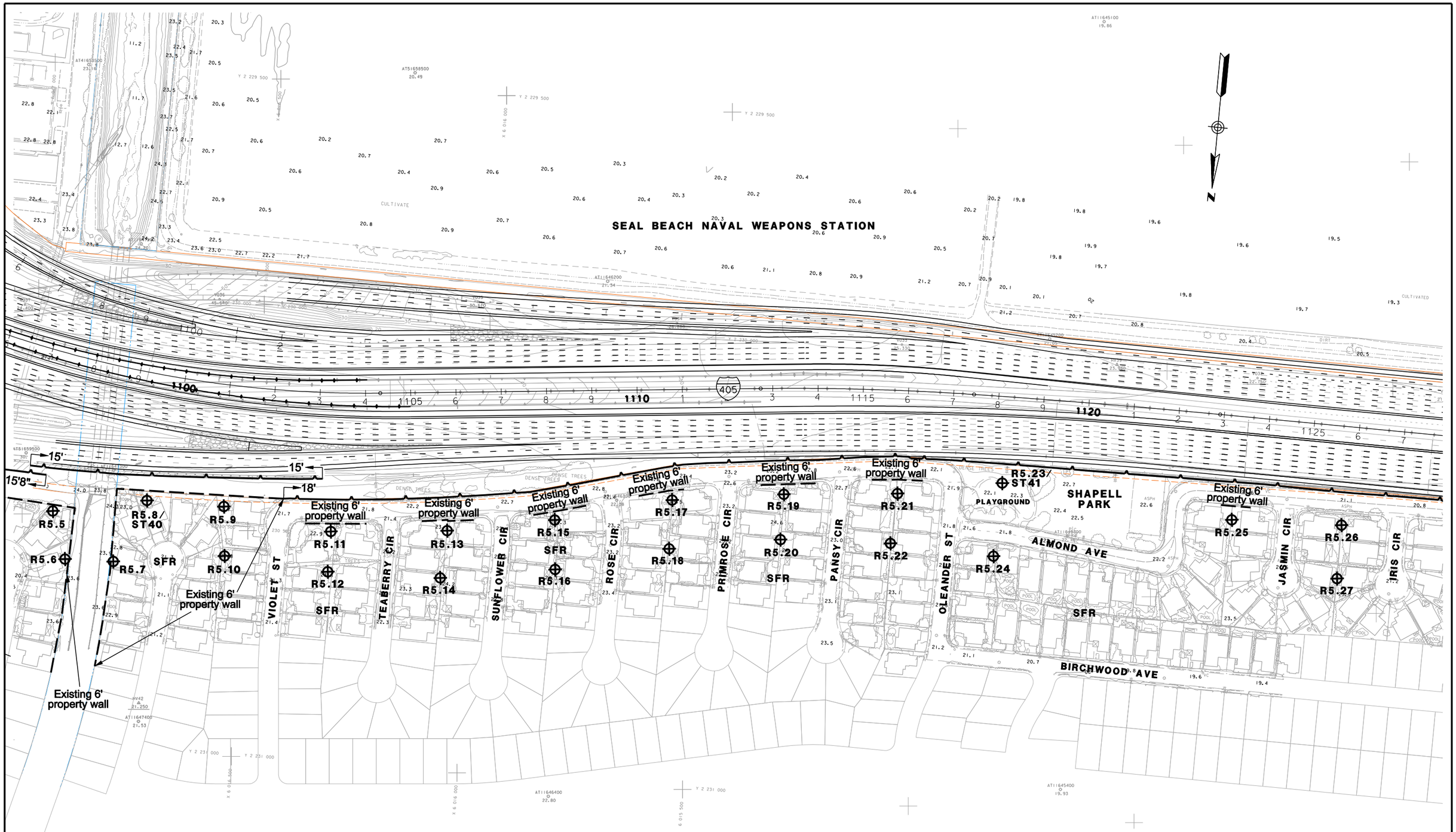
FIGURE 20B



LEGEND

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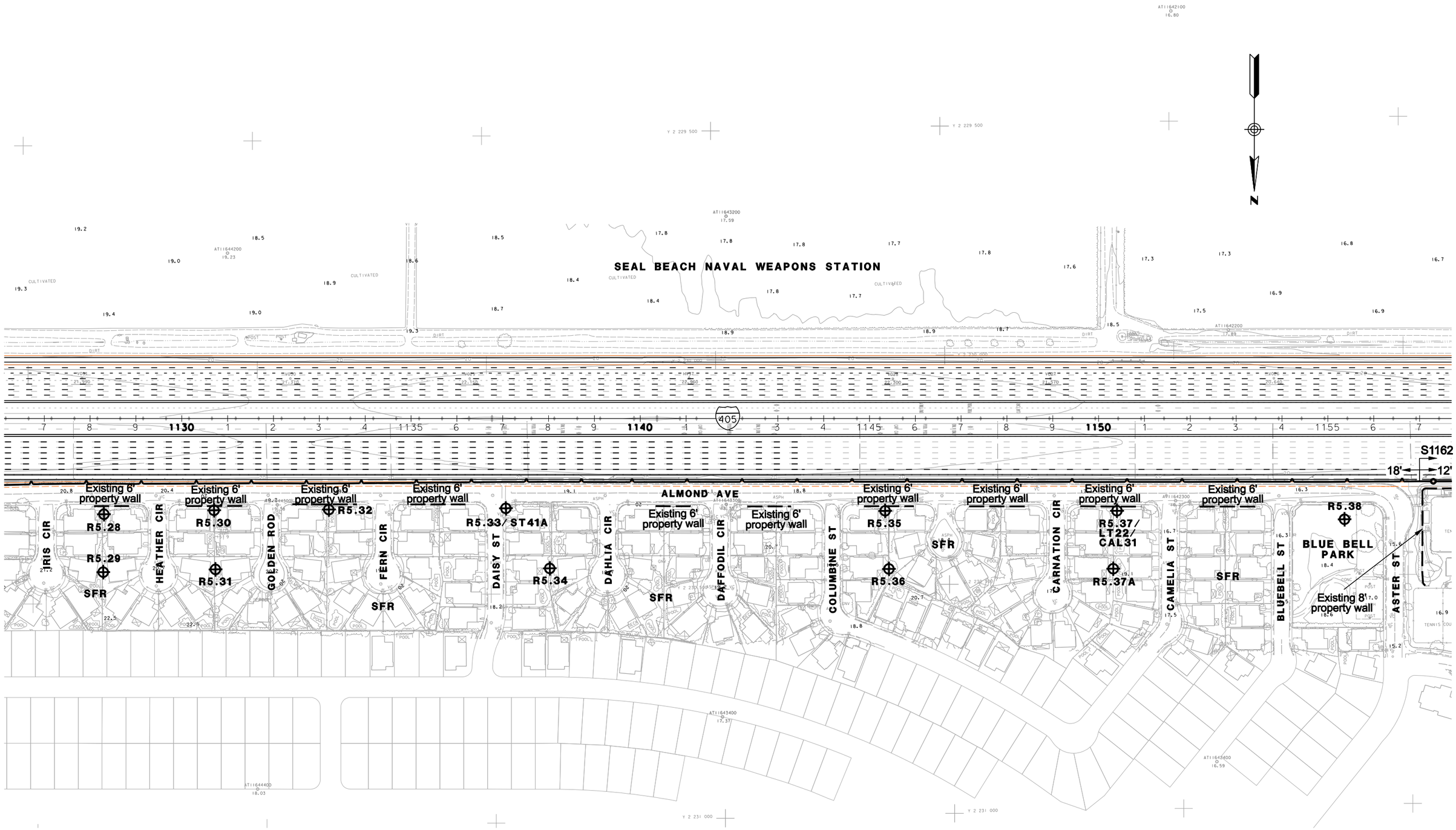
FIGURE 21



LEGEND

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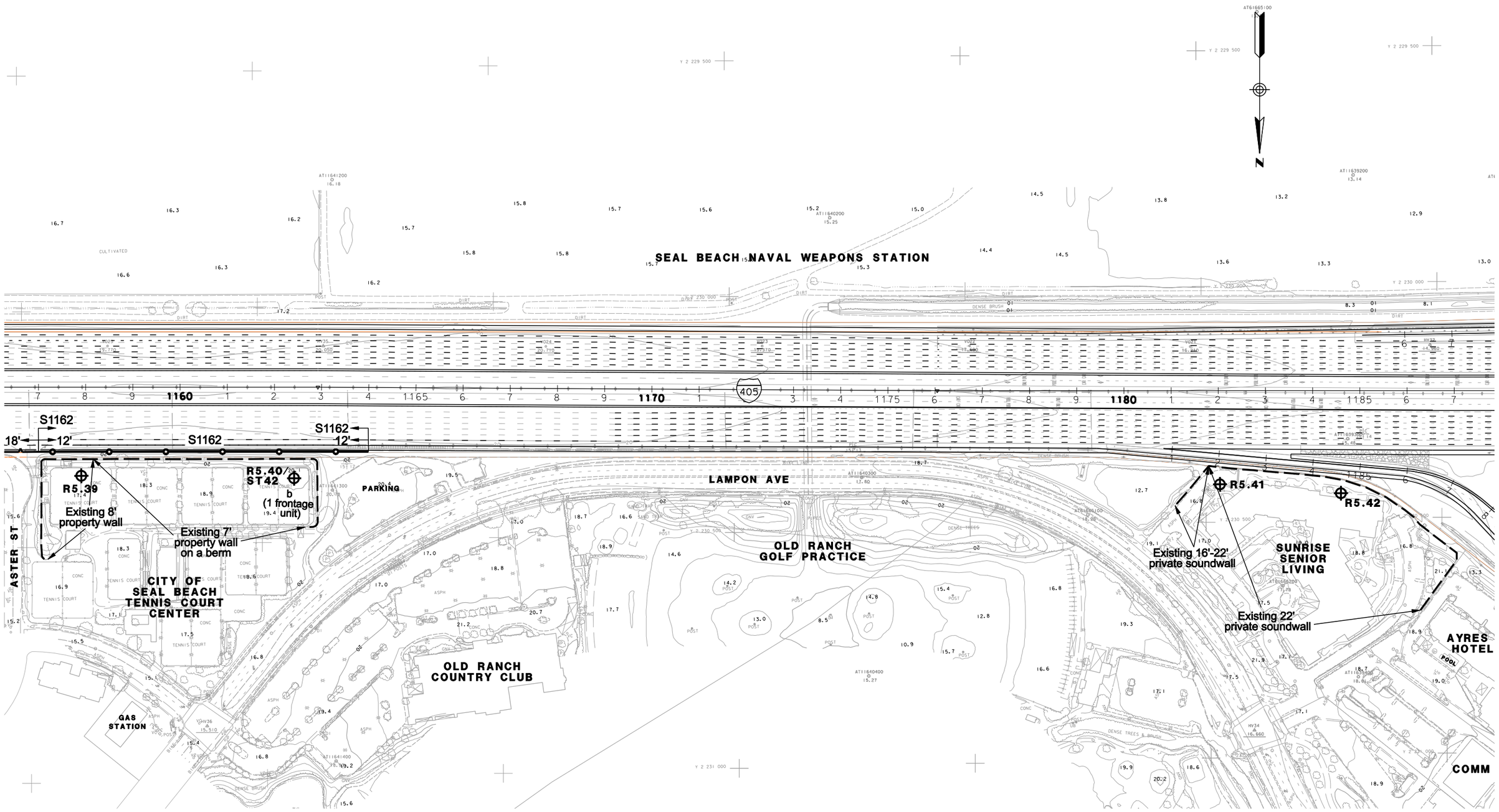
FIGURE 22



LEGEND

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FIGURE 23

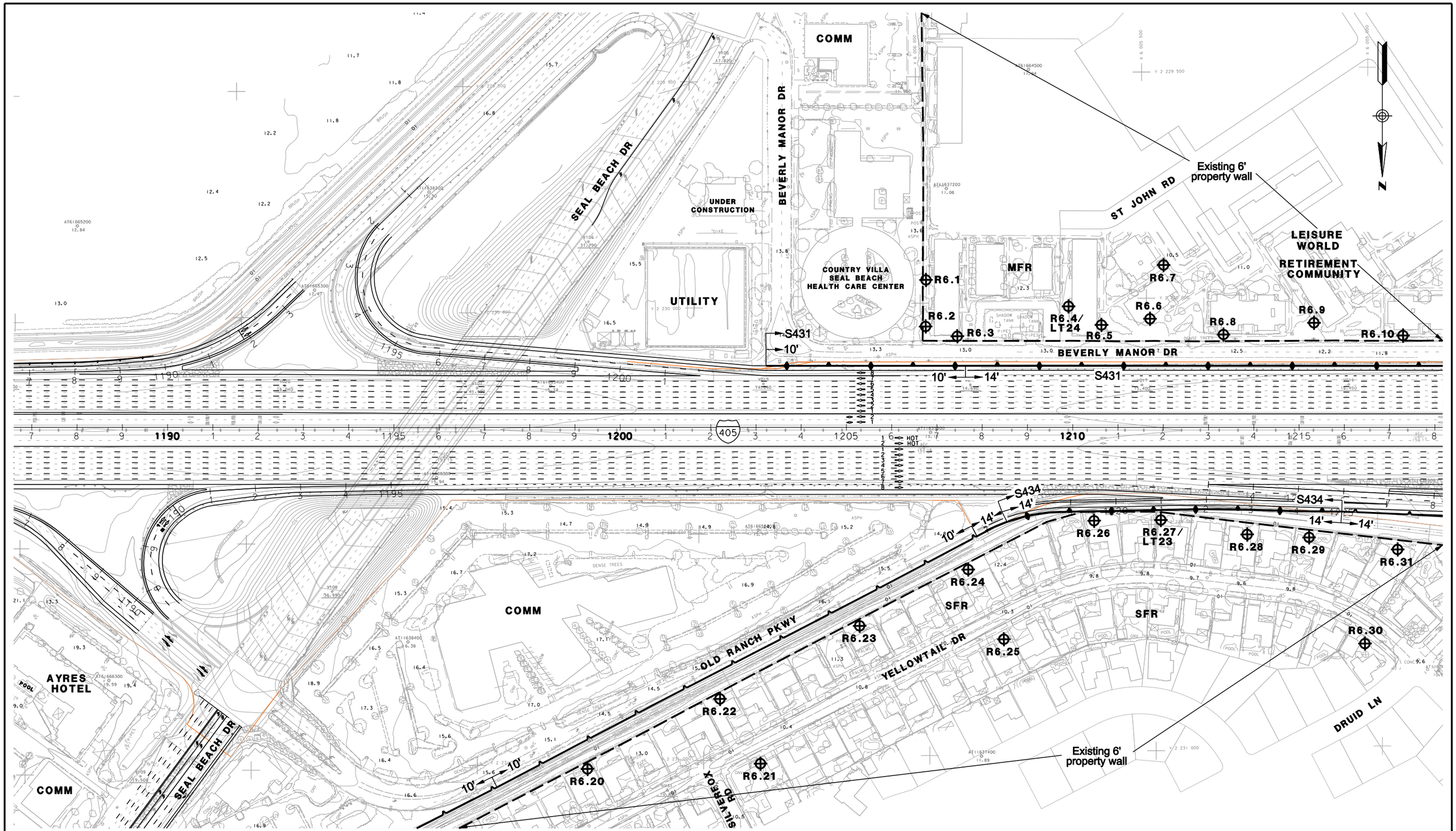

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FIGURE 24

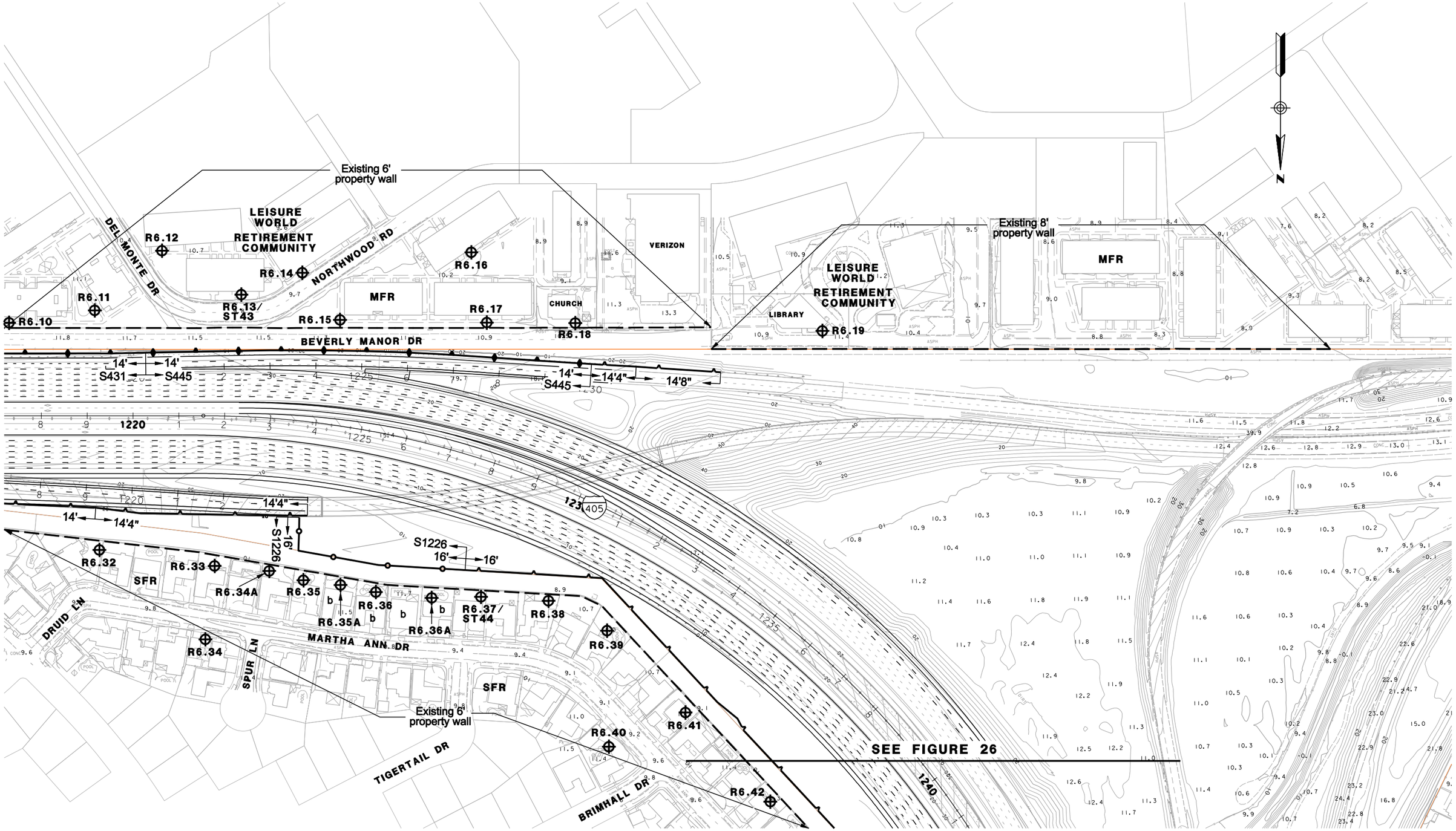

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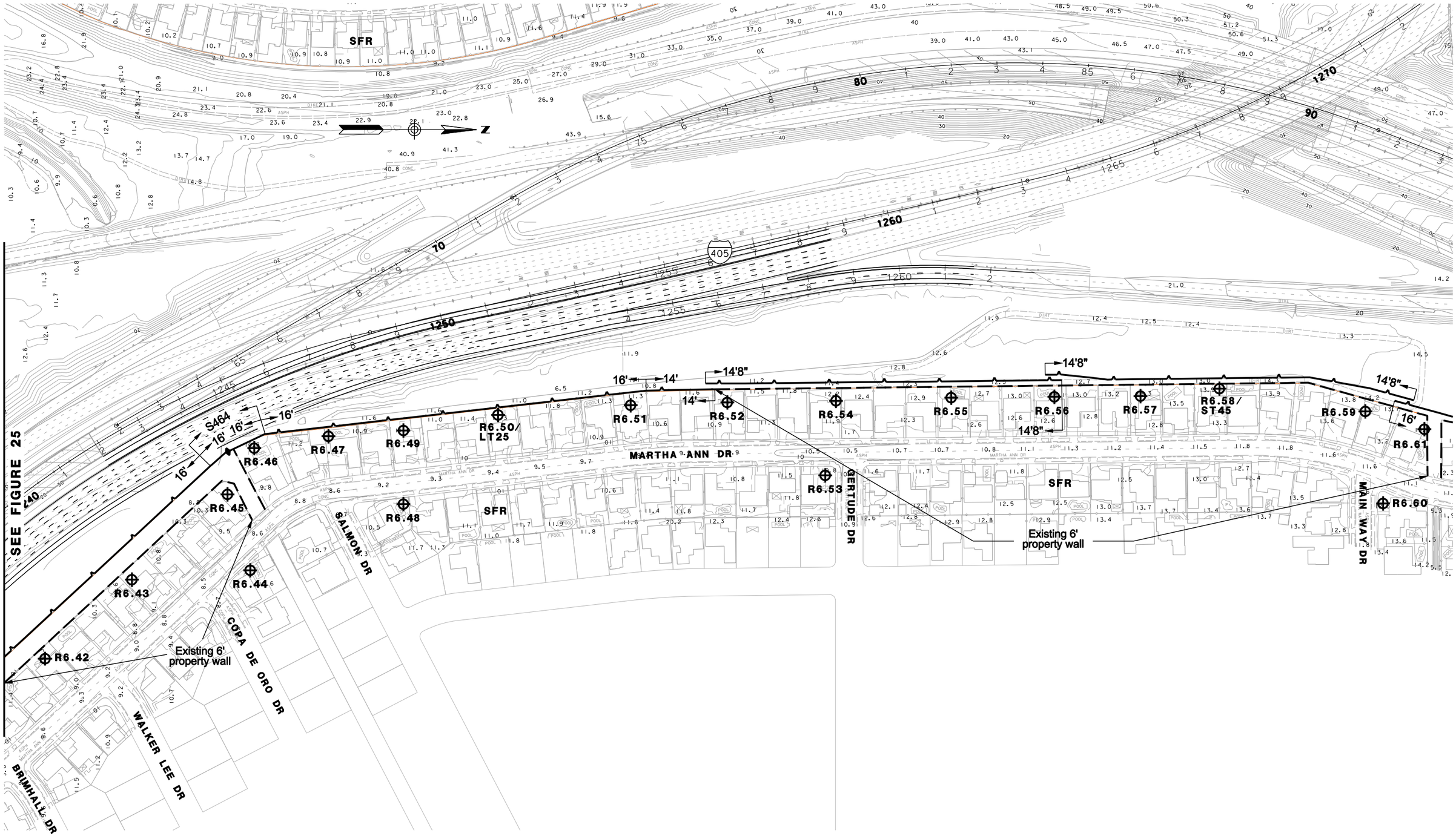
FIGURE 25



LEGEND

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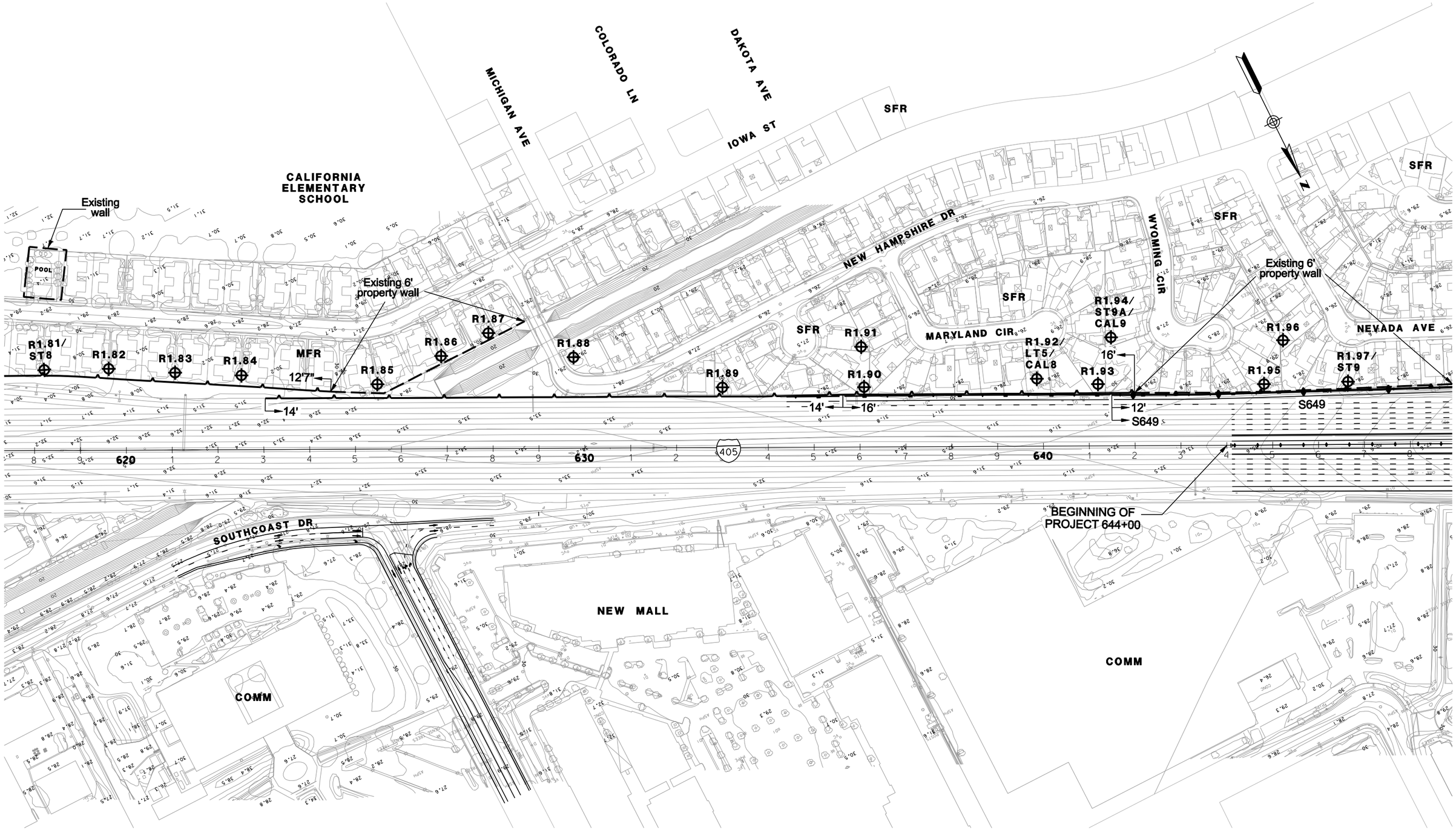
FIGURE 26

Appendix A2 Alternative 2



LEGEND

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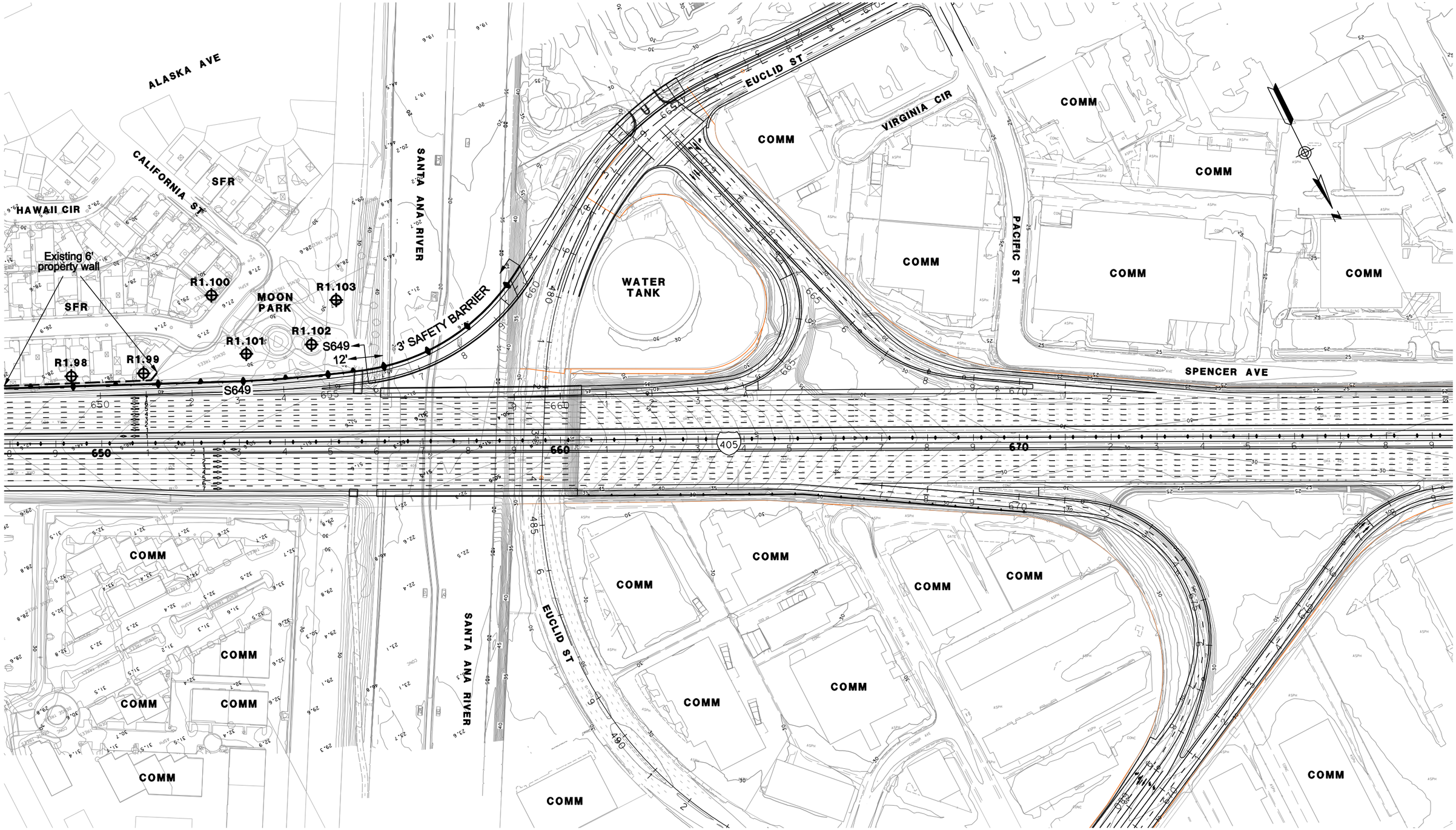
FIGURE 5



LEGEND

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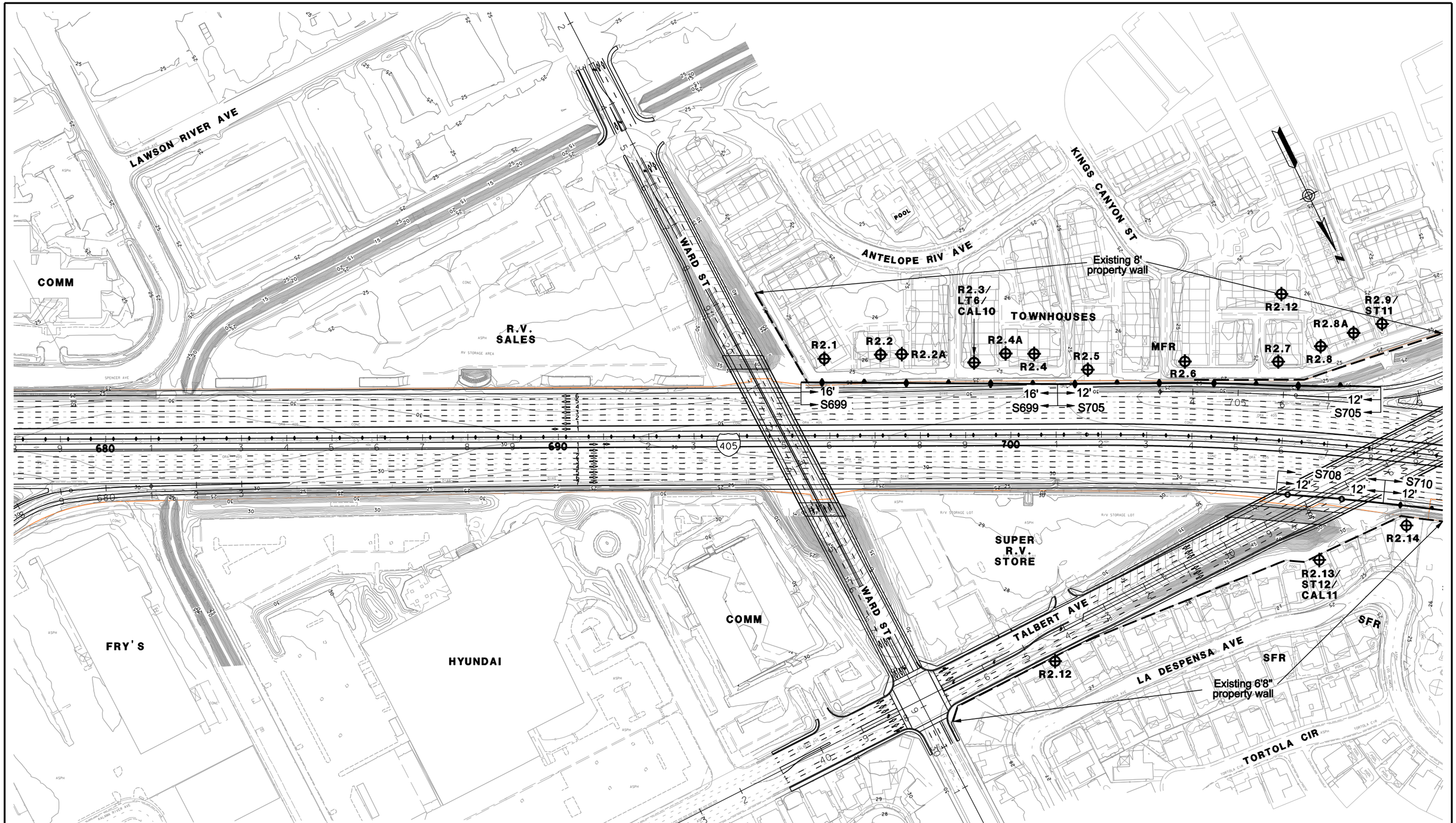
FIGURE 6



LEGEND

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FIGURE 7

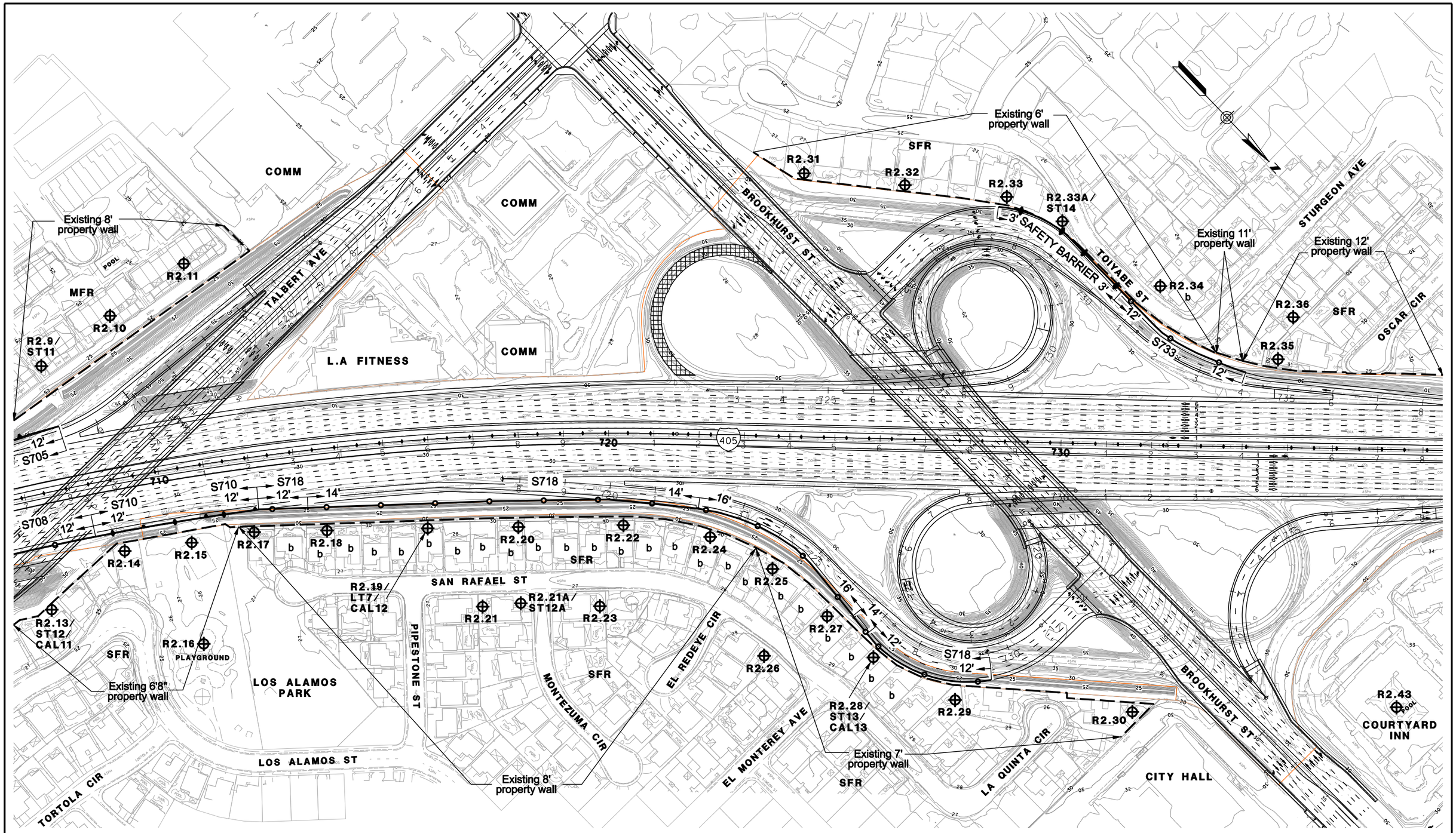

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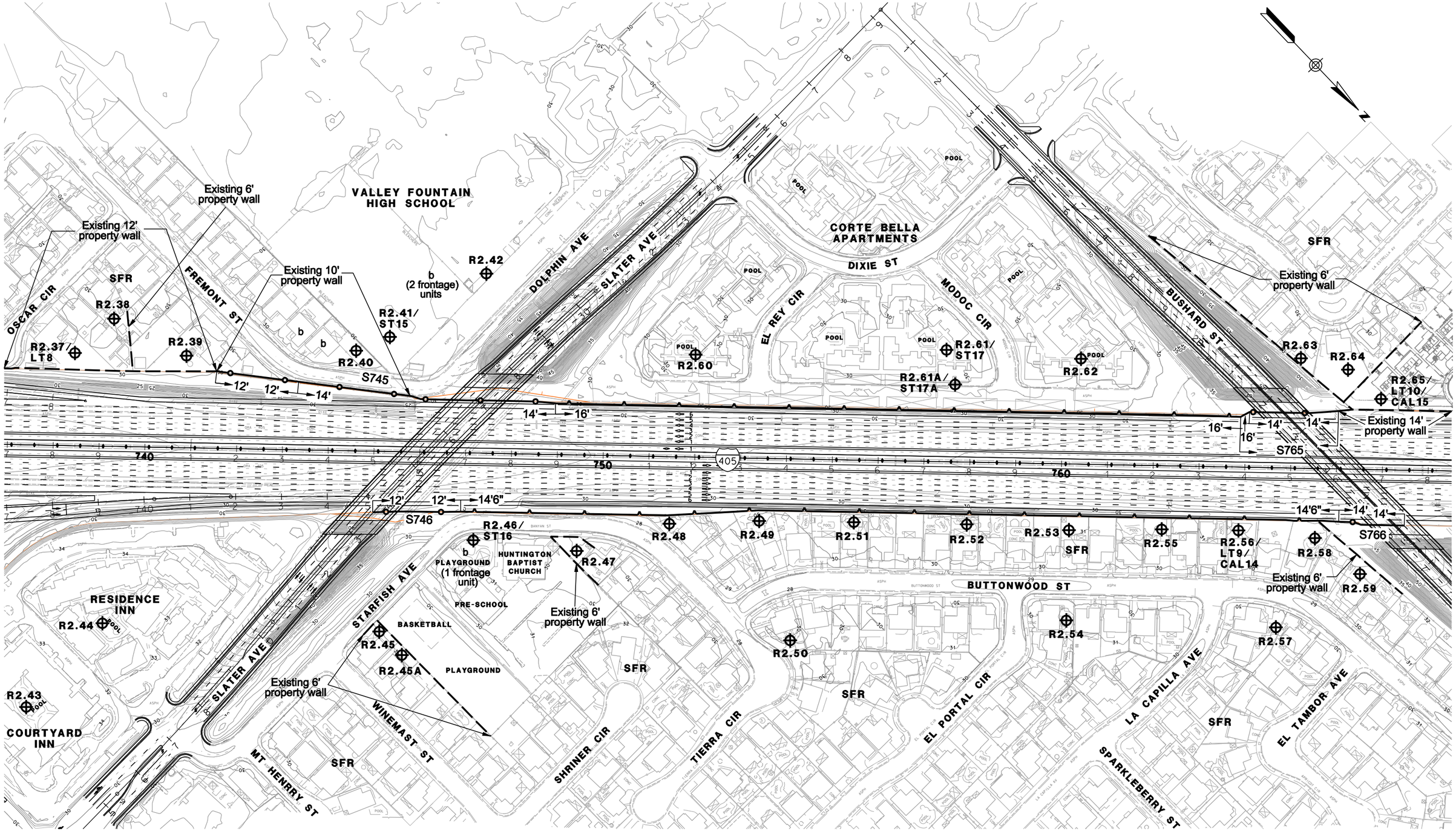
FIGURE 8



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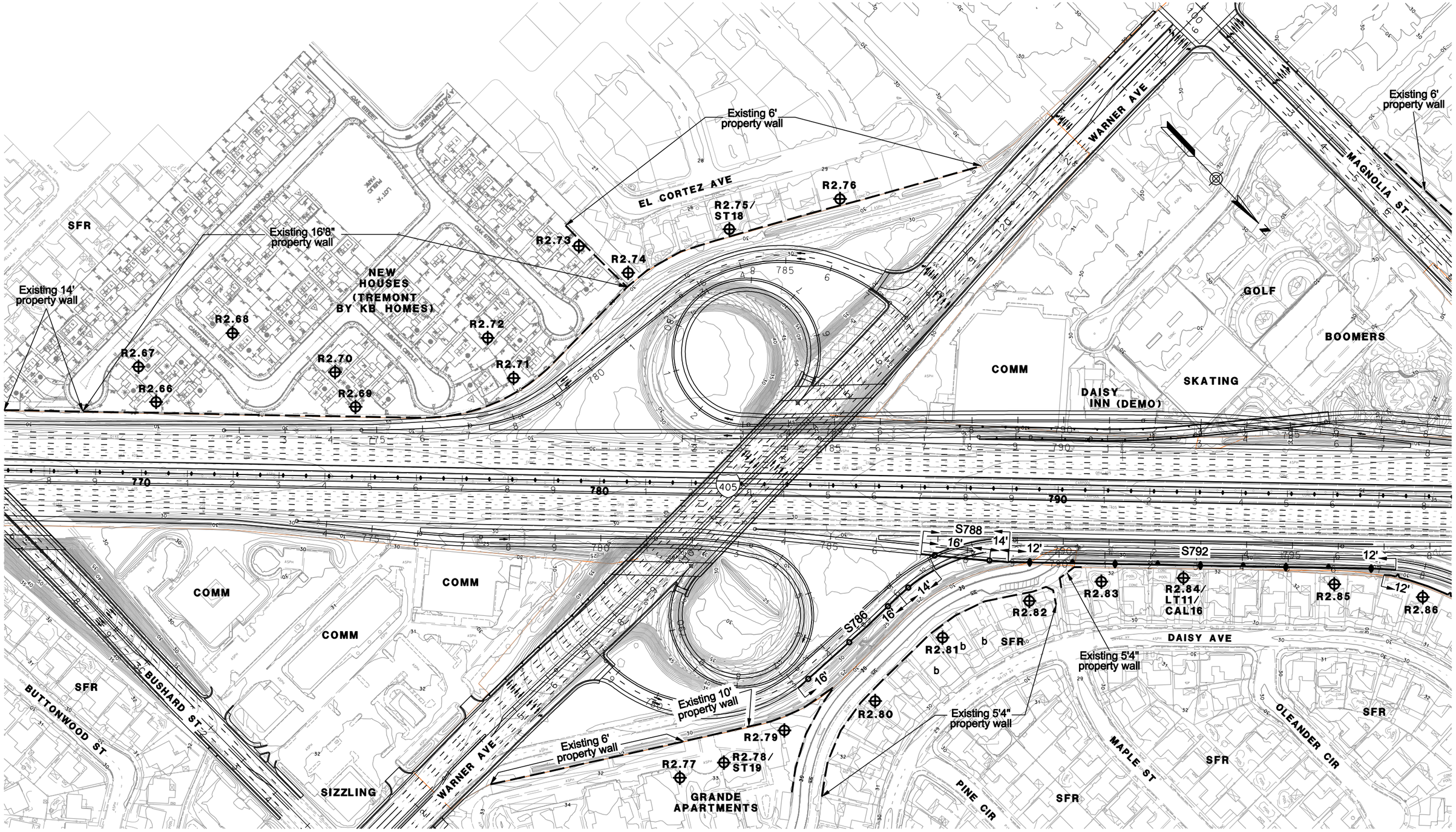
FEBRUARY 23, 2011

FIGURE 9



LEGEND

- RXX – RECEIVER SITE
- LT – LONGTERM MEASUREMENT
- ST – SHORTTERM MEASUREMENT
- CAL – CALIBRATION SITE
- EXISTING WALL
- SOUNDWALL
- EXISTING SOUNDWALL
- REPLACEMENT IN KIND SOUNDWALL
- SFR – SINGLE FAMILY RESIDENCE
- MFR – MULTI-FAMILY RESIDENCE
- COMM – COMMERCIAL
- b – BENEFITED RESIDENCE

1in : 200ft

0 ft 100ft 200ft 300ft

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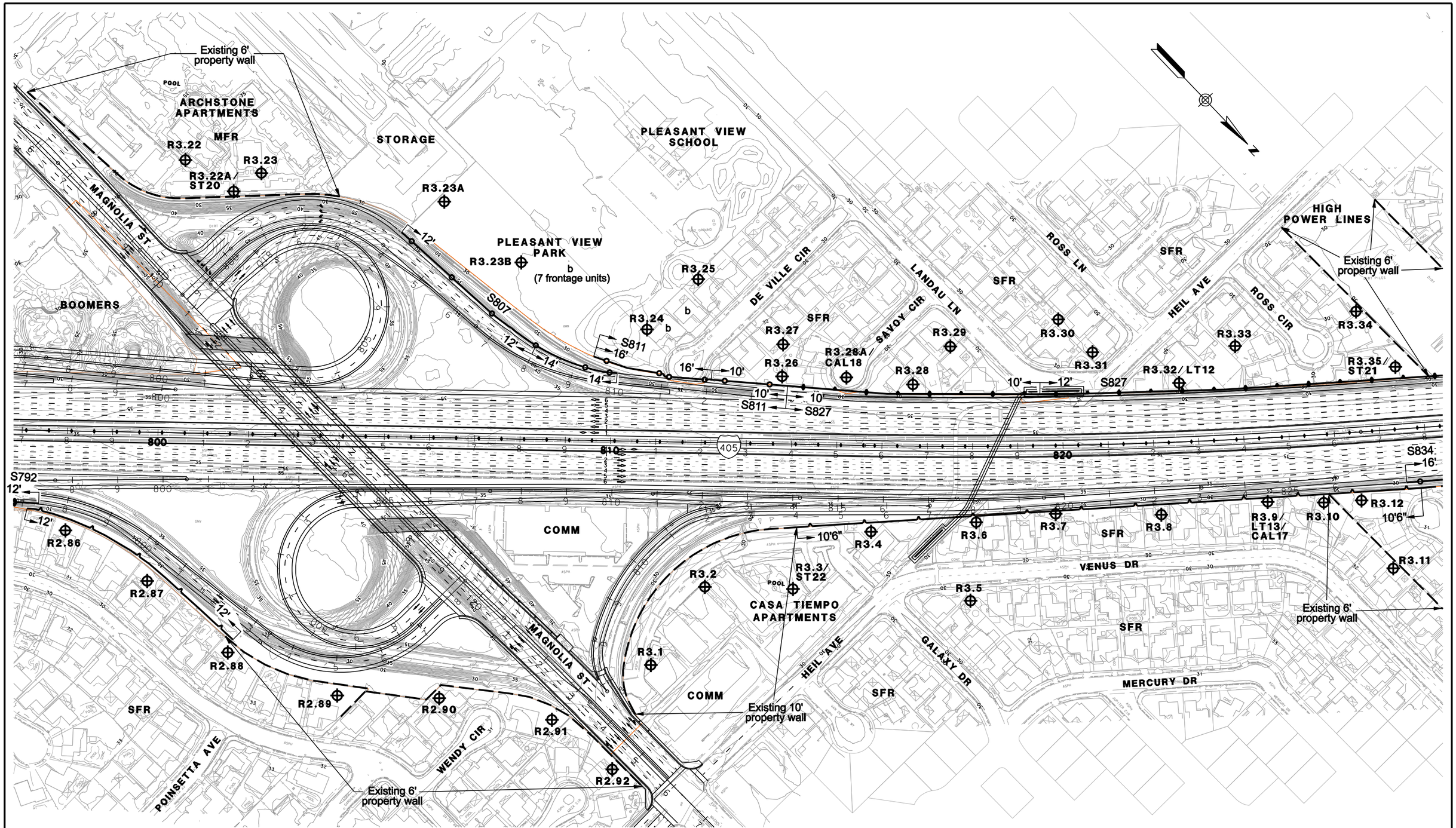
FEBRUARY 23, 2011

FIGURE 10



LEGEND

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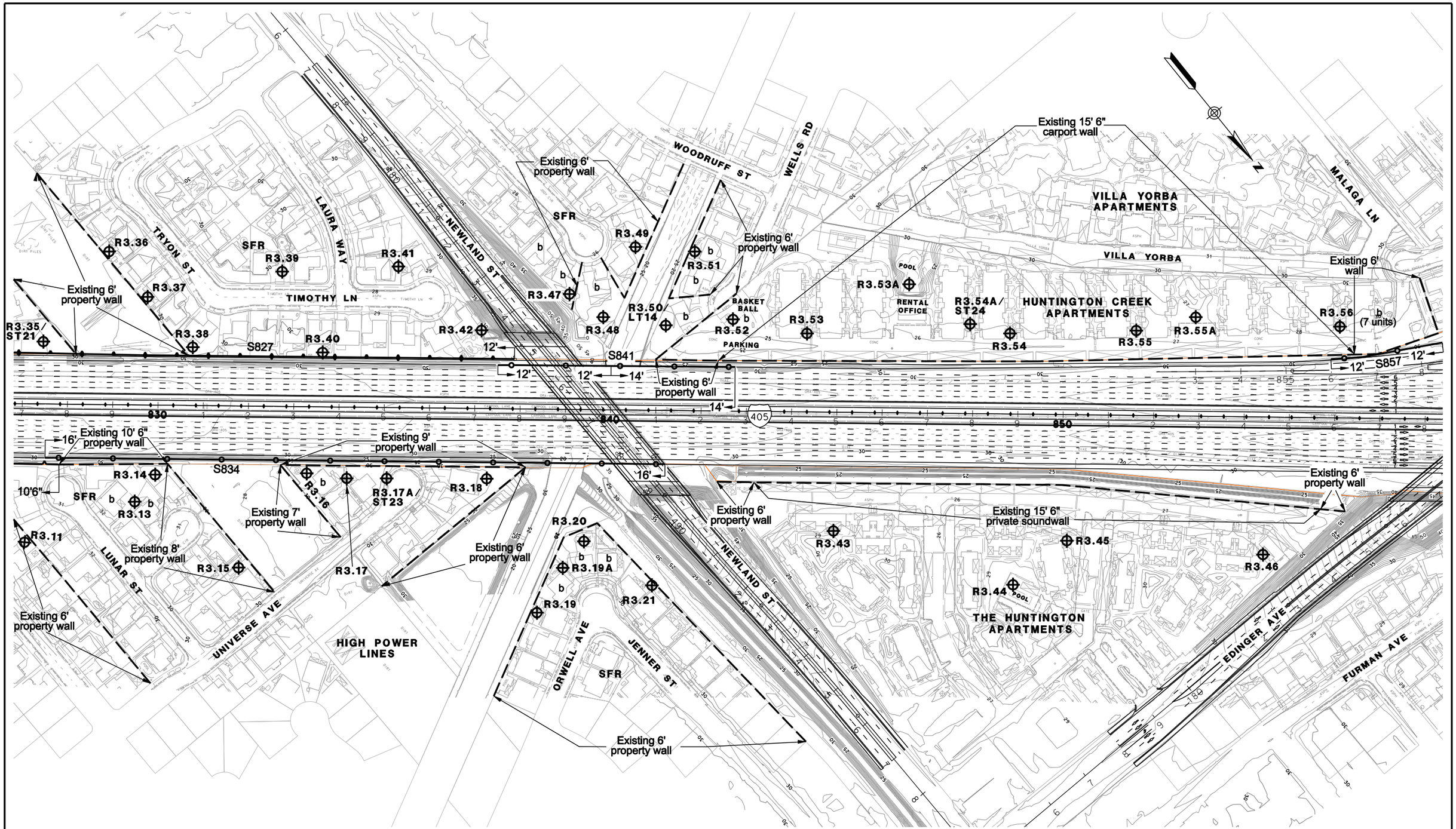
FIGURE 11



LEGEND

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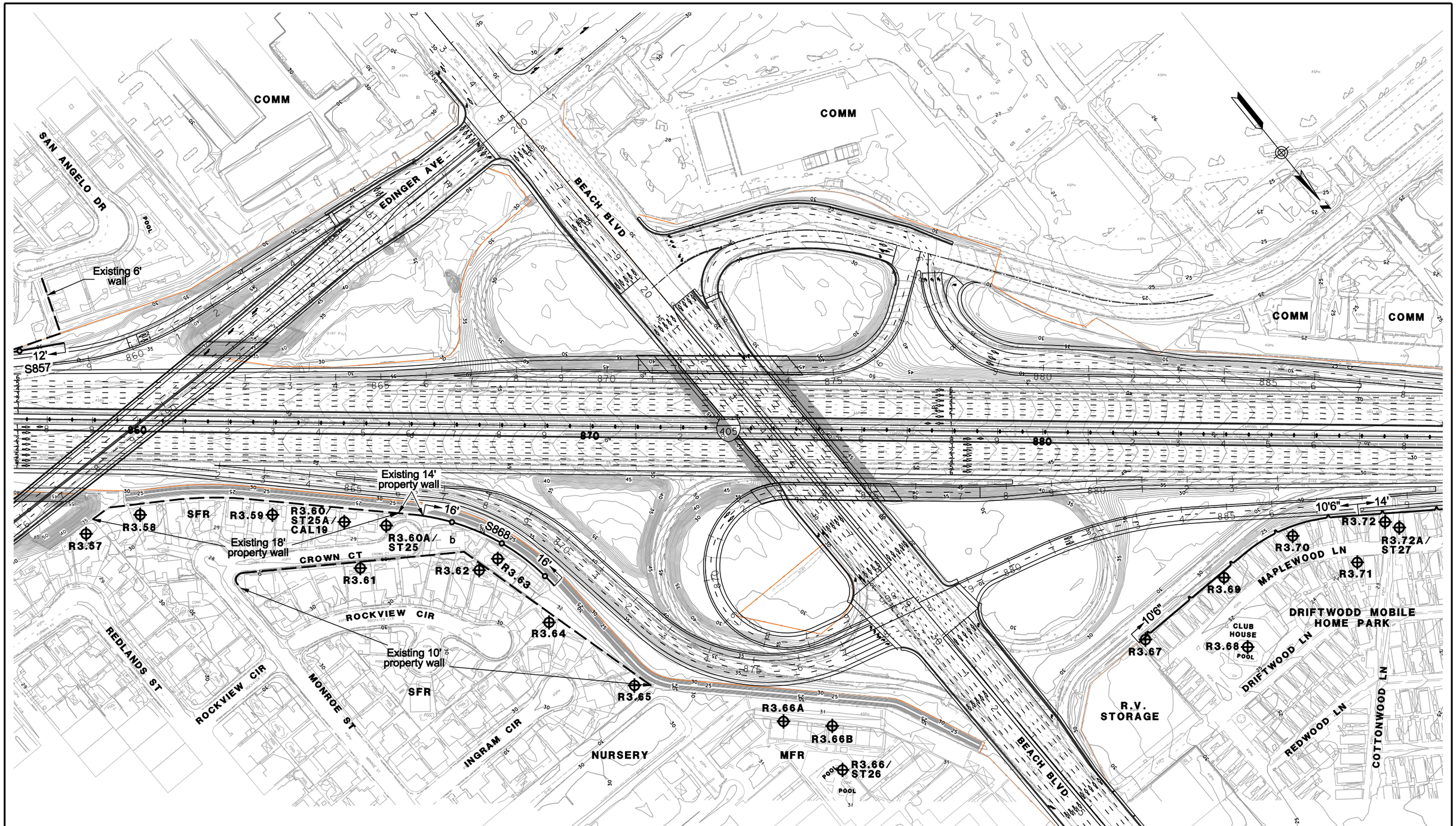
FIGURE 12



LEGEND

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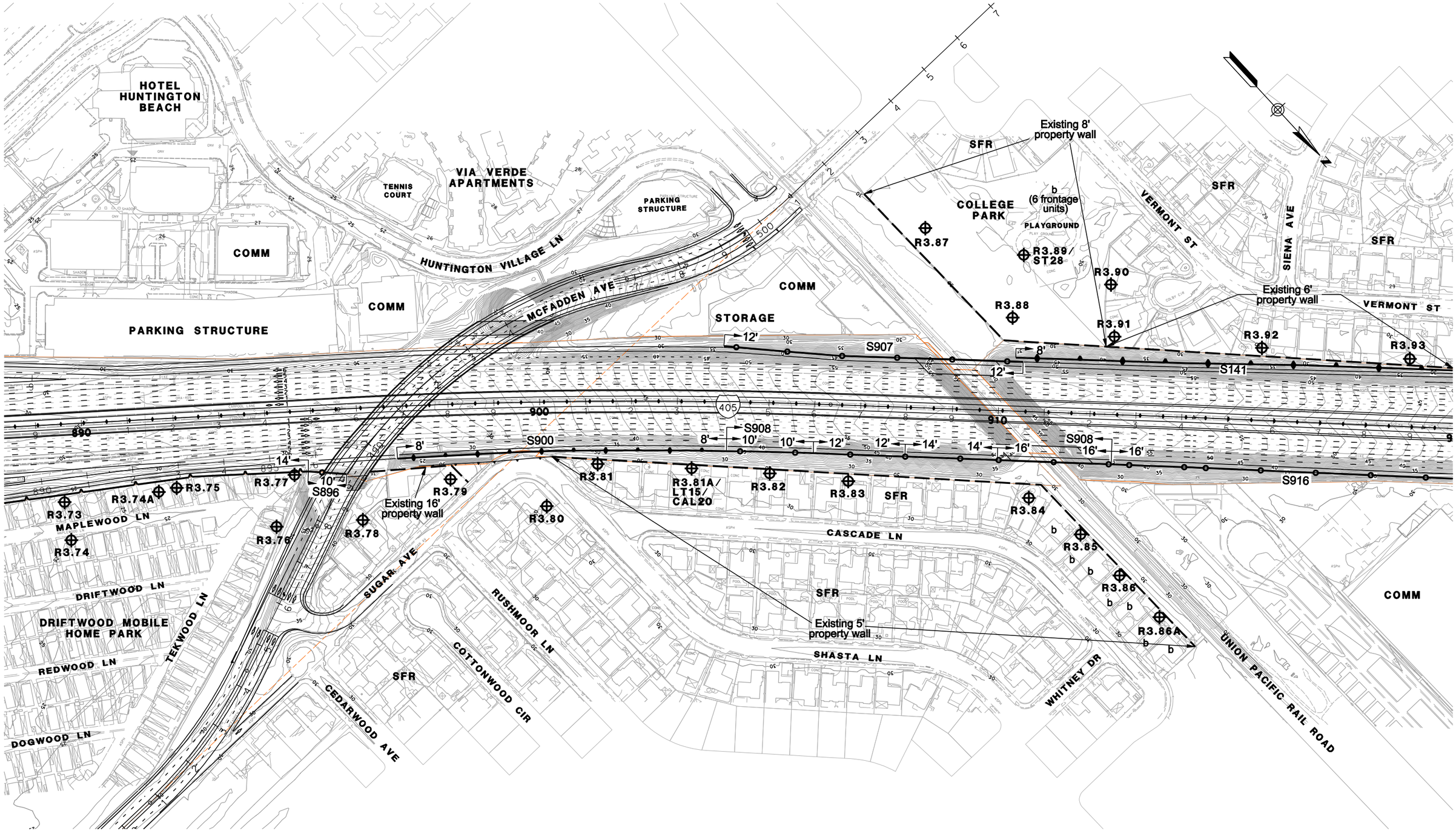
MARCH 4, 2011

FIGURE 13



LEGEND

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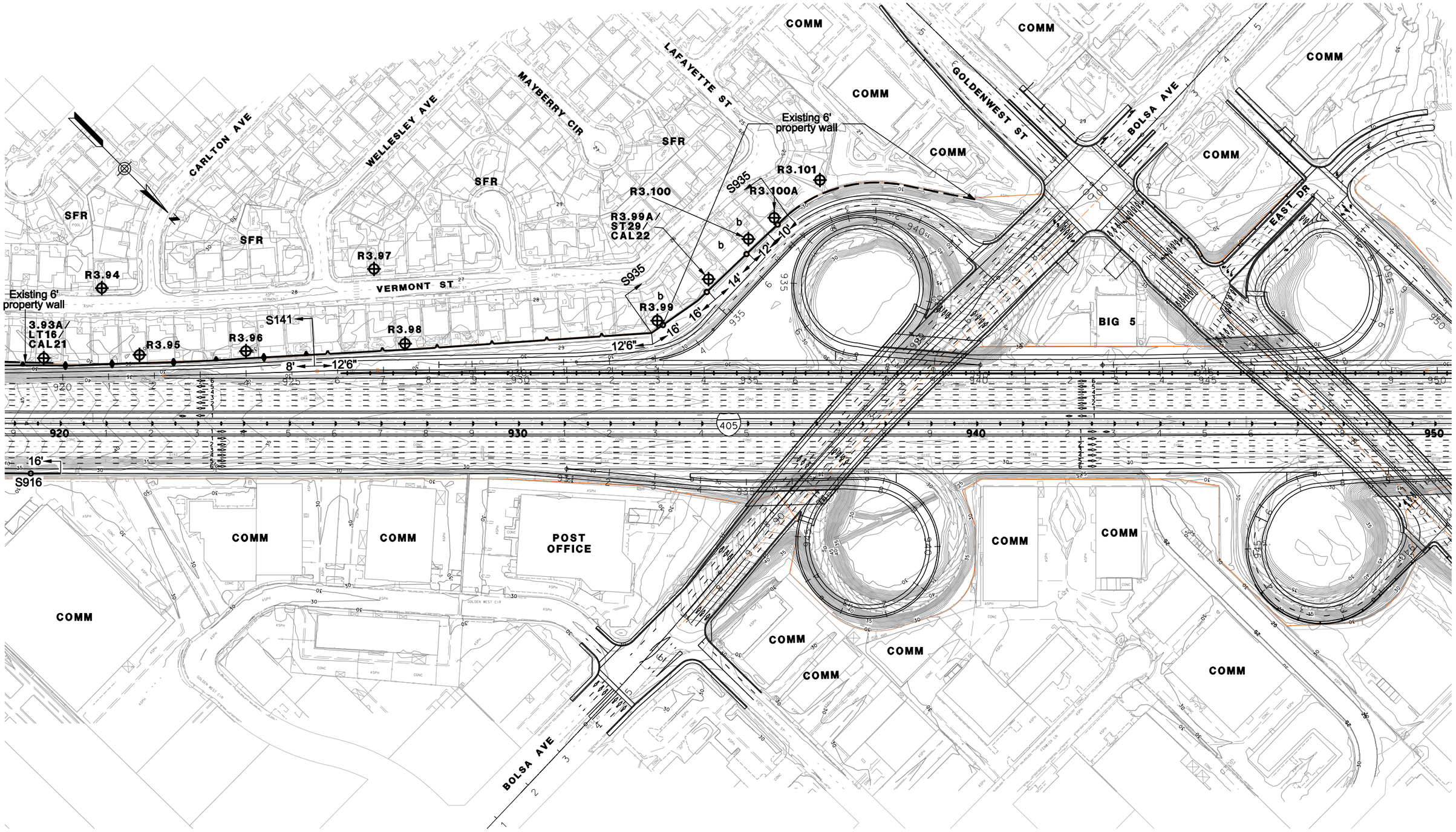
FIGURE 14



LEGEND

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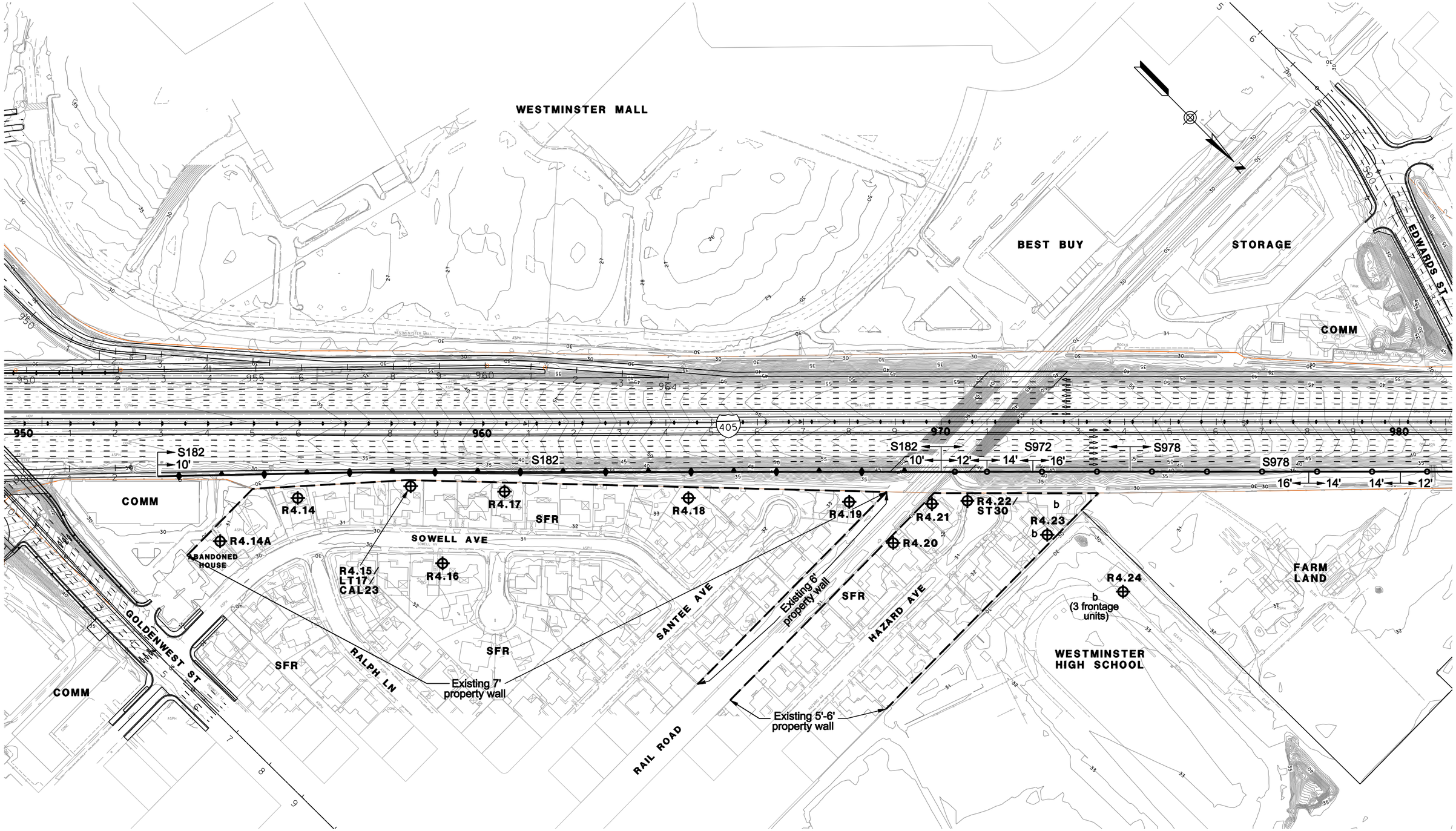
FIGURE 15



LEGEND

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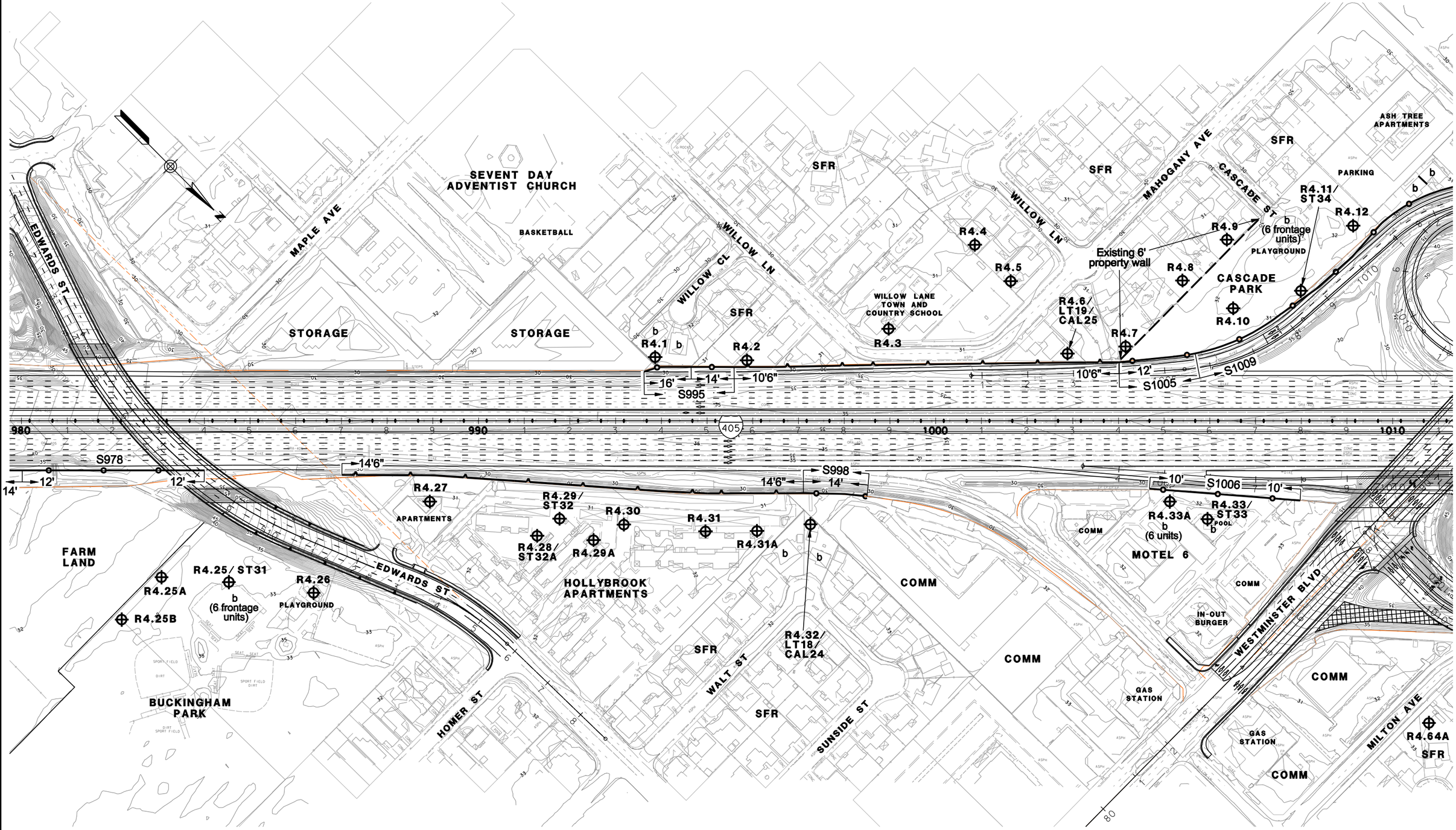
FIGURE 16



LEGEND

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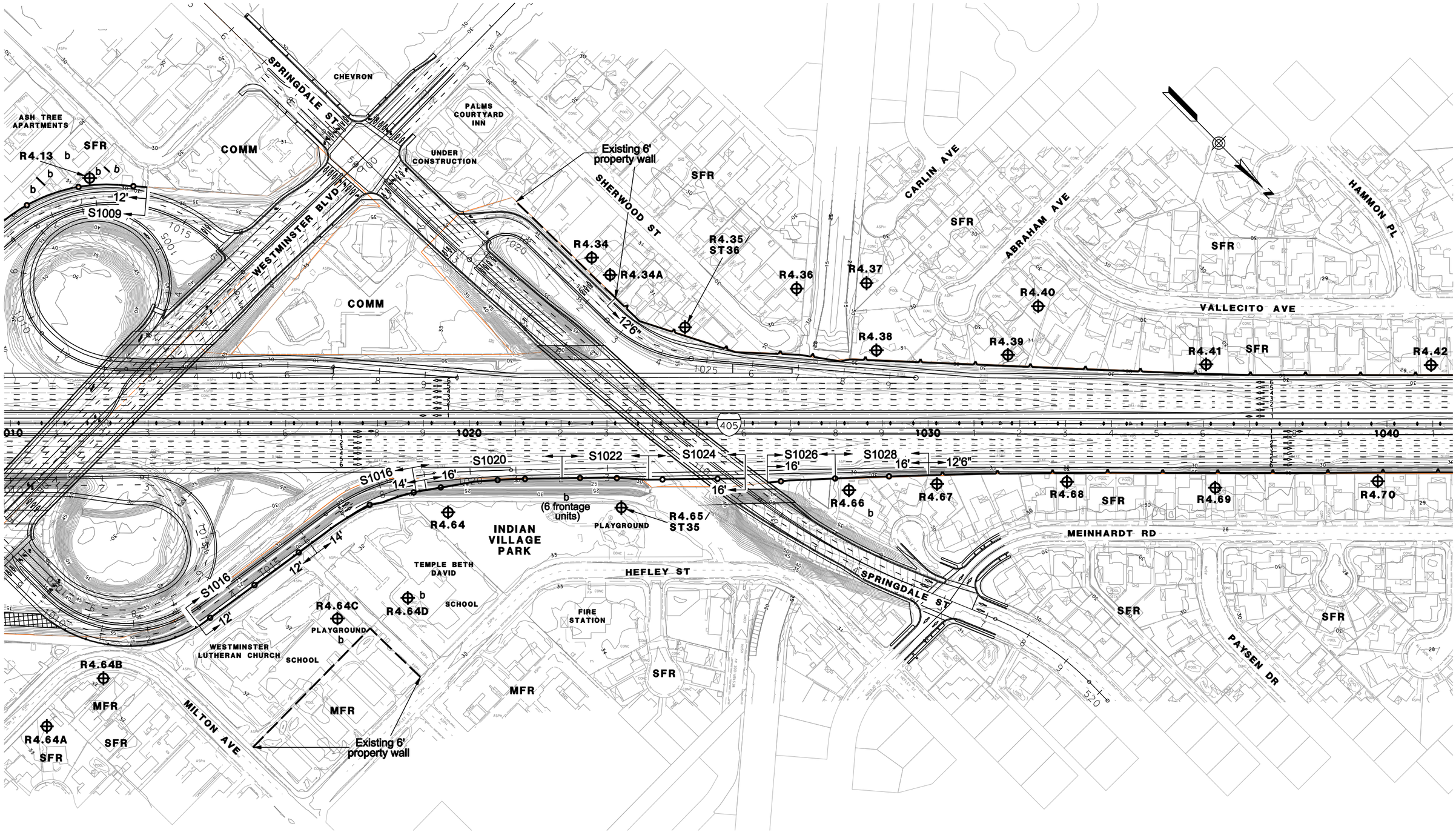
FIGURE 17



LEGEND

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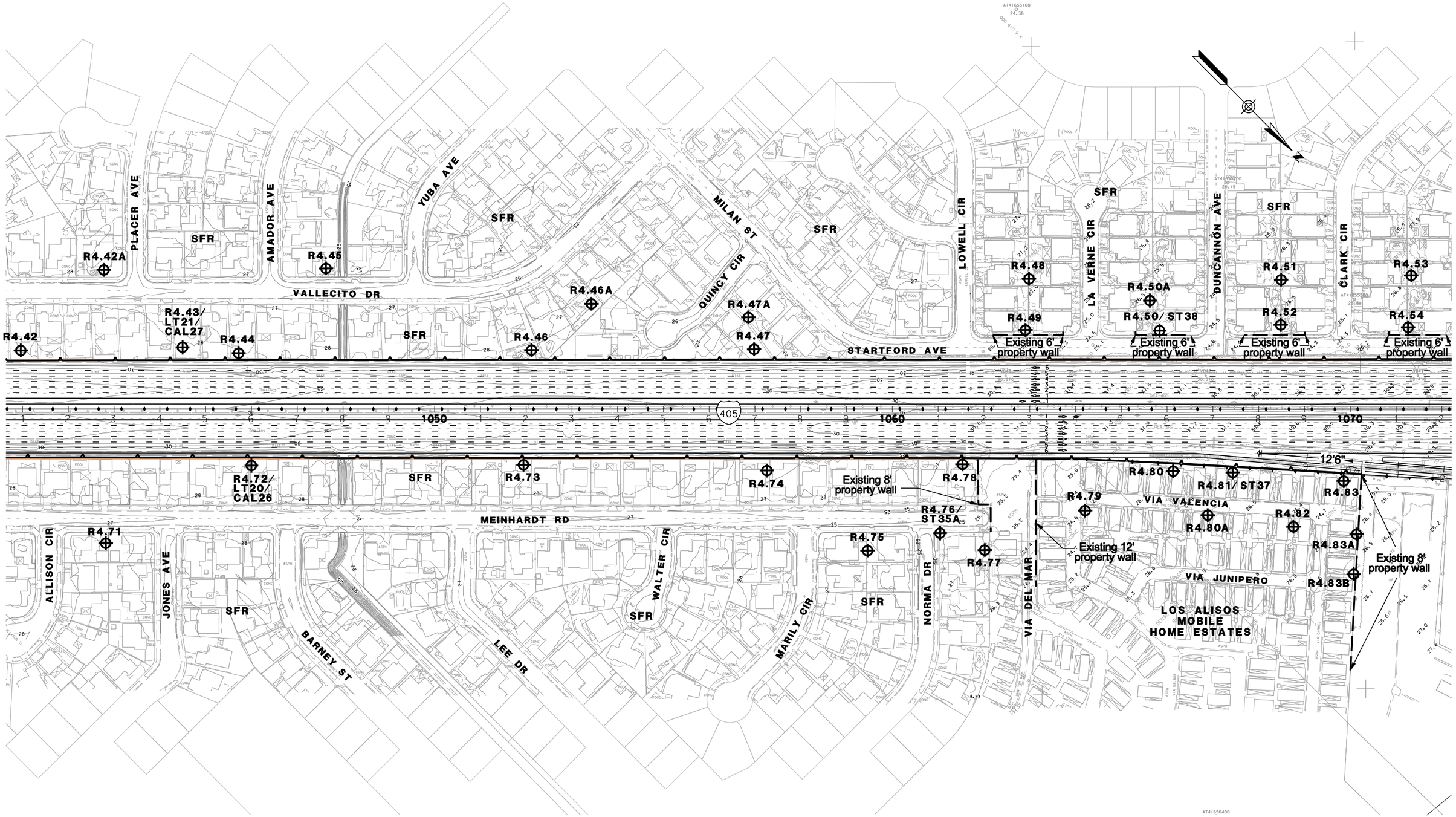
FIGURE 18



LEGEND

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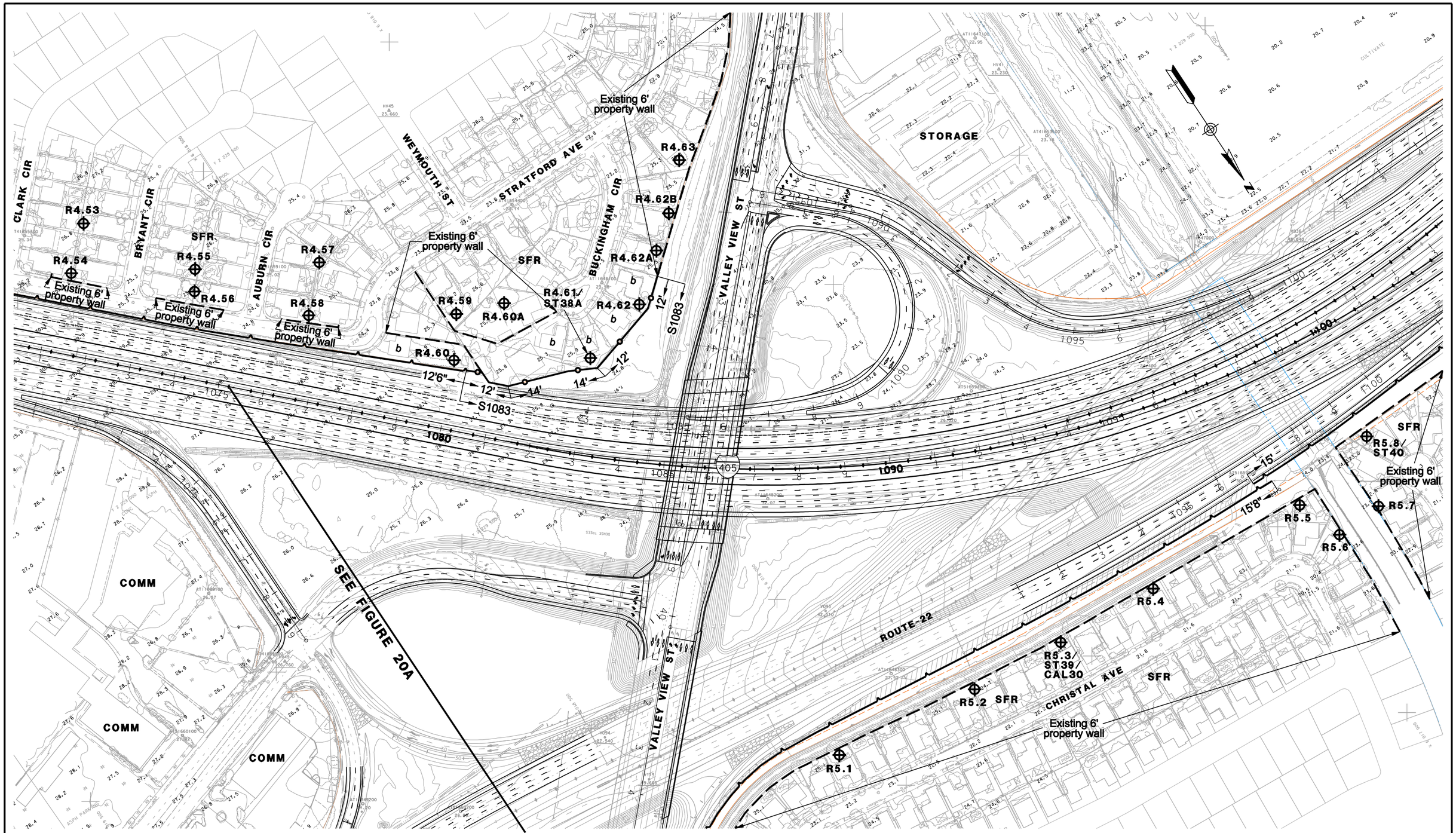
FIGURE 19



LEGEND

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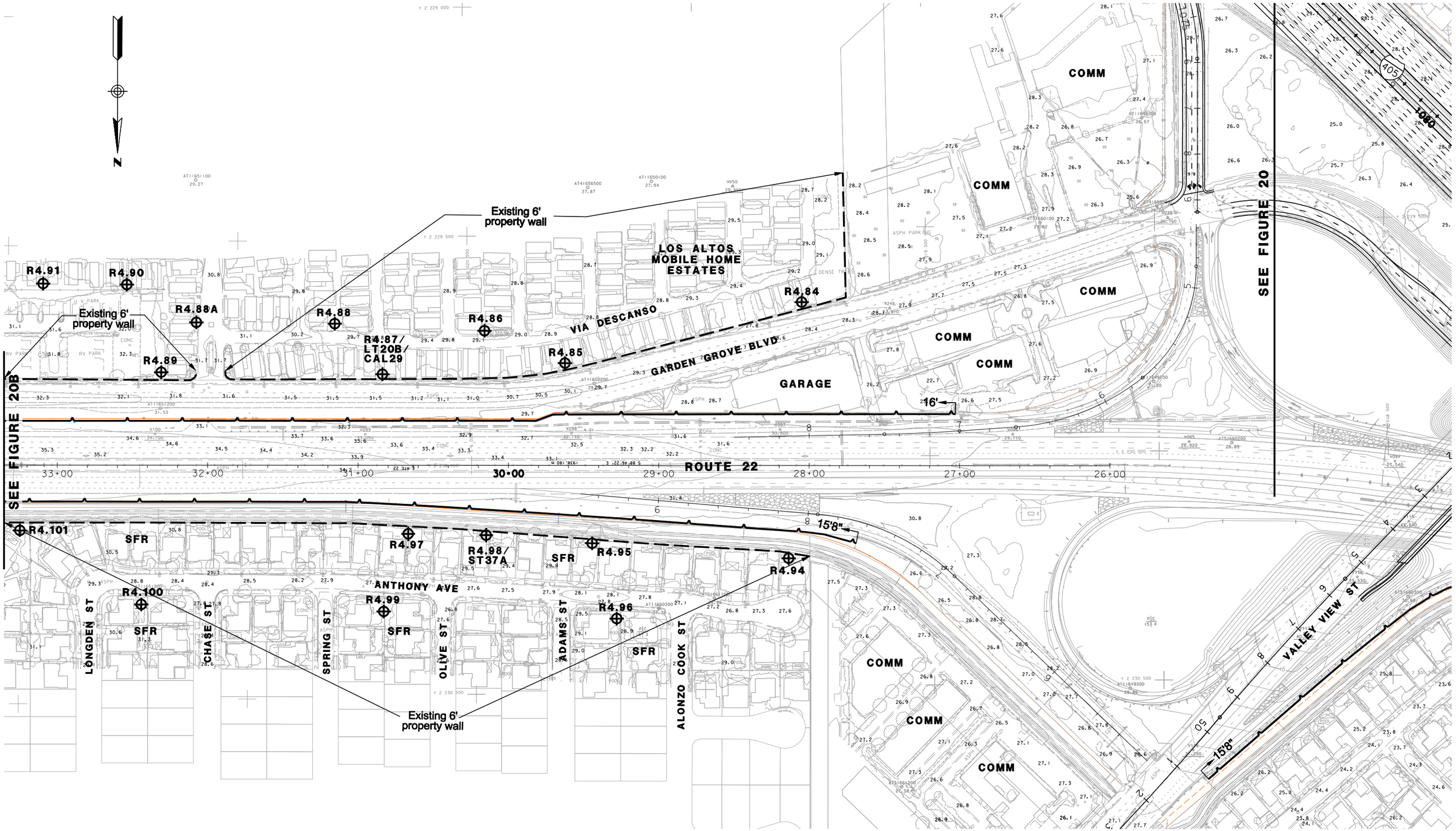
FIGURE 20



LEGEND

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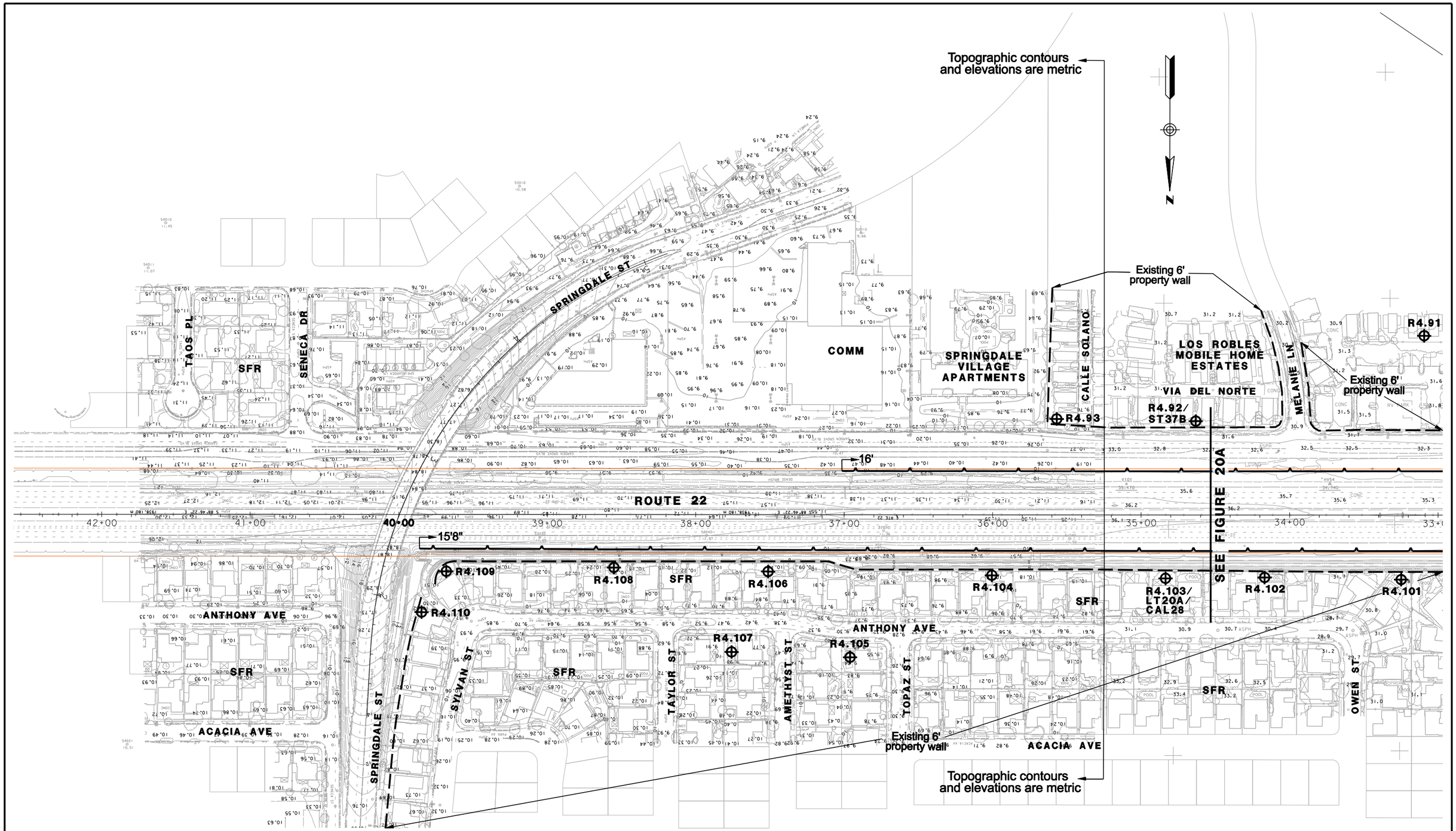
FIGURE 20A



LEGEND

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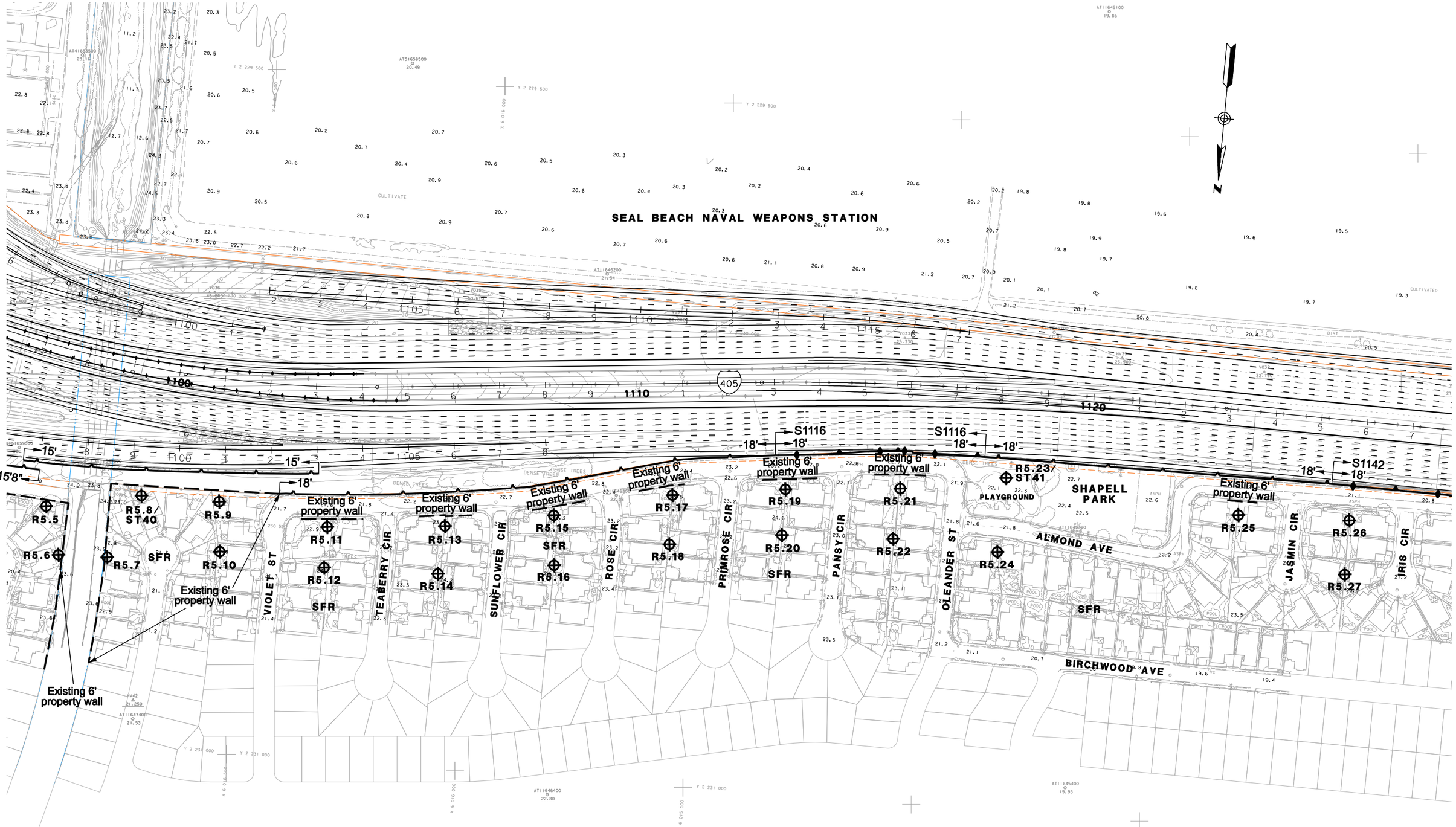
MAY 4, 2011

FIGURE 20B



LEGEND

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- ST – SHORTTERM MEASUREMENT
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1in : 200ft

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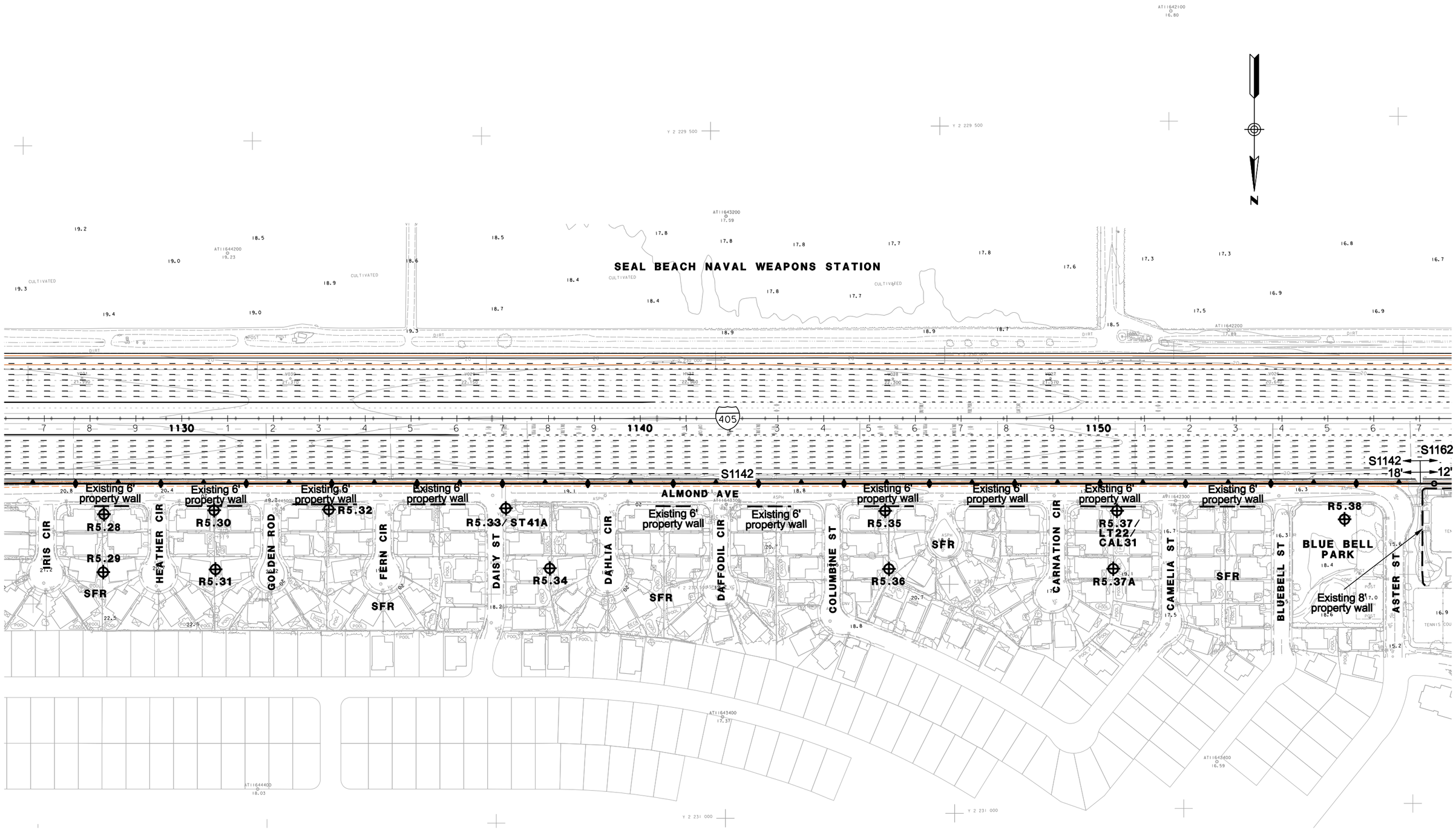
FEBRUARY 23, 2011

FIGURE 21



LEGEND

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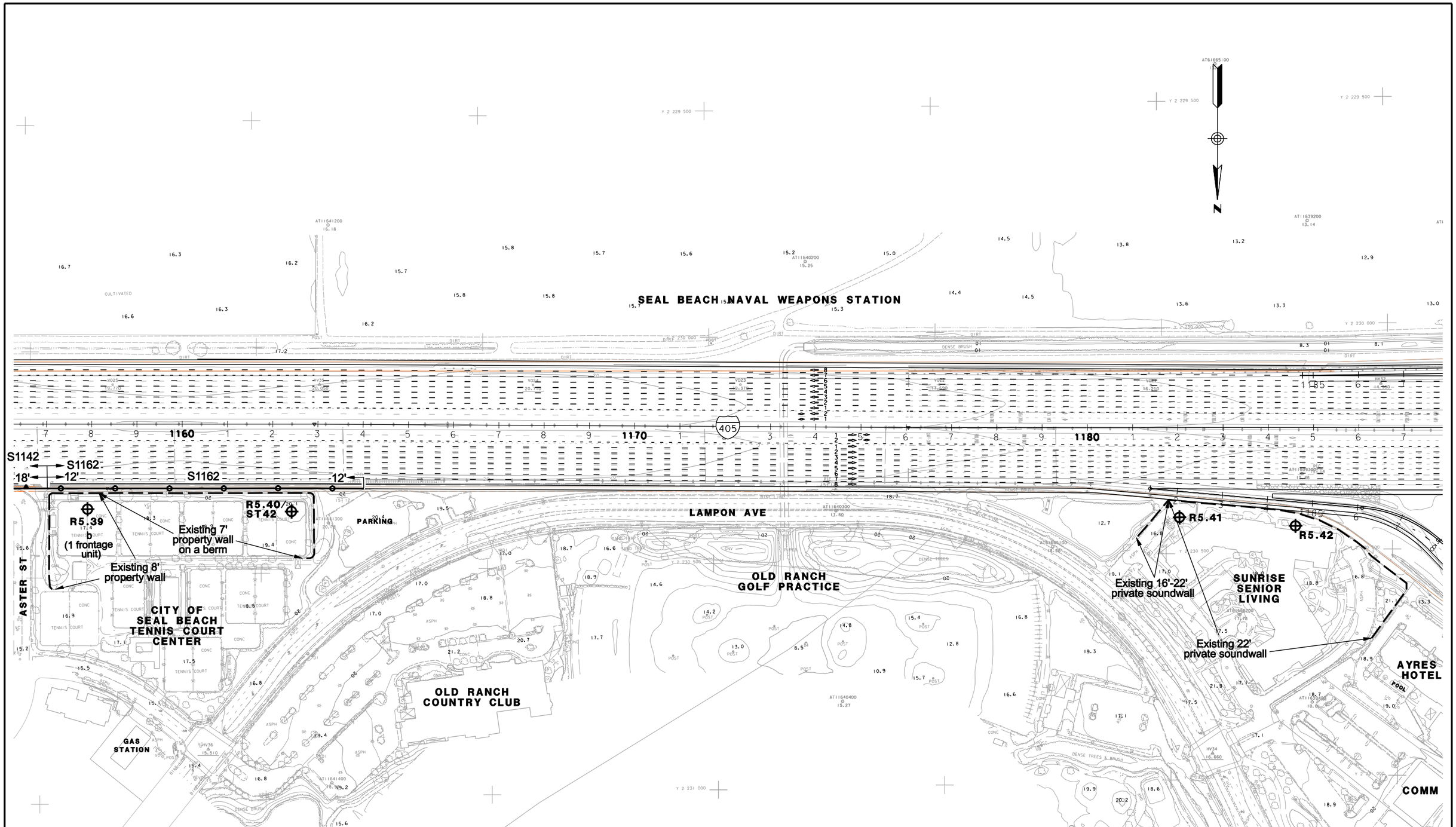
FIGURE 22



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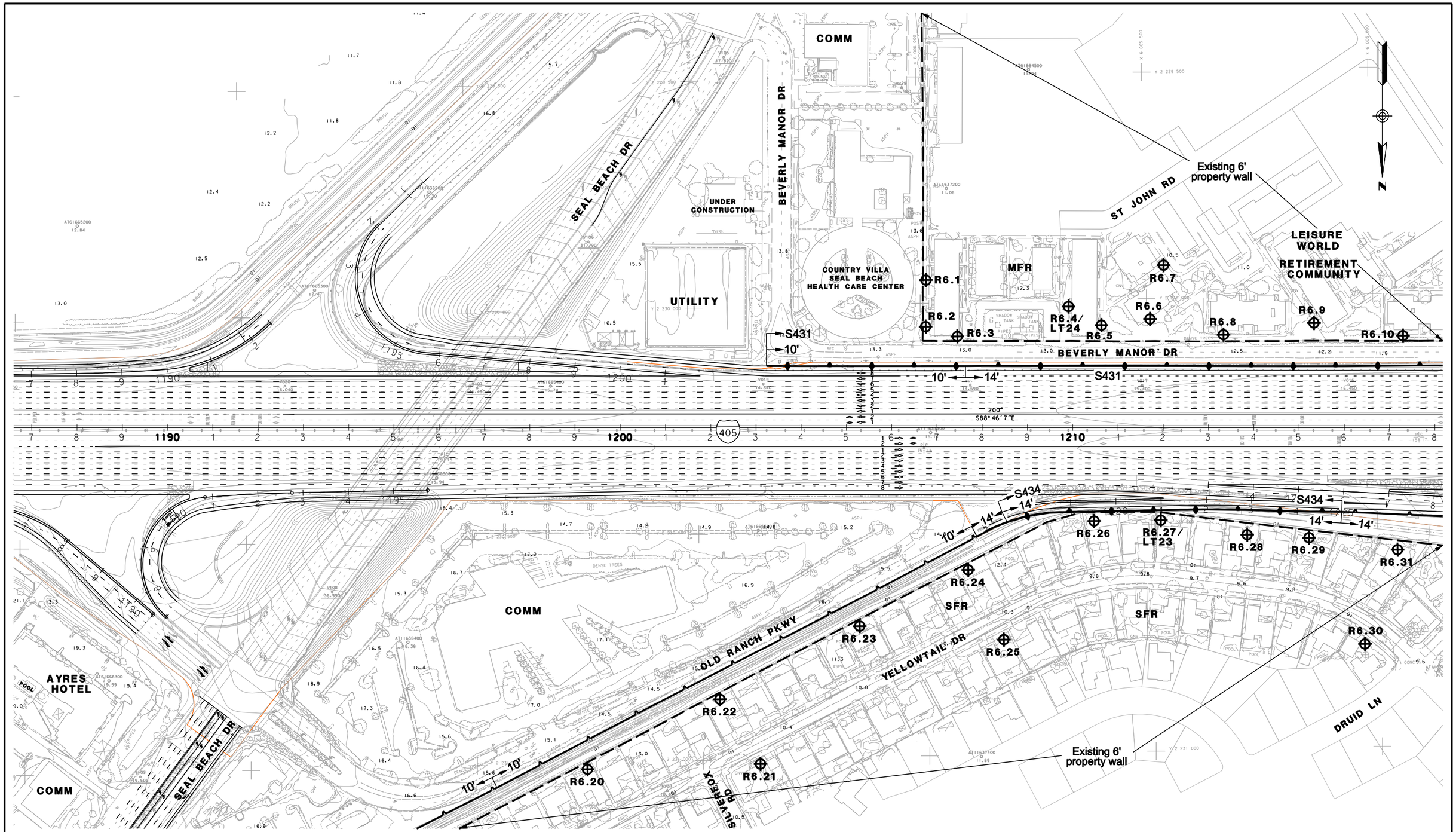
FEBRUARY 23, 2011

FIGURE 23



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FEBRUARY 23, 2011

FIGURE 24

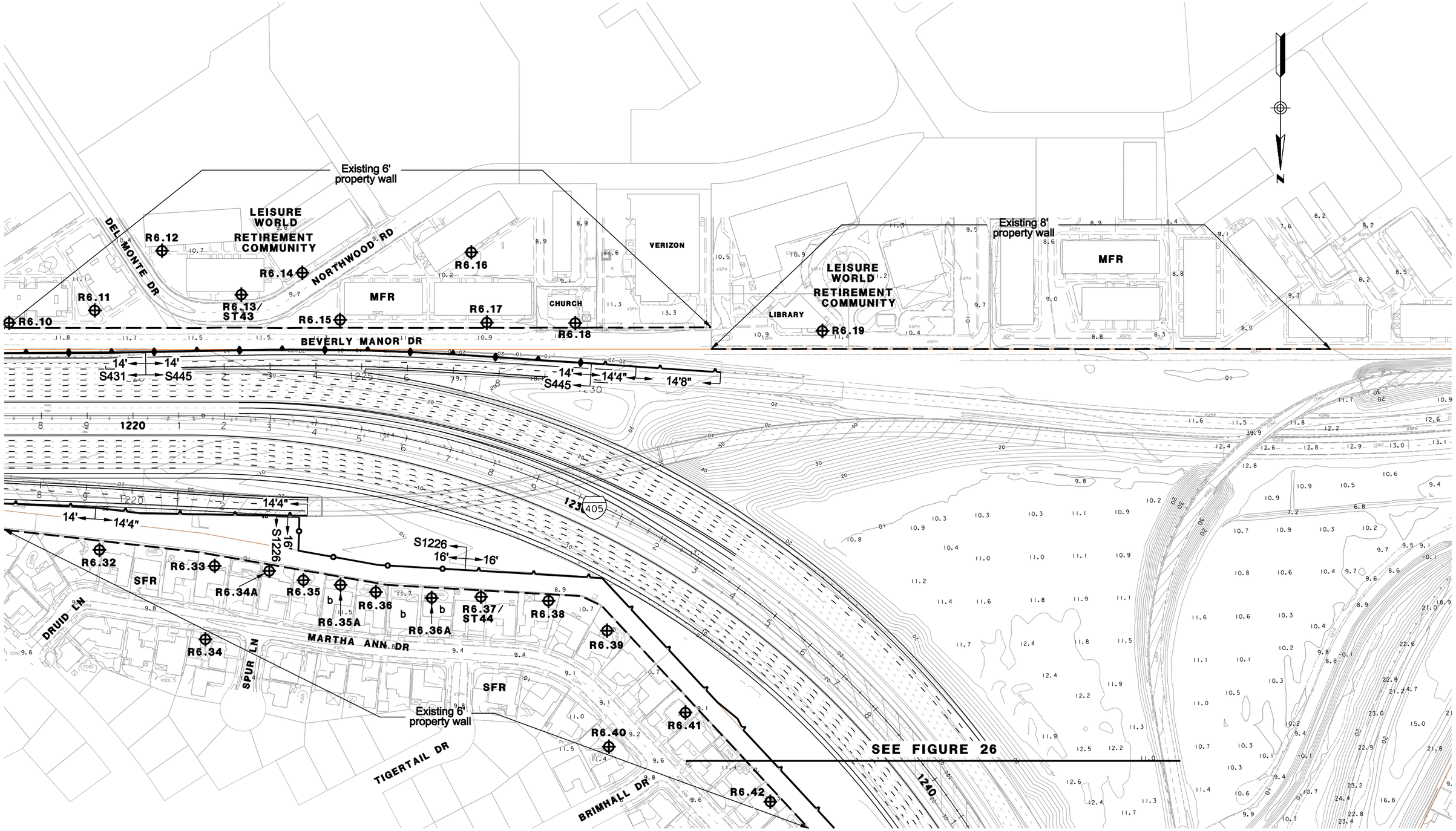

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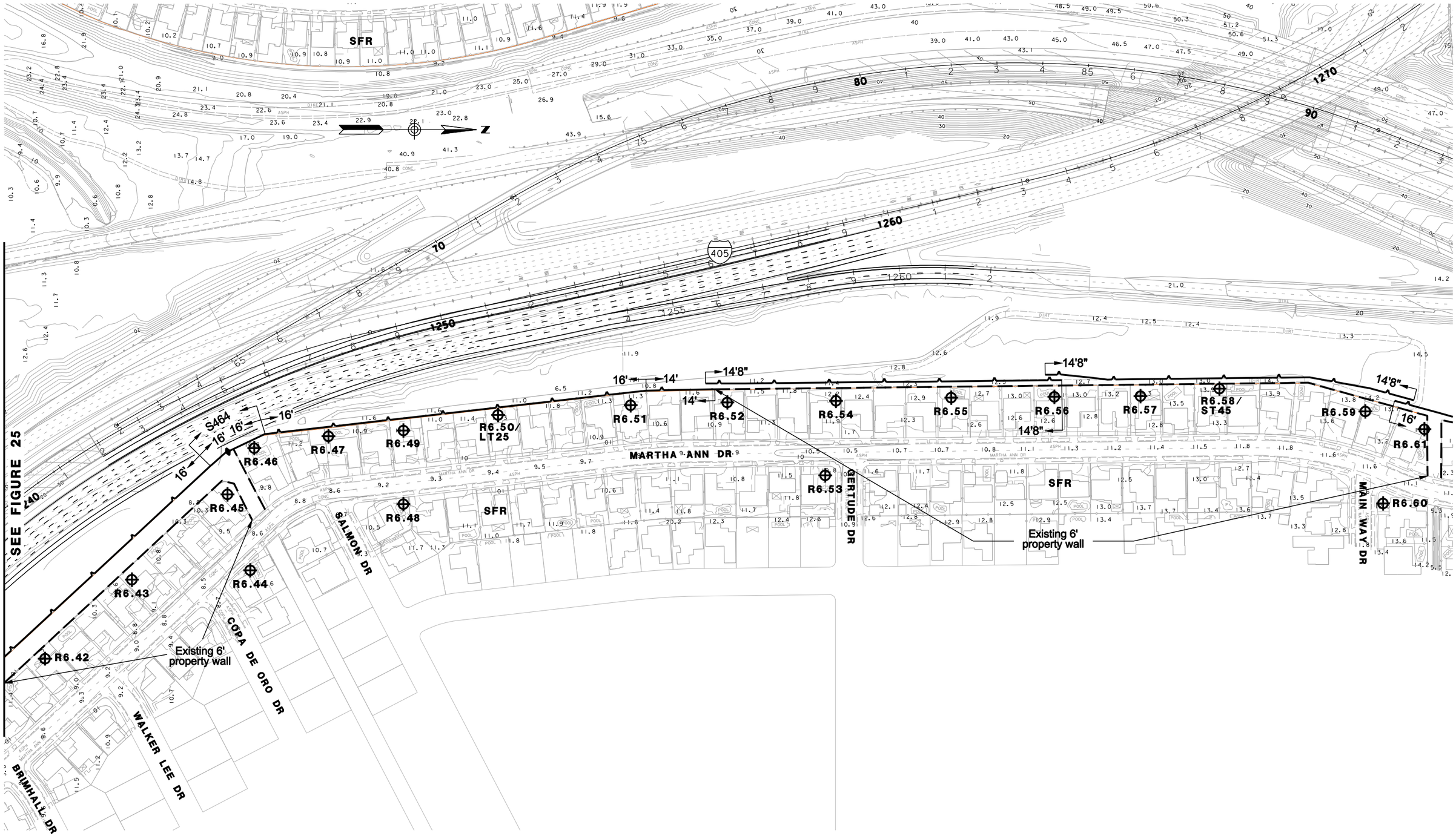
FIGURE 25



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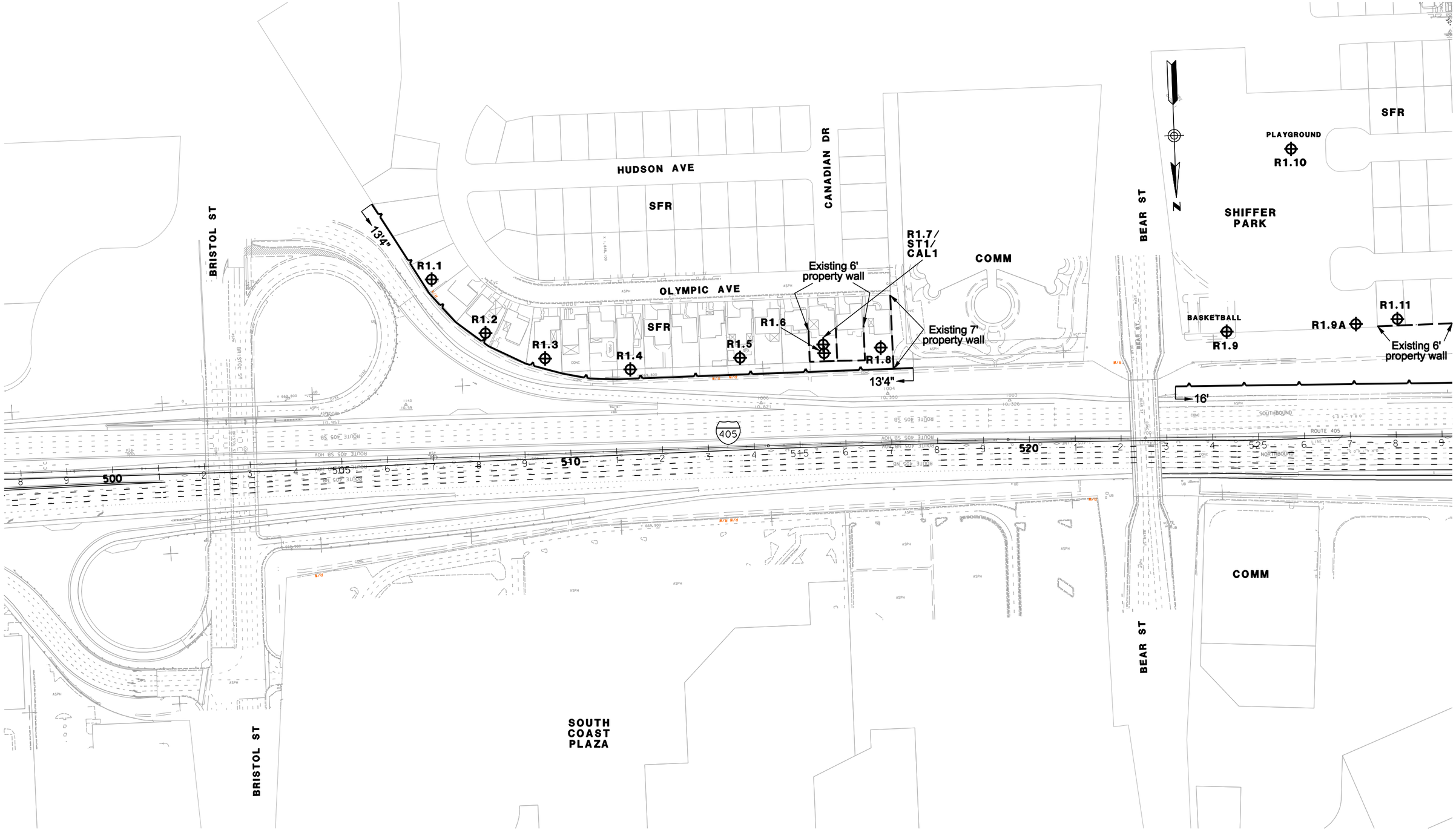
FEBRUARY 23, 2011

FIGURE 26

Appendix A3 Alternative 3



LEGEND

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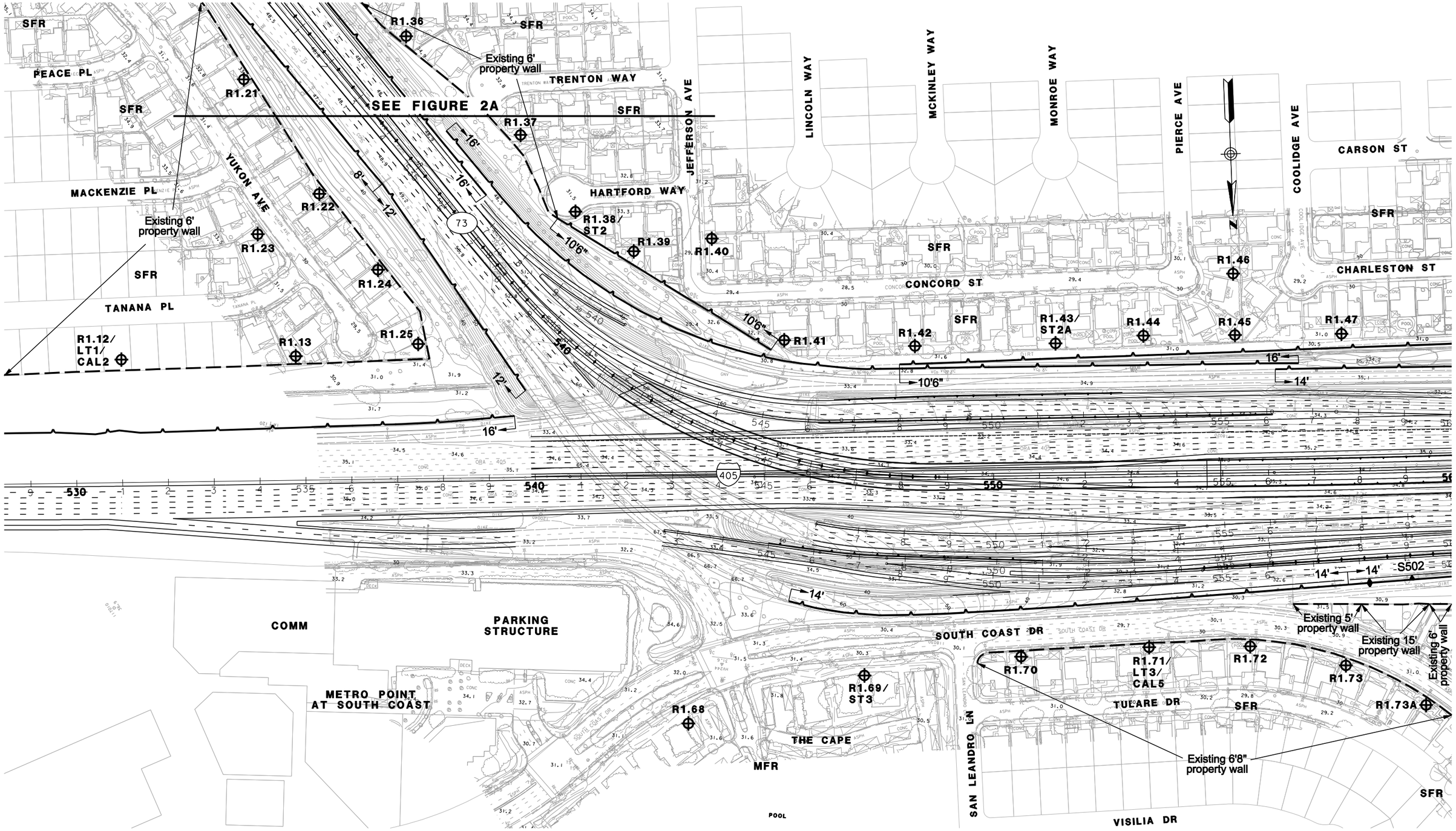
FEBRUARY 23, 2011

FIGURE 1



LEGEND

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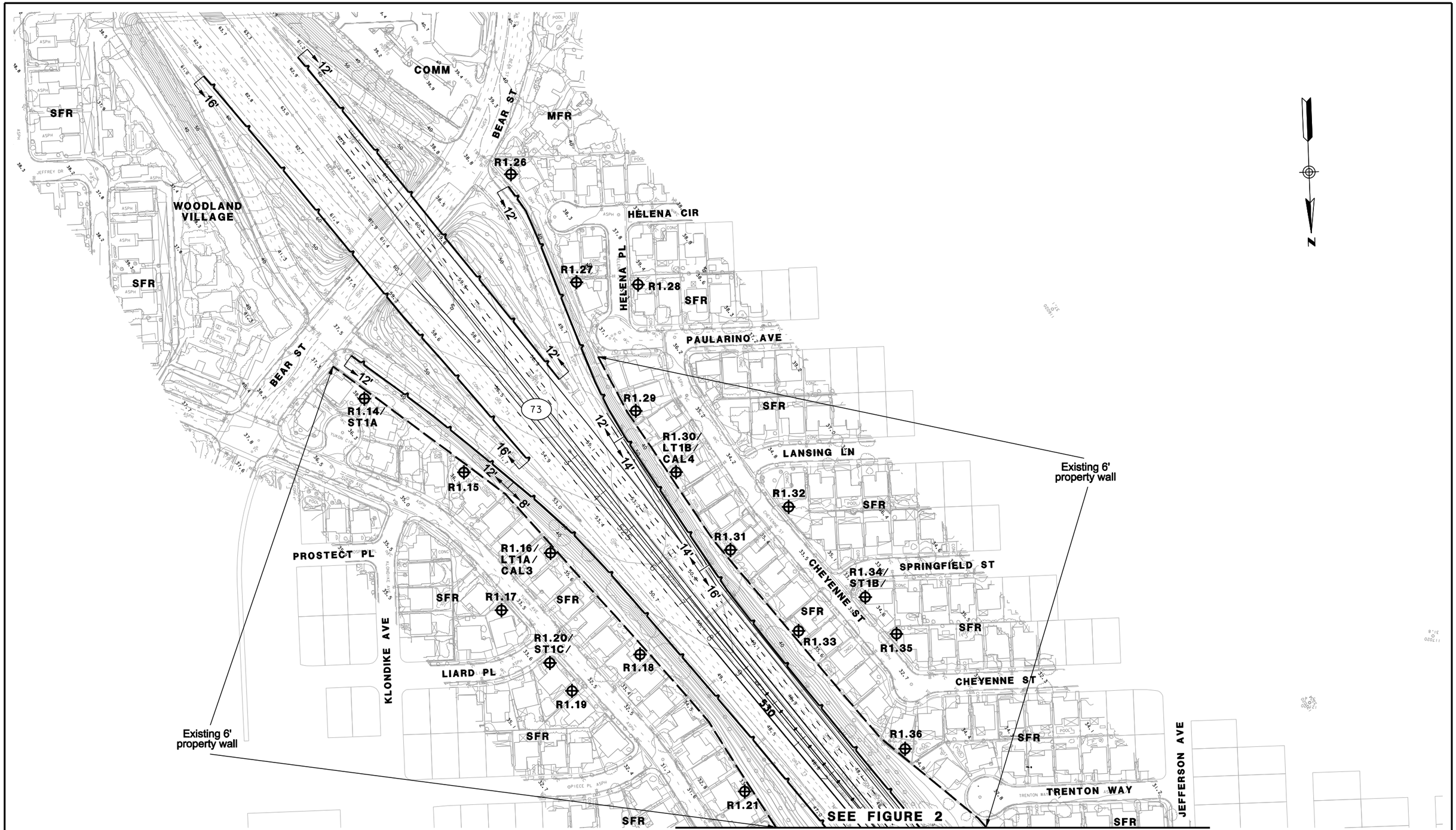
FIGURE 2



LEGEND

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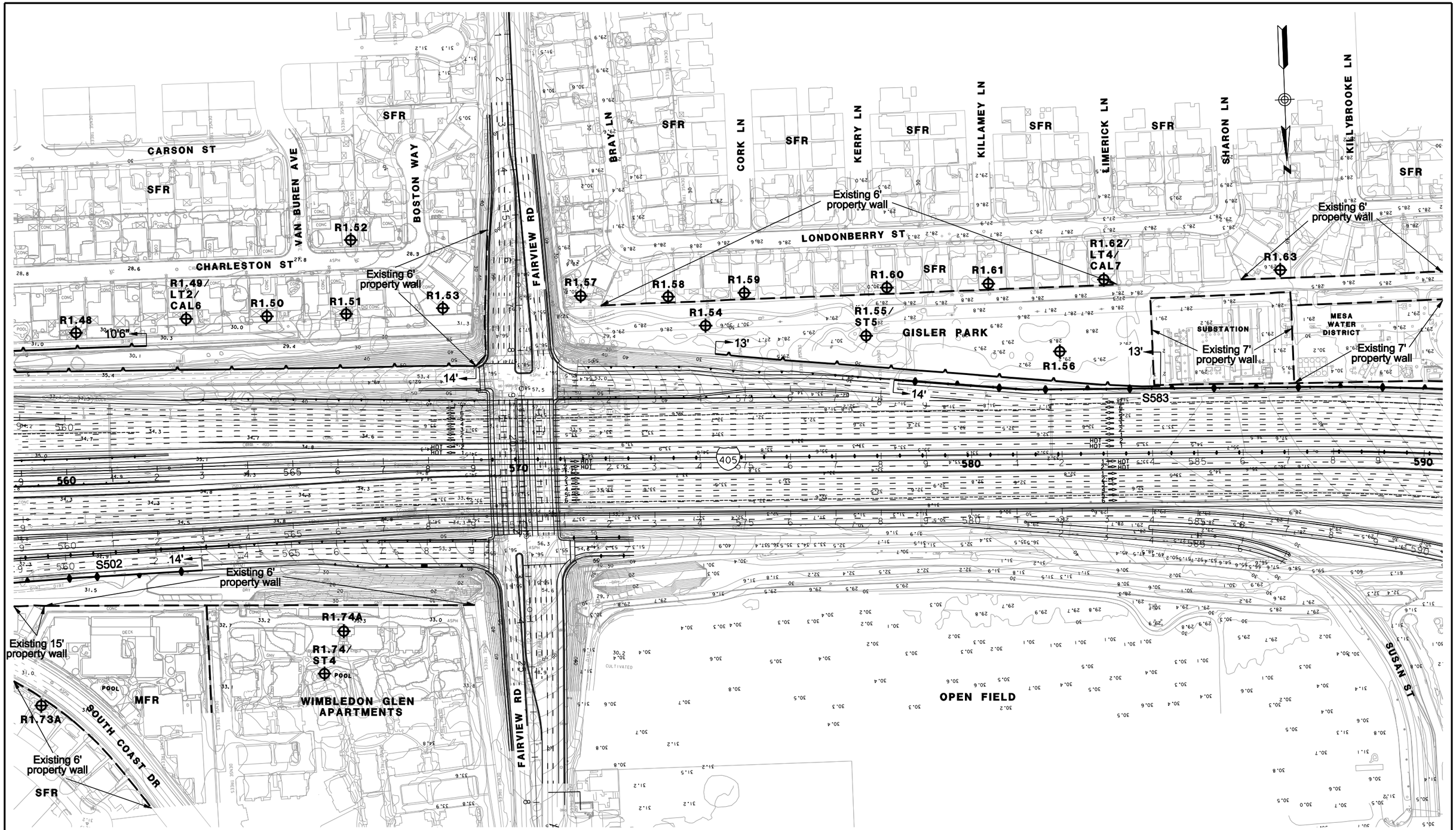
FIGURE 2A



LEGEND

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- ST – SHORTTERM MEASUREMENT
- CAL – CALIBRATION SITE
- EXISTING WALL
- SOUNDWALL
- EXISTING SOUNDWALL
- REPLACEMENT IN KIND SOUNDWALL
- SFR – SINGLE FAMILY RESIDENCE
- MFR – MULTI-FAMILY RESIDENCE
- COMM – COMMERCIAL
- b – BENEFITED RESIDENCE

1in : 200ft

0 ft 100ft 200ft 300ft

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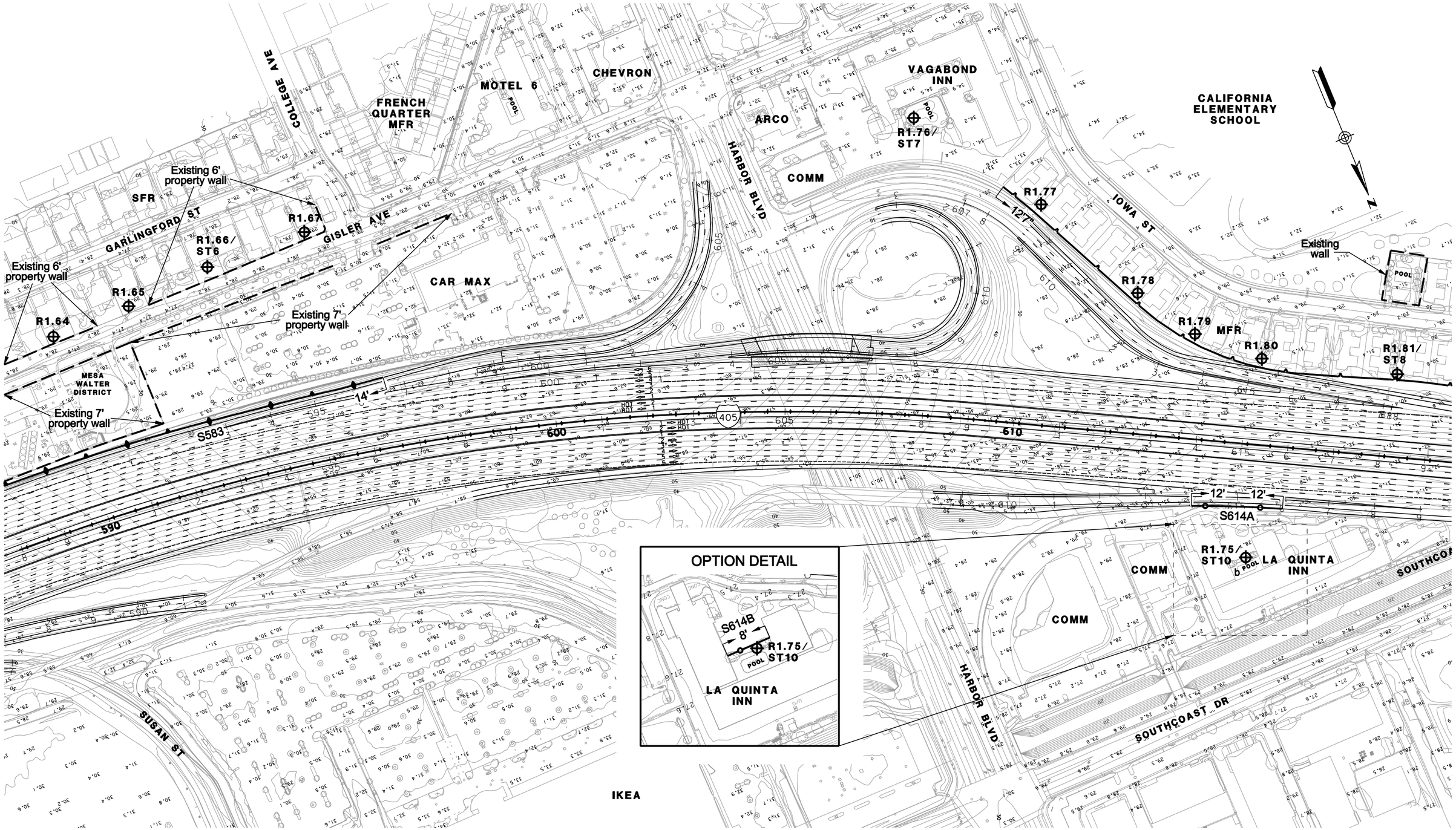
FIGURE 3



LEGEND

- RXX – RECEIVER SITE
- LT – LONGTERM MEASUREMENT
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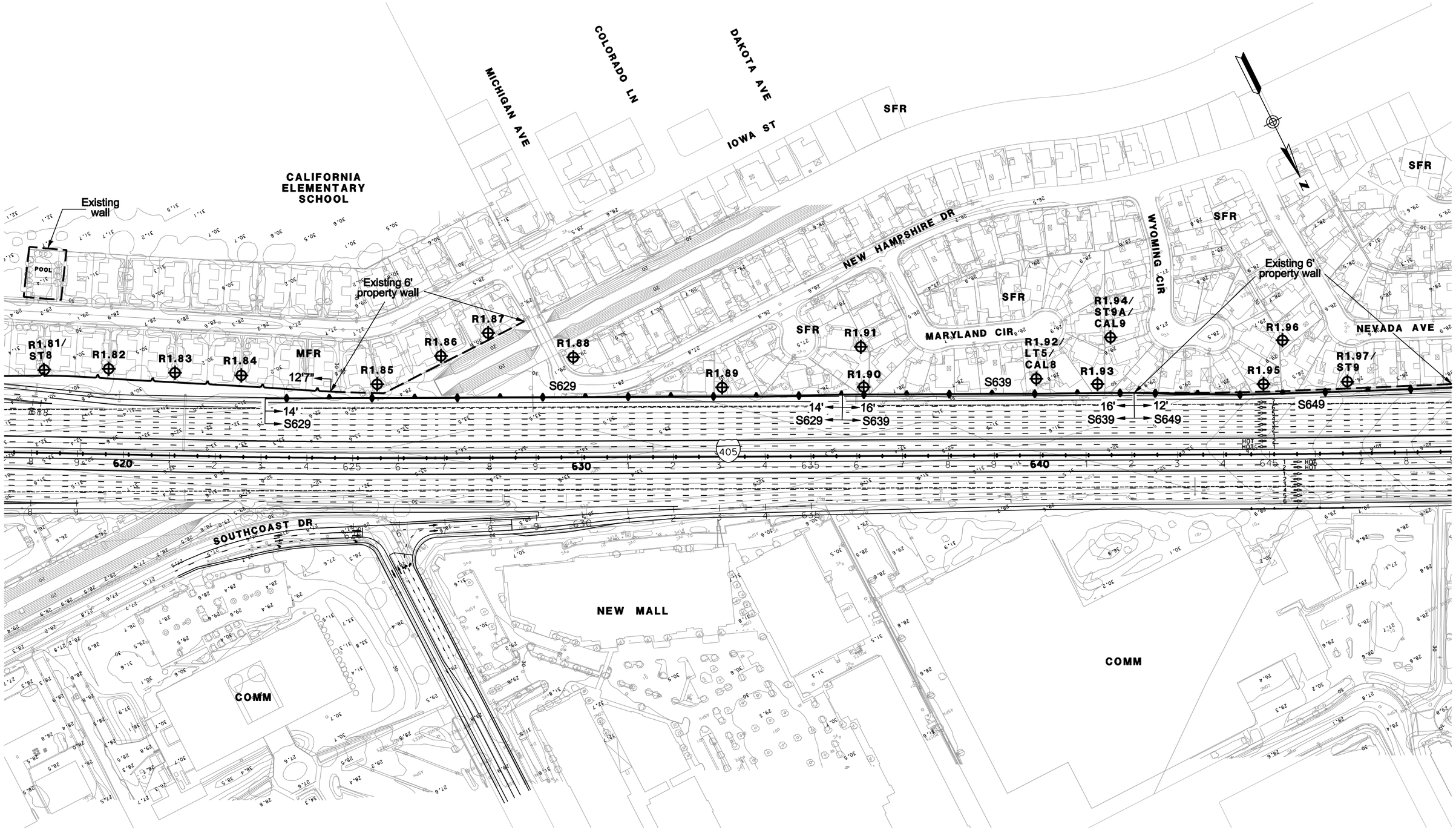
FIGURE 4



LEGEND

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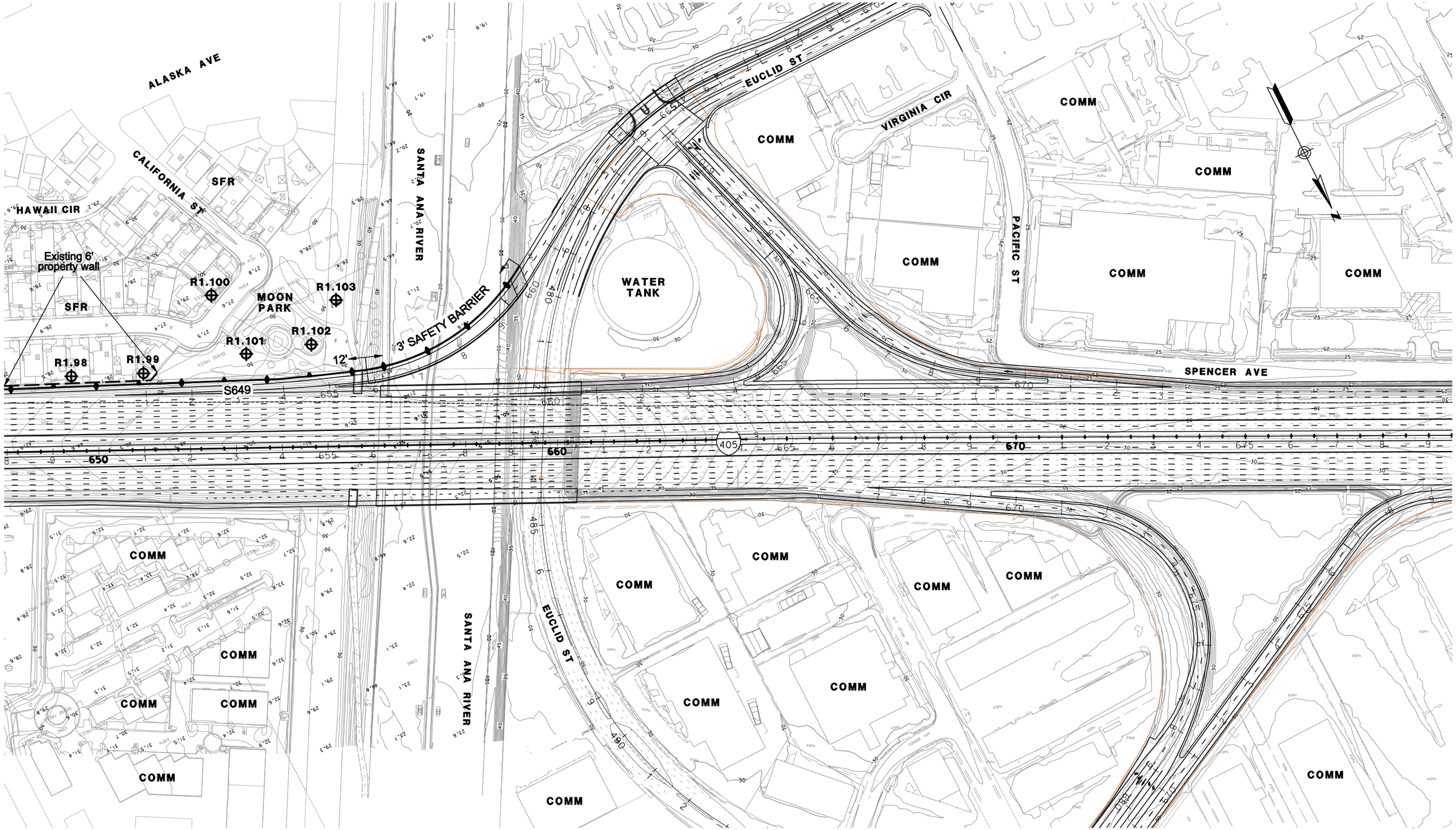
FIGURE 5



LEGEND

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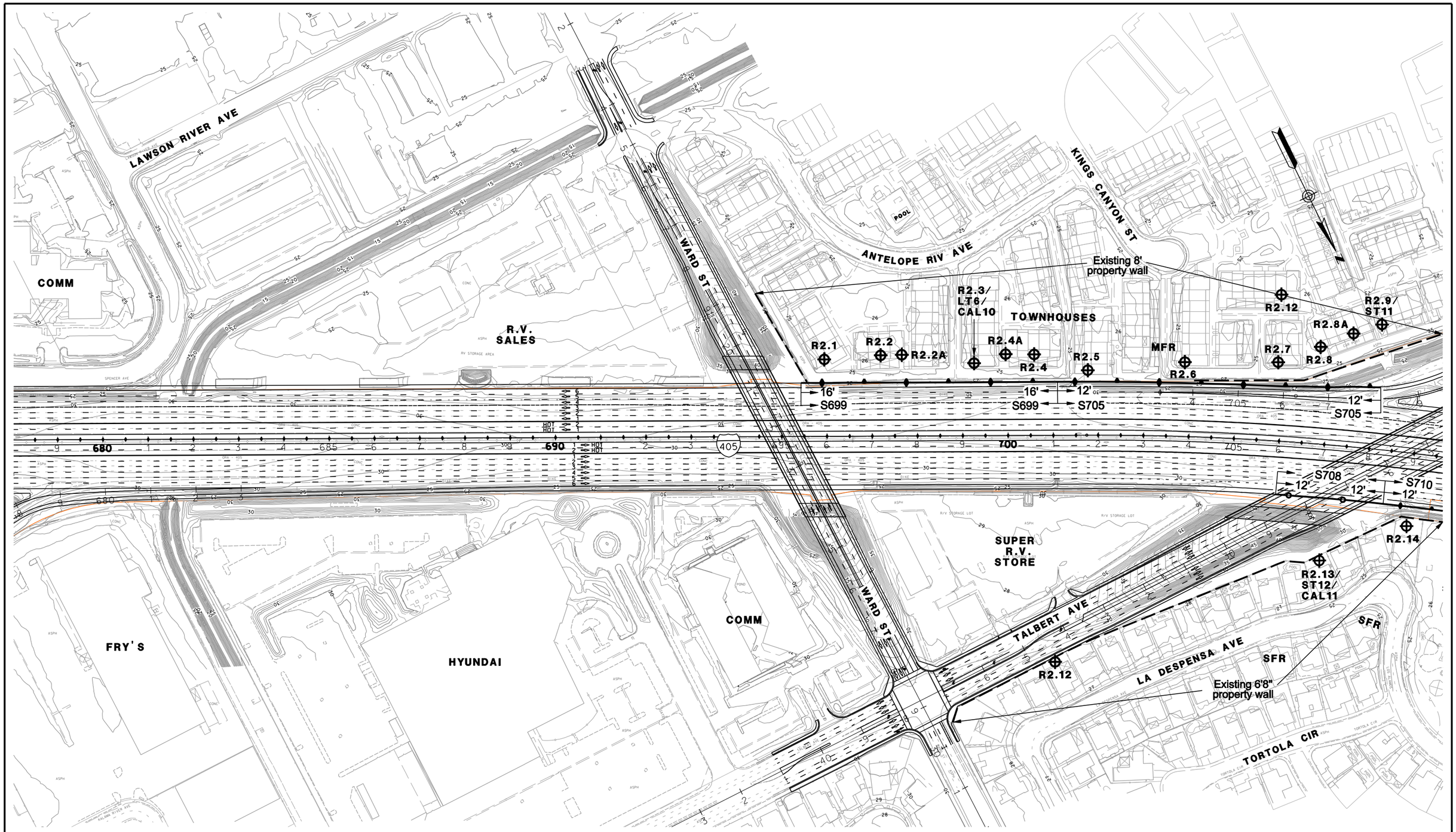
FIGURE 6



LEGEND

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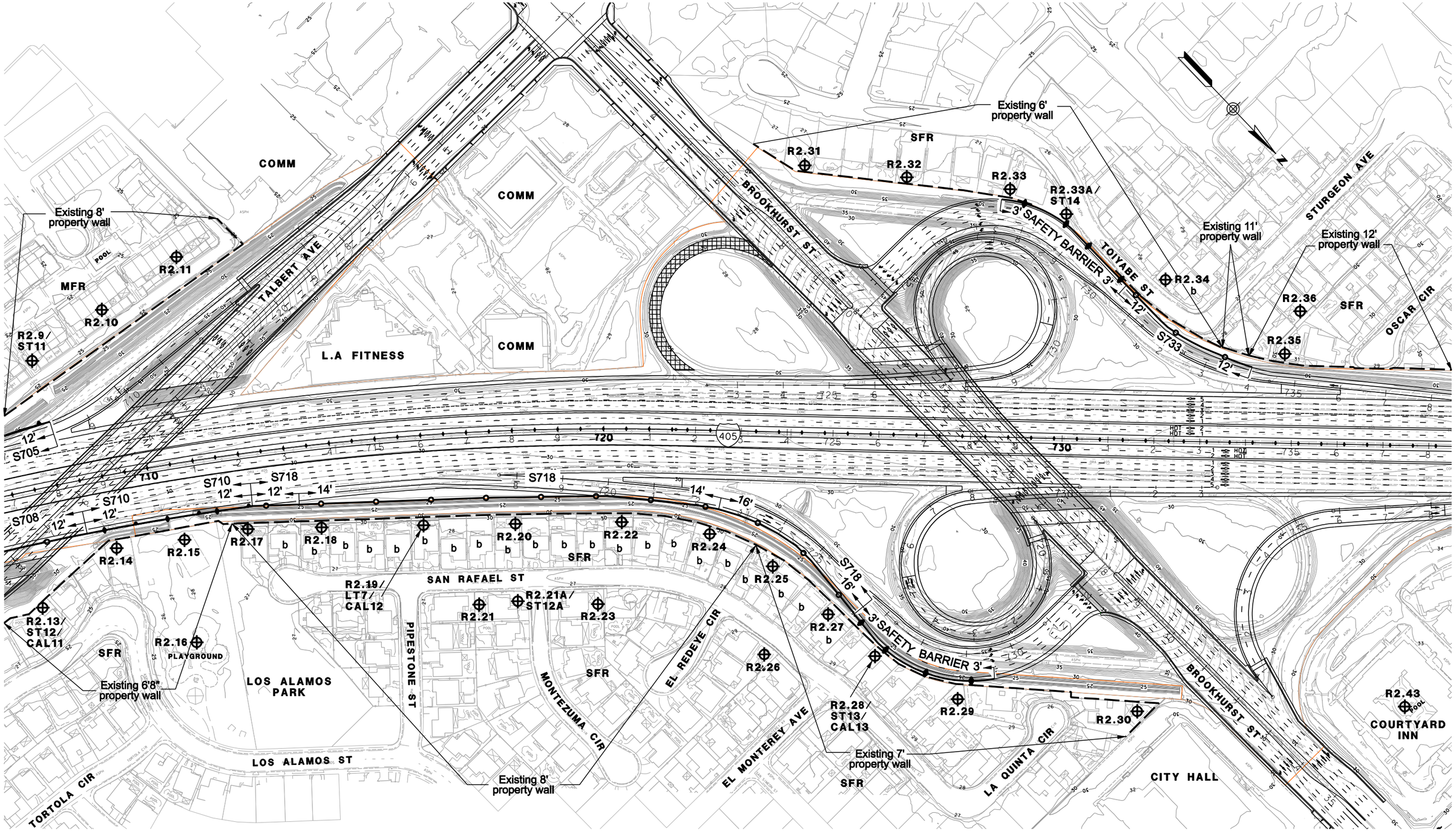
FIGURE 7



LEGEND

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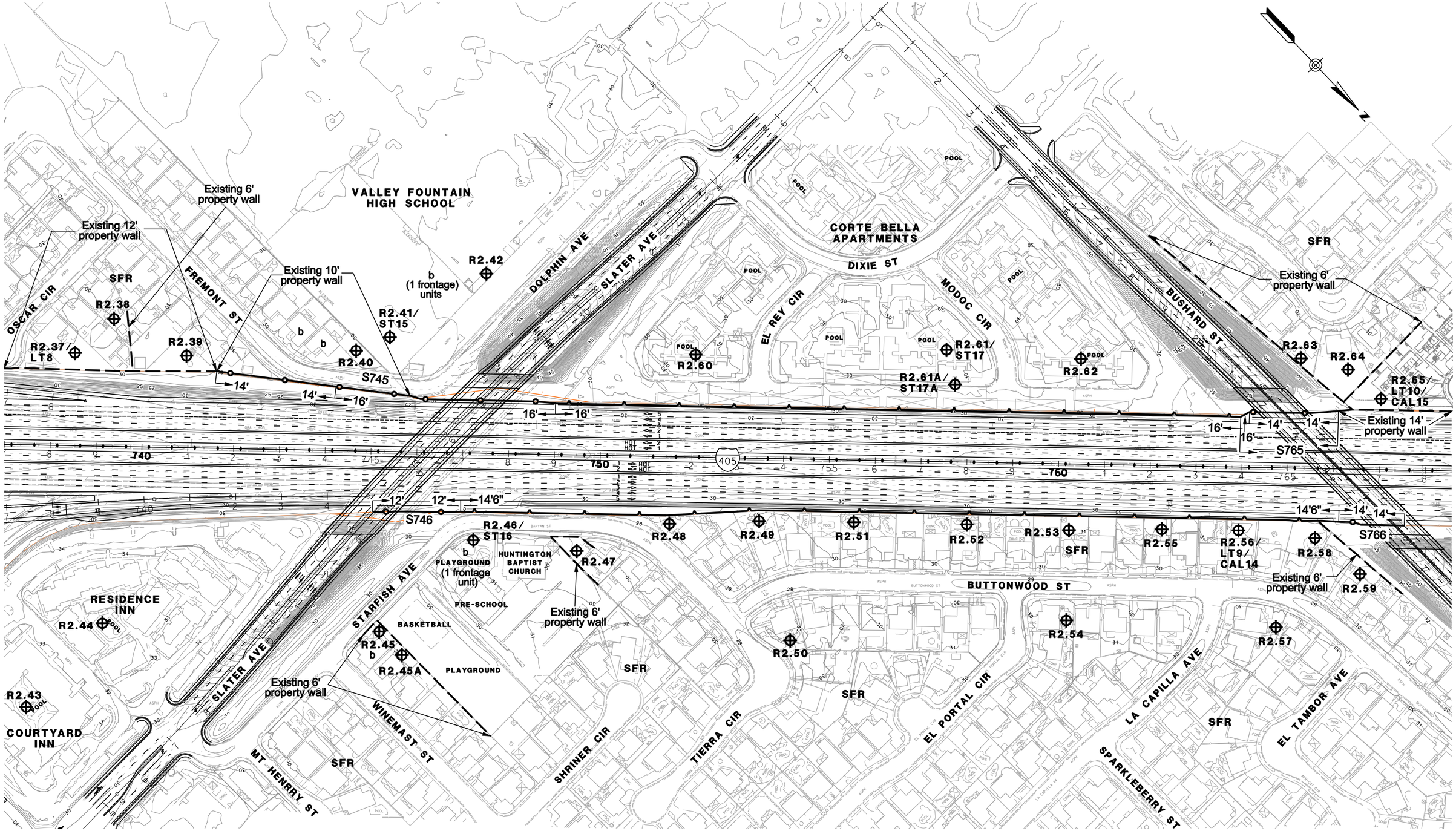
FIGURE 8



LEGEND

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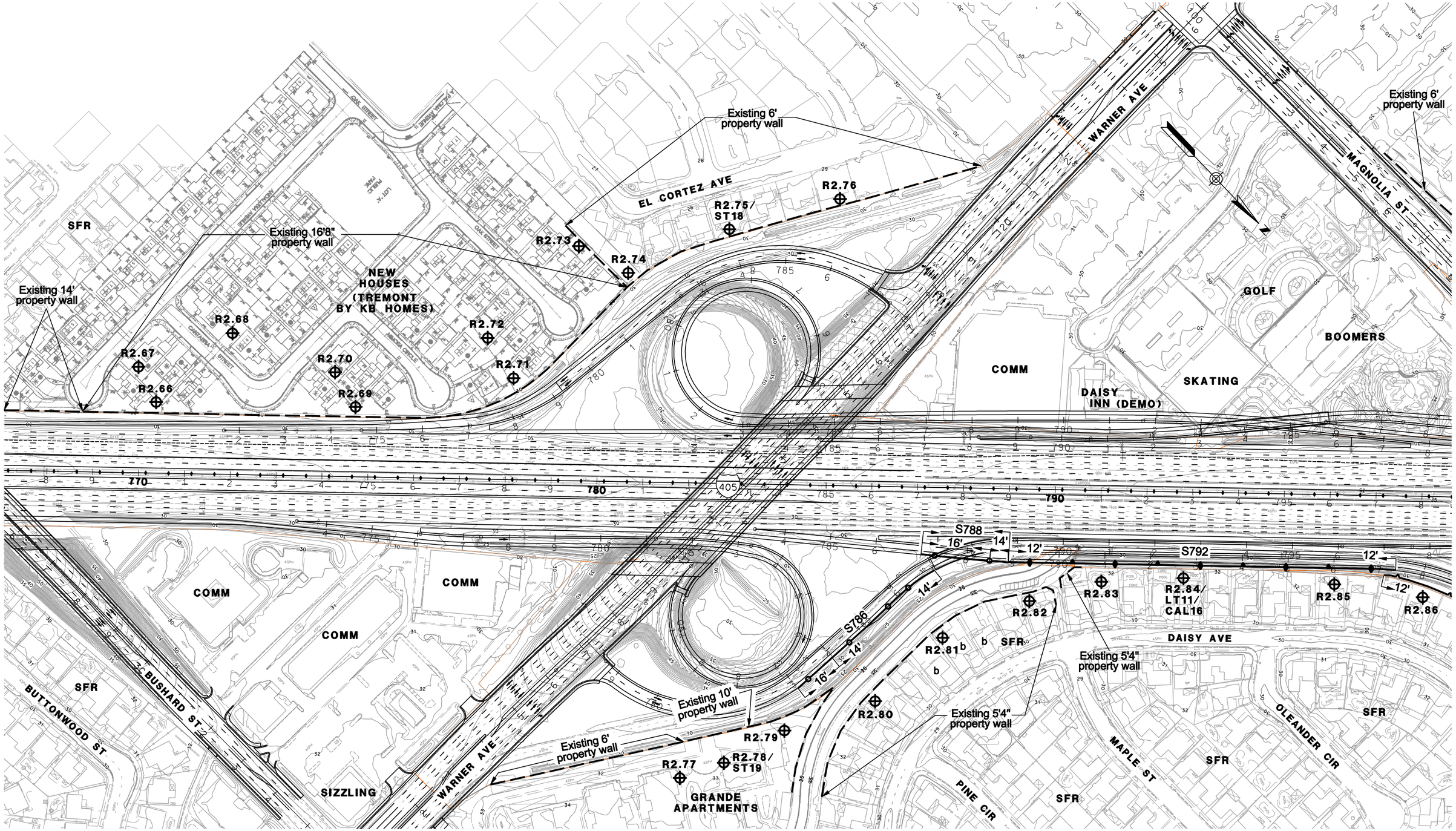
FIGURE 9



LEGEND

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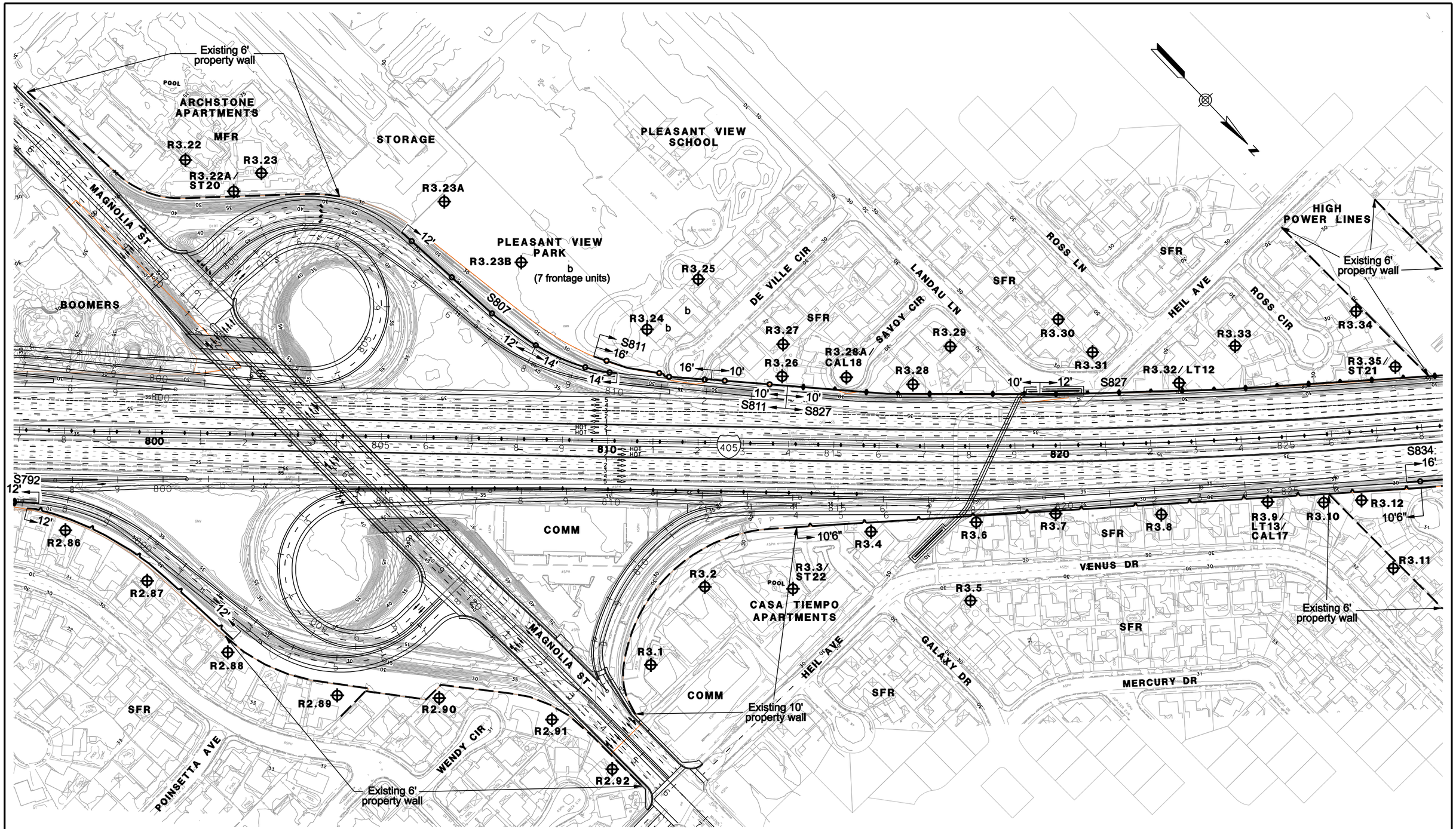
FIGURE 10



LEGEND

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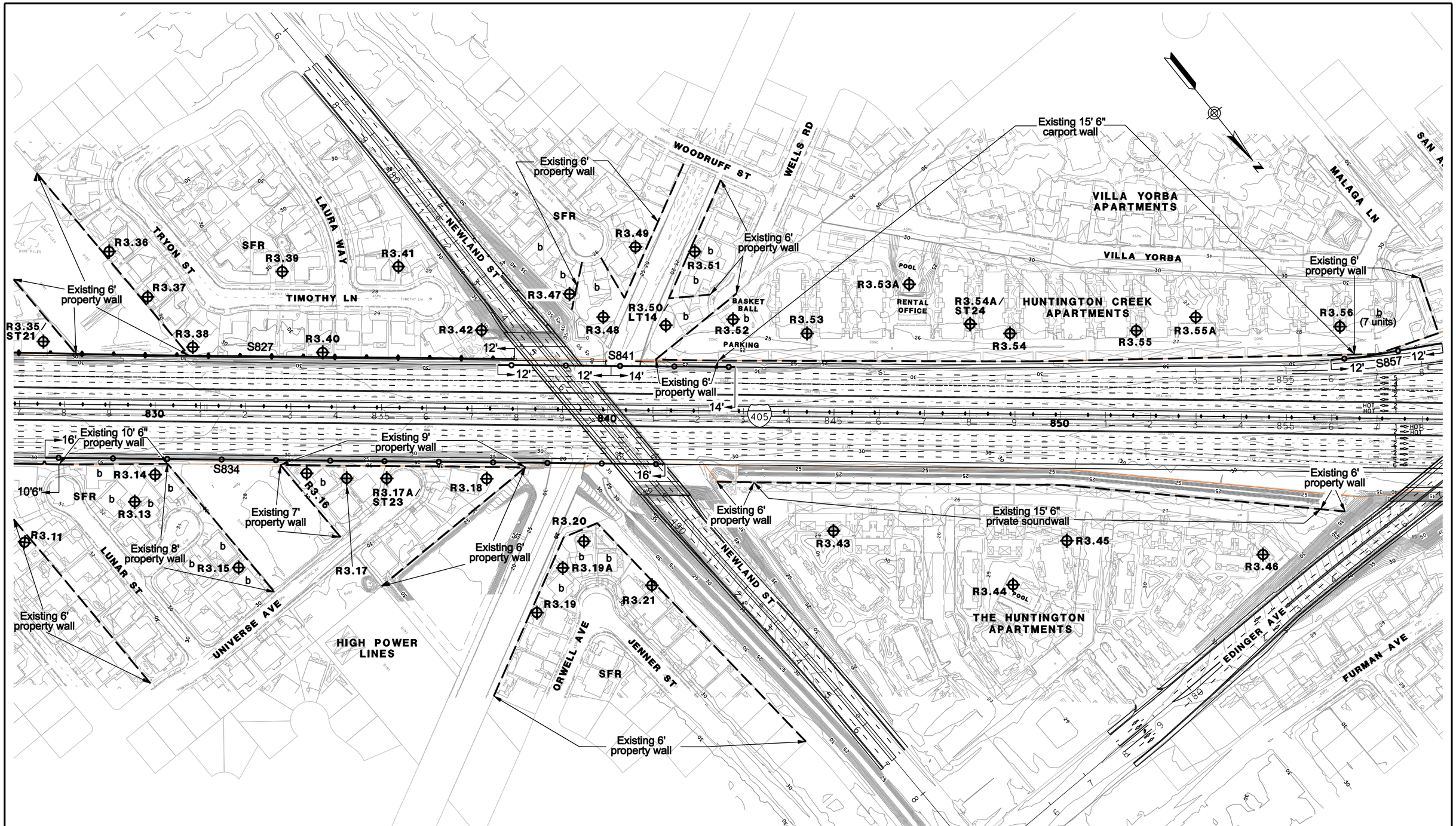
FIGURE 11



LEGEND

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FIGURE 12

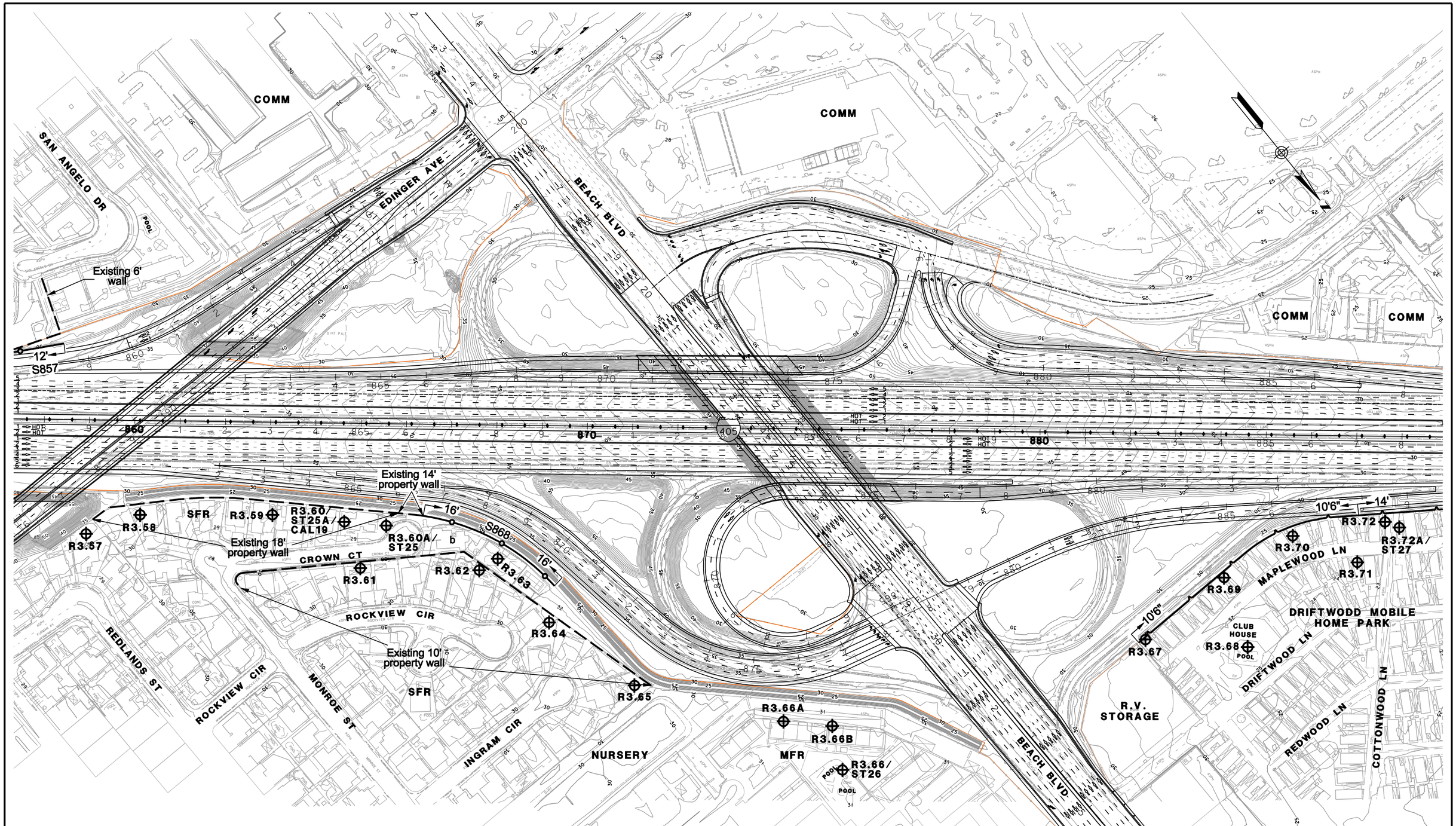

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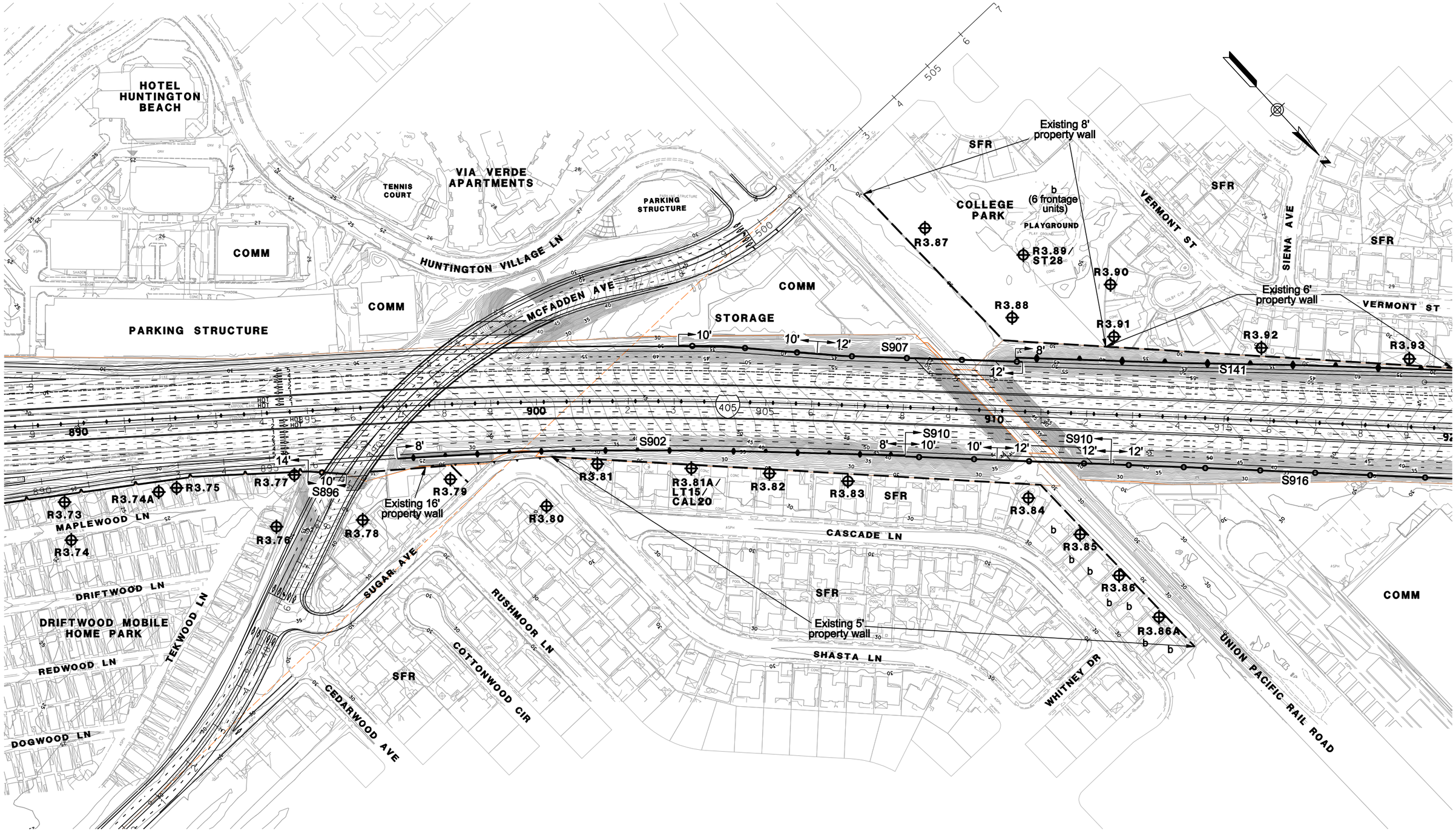
FIGURE 13



LEGEND

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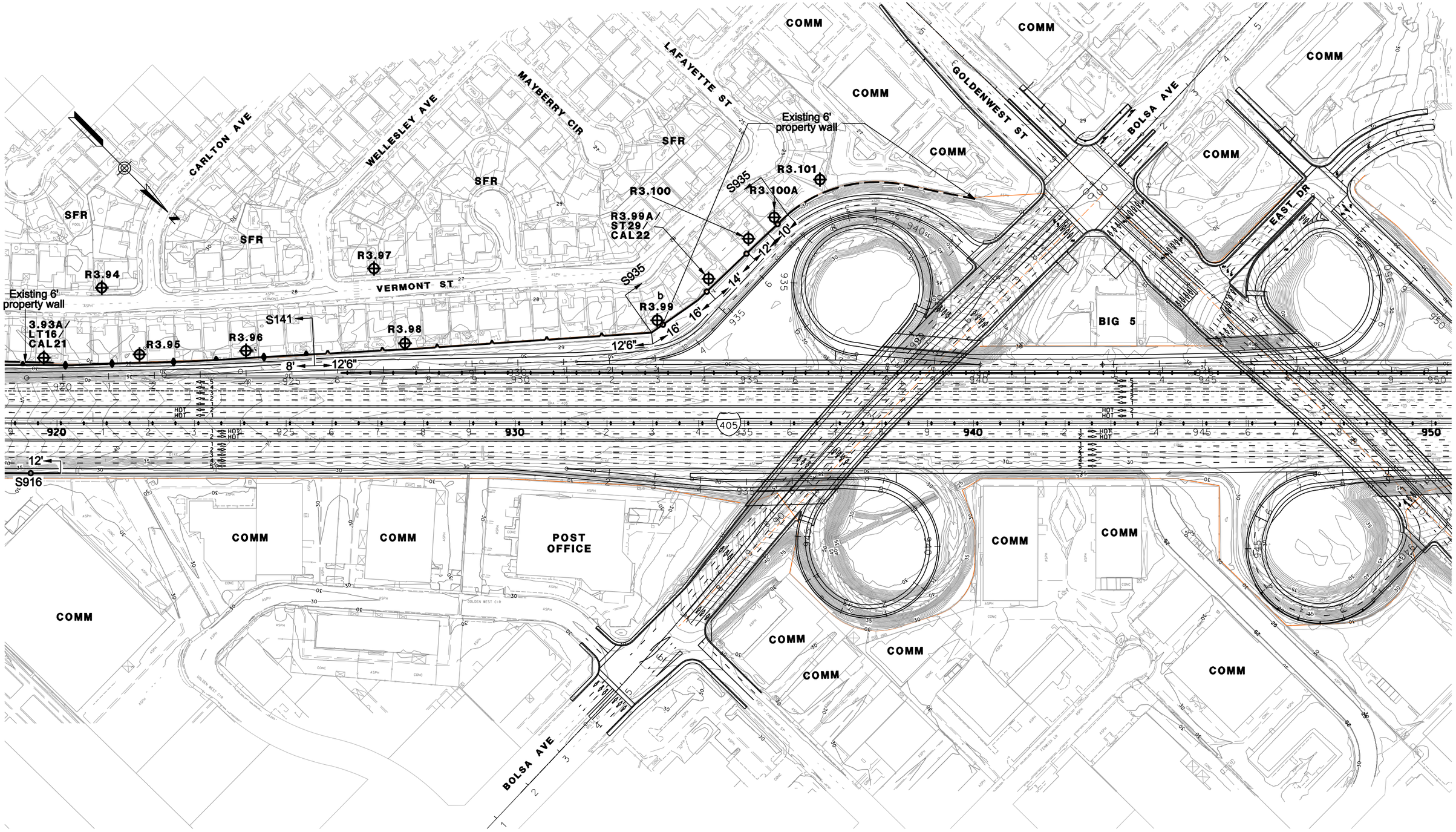
FIGURE 14



LEGEND

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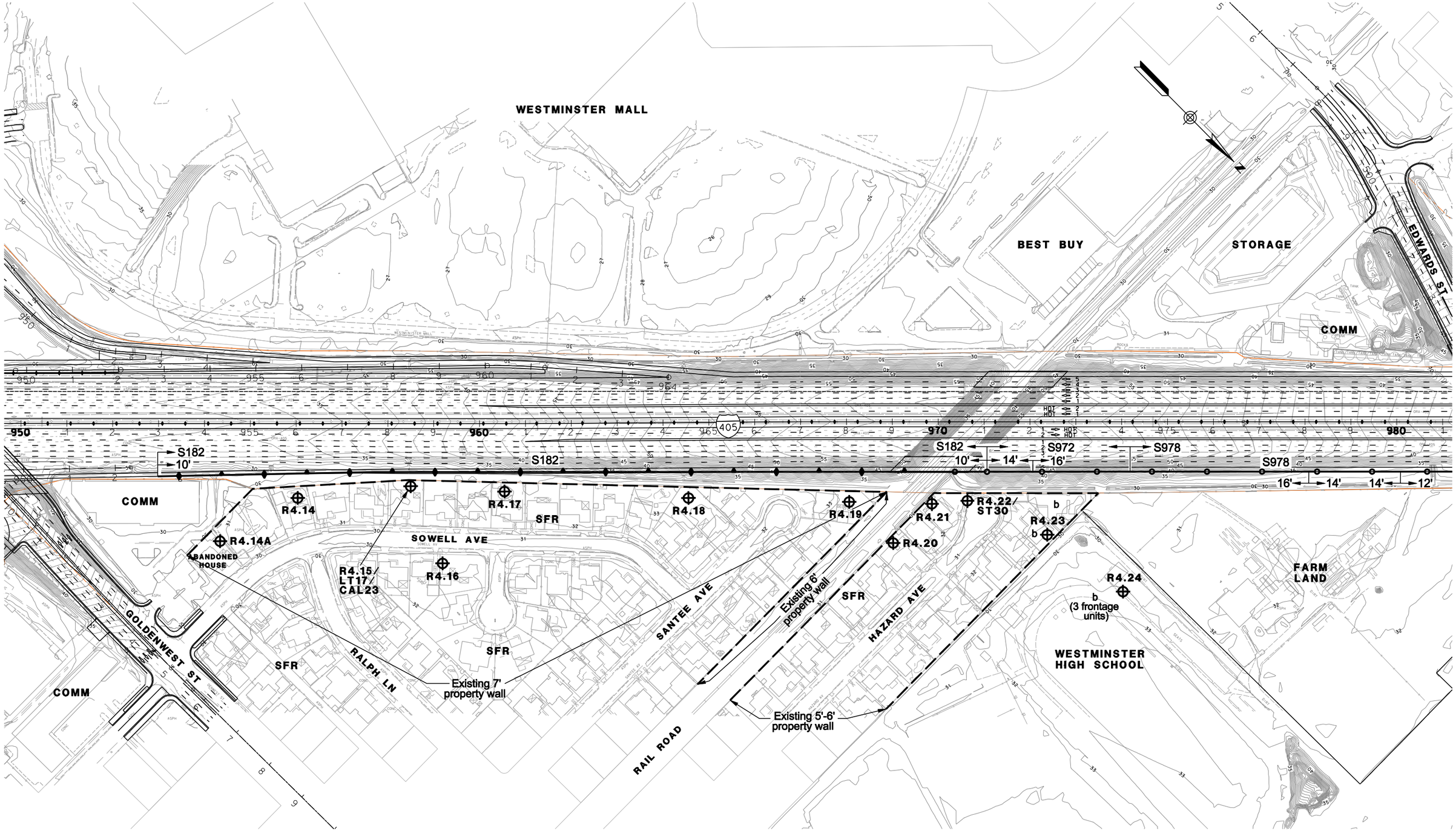
FIGURE 15



LEGEND

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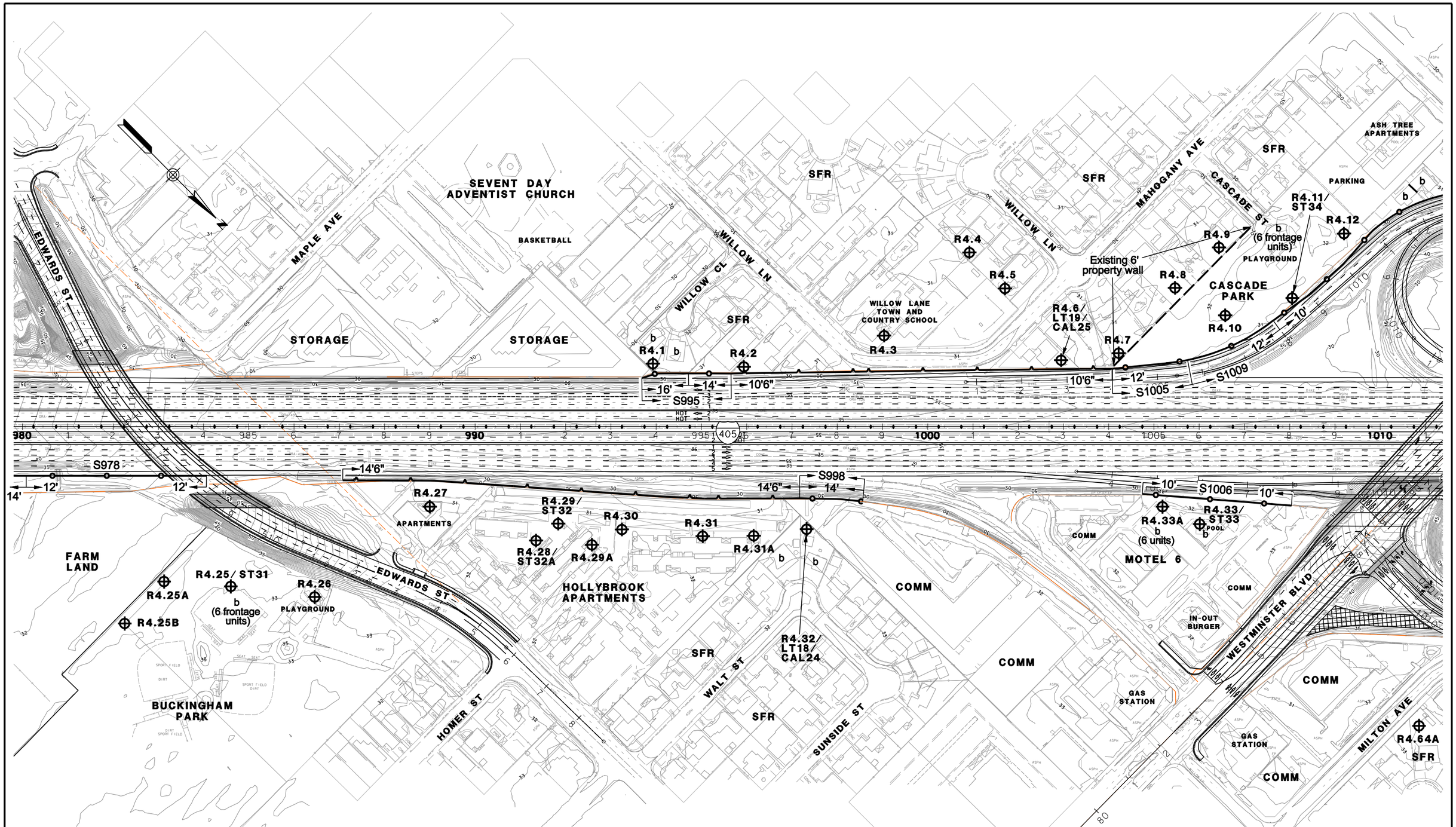
FIGURE 16



LEGEND

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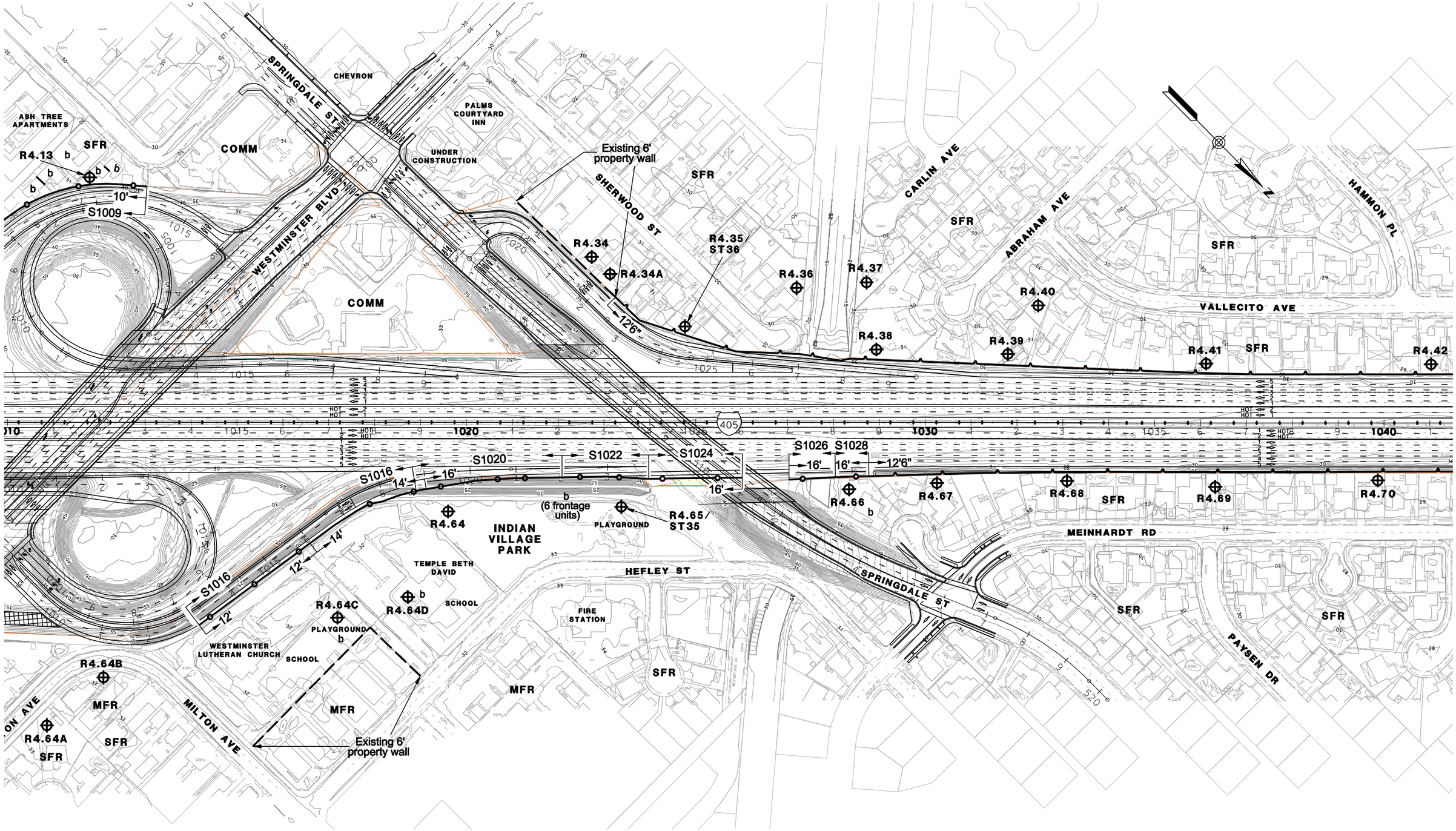
FIGURE 17



LEGEND

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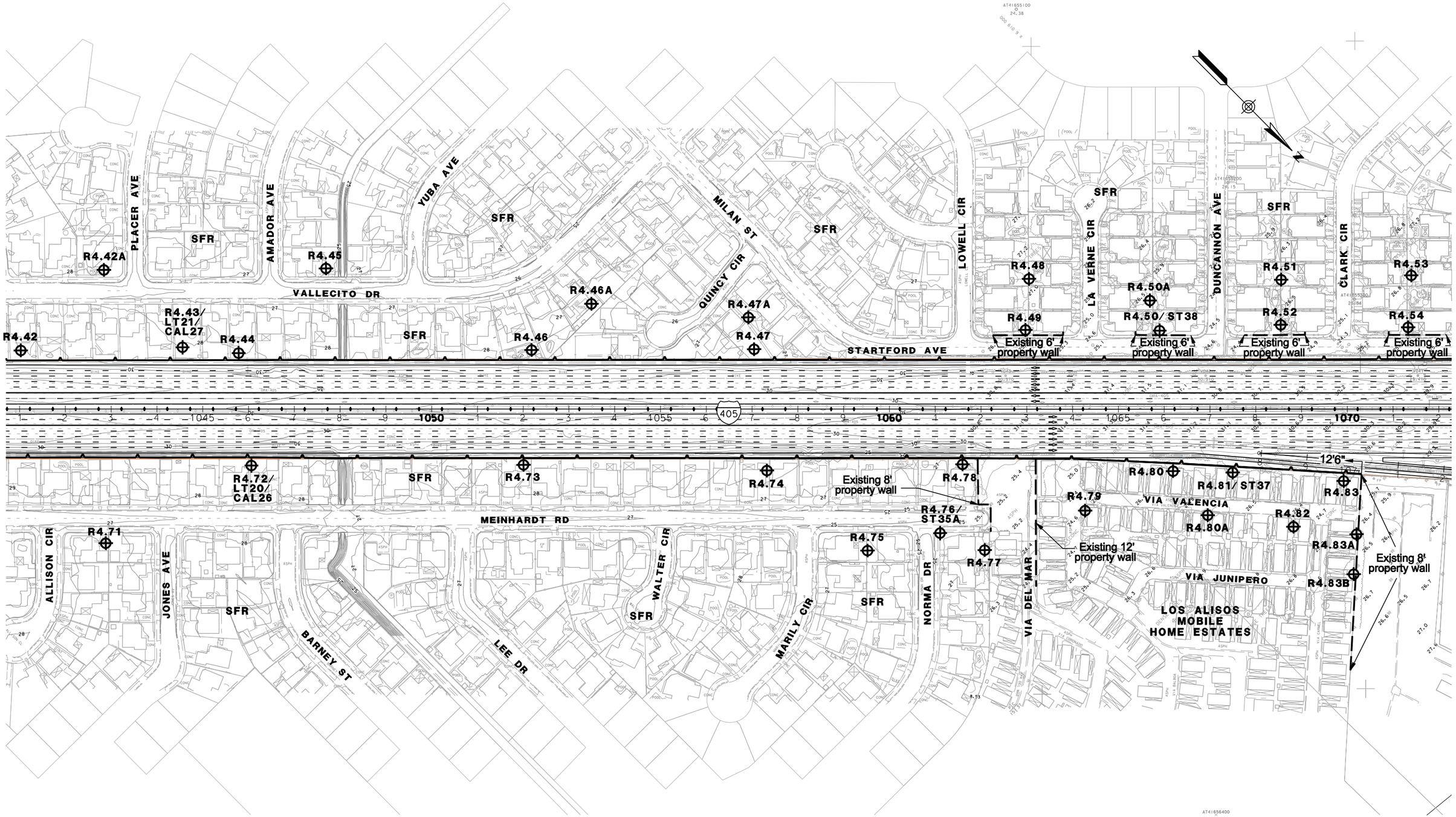
FIGURE 18



LEGEND

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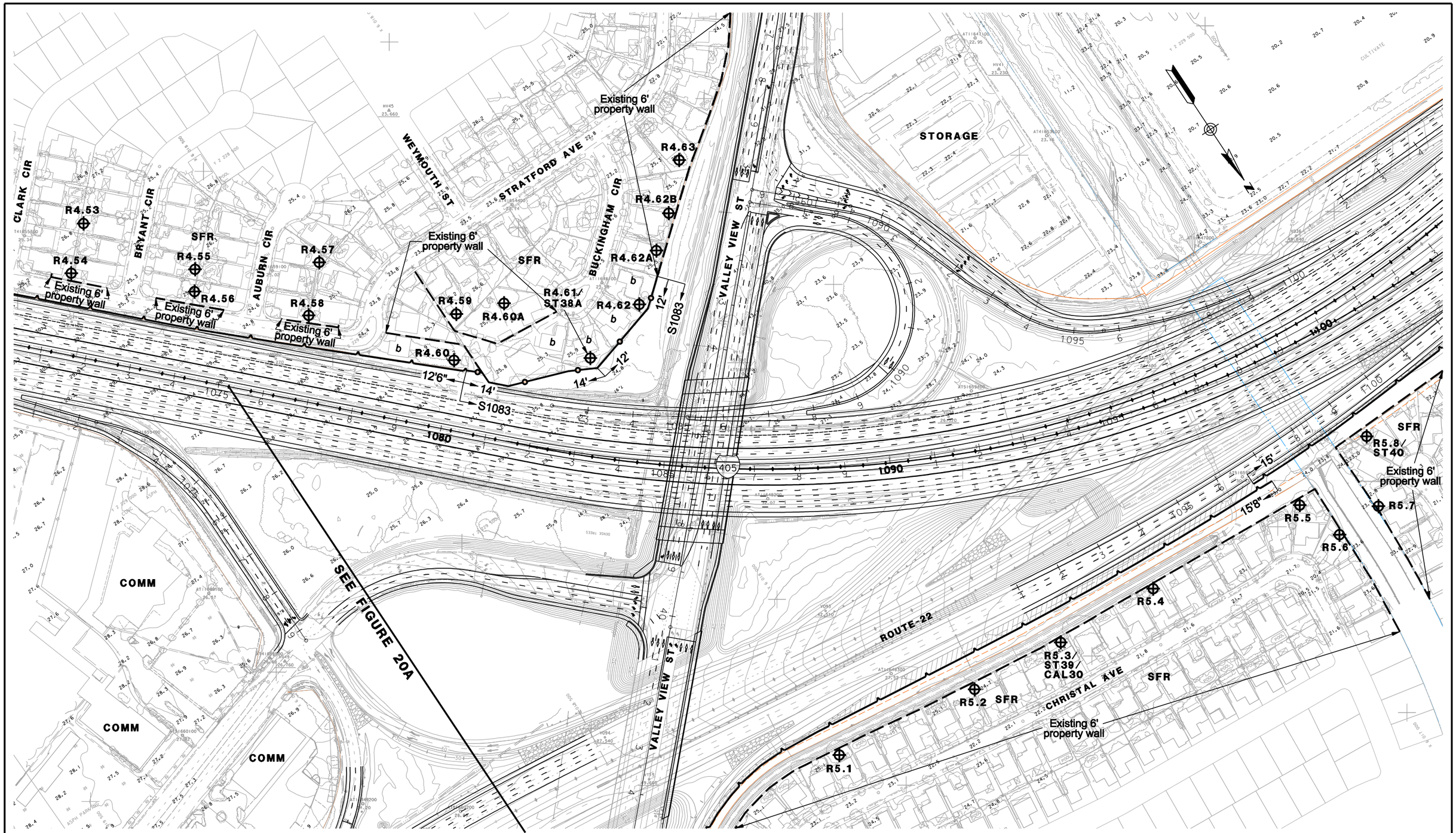
FIGURE 19



LEGEND

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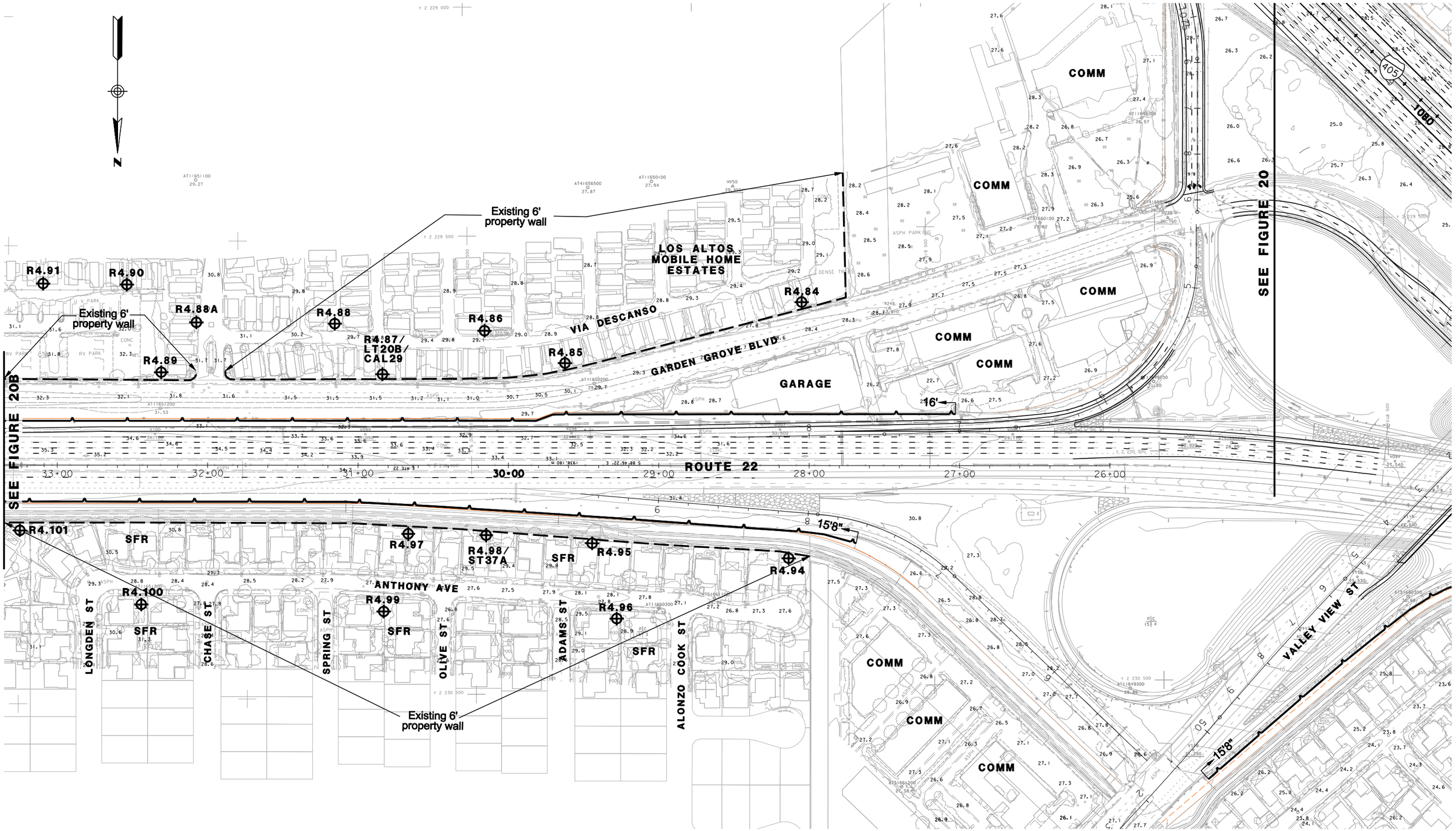
FIGURE 20



LEGEND

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FIGURE 20A

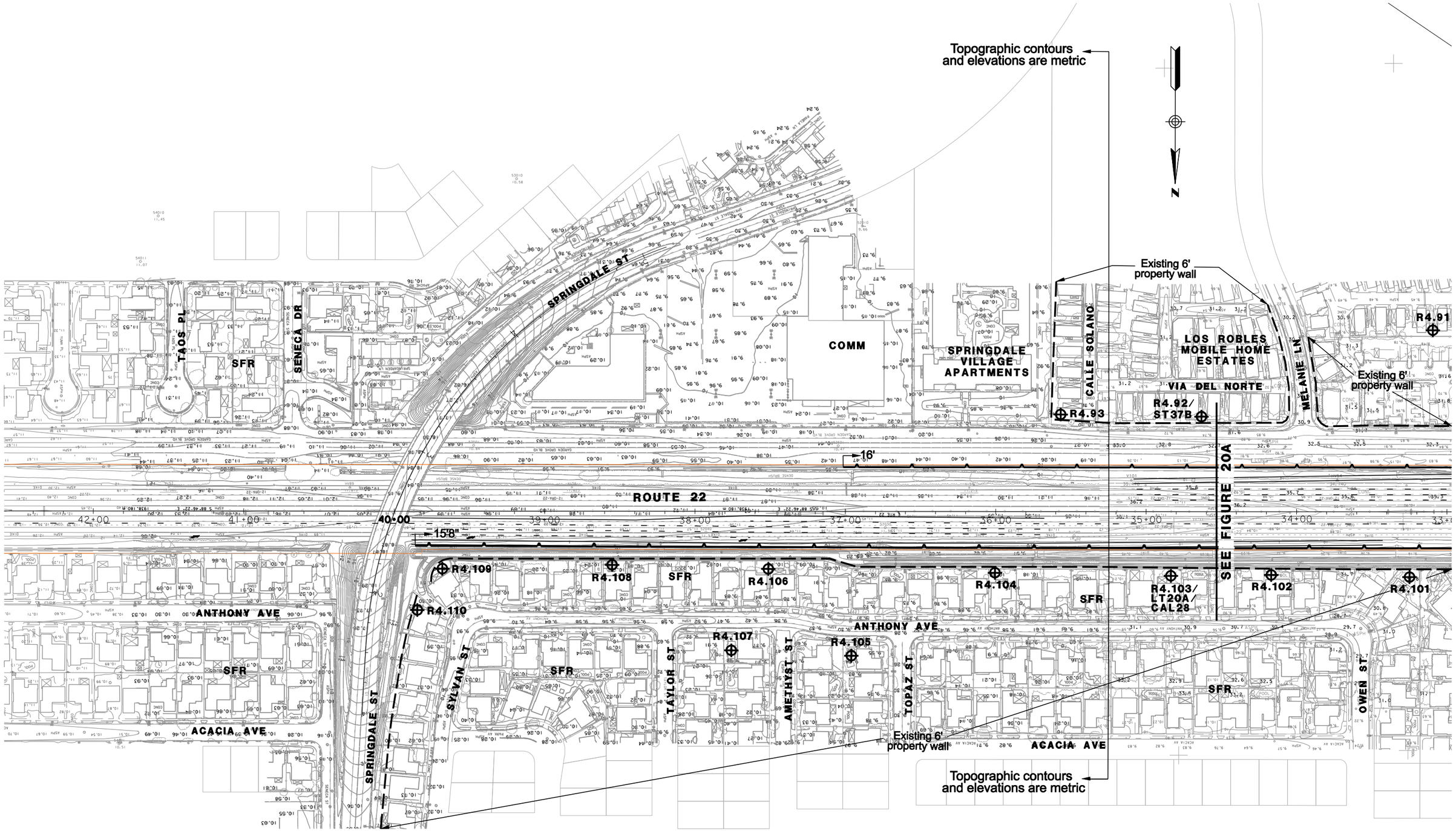

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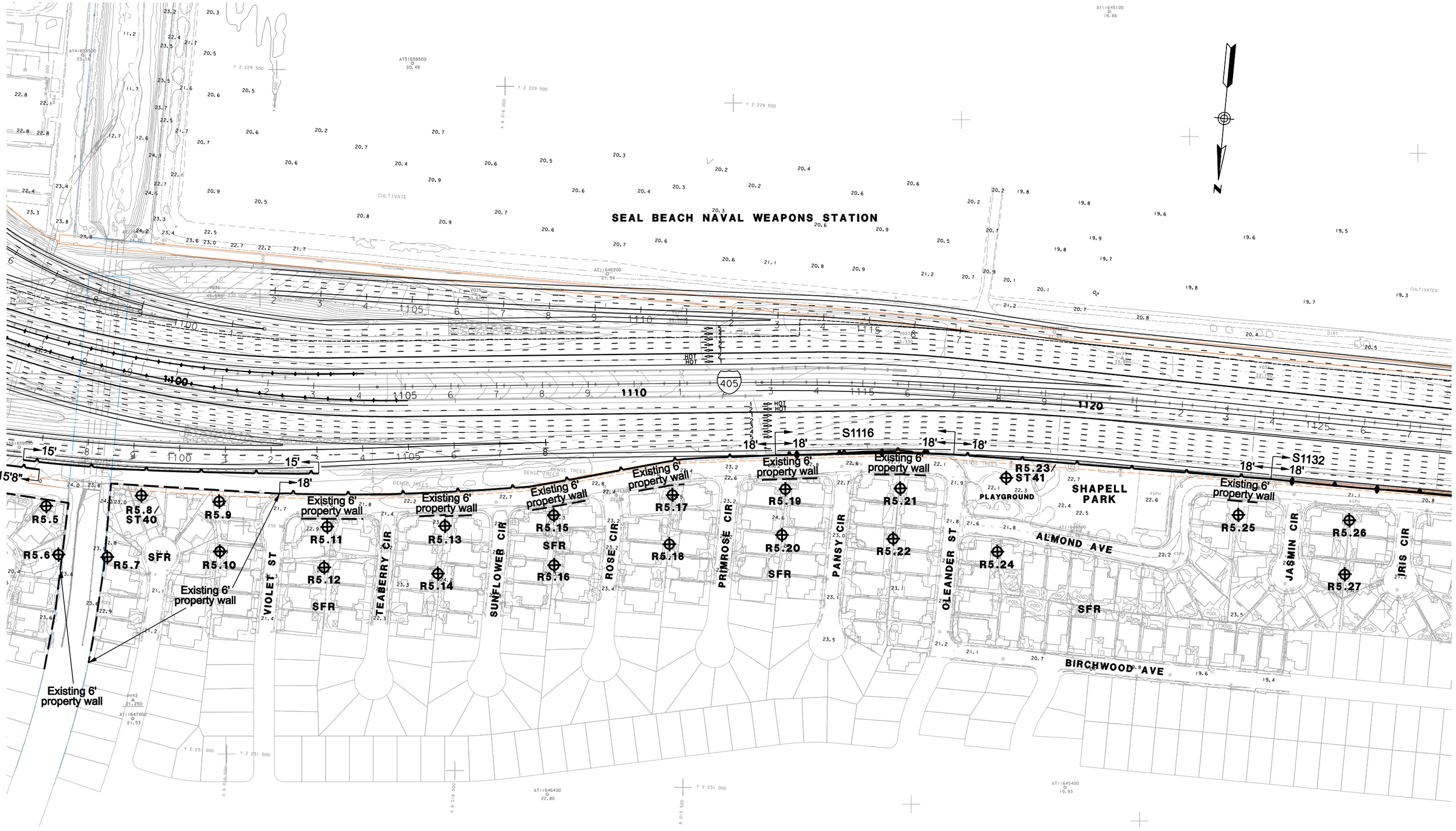
FIGURE 20B



LEGEND

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FIGURE 21

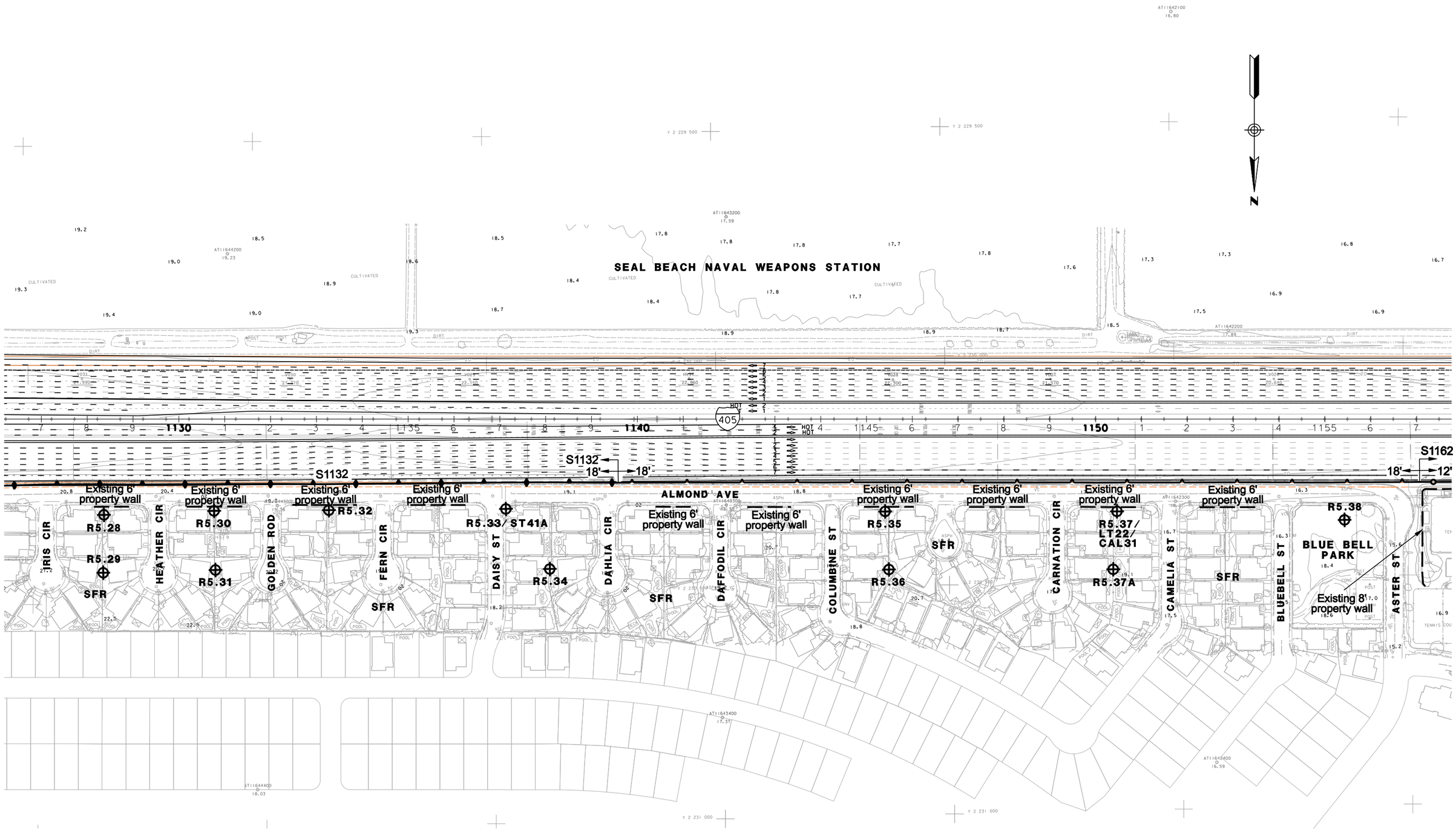

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FIGURE 22

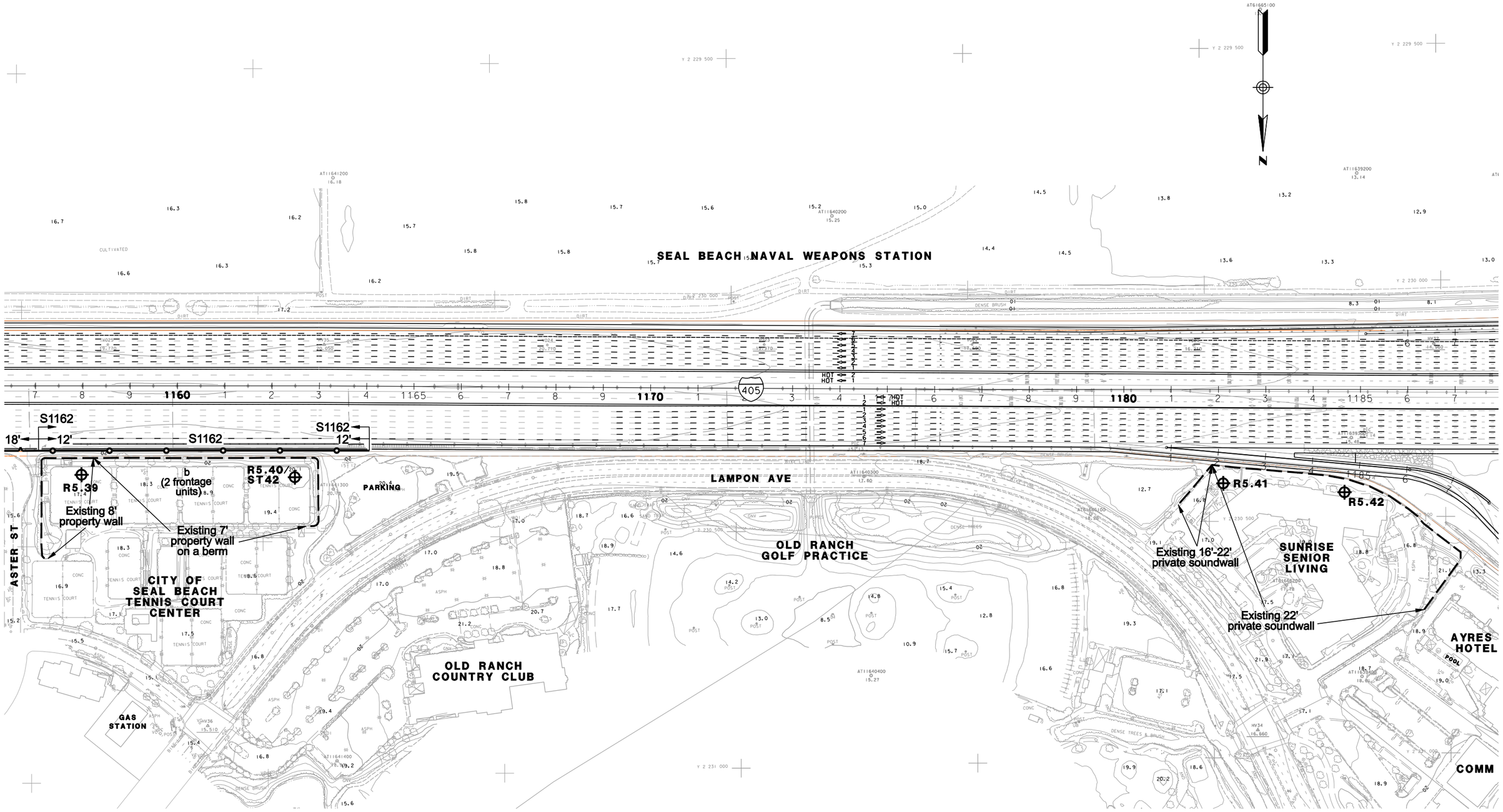

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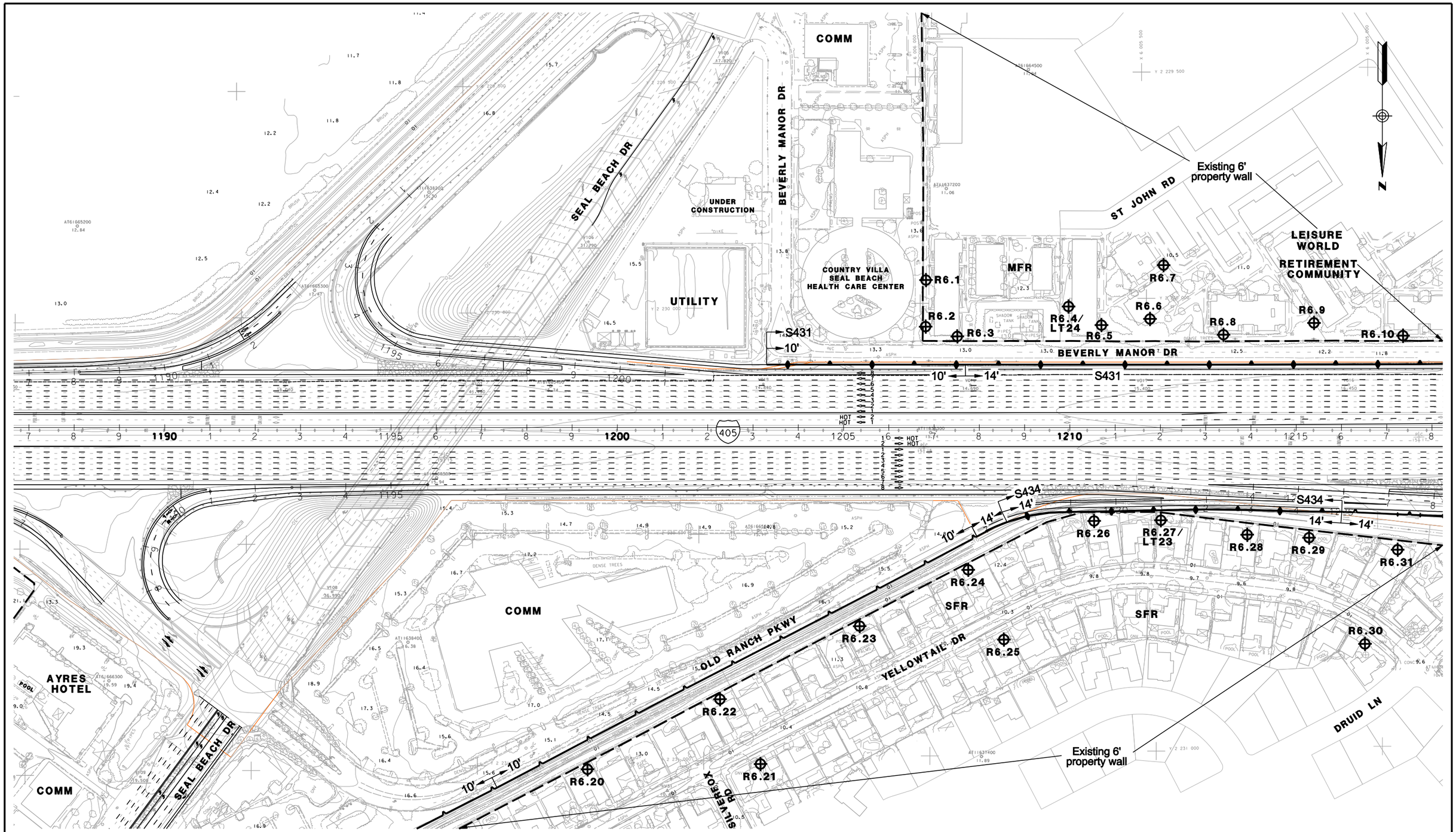
FIGURE 23



LEGEND

- RXX – RECEIVER SITE
- LT – LONGTERM MEASUREMENT
- ST – SHORTTERM MEASUREMENT
- CAL – CALIBRATION SITE
- EXISTING WALL
- SOUNDWALL
- EXISTING SOUNDWALL
- REPLACEMENT IN KIND SOUNDWALL
- SFR – SINGLE FAMILY RESIDENCE
- MFR – MULTI-FAMILY RESIDENCE
- COMM – COMMERCIAL
- b – BENEFITED RESIDENCE

1in : 200ft

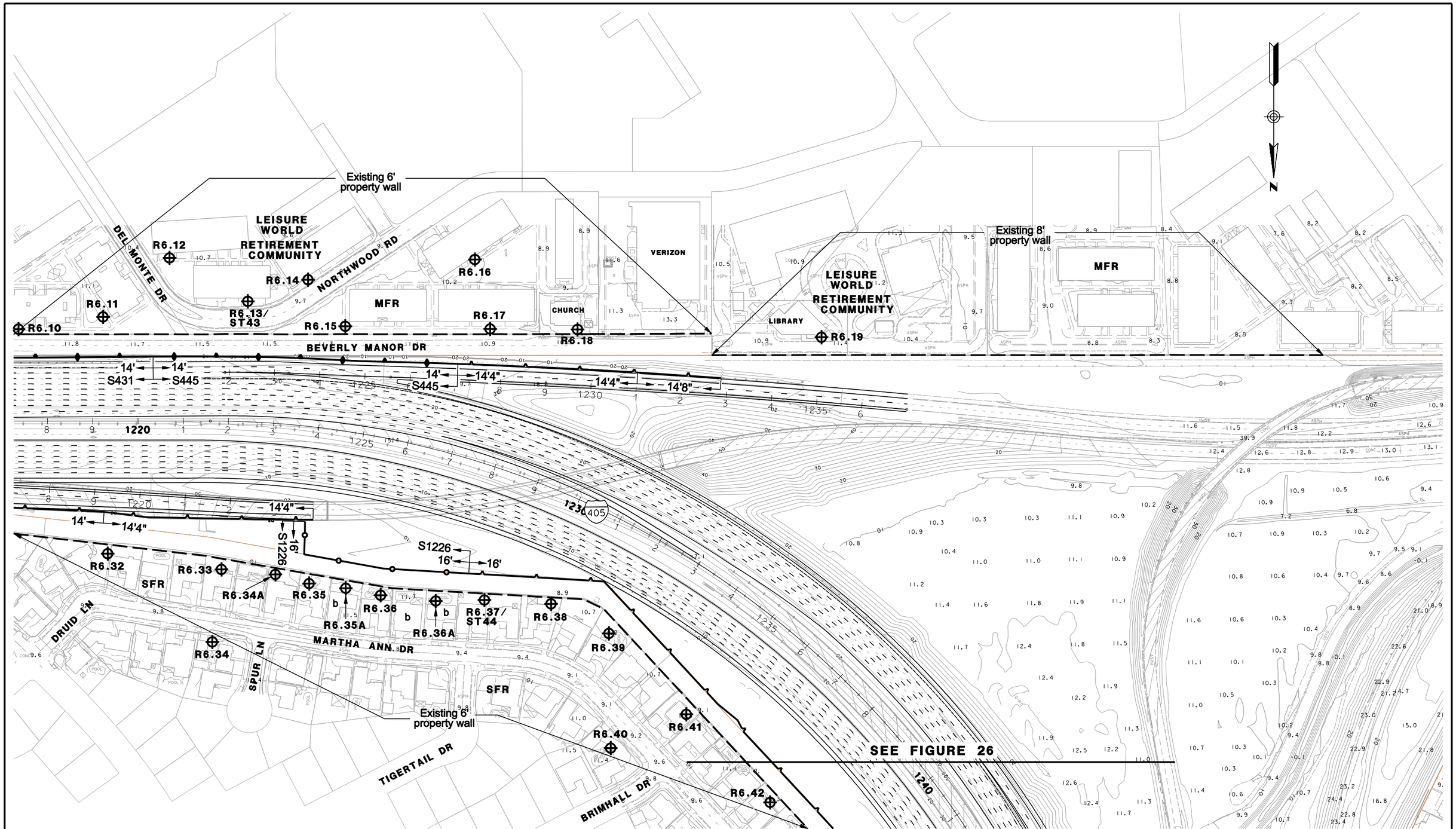
0 ft 100ft 200ft 300ft

PARSONS
100 WEST WALNUT ST.
PASADENA, CA 91124
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT3

FEBRUARY 23, 2011

FIGURE 24



LEGEND

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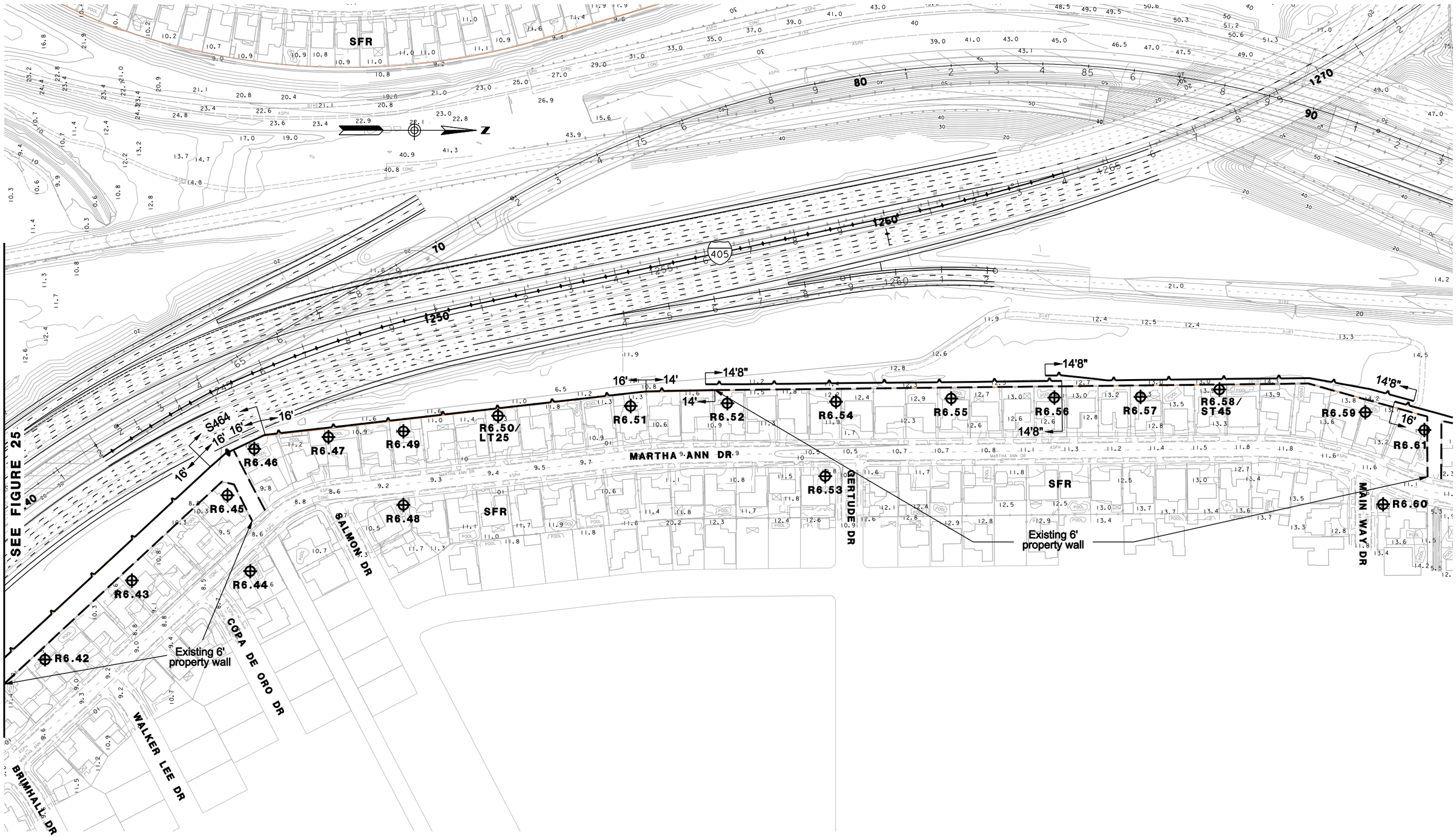
I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT3

FEBRUARY 23, 2011

FIGURE 25



LEGEND

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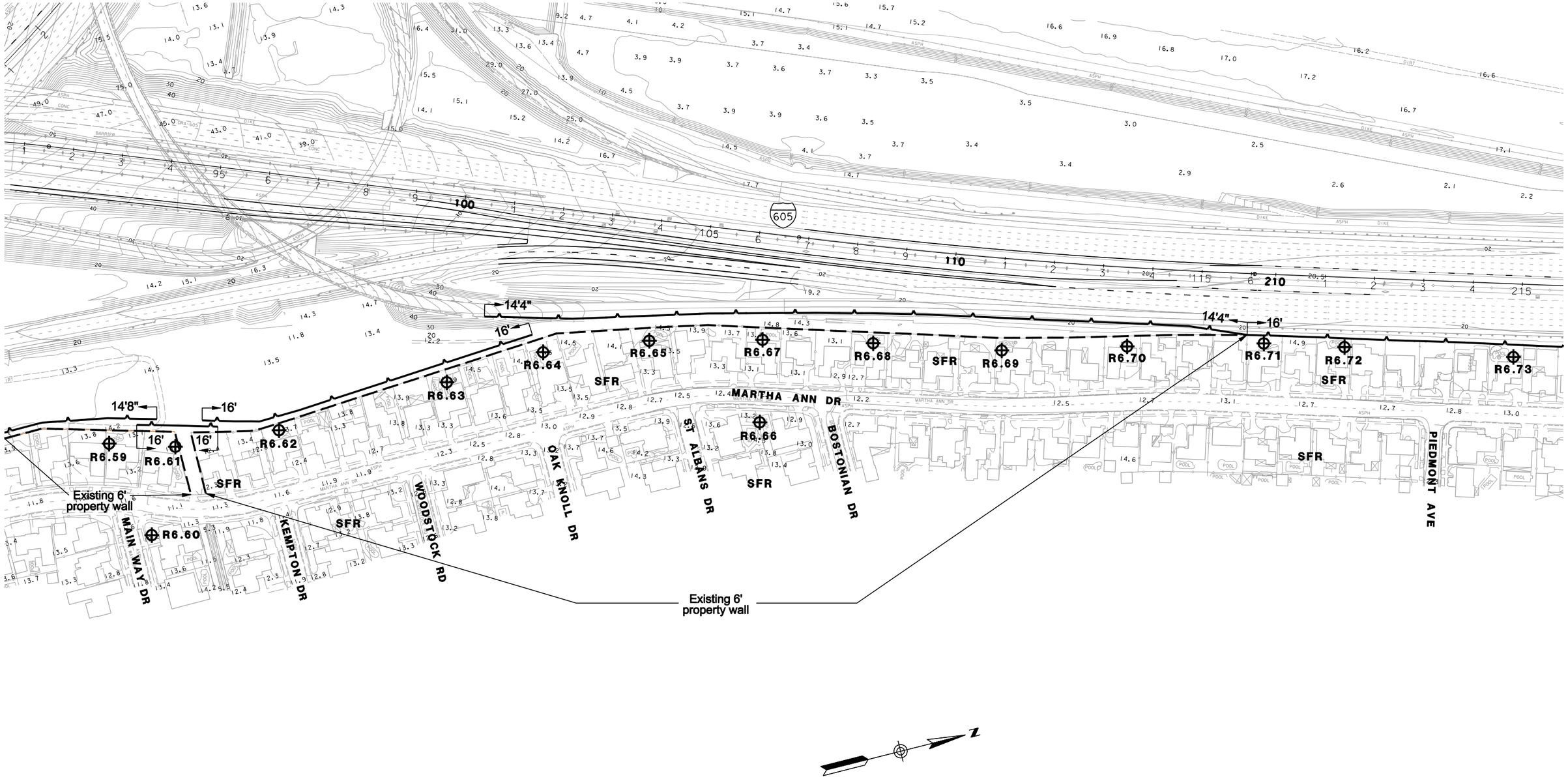
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT3

FEBRUARY 23, 2011

FIGURE 26



LEGEND

- RXX – RECEIVER SITE
- LT – LONGTERM MEASUREMENT
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- CAL – CALIBRATION SITE
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- SOUNDWALL
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- b – BENEFITED RESIDENCE

1in : 200ft

0 ft 100ft 200ft 300ft

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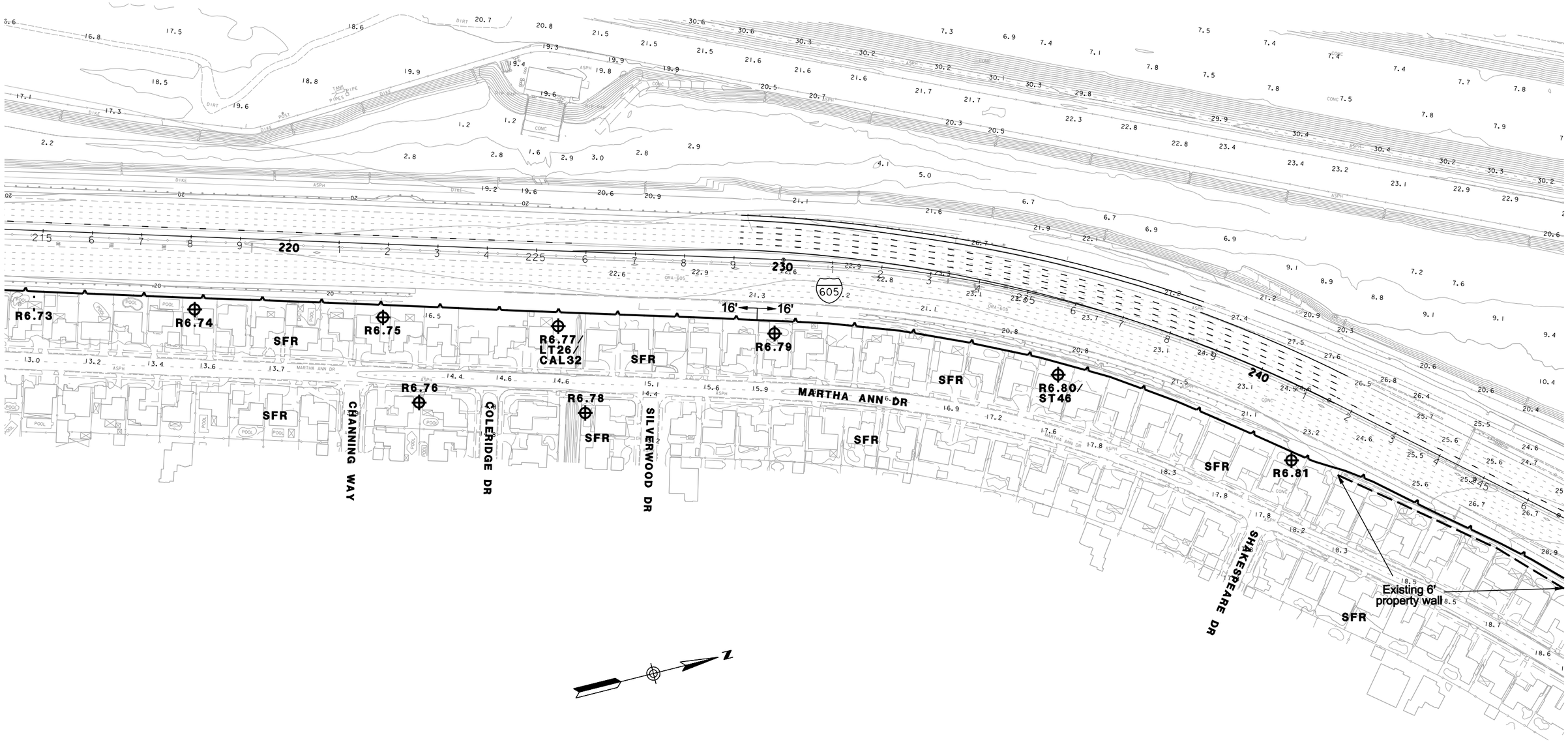
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT3

FEBRUARY 23, 2011

FIGURE 27



LEGEND

- RXX – RECEIVER SITE
- LT – LONGTERM MEASUREMENT
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- b – BENEFITED RESIDENCE

1in : 200ft

0 ft 100ft 200ft 300ft

PARSONS
100 WEST WALNUT ST.
PASADENA, CA 91124
(626) 440-6100

I-405 WIDENING PA/ED PROJECT NOISE RECEIVER & BARRIER LOCATIONS ALT3

FEBRUARY 23, 2011

FIGURE 28

Appendix B Street Addresses for Modeled Noise Receivers

RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 1. 1	3154 Yelowstone Dr., Costa Mesa, CA	SFR	1962	2
R 1. 2	3164 Yelowstone Dr., Costa Mesa, CA	SFR	1962	2
R 1. 3	13801 Olympic Ave., Costa Mesa, CA	SFR	1962	3
R 1. 4	13781 Olympic Ave., Costa Mesa, CA	SFR	1962	4
R 1. 5	13741 Olympic Ave., Costa Mesa, CA	SFR	1962	3
R 1. 6	13701 Olympic Ave., Costa Mesa, CA	SFR	1962	2
R 1. 7	13671 Olympic Ave., Costa Mesa, CA	SFR	1962	--
R 1. 8	13651 Olympic Ave., Costa Mesa, CA	SFR	1962	2
R 1. 9	Shiffer Park - 3143 Bear St., Costa Mesa, CA	REC	>1978	2
R 1. 9A	Shiffer Park - 3143 Bear St., Costa Mesa, CA	REC	>1978	2
R 1. 10	Shiffer Park - 3143 Bear St., Costa Mesa, CA	REC	>1978	--
R 1. 11	900 Tanana Pl., Costa Mesa, CA	SFR	1967	3
R 1. 12	920 Tanana Pl., Costa Mesa, CA	SFR	1967	6
R 1. 13	3162 Yukon Ave., Costa Mesa, CA	SFR	1967	3
R 1. 14	3049 Yukon Cir., Costa Mesa, CA	SFR	1979	2
R 1. 15	3065 Yukon Ave., Costa Mesa, CA	SFR	1966	3
R 1. 16	3077 Yukon Ave., Costa Mesa, CA	SFR	1966	5
R 1. 17	905 Liard Pl., Costa Mesa., CA	SFR	1966	6
R 1. 18	3097 Yukon Ave., Costa Mesa, CA	SFR	1966	6
R 1. 19	910 Liard Pl., Costa Mesa., CA	SFR	1966	7
R 1. 20	910 Liard Pl., Costa Mesa., CA	SFR	1966	--
R 1. 21	3121 Yukon Ave., Costa Mesa, CA	SFR	1966	6
R 1. 22	3141 Yukon Ave., Costa Mesa, CA	SFR	1967	4
R 1. 23	941 Tanana Pl., Costa Mesa, CA	SFR	1967	3
R 1. 24	3157 Yukon Ave., Costa Mesa, CA	SFR	1967	3
R 1. 25	3165 Yukon Ave., Costa Mesa, CA	SFR	1967	1
R 1. 26	901 Helena Cir., Costa Mesa, CA	SFR	1976	1
R 1. 27	909 Paularino Ave., Costa Mesa, CA	SFR	1976	2
R 1. 28	913 Paularino Ave., Costa Mesa, CA	SFR	1976	2
R 1. 29	932 Cheyenne St., Costa Mesa, CA	SFR	1965	3
R 1. 30	938 Cheyenne St., Costa Mesa, CA	SFR	1965	3
R 1. 31	944 Cheyenne St., Costa Mesa, CA	SFR	1965	4
R 1. 32	948 Lansing Ln., Costa Mesa, CA	SFR	1965	3
R 1. 33	952 Cheyenne St., Costa Mesa, CA	SFR	1965	5
R 1. 34	960 Springfield St., Costa Mesa, CA	SFR	1965	--
R 1. 35	959 Cheyenne St., Costa Mesa, CA	SFR	1967	3
R 1. 36	962 Cheyenne St., Costa Mesa, CA	SFR	1965	3
R 1. 37	978 Trenton Way, Costa Mesa, CA	SFR	1968	3
R 1. 38	990 Hartford Way, Costa Mesa, CA	SFR	1968	--
R 1. 39	3140 Jefferson Ave., Costa Mesa, CA	SFR	1968	3
R 1. 40	1003 Concord St., Costa Mesa, CA	SFR	1964	1
R 1. 41	1016 Concord St., Costa Mesa, CA	SFR	1964	2
R 1. 42	1032 Concord St., Costa Mesa, CA	SFR	1964	5
R 1. 43	1052 Concord St., Costa Mesa, CA	SFR	1964	4
R 1. 44	1064 Concord St., Costa Mesa, CA	SFR	1964	3
R 1. 45	1072 Concord St., Costa Mesa, CA	SFR	1964	4
R 1. 46	3143 Pierce Ave., Costa Mesa, CA	SFR	1964	2
R 1. 47	1110 Charleston St., Costa Mesa, CA	SFR	1964	3
R 1. 48	1126 Charleston St., Costa Mesa, CA	SFR	1964	5
R 1. 49	1142 Charleston St., Costa Mesa, CA	SFR	1964	3
R 1. 50	1154 Charleston St., Costa Mesa, CA	SFR	1964	3
R 1. 51	1166 Charleston St., Costa Mesa, CA	SFR	1964	3
R 1. 52	3441 Van Buren Ave., Costa Mesa, CA	SFR	1963	2
R 1. 53	1178 Charleston St., Costa Mesa, CA	SFR	1964	3
R 1. 54	Gisler Park - 1250 Gisler Ave., Costa Mesa, CA	REC	>1978	5
R 1. 55	Gisler Park - 1250 Gisler Ave., Costa Mesa, CA	REC	>1978	4
R 1. 56	Gisler Park - 1250 Gisler Ave., Costa Mesa, CA	REC	>1978	4

Notes:

1 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - Library.

RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 1. 57	1210 Londonderry St., Costa Mesa, CA	SFR	1963	2
R 1. 58	1218 Londonderry St., Costa Mesa, CA	SFR	1963	3
R 1. 59	1230 Londonderry St., Costa Mesa, CA	SFR	1963	4
R 1. 60	1254 Londonderry St., Costa Mesa, CA	SFR	1963	5
R 1. 61	1272 Londonderry St., Costa Mesa, CA	SFR	1963	4
R 1. 62	1288 Londonderry St., Costa Mesa, CA	SFR	1963	4
R 1. 63	1310 Londonderry St., Costa Mesa, CA	SFR	1963	6
R 1. 64	1352 Garlingford St., Costa Mesa, CA	SFR	1963	5
R 1. 65	1364 Garlingford St., Costa Mesa, CA	SFR	1963	3
R 1. 66	1376 Garlingford St., Costa Mesa, CA	SFR	1963	3
R 1. 67	1396 Garlingford St., Costa Mesa, CA	SFR	1963	3
R 1. 68	1000 S. Coast Dr., Costa Mesa, CA	SFR	1988	4
R 1. 69	1000 S. Coast Dr., Costa Mesa, CA	SFR	1988	6
R 1. 70	1053 Tulare Dr., Costa Mesa, CA	SFR	1972	4
R 1. 71	1063 Tulare Dr., Costa Mesa, CA	SFR	1972	4
R 1. 72	1069 Tulare Dr., Costa Mesa, CA	SFR	1972	4
R 1. 73	1077 Tulare Dr., Costa Mesa, CA	SFR	1972	3
R 1. 73A	1083 Tulare Dr., Costa Mesa, CA	SFR	1972	2
R 1. 74	Wimbledon Glen Apt. - 1142 Buckingham Dr., Costa Mesa, CA	MFR	1984	1
R 1. 74A	Wimbledon Glen Apt. - 1142 Buckingham Dr., Costa Mesa, CA	MFR	1984	2
R 1. 75	La Quinta Inn - 1515 S. Coast Dr., Costa Mesa, CA	MOT	1980	1
R 1. 76	Vagabond Inn - 3205 Harbor Blvd., Costa Mesa, CA	MOT	1970	1
R 1. 77	1500-1600 Iowa St., Costa Mesa, CA	MFR	1971	3
R 1. 78	1500-1600 Iowa St., Costa Mesa, CA	MFR	1971	3
R 1. 79	1500-1600 Iowa St., Costa Mesa, CA	MFR	1971	2
R 1. 80	1500-1600 Iowa St., Costa Mesa, CA	MFR	1971	3
R 1. 81	1630 Iowa St., Costa Mesa, CA	MFR	1971	3
R 1. 82	1500-1600 Iowa St., Costa Mesa, CA	MFR	1971	2
R 1. 83	1500-1600 Iowa St., Costa Mesa, CA	MFR	1971	2
R 1. 84	1500-1600 Iowa St., Costa Mesa, CA	MFR	1971	3
R 1. 85	1500-1600 Iowa St., Costa Mesa, CA	MFR	1971	3
R 1. 86	1658 Iowa St., Costa Mesa, CA	MFR	1971	2
R 1. 87	1660 Iowa St., Costa Mesa, CA	MFR	1971	2
R 1. 88	1651 New Hampshire Dr.,Costa Mesa, CA	SFR	1971	4
R 1. 89	1672 New Hampshire Dr.,Costa Mesa, CA	SFR	1971	3
R 1. 90	1686 Rhode Island Cir., Costa Mesa, CA	SFR	1971	4
R 1. 91	1688 Rhode Island Cir., Costa Mesa, CA	SFR	1971	3
R 1. 92	3334 Maryland Cir., Costa Mesa, CA	SFR	1971	5
R 1. 93	3338 Maryland Cir., Costa Mesa, CA	SFR	1971	4
R 1. 94	3324 Wyoming Cir., Costa Mesa, CA	SFR	1970	2
R 1. 95	3336 Wyoming Cir., Costa Mesa, CA	SFR	1970	5
R 1. 96	3336 Nevada Ave., Costa Mesa, CA	SFR	1970	2
R 1. 97	3342 Nevada Ave., Costa Mesa, CA	SFR	1970	4
R 1. 98	3360 Nevada Ave., Costa Mesa, CA	SFR	1970	4
R 1. 99	3372 Nevada Ave., Costa Mesa, CA	SFR	1970	2
R 1. 100	3374 California St., Costa Mesa, CA	SFR	1969	2
R 1. 101	Moon Park - 3302 Alabama Cir., Costa Mesa, CA	REC	>1978	3
R 1. 102	Moon Park - 3302 Alabama Cir., Costa Mesa, CA	REC	>1978	2
R 1. 103	Moon Park - 3302 Alabama Cir., Costa Mesa, CA	REC	>1978	1

Notes:

1 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - Library.

RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 2. 1	18151 Yellowstone Ct., Fountain Valley, CA	MFR	1971	3
R 2. 2	10444 Truckee River Ct., Fountain Valley, CA	MFR	1971	3
R 2. 2A	10440 Truckee River Ct., Fountain Valley, CA	MFR	1971	1
R 2. 3	18125 Sand Dunes Ct., Fountain Valley, CA	MFR	1971	6
R 2. 4	10390 Truckee River Ct., Fountain Valley, CA	MFR	1971	3
R 2. 4A	10398 Truckee River Ct., Fountain Valley, CA	MFR	1971	2
R 2. 5	18099 Firestone Ct., Fountain Valley, CA	MFR	1971	3
R 2. 6	18081 Yosemite Ct., Fountain Valley, CA	MFR	1970	6
R 2. 7	18063 Mammoth Ct., Founatin Valley, CA	MFR	1970	6
R 2. 8	10270 Durango River Ct., Fountain Valley, CA	MFR	1970	3
R 2. 8A	10254 Durango River Ct., Fountain Valley, CA	MFR	1970	2
R 2. 9	10242 Durango River Ct., Fountain Valley, CA	MFR	1969	4
R 2. 10	10212 Durango River Ct., Fountain Valley, CA	MFR	1969	6
R 2. 11	10174 Durango River Ct., Fountain Valley, CA	MFR	1969	8
R 2. 12	10442 La Despensa Ave., Fountain Valley, CA	SFR	1969	3
R 2. 13	10328 La Despensa Ave., Fountain Valley, CA	SFR	1969	2
R 2. 14	10300 La Despensa Ave., Fountain Valley, CA	SFR	1969	2
R 2. 15	Los Alamos Park - 17901 Los Alamos St., Fountain Valley, CA	REC	1970	2
R 2. 16	Los Alamos Park - 17901 Los Alamos St., Fountain Valley, CA	REC	1970	--
R 2. 17	17961 San Rafael St., Fountain Valley, CA	SFR	1975	1
R 2. 18	17939 San Rafael St., Fountain Valley, CA	SFR	1975	3
R 2. 19	17893 San Rafael St., Fountain Valley, CA	SFR	1975	4
R 2. 20	17861 San Rafael St., Fountain Valley, CA	SFR	1975	4
R 2. 21	17828 Montezuma Cir., Fountain Valley, CA	SFR	1975	2
R 2. 21A	17828 Montezuma Cir., Fountain Valley, CA	SFR	1975	--
R 2. 22	17817 San Rafael St., Fountain Valley, CA	SFR	1975	3
R 2. 23	17783 San Rafael St., Fountain Valley, CA	SFR	1975	2
R 2. 24	17749 San Rafael St., Fountain Valley, CA	SFR	1975	3
R 2. 25	17761 San Rafael St., Fountain Valley, CA	SFR	1975	2
R 2. 26	10131 Redeye Cir., Fountain Valley, CA	SFR	1975	2
R 2. 27	17721 San Rafael St., Fountain Valley, CA	SFR	1968	2
R 2. 28	17701 San Rafael St., Fountain Valley, CA	SFR	1968	3
R 2. 29	17671 San Rafael St., Fountain Valley, CA	SFR	1968	3
R 2. 30	10055 La Quinta Cir., Fountain Valley, CA	SFR	1968	1
R 2. 31	17902 Toiyabe Cir., Fountain Valley, CA	SFR	1976	3
R 2. 32	17862 Toiyabe Cir., Fountain Valley, CA	SFR	1976	3
R 2. 33	17820 Toiyabe Cir., Fountain Valley, CA	SFR	1976	3
R 2. 33A	17820 Toiyabe Cir., Fountain Valley, CA	SFR	1976	--
R 2. 34	9898 Sturgeon Ave., Fountain Valley, CA	SFR	1974	1
R 2. 35	9874 Oscar Cir., Fountain Valley, CA	SFR	1974	3
R 2. 36	9879 Sturgeon Ave., Fountain Valley, CA	SFR	1974	2
R 2. 37	9849 Oscar Cir., Fountain Valley, CA	SFR	1974	2
R 2. 38	9821 Oscar Cir., Fountain Valley, CA	SFR	1974	2
R 2. 39	17608 Fremont St., Fountain Valley, CA	SFR	1974	2
R 2. 40	17565 Fremont St., Fountain Valley, CA	SFR	1974	2
R 2. 41	Valley Vista High School - 9600 Dolphin St., Fountain Valley, CA	SCH	1992	1
R 2. 42	Valley Vista High School - 9600 Dolphin St., Fountain Valley, CA	SCH	1992	1
R 2. 43	Courtyard Inn - 9950 Slater Rd., Fountain Valley, CA	MOT	1993	1
R 2. 44	Residence Inn - 9930 Slater Rd., Fountain Valley, CA	MOT	1991	1

Notes:

1 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - Library.

RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 2. 45	17467 Winemast St., Fountain Valley, CA	SFR	1973	1
R 2. 45A	17455 Winemast St., Fountain Valley, CA	SFR	1973	1
R 2. 46	Huntington Valley Pre-school - 9779 Starfish Ave., Fountain Valley, CA	REL	1969	1
R 2. 47	17436 Banyan St., Fountain Valley, CA	SFR	1967	2
R 2. 48	17415 Banyan St., Fountain Valley, CA	SFR	1967	1
R 2. 49	17371 Buttonwood St., Fountain Valley, CA	SFR	1967	3
R 2. 50	17368 Buttonwood St., Fountain Valley, CA	SFR	1967	1
R 2. 51	17341 Buttonwood St., Fountain Valley, CA	SFR	1967	3
R 2. 52	17307 Buttonwood St., Fountain Valley, CA	SFR	1967	4
R 2. 53	17275 Buttonwood St., Fountain Valley, CA	SFR	1967	4
R 2. 54	9631 El Portal Cir., Fountain Valley, CA	SFR	1966	1
R 2. 55	17255 Buttonwood St., Fountain Valley, CA	SFR	1967	3
R 2. 56	17231 Buttonwood St., Fountain Valley, CA	SFR	1967	3
R 2. 57	9575 La Capilla Ave., Fountain Valley, CA	SFR	1966	2
R 2. 58	17215 Buttonwood St., Fountain Valley, CA	SFR	1967	2
R 2. 59	17199 Buttonwood St., Fountain Valley, CA	SFR	1967	2
R 2. 60	Corte Bella Apt. - 9580 El Rey Ave., Fountain Valley, CA	MFR	1969	1
R 2. 61	Corte Bella Apt. - 9580 El Rey Ave., Fountain Valley, CA	MFR	1969	2
R 2. 61A	Corte Bella Apt. - 9580 El Rey Ave., Fountain Valley, CA	MFR	1969	--
R 2. 62	Corte Bella Apt. - 9580 El Rey Ave., Fountain Valley, CA	MFR	1969	1
R 2. 63	17280 Poplar St., Fountain Valley, CA	SFR	1965	1
R 2. 64	9461 LA Estrella Ave., Fountain Valley, CA	SFR	1965	2
R 2. 65	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	1
R 2. 66	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	3
R 2. 67	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	1
R 2. 68	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	2
R 2. 69	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	3
R 2. 70	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	1
R 2. 71	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	3
R 2. 72	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	2
R 2. 73	9490 Andalusia Ave., Fountain Valley, CA	SFR	2010	2
R 2. 74	9231 El Cortez Ave., Fountain Valley, CA	SFR	1964	3
R 2. 75	9197 El Cortez Ave., Fountain Valley, CA	SFR	1964	3
R 2. 76	9157 El Cortez Ave., Fountain Valley, CA	SFR	1964	4
R 2. 77	Grande Apt. - 9350 Emery Ct., Fountain Valley, CA	MFR	1970	2
R 2. 78	Grande Apt. - 9350 Emery Ct., Fountain Valley, CA	MFR	1970	4
R 2. 79	Grande Apt. - 9350 Emery Ct., Fountain Valley, CA	MFR	1970	4
R 2. 80	9290 Daisy Ave., Fountain Valley, CA	SFR	1965	3
R 2. 81	9256 Daisy Ave., Fountain Valley, CA	SFR	1966	3
R 2. 82	9224 Daisy Ave., Fountain Valley, CA	SFR	1966	2
R 2. 83	16875 Daisy Ave., Fountain Valley, CA	SFR	1965	3
R 2. 84	16841 Daisy Ave., Fountain Valley, CA	SFR	1965	4
R 2. 85	16789 Daisy Ave., Fountain Valley, CA	SFR	1965	4
R 2. 86	16763 Daisy Ave., Fountain Valley, CA	SFR	1965	3
R 2. 87	16729 Daisy Ave., Fountain Valley, CA	SFR	1965	4
R 2. 88	16683 Daisy Ave., Fountain Valley, CA	SFR	1965	4
R 2. 89	16635 Daisy Ave., Fountain Valley, CA	SFR	1965	3
R 2. 90	9038 Wendy Cir., Fountain Valley, CA	SFR	1973	3
R 2. 91	9031 Wendy Cir., Fountain Valley, CA	SFR	1973	2
R 2. 92	9025 Maza Cir., Fountain Valley, CA	SFR	1973	1

Notes:

1 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - Library.

RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 3. 1	Casa Tiempo Apt. - 8882 Heil Ave., Westminster, CA	MFR	1972	4
R 3. 2	Casa Tiempo Apt. - 8882 Heil Ave., Westminster, CA	MFR	1972	5
R 3. 3	Casa Tiempo Apt. - 8882 Heil Ave., Westminster, CA	MFR	1972	7
R 3. 4	Casa Tiempo Apt. - 8882 Heil Ave., Westminster, CA	MFR	1972	2
R 3. 5	16471 Galaxy Dr., Westminster, CA	SFR	1961	3
R 3. 6	16491 Venus Dr., Westminster, CA	SFR	1980	2
R 3. 7	16461 Venus Dr., Westminster, CA	SFR	1961	4
R 3. 8	16421 Venus Dr., Westminster, CA	SFR	1962	4
R 3. 9	16381 Venus Dr., Westminster, CA	SFR	1962	2
R 3. 10	16361 Venus Dr., Westminster, CA	SFR	1916	2
R 3. 11	16321 Venus Dr., Westminster, CA	SFR	1962	5
R 3. 12	16352 Lunar St., Westminster, CA	SFR	1977	1
R 3. 13	16321 Lunar St., Westminster, CA	SFR	1977	3
R 3. 14	8632 Ed Bane Cir., Westminster, CA	SFR	1977	2
R 3. 15	8632 Universe Ave., Westminster, CA	SFR	1977	4
R 3. 16	8582 Universe Ave., Westminster, CA	SFR	1977	1
R 3. 17	8562 Universe Ave., Westminster, CA	SFR	1977	2
R 3. 17A	8541 Universe Ave., Westminster, CA	--	1977	--
R 3. 18	8541 Universe Ave., Westminster, CA	SFR	1977	1
R 3. 19	8572 Orwell Ave., Westminster, CA	SFR	1977	2
R 3. 19A	8562 Orwell Ave., Westminster, CA	SFR	1977	1
R 3. 20	8552 Orwell Ave., Westminster, CA	SFR	1977	2
R 3. 21	16181 Jenner St., Westminster, CA	SFR	1977	2
R 3. 22	Archstone Apt. - 8945 Riverbend Dr., Huntington Beach, CA	MFR	1986	8
R 3. 22A	Archstone Apt. - 8945 Riverbend Dr., Huntington Beach, CA	MFR	1986	2
R 3. 23	Archstone Apt. - 8945 Riverbend Dr., Huntington Beach, CA	MFR	1986	9
R 3. 23A	Pleasant View Park - 16692 Landau Ln., Huntington Beach, CA	REC	1978	--
R 3. 23B	Pleasant View Park - 16692 Landau Ln., Huntington Beach, CA	REC	1978	7
R 3. 24	8852 De Ville Cir., Huntington Beach, CA	SFR	1962	2
R 3. 25	8832 De Ville Cir., Huntington Beach, CA	SFR	1964	2
R 3. 26	8832 Savoy Cir., Huntington Beach, CA	SFR	1976	3
R 3. 27	8831 De Ville Cir., Huntington Beach, CA	SFR	1962	2
R 3. 28	8801 Savoy Cir., Huntington Beach, CA	SFR	1962	3
R 3. 28A	8822 Savoy Cir., Huntington Beach, CA	--	1962	--
R 3. 29	8771 Savoy Cir., Huntington Beach, CA	SFR	1962	2
R 3. 30	16532 Ross Ln., Huntington Beach, CA	SFR	1960	3
R 3. 31	16502 Ross Ln., Huntington Beach, CA	SFR	1960	2
R 3. 32	8711 Heil Ave., Westminster, CA	SFR	1976	4
R 3. 33	16480 Ross Cir., Westminster, CA	SFR	1960	2
R 3. 34	16461 Ross Cir., Westminster, CA	SFR	1960	2
R 3. 35	16450 Ross Cir., Westminster, CA	SFR	1960	1
R 3. 36	16440 Tryon St., Westminster, CA	SFR	1960	3
R 3. 37	16420 Tryon St., Westminster, CA	SFR	1960	2
R 3. 38	16400 Tryon St., Westminster, CA	SFR	1960	2
R 3. 39	16391 Timothy Ln., Westminster, CA	SFR	1960	3
R 3. 40	16360 Timothy Ln., Westminster, CA	SFR	1960	5
R 3. 41	16371 Laura Way, Westminster, CA	SFR	1960	3
R 3. 42	16321 Timothy Ln., Westminster, CA	SFR	1960	3

Notes:

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RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 3. 43	The Huntington Apt. - 8400 Edinger Ave., Huntington Beach, CA	MFR	1976	8
R 3. 44	The Huntington Apt. - 8400 Edinger Ave., Huntington Beach, CA	MFR	1976	7
R 3. 45	The Huntington Apt. - 8400 Edinger Ave., Huntington Beach, CA	MFR	1976	10
R 3. 46	The Huntington Apt. - 8400 Edinger Ave., Huntington Beach, CA	MFR	1976	8
R 3. 47	16330 Jody Cir., Westminster, CA	SFR	1960	2
R 3. 48	16320 Jody Cir., Westminster, CA	SFR	1960	1
R 3. 49	16321 Jody Cir., Westminster, CA	SFR	1960	2
R 3. 50	8480 Wells Rd., Westminster, CA	SFR	1960	1
R 3. 51	8460 Wells Rd., Westminster, CA	SFR	1960	2
R 3. 52	Huntington Creek Apt. - 8211 San Angelo Dr., Huntington Beach, CA	REC	1977	1
R 3. 53	Huntington Creek Apt. - 8211 San Angelo Dr., Huntington Beach, CA	MFR	1977	6
R 3. 53A	Huntington Creek Apt. - 8211 San Angelo Dr., Huntington Beach, CA	REC	1977	5
R 3. 54	Huntington Creek Apt. - 8211 San Angelo Dr., Huntington Beach, CA	MFR	1977	4
R 3. 54A	Huntington Creek Apt. - 8211 San Angelo Dr., Huntington Beach, CA	MFR	1977	3
R 3. 55	Huntington Creek Apt. - 8211 San Angelo Dr., Huntington Beach, CA	MFR	1977	4
R 3. 55A	Huntington Creek Apt. - 8211 San Angelo Dr., Huntington Beach, CA	MFR	1977	4
R 3. 56	Huntington Creek Apt. - 8211 San Angelo Dr., Huntington Beach, CA	MFR	1977	7
R 3. 57	8272 Furman Ave., Westminster, CA	SFR	1969	2
R 3. 58	8242 Crown Ct., Westminster, CA	SFR	1980	3
R 3. 59	8192 Crown Ct., Westminster, CA	SFR	1980	4
R 3. 60	8172 Crown Ct., Westminster, CA	SFR	1980	2
R 3. 60A	8172 Crown Ct., Westminster, CA	SFR	1980	--
R 3. 61	8182 Rockview Cir., Westminster, CA	SFR	1974	7
R 3. 62	8152 Rockview Cir., Westminster, CA	SFR	1974	4
R 3. 63	8166 Crown Ct., Westminster, CA	SFR	1980	1
R 3. 64	8141 Rockview Cir., Westminster, CA	SFR	1974	3
R 3. 65	8141 Ingram Cir., Westminster, CA	SFR	1974	2
R 3. 66	8095 Worhty Cir., Westminster, CA	MFR	1963	5
R 3. 66A	8096 Worhty Dr., Westminster, CA	MFR	1963	8
R 3. 66B	8092 Worthy Dr., Westminster, CA	MFR	1963	4

Notes:

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RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 3. 67	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	4
R 3. 68	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	1
R 3. 69	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	4
R 3. 70	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	4
R 3. 71	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	7
R 3. 72	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	2
R 3. 72A	Driftwood Park Mobile Club - 53 Maplewood Ln., Westminster, CA	MH	1963	2
R 3. 73	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	5
R 3. 74	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	11
R 3. 74A	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	2
R 3. 75	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	4
R 3. 76	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	2
R 3. 77	Driftwood Park Mobile Club - 15621 Beach Blvd, Westminster, CA	MH	1963	3
R 3. 78	7738 Sugar Dr., Huntington Beach, CA	SFR	1983	2
R 3. 79	7736 Sugar Dr., Huntington Beach, CA	REC	1950	1
R 3. 80	7651 Sugar Dr., Huntington Beach, CA	SFR	1962	3
R 3. 81	15461 Shasta Ln., Huntington Beach, CA	SFR	1963	2
R 3. 81A	15431 Cascade Ln., Huntington Beach, CA	SFR	1962	3
R 3. 82	15401 Cascade Ln., Huntington Beac, CA	SFR	1962	3
R 3. 83	15371 Cascade Ln., Huntington Beach, CA	SFR	1962	5
R 3. 84	15311 Casacde Ln., Huntington Beach, CA	SFR	1963	3
R 3. 85	15291 Cascade Ln., Huntington Beach, CA	SFR	1963	2
R 3. 86	15271 Cascade Ln., Huntington Beach, CA	SFR	1963	3
R 3. 86A	15251 Cascade Ln., Huntington Beach, CA	SFR	1963	2
R 3. 87	College Park - 15422 Vermont St., Westminster, CA	REC	1969	3
R 3. 88	College Park - 15422 Vermont St., Westminster, CA	REC	1969	1
R 3. 89	College Park - 15422 Vermont St., Westminster, CA	REC	1969	2
R 3. 90	7422 Colby Cir., Westminster, CA	SFR	1967	1
R 3. 91	7432 Colby Cir., Westminster, CA	SFR	1967	3
R 3. 92	15342 Vermont St., Westminster, CA	SFR	1967	4
R 3. 93	15282 Vermont St., Westminster, CA	SFR	1967	4
R 3. 93A	15272 Vermont St., Westminster, CA	SFR	1967	3
R 3. 94	7312 Carlton Ave., Westminster, CA	SFR	1967	1
R 3. 95	15248 Vermont St., Westminster, CA	SFR	1967	3
R 3. 96	15218 Vermont St., Westminster, CA	SFR	1967	5
R 3. 97	7251 Wellesley Ave., Westminster, CA	SFR	1967	1
R 3. 98	15172 Vermont St., Westminster, CA	SFR	1968	12
R 3. 99	7161 Rutgers Ave., Westminster, CA	SFR	1968	1
R 3. 99A	7141 Rutgers Ave., Westminster, CA	SFR	1968	2
R 3. 100	7111 Rutgers Ave., Westminster, CA	SFR	1968	2
R 3. 100A	7101 Rutgers Ave., Westminster, CA	SFR	1968	1
R 3. 101	7181 Rutgers Ave., Westminster, CA	SFR	1968	2

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RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 4. 1	6311 Willow Cir., Westminster, CA	SFR	2000	2
R 4. 2	14220 Willlow Ln., Westminster, CA	SFR	1928	3
R 4. 3	Willow Lane Preschool and Summer Day Camp - 14203 Willow Ln., Westminster, CA	SCH	1948	3
R 4. 4	14202 Ebony Way, Westminster, CA	SFR	1955	2
R 4. 5	14172 Ebony Way, Westminster, CA	SFR	1955	1
R 4. 6	6251 Mahogany Ave., Westminster, CA	SFR	1955	2
R 4. 7	6211 Mahogany Ave., Westminster, CA	SFR	1955	2
R 4. 8	6191 Mahogany Ave., Westminster, CA	SFR	1955	2
R 4. 9	14122 Cascade St., Westminster, CA	SFR	1955	2
R 4. 10	Cascade Park - 14100 Cascade St., Westminter, CA	REC	1971	3
R 4. 11	Cascade Park - 14100 Cascade St., Westminter, CA	REC	1971	2
R 4. 12	Cascade Park - 14100 Cascade St., Westminter, CA	REC	1971	1
R 4. 13	14062 Ash St., Westminster, CA	SFR	1973	5
R 4. 14A	6942 Sowell Ave., Westminster, CA	SFR	1956	1
R 4. 14	6902 Sowell Ave., Westminster, CA	SFR	1960	3
R 4. 15	6872 Sowell Ave., Westminster, CA	SFR	1956	3
R 4. 16	6855 Sowell Ave., Westminster, CA	SFR	1956	2
R 4. 17	6852 Sowell Ave., Westminster, CA	SFR	1956	4
R 4. 18	6792 Santee Ave., Westminster, CA	SFR	1956	4
R 4. 19	6751 Santee Ave., Westminster, CA	SFR	1956	1
R 4. 20	6742 Hazard Ave., Westminster, CA	SFR	1957	2
R 4. 21	6722 Hazard Ave., Westminster, CA	SFR	1977	1
R 4. 22	6722 Hazard Ave., Westminster, CA	SFR	1977	--
R 4. 23	6701 Hazard Ave., Westminster, CA	SFR	1977	2
R 4. 24	Westminster High School - 14325 Goldenwest St., Westminster, CA	SCH	1959	3
R 4. 25A	Buckinghmam Park - 6502 Homer St., Westminster, CA	REC	1978	2
R 4. 25B	Buckinghmam Park - 6502 Homer St., Westminster, CA	REC	1978	2
R 4. 25	Buckinghmam Park - 6502 Homer St., Westminster, CA	REC	1978	2
R 4. 26	Buckinghmam Park - 6502 Homer St., Westminster, CA	REC	1978	2
R 4. 27	14261 Edwards St., Westminster, CA	MFR	1973	1
R 4. 28	Hollybrook Apt. - 14181 Edwards St., Westminster, CA	MFR	1973	3
R 4. 29	Hollybrook Apt. - 14181 Edwards St., Westminster, CA	MFR	1973	1
R 4. 29A	Hollybrook Apt. - 14181 Edwards St., Westminster, CA	MFR	1973	1
R 4. 30	Hollybrook Apt. - 14181 Edwards St., Westminster, CA	MFR	1973	1
R 4. 31	Hollybrook Apt. - 14181 Edwards St., Westminster, CA	MFR	1973	7
R 4. 31A	Hollybrook Apt. - 14181 Edwards St., Westminster, CA	MFR	1973	1
R 4. 32	14151 Wynn St., Westminster, CA	SFR	1955	2
R 4. 33A	Motel 6 - 6266 Westminter Blvd, Westminter, CA	MOT	1963	6
R 4. 33	Motel 6 - 6266 Westminter Blvd, Westminter, CA	MOT	1963	1
R 4. 34	13882 Sherwood St., Westminster, CA	SFR	1952	2
R 4. 34A	13872 Sherwood St., Westminster, CA	SFR	1947	2
R 4. 35	13842 Sherwood St., Westminster, CA	SFR	1954	3
R 4. 36	13821 Sherwood St., Westminster, CA	SFR	1967	2
R 4. 37	5797 Carlin Ave., Westminster, CA	SFR	1997	2
R 4. 38	5912 Abraham Ave., Westminster, CA	SFR	1959	2
R 4. 39	5901 Abraham Ave., Westminster, CA	SFR	1959	3
R 4. 40	5881 Abraham Ave., Westminster, CA	SFR	1959	2
R 4. 41	5831 Vallecito Ave., Westminster, CA	SFR	1959	7
R 4. 42	5775 Vallecito Ave., Westminster, CA	SFR	1959	7
R 4. 42A	5722 Placer Ave., Westminster, CA	SFR	1959	1
R 4. 43	5721 Vallecito Ave., Westminster, CA	SFR	1959	5
R 4. 44	5701 Vallecito Ave., Westminster, CA	SFR	1959	4
R 4. 45	5667 Amador Ave., Westminster, CA	SFR	1959	2
R 4. 46	5611 Vallecito Ave., Westminster, CA	SFR	1959	8

Notes:

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RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 4. 46A	5591 Vallecito Ave., Westminster, CA	SFR	1959	2
R 4. 47A	13442 Milan St., Westminster, CA	SFR	1973	2
R 4. 47	5531 Quincy Cir., Westminster, CA	SFR	1973	4
R 4. 48	13381 Lowell Cir., Westminster, CA	SFR	1973	5
R 4. 49	13361 Lowell Cir., Westminster, CA	SFR	1973	2
R 4. 50	5382 Duncannon Ave., Westminster, CA	SFR	1973	2
R 4. 50A	5421 Laverne Cir., Westminster, CA	SFR	1973	2
R 4. 51	5352 Clark Cir., Westminster, CA	SFR	1973	5
R 4. 52	5372 Clark Cir., Westminster, CA	SFR	1973	2
R 4. 53	5312 Bryant Cir., Westminster, CA	SFR	1973	5
R 4. 54	5332 Bryant Cir., Westminster, CA	SFR	1973	2
R 4. 55	5321 Bryant Cir., Westminster, CA	SFR	1973	2
R 4. 56	5292 Auburn Cir., Westminster, CA	SFR	1973	2
R 4. 57	5271 Aburn Cir., Westminster, CA	SFR	1973	4
R 4. 58	5291 Auburn Cir., Westminster, CA	SFR	1973	2
R 4. 59	5211 Stratford Ave., Westminster, CA	SFR	1959	3
R 4. 60	5241 Stratford Ave., Westminster, CA	SFR	1973	1
R 4. 60A	13132 Buckingham Cir., Westminster, CA	SFR	1959	1
R 4. 61	13131 Buckingham Cir., Westminster, CA	SFR	1960	2
R 4. 62	13151 Buckingham Cir., Westminster, CA	SFR	1959	2
R 4. 62A	13161 Buckingham Cir., Westminster, CA	SFR	1959	1
R 4. 62B	13171 Buckingham Cir., Westminster, CA	SFR	1959	2
R 4. 63	13205 Anawood Way, Westminster, CA	SFR	1959	2
R 4. 64A	6262 California Ave., Westminster, CA	SFR	1958	3
R 4. 64B	13900 Milton Ave. #A, Westminster, CA	--	1980	--
R 4. 64C	Westminster Lutheran Church - 13841 Milton Ave., Westminster, CA	SCH	1958	1
R 4. 64D	Temple Beth David - 6100 Hefley St., Westminster, CA	SCH	1973	1
R 4. 64	Indian Village Park - 6060 Hefley St., Westminster, CA	REC	1971	3
R 4. 65	Indian Village Park - 6060 Hefley St., Westminster, CA	REC	1971	3
R 4. 66	13741 Springdale St., Westminster, CA	SFR	1962	1
R 4. 67	13731 Springdale St., Westminster, CA	SFR	1962	3
R 4. 68	5931 Meinhardt Rd., Westminster, CA	SFR	1962	5
R 4. 69	5881 Meinhardt Rd., Westminster, CA	SFR	1962	5
R 4. 70	5841 Meinhardt Rd., Westminster, CA	SFR	1962	7
R 4. 71	5821Alllison Cir., Westminster, CA	SFR	1962	3
R 4. 72	5741 Meinhardt Rd., Westminster, CA	SFR	1962	10
R 4. 73	5661 Meinhardt Rd., Westminster, CA	SFR	1963	8
R 4. 74	5571 Meinhardt Rd., Westminster, CA	SFR	1963	8
R 4. 75	5552 Norma Dr., Westminster,CA	SFR	1963	2
R 4. 76	5551 Norma Dr., Westminster,CA	SFR	1963	--
R 4. 77	5551 Norma Dr., Westminster,CA	SFR	1963	1
R 4. 78	5501 Meinhardt Rd., Westminster, CA	SFR	1963	3

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RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 4. 79	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	2
R 4. 80	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	6
R 4. 80A	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	7
R 4. 81	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	5
R 4. 82	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	3
R 4. 83	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	3
R 4. 83A	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	2
R 4. 83B	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	2
R 4. 84	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	7
R 4. 85	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	7
R 4. 86	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	5
R 4. 87	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	12
R 4. 88	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	7
R 4. 88A	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	3
R 4. 89	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	4
R 4. 90	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	6
R 4. 91	Los Alisos Mobile Home Estates - 5772 Garden Grove Blvd, Westminster, CA	MH	1960	9
R 4. 92	Los Robles Mobile Home Estates - 79 Via Del Norte, Westminster, CA	MH	1960	7
R 4. 93	Los Robles Mobile Home Estates - 13100 Melaine Ln., Westminster, CA	MH	1960	3
R 4. 94	5702 Anthony Ave., Garden Grove, CA	SFR	1977	4
R 4. 95	5792 Anthony Ave., Garden Grove, CA	SFR	1964	5
R 4. 96	12891 Adams St., Garden Grove, CA	SFR	1977	2
R 4. 97	5872 Anthony Ave., Garden Grove, CA	SFR	1964	7
R 4. 98	5842 Anthony Ave., Garden Grove, CA	SFR	1964	4
R 4. 99	12891 Spring St., Garden Grove, CA	SFR	1964	2
R 4. 100	12891 Longden St., Garden Grove, CA	SFR	1964	2
R 4. 101	12901 Oqen St., Garden Grove, CA	SFR	1963	9
R 4. 102	6102 Anthony Ave., Garden Grove, CA	SFR	1963	4
R 4. 103	6142 Anthony Ave., Garden Grove, CA	SFR	1963	6
R 4. 104	6212 Anthony Ave., Garden Grove, CA	SFR	1963	7
R 4. 105	12892 Topaz St., Garden Grove, CA	SFR	1963	2
R 4. 106	6302 Anthony Ave., Garden Grove, CA	SFR	1963	7
R 4. 107	12892 Amethyst St., Garden Grove, CA	SFR	1963	2
R 4. 108	6362 Anthony Ave., Garden Grove, CA	SFR	1963	6
R 4. 109	6432 Anthony Ave., Garden Grove, CA	SFR	1963	3
R 4. 110	12902 Sylvan St., Garden Grove, CA	SFR	1963	1

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RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 5. 1	5382 Christal Ave., Garden Grove, CA	SFR	1965	5
R 5. 2	5332 Christal Ave., Garden Grove, CA	SFR	1965	5
R 5. 3	5292 Christal Ave., Garden Grove, CA	SFR	1965	4
R 5. 4	5242 Christal Ave., Garden Grove, CA	SFR	1965	4
R 5. 5	12861 Bartlett St., Garden Grove, CA	SFR	1965	3
R 5. 6	12851 Bartlett St., Garden Grove, CA	SFR	1965	1
R 5. 7	3580 Wisteria St., Seal Beach, CA	SFR	1967	2
R 5. 8	3560 Wisteria St., Seal Beach, CA	SFR	1967	3
R 5. 9	3550 Violet St., Seal Beach, CA	SFR	1967	2
R 5. 10	3570 Violet St., Seal Beach, CA	SFR	1967	3
R 5. 11	3571 Violet St., Seal Beach, CA	SFR	1967	2
R 5. 12	3581 Violet St., Seal Beach, CA	SFR	1967	4
R 5. 13	3561 Teaberry Cir., Seal Beach, CA	SFR	1967	2
R 5. 14	3581 Teaberry Cir., Seal Beach, CA	SFR	1967	4
R 5. 15	3551 Sunflower Cir., Seal Beach, CA	SFR	1967	2
R 5. 16	3571 Sunflower Cir., Seal Beach, CA	SFR	1967	4
R 5. 17	3541 Rose Cir., Seal Beach, CA	SFR	1967	2
R 5. 18	3561 Rose Cir., Seal Beach, CA	SFR	1967	4
R 5. 19	3531 Primrose Cir., Seal Beach, CA	SFR	1967	2
R 5. 20	3551 Primrose Cir., Seal Beach, CA	SFR	1967	4
R 5. 21	3521 Pansy Cir., Seal Beach, CA	SFR	1968	2
R 5. 22	3541 Pansy Cir., Seal Beach, CA	SFR	1968	4
R 5. 23	Shapell Park, Seal Beach, CA	REC	1962	4
R 5. 24	3541 Oleander St., Seal Beach, CA	SFR	1968	12
R 5. 25	3521 Almond Ave., Seal Beach, CA	SFR	1968	3
R 5. 26	3521 Jasmin Cir., Seal Beach, CA	SFR	1968	2
R 5. 27	3541 Jasmin Cir., Seal Beach, CA	SFR	1968	4
R 5. 28	3521 Iris Cir., Seal Beach, CA	SFR	1968	2
R 5. 29	3541 Iris Cir., Seal Beach, CA	SFR	1968	4
R 5. 30	3521 Heather Cir., Seal Beach, CA	SFR	1968	2
R 5. 31	3541 Heather Cir., Seal Beach, CA	SFR	1968	4
R 5. 32	3521 Fern Cir., Seal Beach, CA	SFR	1968	4
R 5. 33	3521 Daisy St., Seal Beach, CA	SFR	1969	2
R 5. 34	3541 Daisy St., Seal Beach, CA	SFR	1969	4
R 5. 35	3521 Columbine St., Seal Beach, CA	SFR	1969	8
R 5. 36	3541 Columbine St., Seal Beach, CA	SFR	1969	4
R 5. 37	3520 Camelia St., Seal Beach, CA	SFR	1971	4
R 5. 37A	3540 Camelia St., Seal Beach, CA	SFR	1971	4
R 5. 38	Blue Bell Park - Almond Ave & Blue Bell St., Seal Beach, CA	REC	1962	2
R 5. 39	City of Seal Beach Tennis Court - 3900 Lampson Ave., Seal Beach, CA	REC	1972	1
R 5. 40	City of Seal Beach Tennis Court - 3900 Lampson Ave., Seal Beach, CA	REC	1972	1
R 5. 41	Sunrise Senior Living - 3850 Lampson Ave., Seal Beach, CA	MFR	1981	3
R 5. 42	Sunrise Senior Living - 3850 Lampson Ave., Seal Beach, CA	MFR	1981	4

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RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 6. 1	Leisure World Retirement Community - Building #34 St. John Rd., Seal Beach, CA	MFR	1962	2
R 6. 2	Leisure World Retirement Community - Building #34 St. John Rd., Seal Beach, CA	MFR	1962	2
R 6. 3	Leisure World Retirement Community - Building #34 St. John Rd., Seal Beach, CA	MFR	1962	2
R 6. 4	Leisure World Retirement Community - Building #37 St. John Rd., Seal Beach, CA	MFR	1962	2
R 6. 5	Leisure World Retirement Community - Building #37 St. John Rd., Seal Beach, CA	MFR	1962	2
R 6. 6	Leisure World Retirement Community - Building #39 St. John Rd., Seal Beach, CA	MFR	1962	2
R 6. 7	Leisure World Retirement Community - Building #38 St. John Rd., Seal Beach, CA	MFR	1962	2
R 6. 8	Leisure World Retirement Community - Building #40 St. John Rd., Seal Beach, CA	MFR	1962	4
R 6. 9	Leisure World Retirement Community - Building #42 St. John Rd., Seal Beach, CA	MFR	1962	2
R 6. 10	Leisure World Retirement Community - Building #44 Del Monte Dr., Seal Beach, CA	MFR	1962	4
R 6. 11	Leisure World Retirement Community - Building #45 Del Monte Dr., Seal Beach, CA	MFR	1962	4
R 6. 12	Leisure World Retirement Community - Building #277 Northwood Dr., Seal Beach, CA	MFR	1962	3
R 6. 13	Leisure World Retirement Community - Building #276 Northwood Dr., Seal Beach, CA	MFR	1962	4
R 6. 14	Leisure World Retirement Community - Building #275 Northwood Dr., Seal Beach, CA	MFR	1962	3
R 6. 15	Leisure World Retirement Community - Building #274 Northwood Dr., Seal Beach, CA	MFR	1962	4
R 6. 16	Leisure World Retirement Community - Building #272 Northwood Dr., Seal Beach, CA	MFR	1962	6
R 6. 17	Leisure World Retirement Community - Building #273 Northwood Dr., Seal Beach, CA	MFR	1962	6
R 6. 18	First Christian Church Of Leisure World - 2450 Beverly Manor Dr., Seal Beach, CA	REL	1962	1
R 6. 19	Leisure World Library - 2300 Berverly Manor Dr., Seal Beach, CA	LIB	1962	1
R 6. 20	3202 Yellowtail Dr., Los Alamitos, CA	SFR	1960	4
R 6. 21	12801 Silver Fox Rd., Los Alamitos	SFR	1960	1
R 6. 22	3152 Yellowtail Dr.,Los Alamitos, CA	SFR	1960	5
R 6. 23	3102 Yellowtail Dr., Los Alamitos, CA	SFR	1960	4
R 6. 24	3062 Yellowtail Dr., Los Alamitos, CA	SFR	1960	3
R 6. 25	3061 Yellowtail Dr., Los Alamitos, CA	SFR	1960	13
R 6. 26	3022 Yellowtail Dr., Los Alamitos, CA	SFR	1960	3
R 6. 27	3002 Yellowtail Dr., Los Alamitos, CA	SFR	1960	2
R 6. 28	2982 Yellowtail Dr., Los Alamitos, CA	SFR	1960	2
R 6. 29	2962 Yellowtail Dr., Los Alamitos, CA	SFR	1960	2
R 6. 30	2952 Yellowtail Druid Ln., Los Alamitos, CA	SFR	1960	1
R 6. 31	2942 Yellowtail Dr., Los Alamitos, CA	SFR	1960	3
R 6. 32	12921 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 33	12875 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 34	12862 Spur Ln., Los Alamitos, CA	SFR	1959	2
R 6. 34A	12865 Martha Ann Dr., Los Alamitos, CA	SFR	1959	2
R 6. 35	12861 Martha Ann Dr., Los Alamitos, CA	SFR	1959	1
R 6. 35A	12855 Martha Ann Dr., Los Alamitos, CA	SFR	1959	1
R 6. 36	12851 Martha Ann Dr., Los Alamitos, CA	SFR	1959	1
R 6. 36A	12841 Martha Ann Dr., Los Alamitos, CA	SFR	1959	2
R 6. 37	12835 Martha Ann Dr., Los Alamitos, CA	SFR	1959	2

Notes:

1 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - Library.

RECEIVER I.D.	ADDRESS or LOCATION	LAND USE [1]	YEAR BUILT	NUMBER of DWELLING UNITS
R 6. 38	12825 Martha Ann Dr., Los Alamitos, CA	SFR	1959	2
R 6. 39	12801 Martha Ann Dr., Los Alamitos, CA	SFR	1959	2
R 6. 40	2682 Brimhall Dr., Los Alamitos, CA	SFR	1959	2
R 6. 41	12771 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 42	12741 Martha Ann Dr., Los Alamitos, CA	SFR	1959	5
R 6. 43	12721 Martha Ann Dr., Los Alamitos, CA	SFR	1959	4
R 6. 44	2621 Copa De Oro Dr., Los Alamitos, CA	SFR	1959	2
R 6. 45	12701 Martha Ann Dr., Los Alamitos, CA	SFR	1959	1
R 6. 46	12691 Martha Ann Dr., Los Alamitos, CA	SFR	1959	1
R 6. 47	12671 Martha Ann Dr., Los Alamitos, CA	SFR	1959	2
R 6. 48	2611 Salmon Dr., Los Alamitos, CA	SFR	1959	2
R 6. 49	12651 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 50	12621 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 51	12581 Martha Ann Dr., Los Alamitos, CA	SFR	1959	4
R 6. 52	12541 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 53	12502 Martha Ann Dr., Los Alamitos, CA	SFR	1959	2
R 6. 54	12501 Martha Ann Dr., Los Alamitos, CA	SFR	1959	4
R 6. 55	12431 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 56	12371 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 57	12331 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 58	12311 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 59	12251 Martha Ann Dr., Los Alamitos, CA	SFR	1959	3
R 6. 60	2611 Mainway Dr., Los Alamitos, CA	SFR	1959	5
R 6. 61	12241 Martha Ann Dr., Los Alamitos, CA	SFR	1959	2
R 6. 62	12201 Martha Ann Dr., Los Alamitos, CA	SFR	1957	5
R 6. 63	12131 Martha Ann Dr., Los Alamitos, CA	SFR	1957	3
R 6. 64	12101 Martha Ann Dr., Los Alamitos, CA	SFR	1957	3
R 6. 65	12061 Martha Ann Dr., Los Alamitos, CA	SFR	1957	3
R 6. 66	12022 Martha Ann Dr., Los Alamitos, CA	SFR	1957	4
R 6. 67	12011 Martha Ann Dr., Los Alamitos, CA	SFR	1957	3
R 6. 68	11961 Martha Ann Dr., Los Alamitos, CA	SFR	1957	4
R 6. 69	11911 Martha Ann Dr., Los Alamitos, CA	SFR	1957	3
R 6. 70	11881 Martha Ann Dr., Los Alamitos, CA	SFR	1957	3
R 6. 71	11831 Martha Ann Dr., Los Alamitos, CA	SFR	1961	4
R 6. 72	11801 Martha Ann Dr., Los Alamitos, CA	SFR	1957	3
R 6. 73	11741 Martha Ann Dr., Los Alamitos, CA	SFR	1957	5
R 6. 74	11671 Martha Ann Dr., Los Alamitos, CA	SFR	1957	5
R 6. 75	11611 Martha Ann Dr., Los Alamitos, CA	SFR	1957	5
R 6. 76	2631 Coleridge Dr., Los Alamitos, CA	SFR	1957	2
R 6. 77	11541 Martha Ann Dr., Los Alamitos, CA	SFR	1957	6
R 6. 78	2632 Silverwood Dr., Los Alamitos, CA	SFR	1959	1
R 6. 79	11491 Martha Ann Dr., Los Alamitos, CA	SFR	1959	7
R 6. 80	11411 Martha Ann Dr., Los Alamitos, CA	SFR	1959	7
R 6. 81	11321 Martha Ann Dr., Los Alamitos, CA	SFR	1959	6

Notes:

1 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - Library.

Appendix C Traffic Data Used in TNM Modeling

Future Traffic Volumes – No Build

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Bristol St. to SR-73 / I-405 Interchange									
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - North - Bristol Ave. Loop On-Ramp	1	348	10 to 65	339	97.39%	6	1.73%	3	0.88%
I-405 - North - Bristol Ave. On-Ramp	1	248	10 to 65	242	97.39%	4	1.73%	2	0.88%
I-405 - North - SR-73 Interchange Exits - Collector	2	2,000 *	65 to 50	1,948	97.39%	35	1.73%	18	0.88%
I-405 - North - South Coast Dr. Off-Ramp	1	253	50 to 10	246	97.39%	4	1.73%	2	0.88%
I-405 - North - Fairview Rd. Off-Ramp	2	1,431	50 to 10	1,394	97.39%	25	1.73%	13	0.88%
I-405 - North - Exit to Harbor Blvd./Susan St.	1	1,000 *	50	974	97.39%	17	1.73%	9	0.88%
I-405 - North - Exit to Harbor Blvd./Susan St. (Frontage)	2	2,000 *	50	1,948	97.39%	35	1.73%	18	0.88%
I-405 - North - Susan St. Off-Ramp	1	837	50 to 10	815	97.39%	14	1.73%	7	0.88%
I-405 - North - Harbor Blvd. Off-Ramp	2	1,936	50 to 10	1,868	96.51%	33	1.73%	34	1.76%
I-405 North - SR-73 / I-405 Interchange to Merge with NB SR-73									
I-405 - North - Outside Thru Lanes	2	3,700	65	3,479		64		157	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	5	8,900		8,589	96.51%	154	1.73%	157	1.76%
I-405 North - Merge with NB SR-73 to Fairview Dr.									
I-405 - North - Auxiliary Lane 3	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,439		64		197	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	8	13,400		12,932	96.51%	232	1.73%	236	1.76%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes *	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Fairview Dr. to Euclid St.									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - North - Fairview Rd. On-Ramp	1	769	10 to 65	749	97.39%	13	1.73%	7	0.88%
I-405 - North - Harbor Blvd. Loop On-Ramp	1	628	10 to 65	606	96.51%	11	1.73%	11	1.76%
I-405 - North - Hyland Ave. On-Ramp	1	957	10 to 65	932	97.39%	17	1.73%	8	0.88%
I-405 - North - Euclid St. Off-Ramp	2	2,000 *	65 to 10	1,948	97.39%	35	1.73%	18	0.88%
I-405 North - Euclid St. to Brookhurst St.									
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - North - Euclid St. On-Ramp	1	714	10 to 65	695	97.39%	12	1.73%	6	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes *	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Brookhurst St. to SR-22 Interchange									
I-405 - North - Outside Thru Lanes	2	3,700	65	3,479		64		157	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	5	8,900		8,589	96.51%	154	1.73%	157	1.76%
I-405 - North - Brookhurst St. Collector	1	1,000 *	65 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - NB Brookhurst St. Off-Ramp	1	811	45 to 10	790	97.39%	14	1.73%	7	0.88%
I-405 - North - SB Brookhurst St. Loop Off-Ramp	1	811	45 to 10	790	97.39%	14	1.73%	7	0.88%
I-405 - North - NB Brookhurst St. Loop On-Ramp	1	1,000	10 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Brookhurst St. On-Ramp	1	431	10 to 45	420	97.39%	7	1.73%	4	0.88%
I-405 - North - Brookhurst St. Distributor	1	1,000 *	45 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - North - Warner Ave. / Magnolia St. Collector	1	1,000 *	65 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - WB Warner Ave. Loop Off-Ramp	1	878	45 to 10	855	97.39%	15	1.73%	8	0.88%
I-405 - North - WB Warner Ave. On-Ramp	1	888	10 to 45	865	97.39%	15	1.73%	8	0.88%
I-405 - North - NB Magnolia St. Off-Ramp	1	777	45 to 10	757	97.39%	13	1.73%	7	0.88%
I-405 - North - NB Magnolia St. Loop On-Ramp	1	445	10 to 45	433	97.39%	8	1.73%	4	0.88%
I-405 - North - Warner Ave. / Magnolia St. Distibutor 1	1	1,000 *	45 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Magnolia St. On-Ramp	1	150	10 to 45	146	97.39%	3	1.73%	1	0.88%
I-405 - North - Warner Ave. / Magnolia St. Distibutor 2	1	1,000 *	45 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - North - Beach Blvd. Collector	2	2,000 *	65 to 45	1,948	97.39%	35	1.73%	18	0.88%
I-405 - North - NB Beach Blvd. Off-Ramp	1	1,000 *	45 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Beach Blvd. Loop Off-Ramp	1	1,000 *	45 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - North - NB Beach Blvd. Loop On-Ramp	1	1,000 *	10 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Beach Blvd. On-Ramp	1	291	10 to 45	283	97.39%	5	1.73%	3	0.88%
I-405 - North - Beach Blvd. Distributor	1	1,000 *	45 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - North - WB Bolsa Ave. Loop Off-Ramp	1	812	65 to 10	791	97.39%	14	1.73%	7	0.88%
I-405 - North - NB Goldenwest St. Loop On-Ramp	1	947	10 to 65	922	97.39%	16	1.73%	8	0.88%
I-405 - North - Westminster St. Collector	1	997	65 to 45	971	97.39%	17	1.73%	9	0.88%
I-405 - North - Westminster St. Off-Ramp	1	290	45 to 10	282	97.39%	5	1.73%	3	0.88%
I-405 - North - WB Westminster St. Loop Off-Ramp	1	707	45 to 10	689	97.39%	12	1.73%	6	0.88%
I-405 - North - Westminster St. On-Ramp	1	956	10 to 65	931	97.39%	16	1.73%	8	0.88%
I-405 - North - Garden Grove Blvd. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - SR-22 Interchange to Westbound SR-22 Connector (7th Street)									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,469		57		174	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - North - HOV Lane	1	1,500	65	1,477		23		0	
I-405 - North - HOV Lane / Before HOV Exit to 605	1	1,500	65	1,477		23		0	
Subtotal	8	13,400		12,998	97.00%	206	1.54%	196	1.46%
I-405 - North - NB Seal Beach Blvd. Off-Ramp	1	1,000 *	65 to 10	977	97.73%	15	1.53%	7	0.73%
I-405 - North - NB Seal Beach Blvd. On-Ramp	1	1,000 *	10 to 65	977	97.73%	15	1.53%	7	0.73%
I-405 - North - NB I-405 Connector to SR-22 (7th Street)	2	3,000 *	55	2,910	97.00%	46	1.53%	44	1.47%
I-405 North - Westbound SR-22 Connector (7th Street) to Northbound I-605 Connector									
I-405 - North - Auxiliary Lane 1 / Before Connector to I-605	1	1,500	65	1,448		31		21	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,306		76		318	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - North - HOV Lane	1	1,500	65	1,469		31		0	
I-405 - North - HOV Lane / to HOV Connector to I-605	1	1,500	65	1,469		31		0	
Subtotal	7	11,900		11,316	95.09%	245	2.06%	339	2.85%
I-405 - North - NB I-405 Connector to NB I-605	2	3,000 *	55	2,853	95.09%	62	2.06%	86	2.85%
I-405 North - I-605 Connector to Studebaker Rd.									
I-405 - North - Outside Thru Lanes	2	3,700	65	3,370		76		254	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - North - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	5	8,900		8,463	95.09%	183	2.06%	254	2.85%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 605 - Northbound									
I-605 North - Connectors from I-405									
I-605 - North - NB I-605 Connector from SB I-405	2	3,000	55	2,853	95.09%	62	2.06%	86	2.85%
I-605 North - From I-405 Split to Katella Ave.									
I-605 - North - Auxiliary Lane 1	1	1,500	65	1,445		40		15	
I-605 - North - Outside Thru Lanes	2	3,700	65	3,412		98		190	
I-605 - North - Inside Thru Lanes	2	3,700	65	3,602		98		0	
I-605 - North - HOV Lane	1	1,500	65	1,460		40		0	
Subtotal	6	10,400		9,919	95.38%	276	2.65%	205	1.97%
I-605 - North - Katella Ave. Collector	1	1,000 *	65 to 45	964	96.35%	27	2.66%	10	0.98%
I-605 - North - EB Katella Ave. Off-Ramp	1	1,000	45 to 10	964	96.35%	27	2.66%	10	0.98%
I-605 - North - WB Katella Ave. Off-Ramp	1	1,000	45 to 10	964	96.35%	27	2.66%	10	0.98%
State Route 22 - Westbound									
SR-22 West - Springdale St. to Valley ViewSt.									
SR-22 - West - Auxiliary Lane 1	1	1,500	65	1,438		50		12	
SR-22 - West - Outside Thru Lanes	2	3,700	65	3,479		124		97	
SR-22 - West - Inside Thru Lane	1	1,850	65	1,788		62		0	
Subtotal	4	7,050		6,705	95.11%	236	3.35%	109	1.55%
SR-22 - West - Valley View St. Off-Ramp	1	1,000	65 to 10	959	95.87%	34	3.35%	8	0.77%
SR-22 - West - NB Valley View St. Loop On-Ramp	1	1,000	10 to 65	959	95.87%	34	3.35%	8	0.77%
SR-22 - West - SB Valley View St. On-Ramp	1	1,000	10 to 65	959	95.87%	34	3.35%	8	0.77%
SR-22 West - SR-22 Connector / I-405 Interchange									
SR-22 - West - WB SR-22 Connector to NB I-405	2	3,000	55	2,853	95.10%	101	3.35%	46	1.55%
SR-22 - West - WB SR-22 HOV Connector to NB I-405 HOV Lane	1	1,500	55	1,469	97.94%	31	2.06%	0	0.00%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
SR-73 - Northbound									
SR-73 - SR-55 Interchange to Bear St.									
SR-73 - North - Auxiliary Lane	1	1,500	65	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - North - Outside Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
SR-73 - North - Middle Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
SR-73 - North - Inside Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
Subtotal	4	7,050		6,977	98.96%	60	0.85%	13	0.19%
SR-73 - North - Bear St. Off-Ramp	1	653	10 to 65	646	98.96%	6	0.85%	1	0.19%
SR-73 - Bear St. to I-405 Interchange									
SR-73 - North - Outside Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
SR-73 - North - Middle Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
SR-73 - North - Inside Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
Subtotal	3	5,550		5,492	98.96%	47	0.85%	10	0.19%
SR-73 - North - Bear St. On-Ramp	1	480	65 to 10	475	98.96%	4	0.85%	1	0.19%
SR-73 - North - Bear St./Fairview Rd. Weaving Lane	1	1,000 *	65	990	98.96%	9	0.85%	2	0.19%
SR-73 - North - NB SR-73 Exit to Fairview Rd.	2	614	50	608	98.96%	5	0.85%	1	0.19%
SR-73 - North - SR-73 Connector to Auxiliary Lane 3	1	1,500	55	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - North - SR-73 Connector to Auxiliary Lane 2	1	1,500	55	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - North - SR-73 Connector to Auxiliary Lane 1	1	1,500	55	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - North - NB SR-73 Exit to Harbor Blvd.	1	832	50	823	98.96%	7	0.85%	2	0.19%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes *	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Studebaker Rd. to Southbound I-605 Interchange									
I-405 - South - Outside Thru Lanes	2	3,700	65	3,370		76		254	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - South - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	5	8,900		8,463	95.09%	183	2.06%	254	2.85%
I-405 South - Connector to Westbound SR-22 (7th Street)	1	1,500	55	1,426	95.09%	31	2.06%	43	2.85%
I-405 South - Southbound I-605 Interchange to Eastbound SR-22 Merge (7th Street)									
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,426		31		21	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,327		76		275	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - South - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	6	10,400		9,846	94.67%	214	2.06%	296	2.85%
I-605 - South - Fly-Over Connector to SB I-405 HOV Lane 2	1	1,500	55	1,431	95.37%	40	2.66%	30	1.97%
SR-22 - East - Connector to SB I-405 Auxiliary Lane 2	1	1,500 *	55	1,427	95.10%	50	3.35%	23	1.55%
SR-22 - East - Connector to SB I-405 Exit Lane	1	1,500 *	55	1,427	95.10%	50	3.35%	23	1.55%
I-405 South - Eastbound SR-22 Merge (7th Street) to SR-22 Interchange (Bolsa Chica and Valley View)									
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,469		57		174	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,477		23		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,477		23		0	
Subtotal	8	13,400		12,998	97.00%	206	1.54%	196	1.46%
I-405 - South - Seal Beach Blvd. Loop Off-Ramp	1	1,000 *	65 to 10	977	97.73%	15	1.53%	7	0.73%
I-405 - South - Seal Beach Blvd. On-Ramp	1	1,000 *	10 to 65	977	97.73%	15	1.53%	7	0.73%
I-405 - South - Connector to EB SR-22 Lane 1	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - South - Connector to EB SR-22 Lane 2	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - South - Connector to EB SR-22 Lane 3	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - SR-22 Interchange to Brookhurst St.									
I-405 - South - Outside Thru Lanes	2	3,700	65	3,479		64		157	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	5	8,900		8,589	96.51%	154	1.73%	157	1.76%
I-405 - South - SB Bolsa Chica Rd. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Valley View St. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Springdale St. / Westminster St. Collector	1	698	65 to 45	680	97.39%	12	1.73%	6	0.88%
I-405 - South - Springdale St. Off-Ramp	1	453	45 to 10	441	97.39%	8	1.73%	4	0.88%
I-405 - South - WB Westminster St. Loop Off-Ramp	1	245	45 to 10	239	97.39%	4	1.73%	2	0.88%
I-405 - South - Westminster St. On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Bolsa Ave. / Goldenwest St. Collector	1	981	65 to 45	955	97.39%	17	1.73%	9	0.88%
I-405 - South - Goldenwest St. Off-Ramp	1	857	65 to 10	835	97.39%	15	1.73%	8	0.88%
I-405 - South - EB Bolsa Ave. Loop Off-Ramp	1	124	65 to 10	121	97.39%	2	1.73%	1	0.88%
I-405 - South - Goldenwest St. Loop On-Ramp	1	474	10 to 45	462	97.39%	8	1.73%	4	0.88%
I-405 - South - EB Bolsa Ave. Loop On-Ramp	1	774	10 to 45	754	97.39%	13	1.73%	7	0.88%
I-405 - South - Bolsa Ave. / Goldenwest St. Distibutor	1	1,000 *	45 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Beach Blvd. Collector	1	1,000 *	65 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Beach Blvd. Off-Ramp (Center Ave.)	1	811	45 to 10	790	97.39%	14	1.73%	7	0.88%
I-405 - South - Beach Blvd. Loop On-Ramp (Center Ave.)	1	950	10 to 65	925	97.39%	16	1.73%	8	0.88%
I-405 - South - NB Beach Blvd. Loop Off-Ramp	1	811	45 to 10	790	97.39%	14	1.73%	7	0.88%
I-405 - South - EB Edinger Ave. On-Ramp	1	803	10 to 65	782	97.39%	14	1.73%	7	0.88%
I-405 - South - SB Magnolia St. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Magnolia St. Loop On-Ramp	1	378	10 to 65	368	97.39%	7	1.73%	3	0.88%
I-405 - South - EB Warner Ave. Loop Off-Ramp	1	597	65 to 10	581	97.39%	10	1.73%	5	0.88%
I-405 - South - EB Warner Ave. On-Ramp	1	762	10 to 65	742	97.39%	13	1.73%	7	0.88%
I-405 - South - Brookhurst St. Collector	1	1,000 *	65 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Brookhurst St. Off-Ramp	1	1,000 *	45 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - NB Brookhurst St. Loop Off-Ramp	1	1,000	45 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Brookhurst St. Loop On-Ramp	1	752	10 to 65	732	97.39%	13	1.73%	7	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Brookhurst St. to Euclid St.									
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - South - EB Talbert Ave. On-Ramp	1	774	10 to 65	754	97.39%	13	1.73%	7	0.88%
I-405 - South - Euclid St. Off-Ramp	1	504	65 to 10	491	97.39%	9	1.73%	4	0.88%
I-405 - South - Euclid St. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 South - Euclid St. to Harbor Blvd.									
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - South - Harbor Blvd. Off-Ramp	2	1,180	65 to 10	1,139	96.51%	20	1.73%	21	1.76%
I-405 - South - SB Harbor Blvd. Loop On-Ramp	1	1,000 *	10 to 65	965	96.51%	17	1.73%	18	1.76%
I-405 South - Harbor Blvd. to SR-73 / I-405 Interchange									
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,424		26		13	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,424		26		13	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,424		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,548		64		197	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,642		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,471		26		0	
Subtotal	8	13,400		12,933	96.51%	232	1.73%	236	1.76%
I-405 - South - NB Harbor Blvd. On-Ramp	1	777	10 to 65	750	96.51%	13	1.73%	14	1.76%
I-405 - South - Fairview Rd. Off-Ramp	2	865	65 to 10	842	97.39%	15	1.73%	8	0.88%
I-405 - South - Fairview Rd. Freeway Entrance	2	1,820	10 to 50	1,773	97.39%	31	1.73%	16	0.88%
I-405 - South - Connector to SB SR-73 Lane 1	1	1,500	55	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Connector to SB SR-73 Lane 2	1	1,500	55	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Connector to SB SR-73 Lane 3	1	1,500	55	1,461	97.39%	26	1.73%	13	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - SR-73 / I-405 Interchange to Bristol St.									
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - South - Fairview Rd. SB I-405 On-Ramp	1	1,000 *	50 to 65	974	97.39%	17	1.73%	9	0.88%
SR-73 - South - Fairview Rd. SB SR-73 On-Ramp	1	728	50 to 55	709	97.39%	13	1.73%	6	0.88%
I-405 - South - Bristol Ave. Off-Ramp	2	998	65 to 10	972	97.39%	17	1.73%	9	0.88%
I-405 - South - Bristol Ave. Loop On-Ramp	1	1,000	10 to 65	974	97.39%	17	1.73%	9	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 605 - Southbound									
I-605 South - Connectors									
I-605 - South - Connector to NB I-405	1	1,500	55	1,431	95.37%	40	2.66%	30	1.97%
I-605 - South - Connector to SR-22 7th St.	1	1,500	55	1,431	95.37%	40	2.66%	30	1.97%
I-605 - South - Connector to SB I-405	2	3,000	55	2,861	95.37%	80	2.66%	59	1.97%
I-605 South - From LA County Line to Katella Ave.									
I-605 - South - Outside Thru Lanes	2	3,700	65	3,427		98		175	
I-605 - South - Inside Thru Lanes	2	3,700	65	3,602		98		0	
I-605 - South - HOV Lane	1	1,500	65	1,460		40		0	
Subtotal	5	8,900		8,489	95.38%	236	2.66%	175	1.97%
I-605 - South - EB Katella Ave. Off-Ramp	1	1,000	65 to 10	964	96.35%	27	2.66%	10	0.98%
I-605 - South - WB Katella Ave. On-Ramp	1	1,000	10 to 45	964	96.35%	27	2.66%	10	0.98%
I-605 - South - EB Katella Ave. On-Ramp	1	1,000	10 to 45	964	96.35%	27	2.66%	10	0.98%
I-605 - South - Katella Ave. Distributor	1	1,000	45 to 65	964	96.35%	27	2.66%	10	0.98%
I-605 South - From Katella Ave. to I-405 Interchange									
I-605 - South - Auxiliary Lane 1	1	1,500	65	1,445		40		15	
I-605 - South - Outside Thru Lanes	2	3,700	65	3,412		98		190	
I-605 - South - Inside Thru Lanes	2	3,700	65	3,602		98		0	
I-605 - South - HOV Lane	1	1,500	65	1,460		40		0	
Subtotal	6	10,400		9,919	95.38%	276	2.66%	205	1.97%
State Route 22 - Eastbound									
SR-22 East - Valley View St. to Springdale St.									
SR-22 - East - Auxiliary Lane 1	1	1,500	65	1,438		50		12	
SR-22 - East - Outside Thru Lanes	2	3,700	65	3,479		124		97	
SR-22 - East - Inside Thru Lane	1	1,850	65	1,788		62		0	
Subtotal	4	7,050		6,705	95.11%	236	3.35%	109	1.55%
SR-22 - East - Valley View St. Off-Ramp	1	1,000	65 to 10	959	95.87%	34	3.35%	8	0.77%
SR-22 - East - NB Valley View St. Loop On-Ramp	1	1,000	10 to 65	959	95.87%	34	3.35%	8	0.77%
SR-22 - East - SB I-405 HOV Connector to Inside Thru Lane	1	1,500	55	1,477	96.92%	23	1.53%	0	1.55%
SR-22 - East - EB SR-22 Connector to NB I-605 and NB I-405	2	3,000	55	2,853	95.10%	101	3.35%	46	1.55%
SR-22 - East - EB SR-22 Connector to NB I-405	1	1,500	55	1,427	95.10%	50	3.35%	23	1.55%
SR-22 - East - EB SR-22 Connector to I-605	1	1,500	55	1,427	95.10%	50	3.35%	23	1.55%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – No Build (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
SR-73 - Southbound									
SR-73 - I-405 Interchange to Bear St.									
SR-73 - South - Auxiliary Lane	1	1,500	55 to 65	1,465	97.65%	24	1.59%	11	0.76%
SR-73 - South - Outside Thru Lane	1	1,850	55 to 65	1,807	97.65%	29	1.59%	14	0.76%
SR-73 - South - Middle Thru Lane	1	1,850	55 to 65	1,807	97.65%	29	1.59%	14	0.76%
SR-73 - South - Inside Thru Lane	1	1,850	55 to 65	1,807	97.65%	29	1.59%	14	0.76%
Subtotal	4	7,050		6,884	97.65%	112	1.59%	54	0.76%
SR-73 - South - Bear St. Off-Ramp	1	642	65 to 10	627	97.65%	10	1.59%	5	0.76%
SR-73 - Bear St. to SR-55 Interchange									
SR-73 - South - Outside Thru Lane	1	1,850	65	1,807	97.65%	29	1.59%	14	0.76%
SR-73 - South - Middle Thru Lane	1	1,850	65	1,807	97.65%	29	1.59%	14	0.76%
SR-73 - South - Inside Thru Lane	1	1,850	65	1,807	97.65%	29	1.59%	14	0.76%
Subtotal	3	5,550		5,420	97.65%	88	1.59%	42	0.76%
SR-73 - South - Bear St. On-Ramp	1	657	10 to 65	642	97.65%	10	1.59%	5	0.76%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 1

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes *	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - SR-73 / I-405 Interchange to Euclid St.									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - North - Fairview Rd. On-Ramp	1	769	10 to 65	749	97.39%	13	1.73%	7	0.88%
I-405 - North - Harbor Blvd. Loop On-Ramp	1	628	10 to 65	606	96.51%	11	1.73%	11	1.76%
I-405 - North - Hyland Ave. On-Ramp	1	957	10 to 65	932	97.39%	17	1.73%	8	0.88%
I-405 - North - Euclid St. Exit Lane	1	1,500	45 to 10	1,461	97.39%	26	1.73%	13	0.88%
I-405 North - Euclid St. to Brookhurst St.									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - North - Brookhurst St. Off-Ramp	2	1,622	65 to 10	1,580	97.39%	28	1.73%	14	0.88%
I-405 North - Brookhurst St. to Magnolia St.									
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - North - NB Brookhurst St. Loop On-Ramp	1	1,000	10 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Brookhurst St. On-Ramp	1	427	10 to 45	416	97.39%	7	1.73%	4	0.88%
I-405 - North - WB Warner Ave. Loop Off-Ramp	1	878	45 to 10	855	97.39%	15	1.73%	8	0.88%
I-405 - North - WB Warner Ave. On-Ramp	1	888	10 to 45	865	97.39%	15	1.73%	8	0.88%
I-405 - North - Magnolia St. Off-Ramp	1	777	45 to 10	757	97.39%	13	1.73%	7	0.88%
I-405 - North - NB Magnolia St. Loop On-Ramp	1	445	10 to 45	433	97.39%	8	1.73%	4	0.88%
I-405 - North - SB Magnolia St. On-Ramp	1	150	10 to 45	146	97.39%	3	1.73%	1	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 1 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Magnolia St. to Beach Blvd.									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - North - Beach Blvd. Off-Ramp	2	2,000 *	45 to 10	1,948	97.39%	35	1.73%	18	0.88%
I-405 North - Beach Blvd. to SR-22 Interchange									
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - North - NB Beach Blvd. Loop On-Ramp	1	1,000 *	10 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Beach Blvd. On-Ramp	1	291	10 to 45	283	97.39%	5	1.73%	3	0.88%
I-405 - North - WB Bolsa Ave. Loop Off-Ramp	1	812	65 to 10	791	97.39%	14	1.73%	7	0.88%
I-405 - North - NB Goldenwest St. Loop On-Ramp	1	947	10 to 65	922	97.39%	16	1.73%	8	0.88%
I-405 - North - Westminster St. Loop Off-Ramp	1	997	65 to 10	971	97.39%	17	1.73%	9	0.88%
I-405 - North - Westminster St. On-Ramp	1	956	10 to 65	931	97.39%	16	1.73%	8	0.88%
I-405 - North - Garden Grove Blvd. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 North - SR-22 Interchange to Westbound SR-22 Split (7th Street)									
I-405 - North - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,458		57		185	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - North - HOV Lane	1	1,500	65	1,477		23		0	
I-405 - North - HOV Lane / Preferred Exit to 605	1	1,500	65	1,477		23		0	
Subtotal	9	14,900		14,453	97.00%	229	1.54%	218	1.46%
I-405 - North - NB Seal Beach Blvd. Off-Ramp	1	1,000 *	65 to 10	977	97.73%	15	1.54%	7	0.73%
I-405 - North - NB Seal Beach Blvd. On-Ramp	1	1,000 *	10 to 65	977	97.73%	15	1.54%	7	0.73%
I-405 - North - Connector to WB SR-22 (7th Street) 1	1	1,500 *	55	1,455	97.00%	23	1.54%	22	1.47%
I-405 - North - Connector to WB SR-22 (7th Street) 2	1	1,500 *	55	1,455	97.00%	23	1.54%	22	1.47%
I-405 - North - HOV Connector to I-605 HOV	1	1,500	55	1,466	97.94%	34	2.06%	0	0%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 1 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Westbound SR-22 Split (7th Street) to Northbound I-605 Split									
I-405 - North - Auxiliary Lane 2 / Connector to I-605	1	1,500	65	1,448		31		21	
I-405 - North - Auxiliary Lane 1 / Connector to I-605	1	1,500	65	1,448		31		21	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,327		76		297	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - North - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	7	11,900		11,316	95.09%	245	2.06%	339	2.85%
I-405 - North - NB I-405 Connector to NB I-605	2	3,000 *	55	2,853	95.09%	62	2.06%	86	2.85%
I-405 North - Northbound I-605 Split to Studebaker Rd.									
I-405 - North - Outside Thru Lanes	2	3,700	65	3,370		76		254	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - North - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	5	8,900		8,463	95.09%	183	2.06%	254	2.85%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 1 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes [1]	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Studebaker Rd. to Southbound I-605 Interchange									
I-405 - South - Outside Thru Lanes	2	3,700	65	3,370		76		254	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - South - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	5	8,900		8,463	95.09%	183	2.06%	254	2.85%
I-605 - South - Connector to SB I-405 Auxiliary Lane 1	1	1,500 *	55	1,431	95.37%	40	2.66%	30	1.97%
I-605 - South - Connector to SB I-405 Auxiliary Lane 2	1	1,500 *	55	1,431	95.37%	40	2.66%	30	1.97%
I-405 South - Southbound I-605 Interchange to Eastbound SR-22 Merge (7th Street)									
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,448		31		21	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,448		31		21	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,327		76		297	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - South - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	7	11,900		11,316	95.09%	245	2.06%	339	2.85%
I-605 - South - Fly-Over Connector to SB I-405 HOV Lane 2	1	1,500	55	1,431	95.37%	40	2.66%	30	1.97%
SR-22 - East - Connector to SB I-405 Auxiliary Lane 3	1	1,500 *	55	1,427	95.10%	50	3.35%	23	1.55%
SR-22 - East - Connector to SB I-405 Auxiliary Lane 4 / Exit Lane	1	1,500 *	55	1,427	95.10%	50	3.35%	23	1.55%
I-405 South - Eastbound SR-22 Merge (7th Street) to Seal Beach Blvd. Interchange									
I-405 - South - Auxiliary Lane 4 / Exit Lane to Seal Beach	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,447		57		196	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,477		23		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,477		23		0	
Subtotal	10	16,400		15,908	97.00%	252	1.53%	240	1.47%
I-405 - South - Seal Beach Blvd. Loop Off-Ramp	2	1,343	65 to 10	1,313	97.73%	21	1.53%	10	0.73%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 1 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes [1]	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Seal Beach Blvd. Interchange to SR-22 Interchange (Bolsa Chica and Valley View)									
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,458		57		185	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,477		23		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,477		23		0	
Subtotal	9	14,900		14,453	97.00%	229	1.53%	218	1.47%
I-405 - South - Seal Beach Blvd. On-Ramp	1	1,000 *	10 to 65	970	97.00%	15	1.53%	15	1.47%
I-405 - South - Connector to EB SR-22 Lane 1	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - South - Connector to EB SR-22 Lane 2	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - South - Connector to EB SR-22 Lane 3	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 South - SR-22 Interchange to Talbert Ave.									
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - South - SB Bolsa Chica Rd. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Valley View St. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Springdale St. Off-Ramp	1	453	45 to 10	441	97.39%	8	1.73%	4	0.88%
I-405 - South - WB Westminster St. Loop Off-Ramp	1	245	45 to 10	239	97.39%	4	1.73%	2	0.88%
I-405 - South - Westminster St. On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Bolsa Ave. / Goldenwest St. Collector	1	981	65 to 45	955	97.39%	17	1.73%	9	0.88%
I-405 - South - Goldenwest St. Off-Ramp	1	857	65 to 10	835	97.39%	15	1.73%	8	0.88%
I-405 - South - EB Bolsa Ave. Loop Off-Ramp	1	124	65 to 10	121	97.39%	2	1.73%	1	0.88%
I-405 - South - Goldenwest St. Loop On-Ramp	1	474	10 to 45	462	97.39%	8	1.73%	4	0.88%
I-405 - South - EB Bolsa Ave. On-Ramp	1	774	10 to 45	754	97.39%	13	1.73%	7	0.88%
I-405 - South - Bolsa Ave. / Goldenwest St. Distibutor	1	1,000 *	45 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Beach Blvd. Exit Lane	1	1,500	65 to 45	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Beach Blvd. Off-Ramp (Center Ave.)	2	1,623	45 to 10	1,581	97.39%	28	1.73%	14	0.88%
I-405 - South - Beach Blvd. Loop On-Ramp (Center Ave.)	1	950	10 to 65	925	97.39%	16	1.73%	8	0.88%
I-405 - South - EB Edinger Ave. On-Ramp	1	803	10 to 65	782	97.39%	14	1.73%	7	0.88%
I-405 - South - Magnolia St. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Magnolia St. Loop On-Ramp	1	378	10 to 65	368	97.39%	7	1.73%	3	0.88%
I-405 - South - EB Warner Ave. Loop Off-Ramp	1	597	65 to 10	581	97.39%	10	1.73%	5	0.88%
I-405 - South - EB Warner Ave. On-Ramp	1	762	10 to 65	742	97.39%	13	1.73%	7	0.88%
I-405 - South - Brookhurst St. Off-Ramp	1	1,000 *	45 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Brookhurst St. Loop On-Ramp	1	752	10 to 65	732	97.39%	13	1.73%	7	0.88%
I-405 - South - EB Talbert Ave. On-Ramp	1	774	10 to 65	754	97.39%	13	1.73%	7	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 1 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes [1]	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Talbert Ave. through Harbor Blvd.									
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - South - Euclid St. Off-Ramp	1	504	65 to 10	491	97.39%	9	1.73%	4	0.88%
I-405 - South - WB Euclid St. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - EB Ellis Ave. On-Ramp (Structure)	1	897	10 to 65	874	97.39%	15	1.73%	8	0.88%
I-405 - South - Harbor Blvd. Exit Lane	1	1,500	65	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Harbor Blvd. Off-Ramp	2	1,180	65 to 10	1,149	97.39%	20	1.73%	10	0.88%
I-405 - South - SB Harbor Blvd. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 2

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - SR-73 / I-405 Interchange to Euclid St.									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - North - Fairview Rd. On-Ramp	1	769	10 to 65	749	97.39%	13	1.73%	7	0.88%
I-405 - North - Harbor Blvd. Loop On-Ramp	1	628	10 to 65	606	96.51%	11	1.73%	11	1.76%
I-405 - North - Hyland Ave. On-Ramp	1	957	10 to 65	932	97.39%	17	1.73%	8	0.88%
I-405 - North - Euclid St. Off-Ramp	2	2,000 *	65 to 10	1,948	97.39%	35	1.73%	18	0.88%
I-405 - North - Euclid St. On-Ramp	1	714	10 to 65	695	97.39%	12	1.73%	6	0.88%
I-405 North - Euclid St. to Brookhurst St.									
I-405 - North - Auxiliary Lane 3	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,439		64		197	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	8	13,400		12,932	96.51%	232	1.73%	236	1.76%
I-405 - North - Brookhurst St. Off-Ramp	2	1,622	65 to 10	1,580	97.39%	28	1.73%	14	0.88%
I-405 North - Brookhurst St. to Magnolia St.									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - North - NB Brookhurst St. Loop On-Ramp	1	1,000	10 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Brookhurst St. On-Ramp	1	431	10 to 45	420	97.39%	7	1.73%	4	0.88%
I-405 - North - WB Warner Ave. Loop Off-Ramp	1	878	65 to 10	855	97.39%	15	1.73%	8	0.88%
I-405 - North - WB Warner Ave. On-Ramp	1	888	10 to 45	865	97.39%	15	1.73%	8	0.88%
I-405 - North - Magnolia St. Off-Ramp	1	777	65 to 10	757	97.39%	13	1.73%	7	0.88%
I-405 - North - NB Magnolia St. Loop On-Ramp	1	445	10 to 45	433	97.39%	8	1.73%	4	0.88%
I-405 - North - SB Magnolia St. On-Ramp	1	150	10 to 45	146	97.39%	3	1.73%	1	0.88%
I-405 - North - Warner Ave. / Magnolia St. Distibutor	1	595	45 to 65	579	97.39%	10	1.73%	5	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 2 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Magnolia St. to Beach Blvd.									
I-405 - North - Auxiliary Lane 3	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,439		64		197	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	8	13,400		12,932	96.51%	232	1.73%	236	1.76%
I-405 - North - Beach Blvd. Off-Ramp	2	2,000 *	45 to 10	1,948	97.39%	35	1.73%	18	0.88%
I-405 North - Beach Blvd. to SR-22 Interchange									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - North - NB Beach Blvd. Loop On-Ramp	1	1,000 *	10 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Beach Blvd. On-Ramp	1	291	10 to 45	283	97.39%	5	1.73%	3	0.88%
I-405 - North - WB Bolsa Ave. Loop Off-Ramp	1	812	65 to 10	791	97.39%	14	1.73%	7	0.88%
I-405 - North - NB Goldenwest St. Loop On-Ramp	1	947	10 to 65	922	97.39%	16	1.73%	8	0.88%
I-405 - North - Westminster St. Loop Off-Ramp	1	997	65 to 10	971	97.39%	17	1.73%	9	0.88%
I-405 - North - Westminster St. On-Ramp	1	956	10 to 65	931	97.39%	16	1.73%	8	0.88%
I-405 - North - Garden Grove Blvd. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 North - SR-22 Interchange to Westbound SR-22 Split (7th Street)									
I-405 - North - Auxiliary Lane 4	1	1,500	65	1,466		23		11	
I-405 - North - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,447		57		196	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - North - HOV Lane	1	1,500	65	1,477		23		0	
I-405 - North - HOV Lane / Preferred Exit to 605	1	1,500	65	1,477		23		0	
Subtotal	10	16,400		15,908	97.00%	252	1.54%	240	1.46%
I-405 - North - NB Seal Beach Blvd. Off-Ramp	1	1,000 *	65 to 10	977	97.73%	15	1.53%	7	0.73%
I-405 - North - NB Seal Beach Blvd. On-Ramp	1	1,000 *	10 to 65	977	97.73%	15	1.53%	7	0.73%
I-405 - North - Connector to WB SR-22 (7th Street) 1	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - North - Connector to WB SR-22 (7th Street) 2	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - North - HOV Connector to I-605 HOV	1	1,500	55	1,466	97.94%	34	2.06%	0	0%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 2 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Westbound SR-22 Split (7th Street) to Northbound I-605 Split									
I-405 - North - Auxiliary Lane 2 / Connector to I-605	1	1,500	65	1,448		31		21	
I-405 - North - Auxiliary Lane 1 / Connector to I-605	1	1,500	65	1,448		31		21	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,327		76		297	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - North - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	7	11,900		11,316	95.09%	245	2.06%	339	2.85%
I-405 - North - NB I-405 Connector to NB I-605	2	3,000 *	55	2,853	95.09%	62	2.06%	86	2.85%
I-405 North - Northbound I-605 Split to Studebaker Rd.									
I-405 - North - Outside Thru Lanes	2	3,700	65	3,370		76		254	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - North - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	5	8,900		8,463	95.09%	183	2.06%	254	2.85%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 2 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Studebaker Rd. to Southbound I-605 Interchange									
I-405 - South - Outside Thru Lanes	2	3,700	65	3,370		76		254	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - South - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	5	8,900		8,463	95.09%	183	2.06%	254	2.85%
I-605 - South - Connector to SB I-405 Auxiliary Lane 1	1	1,500 *	55	1,431	95.37%	40	2.66%	30	1.97%
I-605 - South - Connector to SB I-405 Auxiliary Lane 2	1	1,500 *	55	1,431	95.37%	40	2.66%	30	1.97%
I-405 South - Southbound I-605 Interchange to Eastbound SR-22 Merge (7th Street)									
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,448		31		21	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,448		31		21	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,327		76		297	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - South - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	7	11,900		11,316	95.09%	245	2.06%	339	2.85%
I-605 - South - Fly-Over Connector to SB I-405 HOV Lane 2	1	1,500	55	1,431	95.37%	40	2.66%	30	1.97%
SR-22 - East - Connector to SB I-405 Auxiliary Lane 3	1	1,500 *	55	1,427	95.10%	50	3.35%	23	1.55%
SR-22 - East - Connector to SB I-405 Auxiliary Lane 4 / Exit Lane	1	1,500 *	55	1,427	95.10%	50	3.35%	23	1.55%
I-405 South - Eastbound SR-22 Merge (7th Street) to Seal Beach Blvd. Interchange									
I-405 - South - Auxiliary Lane 4 / Exit Lane to Seal Beach	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,447		57		196	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,477		23		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,477		23		0	
Subtotal	10	16,400		15,908	97.00%	252	1.53%	240	1.47%
I-405 - South - Seal Beach Blvd. Loop Off-Ramp	2	1,343	65 to 10	1,313	97.73%	21	1.53%	10	0.73%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 2 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Seal Beach Blvd. Interchange									
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,458		57		185	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,477		23		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,477		23		0	
Subtotal	9	14,900		14,453	97.00%	229	1.53%	218	1.47%
I-405 - South - Seal Beach Blvd. On-Ramp	1	1,000 *	10 to 65	970	97.00%	15	1.53%	15	1.47%
I-405 South - Seal Beach Blvd. Interchange to SR-22 Interchange (Bolsa Chica and Valley View)									
I-405 - South - Auxiliary Lane 4	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,447		57		196	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,477		23		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,477		23		0	
Subtotal	10	16,400		15,908	97.00%	252	1.53%	240	1.47%
I-405 - South - Connector to EB SR-22 Lane 1	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - South - Connector to EB SR-22 Lane 2	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - South - Connector to EB SR-22 Lane 3	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 2 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - SR-22 Interchange to Harbor Blvd.									
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,453		64		183	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,485	96.51%	206	1.73%	209	1.76%
I-405 - South - SB Bolsa Chica Rd. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Valley View St. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Springdale St. Off-Ramp	1	453	45 to 10	441	97.39%	8	1.73%	4	0.88%
I-405 - South - WB Westminster St. Loop Off-Ramp	1	245	45 to 10	239	97.39%	4	1.73%	2	0.88%
I-405 - South - Westminster St. On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Bolsa Ave. / Goldenwest St. Collector	1	981	65 to 45	955	97.39%	17	1.73%	9	0.88%
I-405 - South - Goldenwest St. Off-Ramp	1	857	65 to 10	835	97.39%	15	1.73%	8	0.88%
I-405 - South - EB Bolsa Ave. Loop Off-Ramp	1	124	65 to 10	121	97.39%	2	1.73%	1	0.88%
I-405 - South - Goldenwest St. Loop On-Ramp	1	474	10 to 45	462	97.39%	8	1.73%	4	0.88%
I-405 - South - EB Bolsa Ave. On-Ramp	1	774	10 to 45	754	97.39%	13	1.73%	7	0.88%
I-405 - South - Bolsa Ave. / Goldenwest St. Distibutor	1	1,000 *	45 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Beach Blvd. Exit Lane	1	1,500	65 to 45	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Beach Blvd. Off-Ramp (Center Ave.)	2	1,623	45 to 10	1,581	97.39%	28	1.73%	14	0.88%
I-405 - South - Beach Blvd. Loop On-Ramp (Center Ave.)	1	950	10 to 65	925	97.39%	16	1.73%	8	0.88%
I-405 - South - EB Edinger Ave. On-Ramp	1	803	10 to 65	782	97.39%	14	1.73%	7	0.88%
I-405 - South - Magnolia St. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Magnolia St. Loop On-Ramp	1	378	10 to 65	368	97.39%	7	1.73%	3	0.88%
I-405 - South - EB Warner Ave. Loop Off-Ramp	1	597	65 to 10	581	97.39%	10	1.73%	5	0.88%
I-405 - South - EB Warner Ave. On-Ramp	1	762	10 to 65	742	97.39%	13	1.73%	7	0.88%
I-405 - South - Brookhurst St. Off-Ramp	1	1,000 *	45 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Brookhurst St. Loop On-Ramp	1	752	10 to 65	732	97.39%	13	1.73%	7	0.88%
I-405 - South - EB Talbert Ave. On-Ramp	1	774	10 to 65	754	97.39%	13	1.73%	7	0.88%
I-405 - South - Euclid St. Off-Ramp	1	504	65 to 10	491	97.39%	9	1.73%	4	0.88%
I-405 - South - WB Euclid St. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - EB Ellis Ave. On-Ramp (Structure)	1	897	10 to 65	874	97.39%	15	1.73%	8	0.88%
I-405 - South - Harbor Blvd. Exit Lane	1	1,500	45 to 10	1,448	96.51%	26	1.73%	26	1.76%
I-405 - South - Harbor Blvd. Off-Ramp	2	1,180	65 to 10	1,139	96.51%	20	1.73%	21	1.76%
I-405 - South - SB Harbor Blvd. Loop On-Ramp	1	1,000 *	10 to 65	965	96.51%	17	1.73%	18	1.76%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 2 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Harbor Blvd. to SR-73 / I-405 Interchange									
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,461		26		13	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,439		64		197	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	8	13,400		12,932	96.51%	232	1.73%	236	1.76%
I-405 - South - NB Harbor Blvd. On-Ramp	1	777	10 to 65	750	96.51%	13	1.73%	14	1.76%
I-405 - South - Fairview Rd. Off-Ramp	2	865	65 to 10	842	97.39%	15	1.73%	8	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Bristol St. to SR-73 / I-405 Interchange									
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - North - Bristol Ave. Loop On-Ramp	1	348	10 to 65	339	97.39%	6	1.73%	3	0.88%
I-405 - North - Bristol Ave. On-Ramp	1	248	10 to 65	242	97.39%	4	1.73%	2	0.88%
I-405 - North - SR-73 Interchange Exits - Collector	2	2,000 *	65 to 50	1,948	97.39%	35	1.73%	18	0.88%
I-405 - North - South Coast Dr. Off-Ramp	1	253	50 to 10	246	97.39%	4	1.73%	2	0.88%
I-405 - North - Fairview Rd. Off-Ramp	2	1,431	50 to 10	1,394	97.39%	25	1.73%	13	0.88%
I-405 - North - Exit to Harbor Blvd./Susan St.	1	1,000 *	50	974	97.39%	17	1.73%	9	0.88%
I-405 - North - Exit to Harbor Blvd./Susan St. (Frontage)	2	2,000 *	50	1,948	97.39%	35	1.73%	18	0.88%
I-405 - North - Susan St. Off-Ramp	1	837	50 to 10	815	97.39%	14	1.73%	7	0.88%
I-405 - North - Harbor Blvd. Off-Ramp	2	1,936	50 to 10	1,868	96.51%	33	1.73%	34	1.76%
I-405 North - SR-73 / I-405 Interchange to Merge with NB SR-73									
I-405 - North - Outside Thru Lanes	2	3,700	65	3,479		64		157	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	5	8,900		8,589	96.51%	154	1.73%	157	1.76%
I-405 North - SR-73 / I-405 Interchange to Brookhurst St.									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,426		64		210	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane 1	1	1,500	65	1,474		26		0	
I-405 - North - HOV Lane 2	1	1,500	65	1,474		26		0	
Subtotal	8	13,400		12,932	96.51%	232	1.73%	236	1.76%
I-405 - North - Fairview Rd. On-Ramp	1	769	10 to 65	749	97.39%	13	1.73%	7	0.88%
I-405 - North - Harbor Blvd. Loop On-Ramp	1	628	10 to 65	606	96.51%	11	1.73%	11	1.76%
I-405 - North - Hyland Ave. On-Ramp	1	957	10 to 65	932	97.39%	17	1.73%	8	0.88%
I-405 - North - Euclid St. Off-Ramp	2	2,000 *	65 to 10	1,948	97.39%	35	1.73%	18	0.88%
I-405 - North - Euclid St. On-Ramp	1	714	10 to 65	695	97.39%	12	1.73%	6	0.88%
I-405 - North - Brookhurst St. Off-Ramp	2	1,622	65 to 10	1,580	97.39%	28	1.73%	14	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - Brookhurst St. to Magnolia St.									
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,439		64		197	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane 1	1	1,500	65	1,474		26		0	
I-405 - North - HOV Lane 2	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,484	96.50%	206	1.73%	210	1.76%
I-405 - North - NB Brookhurst St. Loop On-Ramp	1	1,000	10 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Brookhurst St. On-Ramp	1	431	10 to 45	420	97.39%	7	1.73%	4	0.88%
I-405 - North - WB Warner Ave. Loop Off-Ramp	1	878	45 to 10	855	97.39%	15	1.73%	8	0.88%
I-405 - North - WB Warner Ave. On-Ramp	1	888	10 to 45	865	97.39%	15	1.73%	8	0.88%
I-405 - North - Magnolia St. Off-Ramp	1	777	45 to 10	757	97.39%	13	1.73%	7	0.88%
I-405 - North - NB Magnolia St. Loop On-Ramp	1	445	10 to 45	433	97.39%	8	1.73%	4	0.88%
I-405 - North - SB Magnolia St. On-Ramp	1	150	10 to 45	146	97.39%	3	1.73%	1	0.88%
I-405 - North - Warner Ave. / Magnolia St. Distibutor	1	595	45 to 65	579	97.39%	10	1.73%	5	0.88%
I-405 North - Magnolia St. to Beach Blvd.									
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,426		64		210	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane 1	1	1,500	65	1,474		26		0	
I-405 - North - HOV Lane 2	1	1,500	65	1,474		26		0	
Subtotal	8	13,400		12,932	96.51%	232	1.73%	236	1.76%
I-405 - North - Beach Blvd. Off-Ramp	2	2,000 *	45 to 10	1,948	97.39%	35	1.73%	18	0.88%
I-405 North - Beach Blvd. to SR-22 Interchange									
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,439		64		197	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - North - HOV Lane 1	1	1,500	65	1,474		26		0	
I-405 - North - HOV Lane 2	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,484	96.50%	206	1.73%	210	1.76%
I-405 - North - NB Beach Blvd. Loop On-Ramp	1	1,000 *	10 to 45	974	97.39%	17	1.73%	9	0.88%
I-405 - North - SB Beach Blvd. On-Ramp	1	291	10 to 45	283	97.39%	5	1.73%	3	0.88%
I-405 - North - WB Bolsa Ave. Loop Off-Ramp	1	812	65 to 10	791	97.39%	14	1.73%	7	0.88%
I-405 - North - NB Goldenwest St. Loop On-Ramp	1	947	10 to 65	922	97.39%	16	1.73%	8	0.88%
I-405 - North - Westminster St. Loop Off-Ramp	1	997	65 to 10	971	97.39%	17	1.73%	9	0.88%
I-405 - North - Westminster St. On-Ramp	1	956	10 to 65	931	97.39%	16	1.73%	8	0.88%
I-405 - North - Garden Grove Blvd. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Northbound									
I-405 North - SR-22 Interchange to Westbound SR-22 Split (7th Street)									
I-405 - North - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - North - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - North - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,458		57		185	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - North - HOV Lane	1	1,500	65	1,477		23		0	
I-405 - North - HOV Lane / Preferred Exit to 605	1	1,500	65	1,477		23		0	
Subtotal	9	14,900		14,453	97.00%	229	1.54%	218	1.46%
I-405 - North - NB Seal Beach Blvd. Off-Ramp	1	1,000 *	65 to 10	977	97.73%	15	1.53%	7	0.73%
I-405 - North - NB Seal Beach Blvd. On-Ramp	1	1,000 *	10 to 65	977	97.73%	15	1.53%	7	0.73%
I-405 - North - Connector to WB SR-22 (7th Street) 1	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - North - Connector to WB SR-22 (7th Street) 2	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - North - HOV Connector to I-605 HOV	1	1,500	55	1,466	97.94%	34	2.06%	0	0%
I-405 North - Westbound SR-22 Split (7th Street) to Northbound I-605 Split									
I-405 - North - Auxiliary Lane 2 / Connector to I-605	1	1,500	65	1,448		31		21	
I-405 - North - Auxiliary Lane 1 / Connector to I-605	1	1,500	65	1,448		31		21	
I-405 - North - Outside Thru Lanes	2	3,700	65	3,327		76		297	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - North - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	7	11,900		11,316	95.09%	245	2.06%	339	2.85%
I-405 - North - NB I-405 Connector to NB I-605	2	3,000 *	55	2,853	95.09%	62	2.06%	86	2.85%
I-405 North - Northbound I-605 Split to Studebaker Rd.									
I-405 - North - Outside Thru Lanes	2	3,700	65	3,370		76		254	
I-405 - North - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - North - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	5	8,900		8,463	95.09%	183	2.06%	254	2.85%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 605 - Northbound									
I-605 North - Connectors from I-405									
I-605 - North - SB I-405 Connector	2	3,000	55	2,853	95.09%	62	2.06%	86	2.85%
I-605 North - From I-405 Split to Katella Ave.									
I-605 - North - Auxiliary Lane 1	1	1,500	65	1,445		40		15	
I-605 - North - Outside Thru Lanes	2	3,700	65	3,412		98		190	
I-605 - North - Inside Thru Lanes	2	3,700	65	3,602		98		0	
I-605 - North - HOV Lane	1	1,500	65	1,460		40		0	
Subtotal	6	10,400		9,919	95.38%	276	2.65%	205	1.97%
I-605 - North - Katella Ave. Collector	1	1,000 *	65 to 45	964	96.35%	27	2.66%	10	0.98%
I-605 - North - EB Katella Ave. Off-Ramp	1	1,000	45 to 10	964	96.35%	27	2.66%	10	0.98%
I-605 - North - WB Katella Ave. Off-Ramp	1	1,000	45 to 10	964	96.35%	27	2.66%	10	0.98%
SR-73 - Northbound									
SR-73 - SR-55 Interchange to Bear St.									
SR-73 - North - Auxiliary Lane	1	1,500	65	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - North - Outside Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
SR-73 - North - Middle Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
SR-73 - North - Inside Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
Subtotal	4	7,050		6,977	98.96%	60	0.85%	13	0.19%
SR-73 - North - Bear St. Off-Ramp	1	653	10 to 65	646	98.96%	6	0.85%	1	0.19%
SR-73 - North - HOV Entrance Weaving Lane	1	1,500	65	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - Bear St. to I-405 Interchange									
SR-73 - North - Outside Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
SR-73 - North - Middle Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
SR-73 - North - Inside Thru Lane	1	1,850	65	1,831	98.96%	16	0.85%	3	0.19%
Subtotal	3	5,550		5,492	98.96%	47	0.85%	10	0.19%
SR-73 - North - Bear St. On-Ramp	1	480	65 to 10	475	98.96%	4	0.85%	1	0.19%
SR-73 - North - Bear St./Fairview Rd. Weaving Lane	1	1,000 *	65	990	98.96%	9	0.85%	2	0.19%
SR-73 - North - NB SR-73 Exit to Fairview Rd.	2	614	50	608	98.96%	5	0.85%	1	0.19%
SR-73 - North - HOV Connector to I-405	1	1,500	55	1,487	99.15%	13	0.85%	0	0.00%
SR-73 - North - SR-73 Connector to Auxiliary Lane 3	1	1,500	55	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - North - SR-73 Connector to Auxiliary Lane 2	1	1,500	55	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - North - SR-73 Connector to Auxiliary Lane 1	1	1,500	55	1,484	98.96%	13	0.85%	3	0.19%
SR-73 - North - NB SR-73 Exit to Harbor Blvd.	1	832	50	823	98.96%	7	0.85%	2	0.19%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Studebaker Rd. to Southbound I-605 Interchange									
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,448		31		21	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,392		76		232	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,624		76		0	
Subtotal	5	8,900		8,464	95.10%	183	2.06%	253	2.84%
I-605 - South - Connector to SB I-405 Auxiliary Lane 2	1	1,500 *	55	1,431	95.37%	40	2.66%	30	1.97%
I-605 - South - Connector to SB I-405 (Terminates @ 405)	1	1,500 *	55	1,431	95.37%	40	2.66%	30	1.97%
I-405 South - Southbound I-605 Interchange to Eastbound SR-22 Merge (7th Street)									
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,448		31		21	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,448		31		21	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,327		76		297	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,624		76		0	
I-405 - South - HOV Lane	1	1,500	65	1,469		31		0	
Subtotal	7	11,900		11,316	95.09%	245	2.06%	339	2.85%
I-605 - South - Fly-Over Connector to SB I-405 HOV Lane 2	1	1,500	55	1,431	95.37%	40	2.66%	30	1.97%
SR-22 - East - Connector to SB I-405 Auxiliary Lane 3	1	1,500 *	55	1,427	95.10%	50	3.35%	23	1.55%
SR-22 - East - Connector to SB I-405 Auxiliary Lane 4 / Exit Lane	1	1,500 *	55	1,427	95.10%	50	3.35%	23	1.55%
I-405 South - Eastbound SR-22 Merge (7th Street) to Seal Beach Blvd. Interchange									
I-405 - South - Auxiliary Lane 4 / Exit Lane to Seal Beach	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,447		57		196	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,477		23		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,477		23		0	
Subtotal	10	16,400		15,908	97.00%	252	1.53%	240	1.47%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Seal Beach Blvd. Interchange to SR-22 Interchange (Bolsa Chica and Valley View)									
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,466		23		11	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,466		23		11	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,458		57		185	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,643		57		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,477		23		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,477		23		0	
Subtotal	9	14,900		14,453	97.00%	229	1.53%	218	1.47%
I-405 - South - Seal Beach Blvd. Loop Off-Ramp	2	1,343	65 to 10	1,313	97.73%	21	1.53%	10	0.73%
I-405 - South - Seal Beach Blvd. On-Ramp	1	1,000 *	10 to 65	970	97.00%	15	1.53%	15	1.47%
I-405 - South - Connector to EB SR-22 Lane 1	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - South - Connector to EB SR-22 Lane 2	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%
I-405 - South - Connector to EB SR-22 Lane 3	1	1,500 *	55	1,455	97.00%	23	1.53%	22	1.47%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - SR-22 Interchange to Talbert Ave.									
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,439		64		197	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,474		26		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,474		26		0	
Subtotal	7	11,900		11,484	96.50%	206	1.73%	210	1.76%
I-405 - South - SB Bolsa Chica Rd. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Valley View St. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Springdale St. Off-Ramp	1	453	65 to 10	441	97.39%	8	1.73%	4	0.88%
I-405 - South - WB Westminster St. Loop Off-Ramp	1	245	65 to 10	239	97.39%	4	1.73%	2	0.88%
I-405 - South - Westminster St. On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Bolsa Ave. / Goldenwest St. Collector	1	981	65 to 45	955	97.39%	17	1.73%	9	0.88%
I-405 - South - Goldenwest St. Off-Ramp	1	857	65 to 10	835	97.39%	15	1.73%	8	0.88%
I-405 - South - EB Bolsa Ave. Loop Off-Ramp	1	124	65 to 10	121	97.39%	2	1.73%	1	0.88%
I-405 - South - Goldenwest St. Loop On-Ramp	1	474	10 to 45	462	97.39%	8	1.73%	4	0.88%
I-405 - South - EB Bolsa Ave. On-Ramp	1	774	10 to 45	754	97.39%	13	1.73%	7	0.88%
I-405 - South - Bolsa Ave. / Goldenwest St. Distibutor	1	1,000 *	45 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Beach Blvd. Exit Lane	1	1,500	65 to 45	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Beach Blvd. Off-Ramp (Center Ave.)	2	1,623	45 to 10	1,581	97.39%	28	1.73%	14	0.88%
I-405 - South - Beach Blvd. Loop On-Ramp (Center Ave.)	1	950	10 to 65	925	97.39%	16	1.73%	8	0.88%
I-405 - South - EB Edinger Ave. On-Ramp	1	803	10 to 65	782	97.39%	14	1.73%	7	0.88%
I-405 - South - Magnolia St. Off-Ramp	1	1,000 *	65 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Magnolia St. Loop On-Ramp	1	378	10 to 65	368	97.39%	7	1.73%	3	0.88%
I-405 - South - EB Warner Ave. Loop Off-Ramp	1	597	65 to 10	581	97.39%	10	1.73%	5	0.88%
I-405 - South - EB Warner Ave. On-Ramp	1	762	10 to 65	742	97.39%	13	1.73%	7	0.88%
I-405 - South - Brookhurst St. Off-Ramp	1	1,000 *	45 to 10	974	97.39%	17	1.73%	9	0.88%
I-405 - South - SB Brookhurst St. Loop On-Ramp	1	752	10 to 65	732	97.39%	13	1.73%	7	0.88%
I-405 - South - EB Talbert Ave. On-Ramp	1	774	10 to 65	754	97.39%	13	1.73%	7	0.88%
I-405 - South - Euclid St. Off-Ramp	1	504	65 to 10	491	97.39%	9	1.73%	4	0.88%
I-405 - South - WB Euclid St. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%
I-405 - South - Ellis Ave. On-Ramp	1	897	10 to 65	874	97.39%	15	1.73%	8	0.88%
I-405 - South - Harbor Blvd. Exit Lane	1	1,500	45 to 10	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Harbor Blvd. Off-Ramp	2	1,180	65 to 10	1,139	96.51%	20	1.73%	21	1.76%
I-405 - South - SB Harbor Blvd. Loop On-Ramp	1	1,000 *	10 to 65	965	96.51%	17	1.73%	18	1.76%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes*	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 405 - Southbound									
I-405 South - Talbert Ave. to Harbor Blvd.									
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,461		26		13	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,426		64		210	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,474		26		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,474		26		0	
Subtotal	8	13,400		12,932	96.51%	232	1.73%	236	1.76%
I-405 - South - NB Harbor Blvd. On-Ramp	1	777	10 to 65	750	96.51%	13	1.73%	14	1.76%
I-405 - South - Harbor Blvd. / Fairview Rd. Exit Lane	1	1,500	11 to 65	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Fairview Rd. Off-Ramp	2	865	65 to 10	842	97.39%	15	1.73%	8	0.88%
I-405 South - Harbor Blvd. to SR-73 / I-405 Interchange									
I-405 - South - Auxiliary Lane 3	1	1,500	65	1,424		26		13	
I-405 - South - Auxiliary Lane 2	1	1,500	65	1,424		26		13	
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,424		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,548		64		223	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,642		64		0	
I-405 - South - HOV Lane 1	1	1,500	65	1,471		26		0	
I-405 - South - HOV Lane 2	1	1,500	65	1,471		26		0	
Subtotal	9	14,900		14,404	96.67%	258	1.73%	262	1.76%
I-405 South - SR-73 / I-405 Interchange to Bristol St.									
I-405 - South - Auxiliary Lane 1	1	1,500	65	1,461		26		13	
I-405 - South - Outside Thru Lanes	2	3,700	65	3,466		64		170	
I-405 - South - Inside Thru Lanes	2	3,700	65	3,636		64		0	
I-405 - South - HOV Lane	1	1,500	65	1,474		26		0	
Subtotal	6	10,400		10,037	96.51%	180	1.73%	183	1.76%
I-405 - South - Fairview Rd. Freeway Entrance	2	1,820	10 to 50	1,773	97.39%	31	1.73%	16	0.88%
I-405 - North - HOV Connector to SR-73	1	1,500	55	1,474	98.27%	26	1.73%	0	0.00%
I-405 - South - Connector to SB SR-73 Lane 1	1	1,500	55	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Connector to SB SR-73 Lane 2	1	1,500	55	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Connector to SB SR-73 Lane 3	1	1,500	55	1,461	97.39%	26	1.73%	13	0.88%
I-405 - South - Fairview Rd. SB I-405 On-Ramp	1	1,000 *	50 to 65	974	97.39%	17	1.73%	9	0.88%
SR-73 - South - Fairview Rd. SB SR-73 On-Ramp	1	728	50 to 65	709	97.39%	13	1.73%	6	0.88%
I-405 - South - Bristol Ave. Off-Ramp	2	998	65 to 10	972	97.39%	17	1.73%	9	0.88%
I-405 - South - Bristol Ave. Loop On-Ramp	1	1,000 *	10 to 65	974	97.39%	17	1.73%	9	0.88%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Future Traffic Volumes – Build Alternative 3 (Cont'd)

Description of Traffic Lane	Number of Lanes	Total Peak Hour Traffic Volumes	Travel Speeds, mph	Volumes by Vehicle Type					
				Cars	% Cars	Medium Trucks	% MT	Heavy Trucks	%HT
Interstate 605 - Southbound									
I-605 South - Connectors									
I-605 - South - Connector to NB I-405	1	1,500	55	1,431	95.37%	40	2.66%	30	1.97%
I-605 - South - Connector to SR-22 7th St.	1	1,500	55	1,431	95.37%	40	2.66%	30	1.97%
I-605 - South - Connector to SB I-405	2	3,000	55	2,861	95.37%	80	2.66%	59	1.97%
I-605 South - From LA County Line to Katella Ave.									
I-605 - South - Outside Thru Lanes	2	3,700	65	3,427		98		175	
I-605 - South - Inside Thru Lanes	2	3,700	65	3,602		98		0	
I-605 - South - HOV Lane	1	1,500	65	1,460		40		0	
Subtotal	5	8,900		8,489	95.38%	236	2.65%	175	1.97%
I-605 - South - EB Katella Ave. Off-Ramp	1	1,000	65 to 10	964	96.35%	27	2.66%	10	0.98%
I-605 - South - WB Katella Ave. On-Ramp	1	1,000	10 to 45	964	96.35%	27	2.66%	10	0.98%
I-605 - South - EB Katella Ave. On-Ramp	1	1,000	10 to 45	964	96.35%	27	2.66%	10	0.98%
I-605 - South - Katella Ave. Distributor	1	1,000	45 to 65	964	96.35%	27	2.66%	10	0.98%
I-605 South - From Katella Ave. to I-405 Interchange									
I-605 - South - Outside Thru Lanes	2	3,700	65	3,412		98		190	
I-605 - South - Inside Thru Lanes	2	3,700	65	3,602		98		0	
I-605 - South - HOV Lane	1	1,500	65	1,460		40		0	
Subtotal	5	8,900		8,474	95.21%	236	2.65%	190	2.13%
SR-73 - Southbound									
SR-73 - I-405 Interchange to Bear St.									
SR-73 - South - Auxiliary Lane	1	1,500	55 to 65	1,465	97.65%	24	1.59%	11	0.76%
SR-73 - South - Outside Thru Lane	1	1,850	55 to 65	1,807	97.65%	29	1.59%	14	0.76%
SR-73 - South - Middle Thru Lane	1	1,850	55 to 65	1,807	97.65%	29	1.59%	14	0.76%
SR-73 - South - Inside Thru Lane	1	1,850	55 to 65	1,807	97.65%	29	1.59%	14	0.76%
Subtotal	4	7,050		6,884	97.65%	112	1.59%	54	0.76%
SR-73 - South - Bear St. Off-Ramp	1	642	65 to 10	627	97.65%	10	1.59%	5	0.76%
SR-73 - Bear St. to SR-55 Interchange									
SR-73 - South - Outside Thru Lane	1	1,850	65	1,807	97.65%	29	1.59%	14	0.76%
SR-73 - South - Middle Thru Lane	1	1,850	65	1,807	97.65%	29	1.59%	14	0.76%
SR-73 - South - Inside Thru Lane	1	1,850	65	1,807	97.65%	29	1.59%	14	0.76%
Subtotal	3	5,550		5,420	97.65%	88	1.59%	42	0.76%
SR-73 - South - Bear St. On-Ramp	1	657	10 to 65	642	97.65%	10	1.59%	5	0.76%

* Note - Denoted volumes have been capped at 1,000 and 1,500 vehicles per lane per hour for ramps and connectors, respectively.

Appendix D Noise Measurement Data Forms and Graphs

FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 06/07
MEASUREMENT ADDRESS: 920 Tanana Pl	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT1

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☒ LD-820	☒ NON-POLAR ☒ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☐ 1-INCH ☐ RANDOM	☒ _____	
SERIAL #: 1177	SERIAL #: 16967	SERIAL #: 1629	TEMP: _____ °F R.H.: _____ %

CALIBRATOR:		CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LD CA250	Freq, Hz.		WIND SPEED: _____ MPH
☐ B&K 4231	☒ 250	Before 114, 114, 7.8, 15:25	TOWARD (DIR): _____
S/N 2479	☐ 1000	After 114, 114, 7.8, 11:07	SKIES: Clear
	☐ _____		CAMERA _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

PHOTO NOs. _____

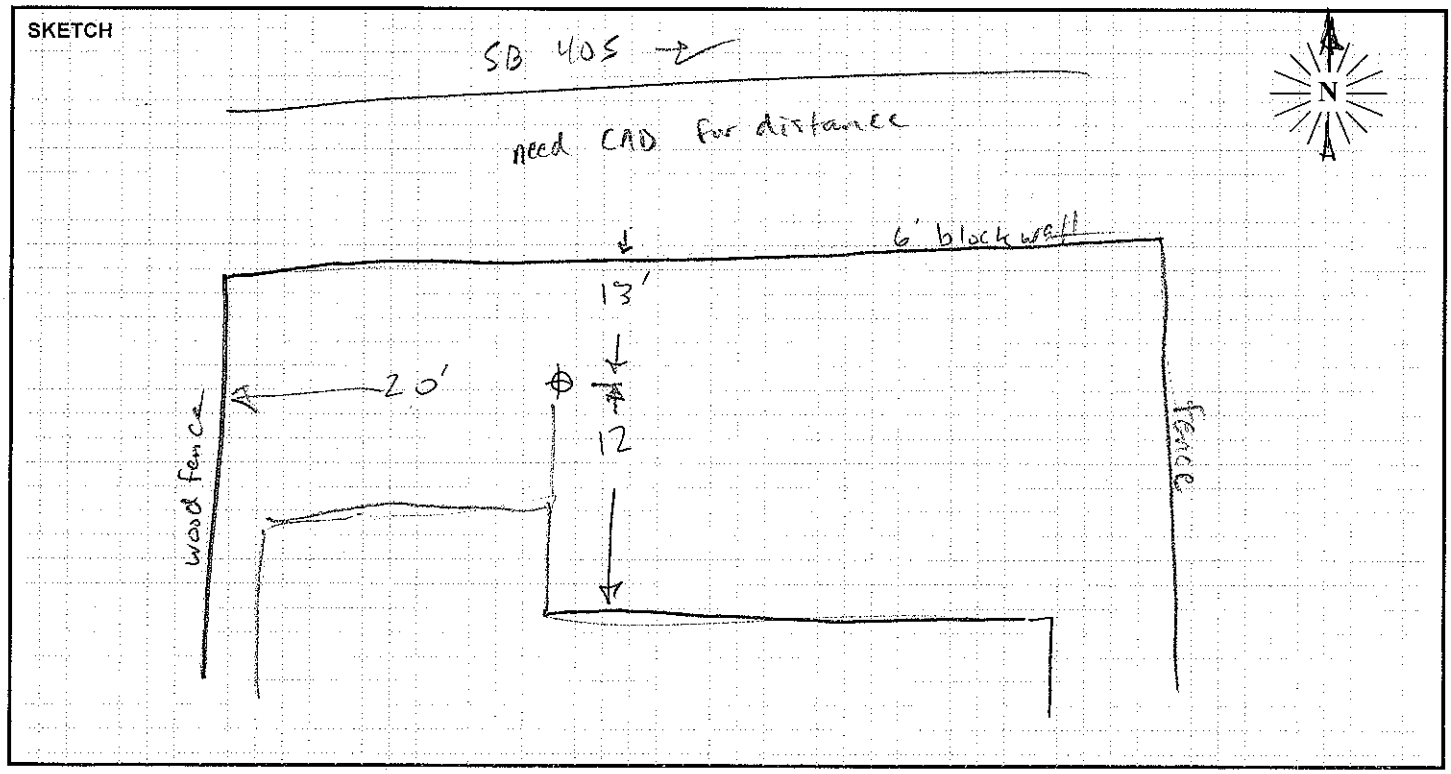
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
~~6/7~~	~~15:30~~											
6/7	15:30											
6/9		11:07										

SKETCH

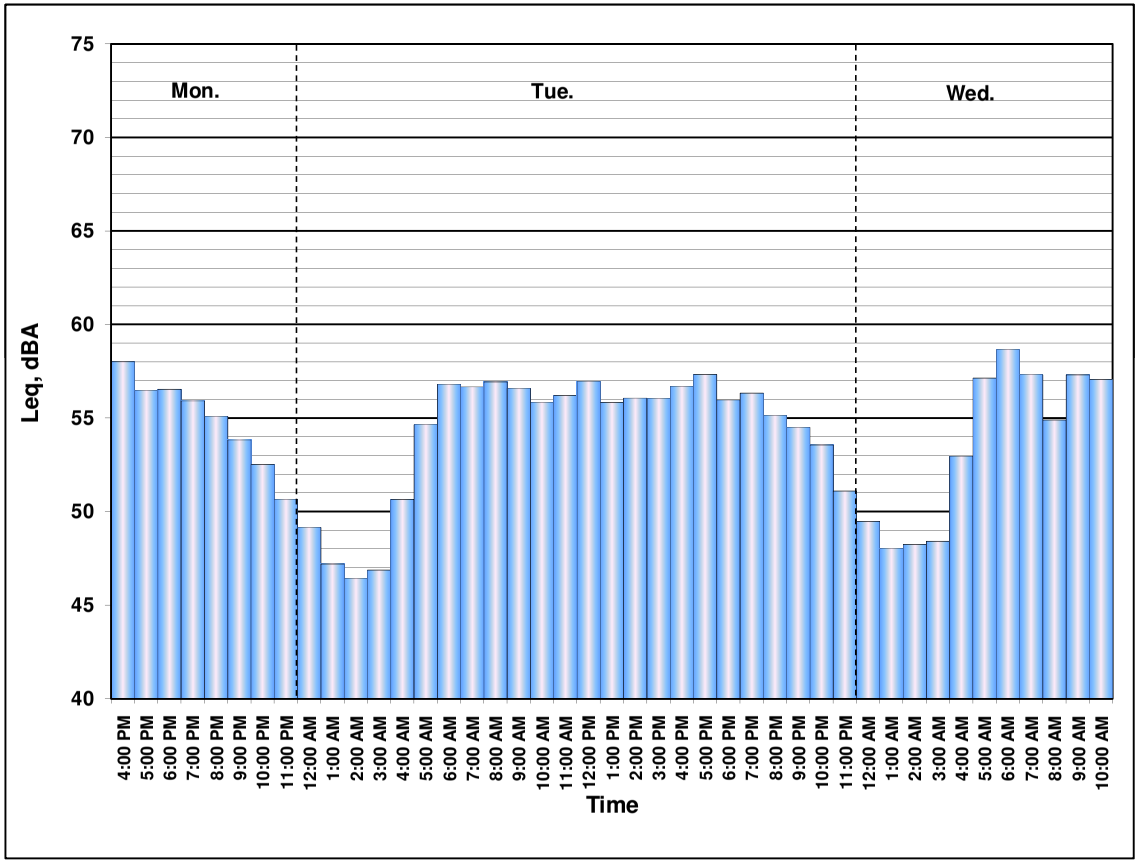


PARSONS

Site LT1 Hourly Noise Levels, $L_{eq}(h)$

Location: 920 Tanana Pl., Costa Mesa, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/07/10 - 06/09/10 **Notes:** See attached Noise Measurement Form.

TIME	6/07-6/08 $L_{eq(h)}$ dBA	6/08-6/09 $L_{eq(h)}$ dBA
04:00 - 05:00 PM	58	57
05:00 - 06:00 PM	56	57
06:00 - 07:00 PM	57	56
07:00 - 08:00 PM	56	56
08:00 - 09:00 PM	55	55
09:00 - 10:00 PM	54	55
10:00 - 11:00 PM	53	54
11:00 - 12:00 AM	51	51
12:00 - 01:00 AM	49	49
01:00 - 02:00 AM	47	48
02:00 - 03:00 AM	46	48
03:00 - 04:00 AM	47	48
04:00 - 05:00 AM	51	53
05:00 - 06:00 AM	55	57
06:00 - 07:00 AM	57	59
07:00 - 08:00 AM	57	57
08:00 - 09:00 AM	57	55
09:00 - 10:00 AM	57	57
10:00 - 11:00 AM	56	57
11:00 - 12:00 PM	56	
12:00 - 01:00 PM	57	
01:00 - 02:00 PM	56	
02:00 - 03:00 PM	56	
03:00 - 04:00 PM	56	



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: Jason O. / Ibrahim A.	DATE: 06/07/2010
MEASUREMENT ADDRESS: 3077 Yukon Avenue	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial
		SITE NO.: LT1A

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ NON-POLAR ☐ POLARIZED	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: 62 °F R.H.: 60 %
SERIAL #: 0638	☐ 1-INCH ☒ RANDOM	SERIAL #: 1901	WIND SPEED: 1 MPH
	SERIAL #: 3158		TOWARD (DIR): /

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☒ LD CA250	☒ 250	Before 114 / 114 / 87 / 10:42
☐ B&K 4231	☐ 1000	After 114 / 114.1 / 87 / 9:54
S/N 2480	☐ _____	

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

SKIES: cloudy
CAMERA _____
PHOTO NOs. 1-13

NOTES:

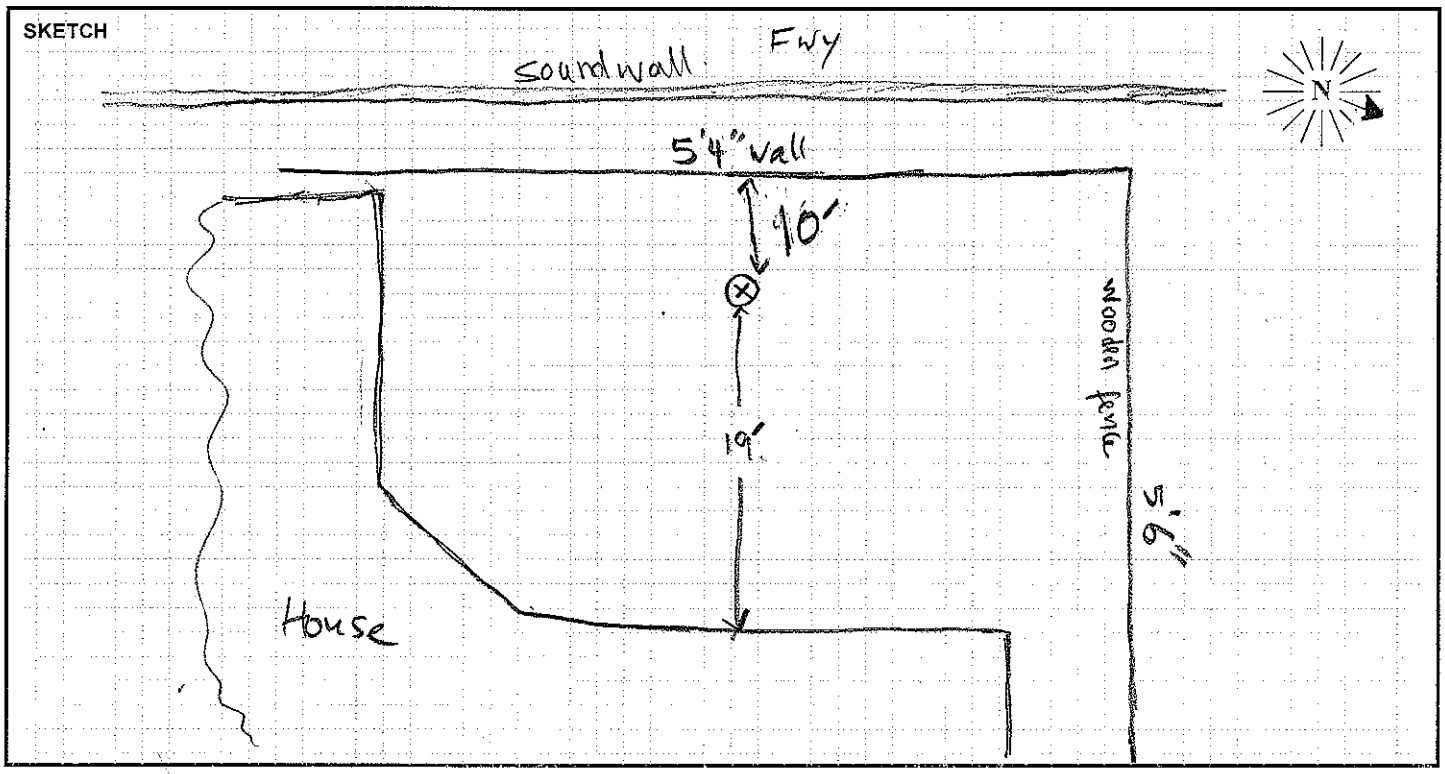
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT	MT	HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/07	10:50											
6/10		9:53										

SKETCH

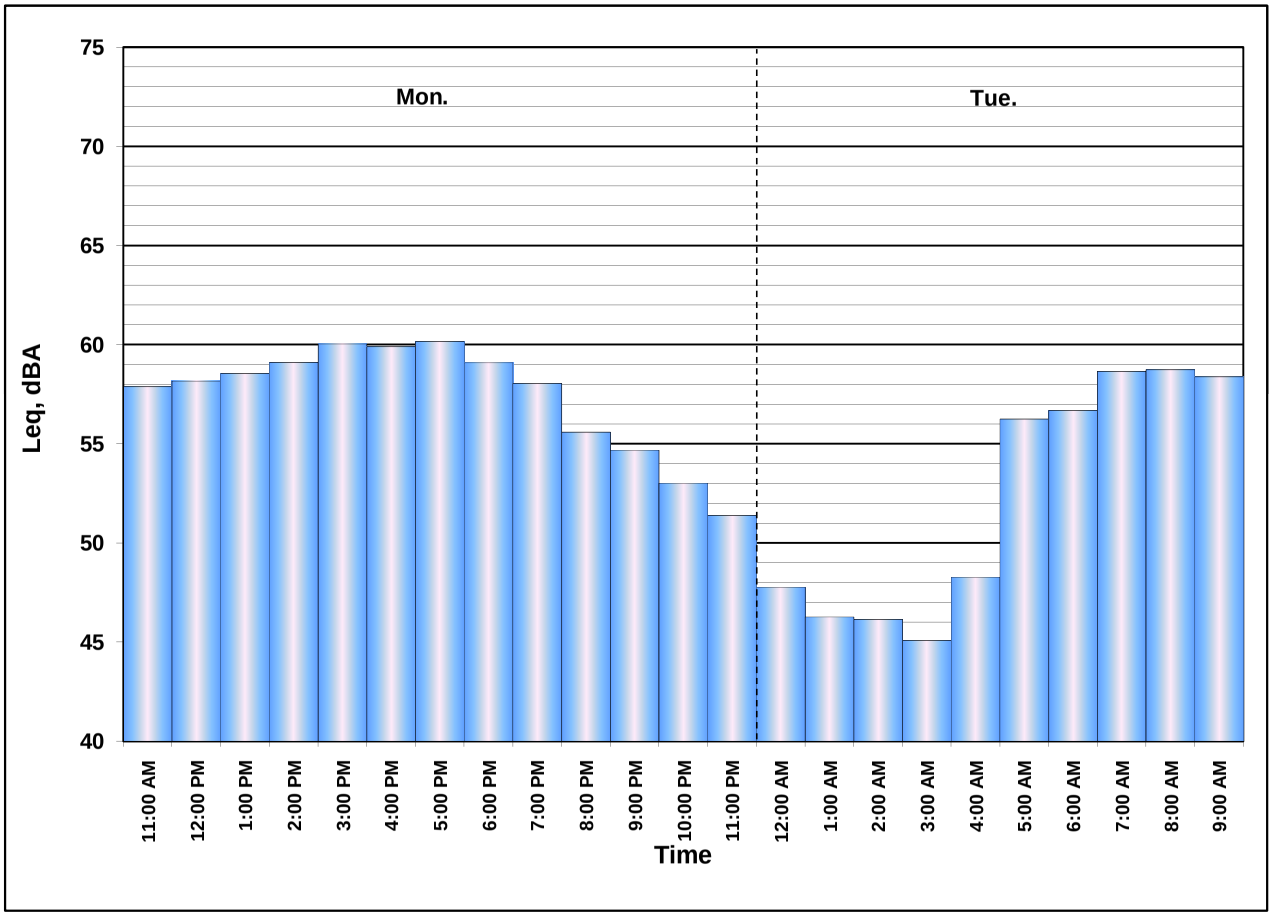


PARSONS

Site LT1A Hourly Noise Levels, $L_{eq}(h)$

Location: 3077 Yukon Ave., Costa Mesa, CA
Position: Backyard
Sources: Traffic on SR- 73
Date: 06/07/10 - 06/08/10 **Notes:** See attached Noise Measurement Form.

TIME	6/07-6/08 $L_{eq(h)}$ dBA
11:00 - 12:00 PM	58
12:00 - 01:00 PM	58
01:00 - 02:00 PM	59
02:00 - 03:00 PM	59
03:00 - 04:00 PM	60
04:00 - 05:00 PM	60
05:00 - 06:00 PM	60
06:00 - 07:00 PM	59
07:00 - 08:00 PM	58
08:00 - 09:00 PM	56
09:00 - 10:00 PM	55
10:00 - 11:00 PM	53
11:00 - 12:00 AM	51
12:00 - 01:00 AM	48
01:00 - 02:00 AM	46
02:00 - 03:00 AM	46
03:00 - 04:00 AM	45
04:00 - 05:00 AM	48
05:00 - 06:00 AM	56
06:00 - 07:00 AM	57
07:00 - 08:00 AM	59
08:00 - 09:00 AM	59
09:00 - 10:00 AM	58



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Jason O. / Ibrahim, A	DATE: 06/07/10
MEASUREMENT ADDRESS: 938 cheyenne st	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT1B

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ NON-POLAR ☐ POLARIZED	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: 62 °F R.H.: 60 %
SERIAL #: 0659	☐ 1-INCH ☒ RANDOM	SERIAL #: ~~0639~~ 1891	WIND SPEED: 1 MPH
	SERIAL #: 3378		

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 6.8, 10:06

After 114, 113.7, 6.8, 10:13

TOWARD (DIR): /

SKIES: Cloudy.

CAMERA _____

PHOTO NOs. 60 - 71

METER SETTINGS:

☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE

☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

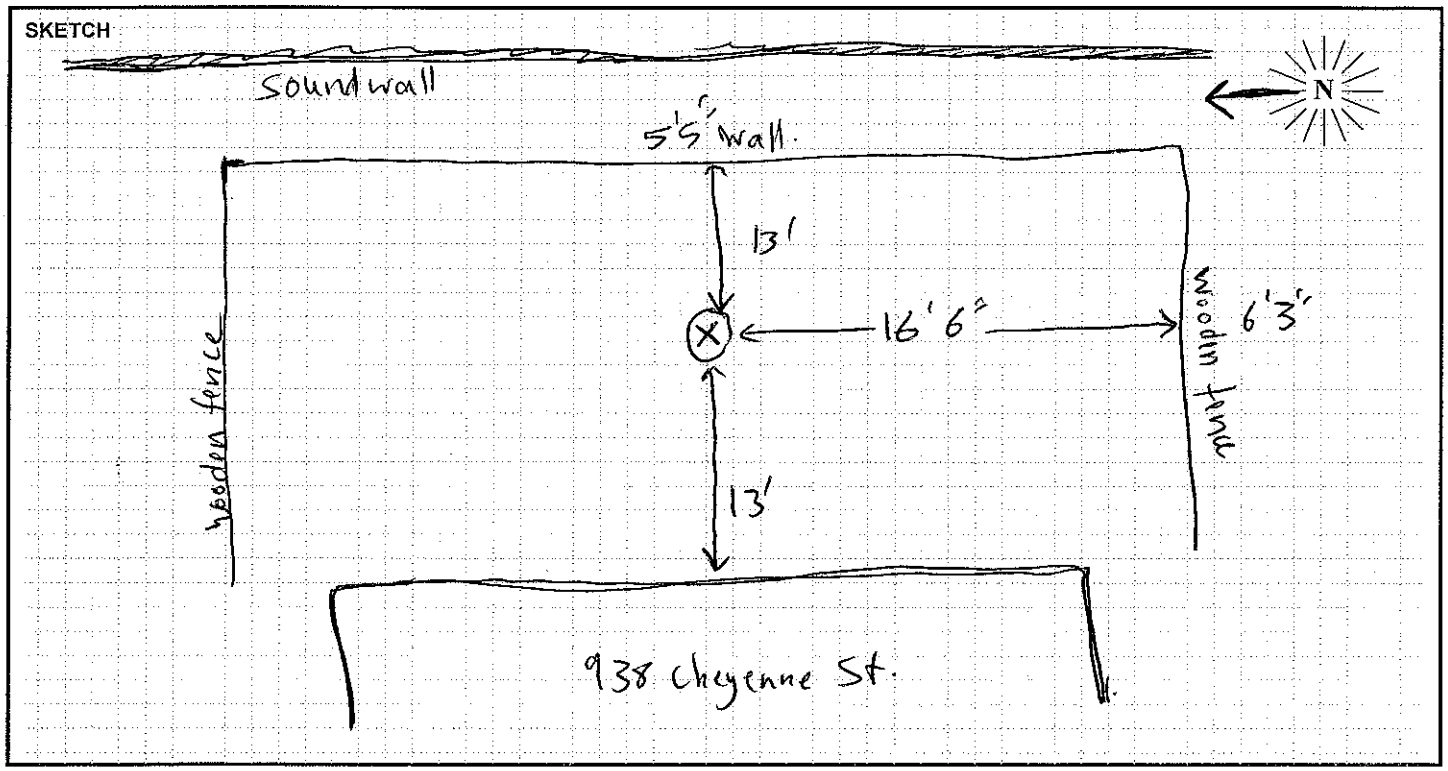
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/07	10:10AM											
6/8		10:08										

SKETCH

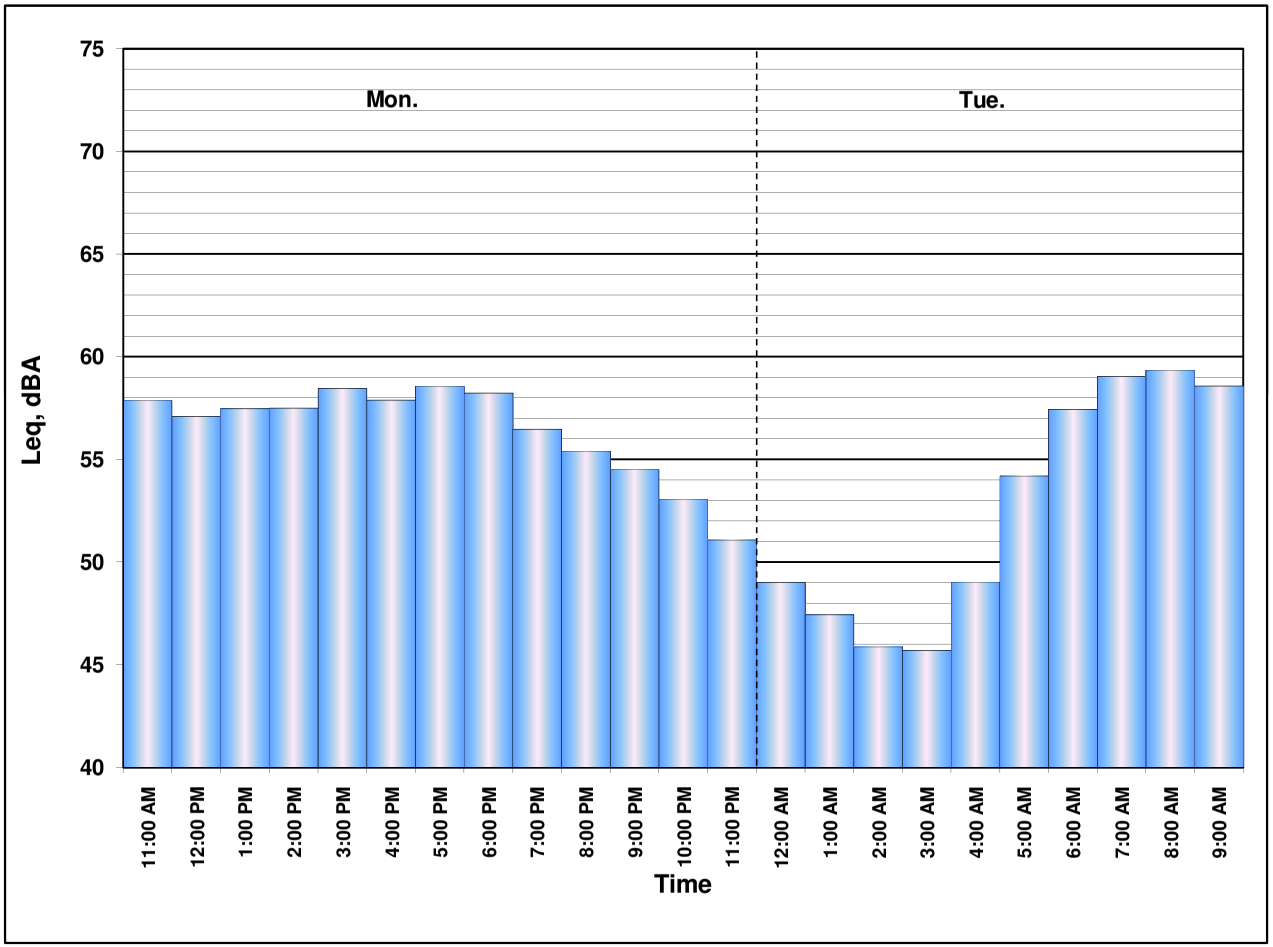


PARSONS

Site LT1B Hourly Noise Levels, $L_{eq}(h)$

Location: 938 Cheyenne St.,Costa Mesa, CA
Position: Backyard
Sources: Traffic on SR- 73
Date: 06/07/10 - 06/08/10 **Notes:** See attached Noise Measurement Form.

TIME	6/07-6/08 $L_{eq(h)}$ dBA
11:00 - 12:00 PM	58
12:00 - 01:00 PM	57
01:00 - 02:00 PM	57
02:00 - 03:00 PM	58
03:00 - 04:00 PM	58
04:00 - 05:00 PM	58
05:00 - 06:00 PM	59
06:00 - 07:00 PM	58
07:00 - 08:00 PM	56
08:00 - 09:00 PM	55
09:00 - 10:00 PM	55
10:00 - 11:00 PM	53
11:00 - 12:00 AM	51
12:00 - 01:00 AM	49
01:00 - 02:00 AM	47
02:00 - 03:00 AM	46
03:00 - 04:00 AM	46
04:00 - 05:00 AM	49
05:00 - 06:00 AM	54
06:00 - 07:00 AM	57
07:00 - 08:00 AM	59
08:00 - 09:00 AM	59
09:00 - 10:00 AM	59



FIELD SURVEY FORM

PROJECT: I-405-PA-ED		ENGINEER: Ibrahim A.	DATE: 06/07/2010
MEASUREMENT ADDRESS: 1142 Charleston	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT 2

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☐ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ NON-POLAR ☐ POLARIZED	☒ LD-828	(observations at start of measurement)
☐ LD-2900 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: 79 °F R.H.: 56 %
SERIAL #: 0639	☐ 1-INCH ☒ RANDOM	SERIAL #: 1938	WIND SPEED: 1 MPH
	SERIAL #: 3155		TOWARD (DIR): _____

CALIBRATOR:		CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☒ LD CA250	Freq, Hz.	Before 114 , 114 , 6.6 , 14:47
☐ _____	☒ 250	After 114 , 113.9 , 6.6 , 10:23
S/N 2480	☐ 1000	

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

SKIES: Sunny
CAMERA _____
PHOTO NOs. 40-45

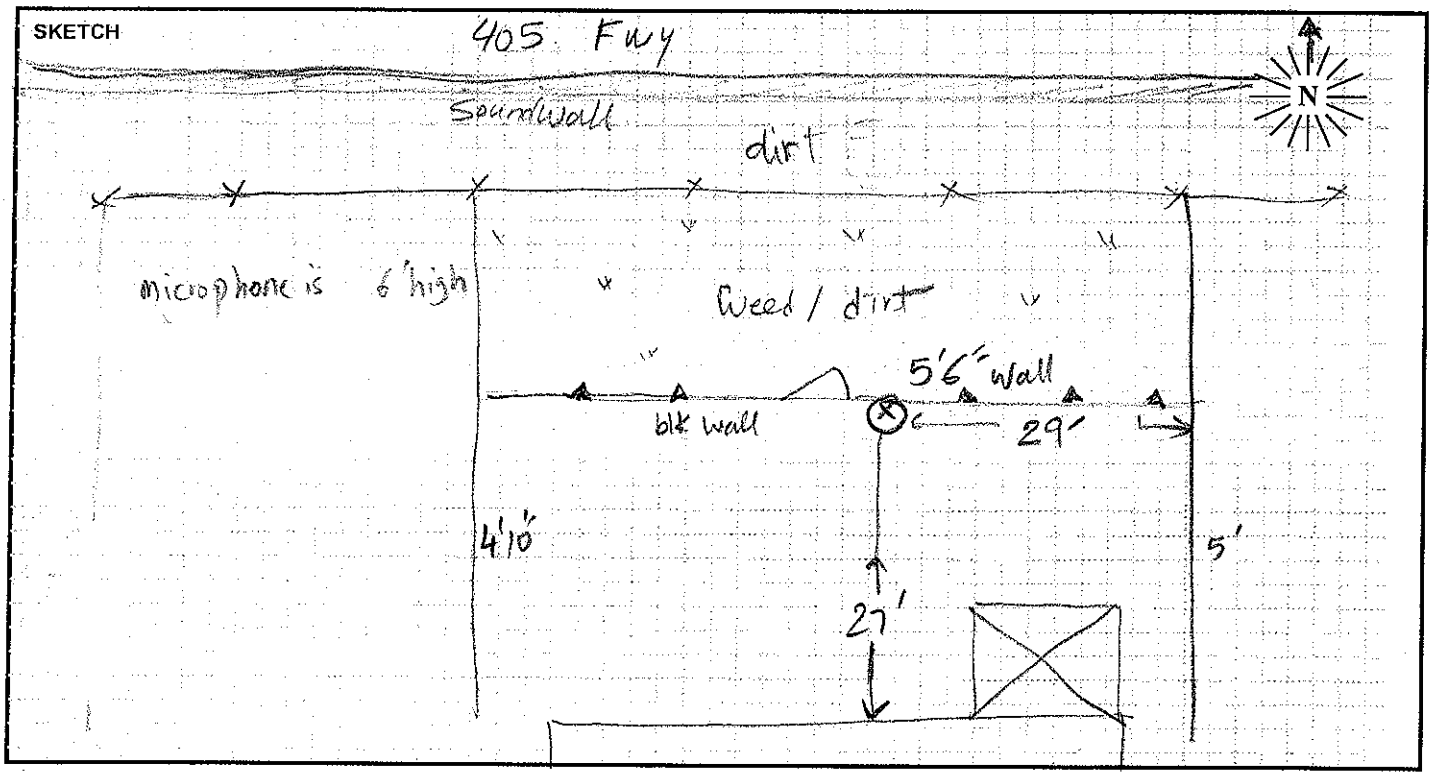
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/07	2:50											
06/08		2:56										

SKETCH

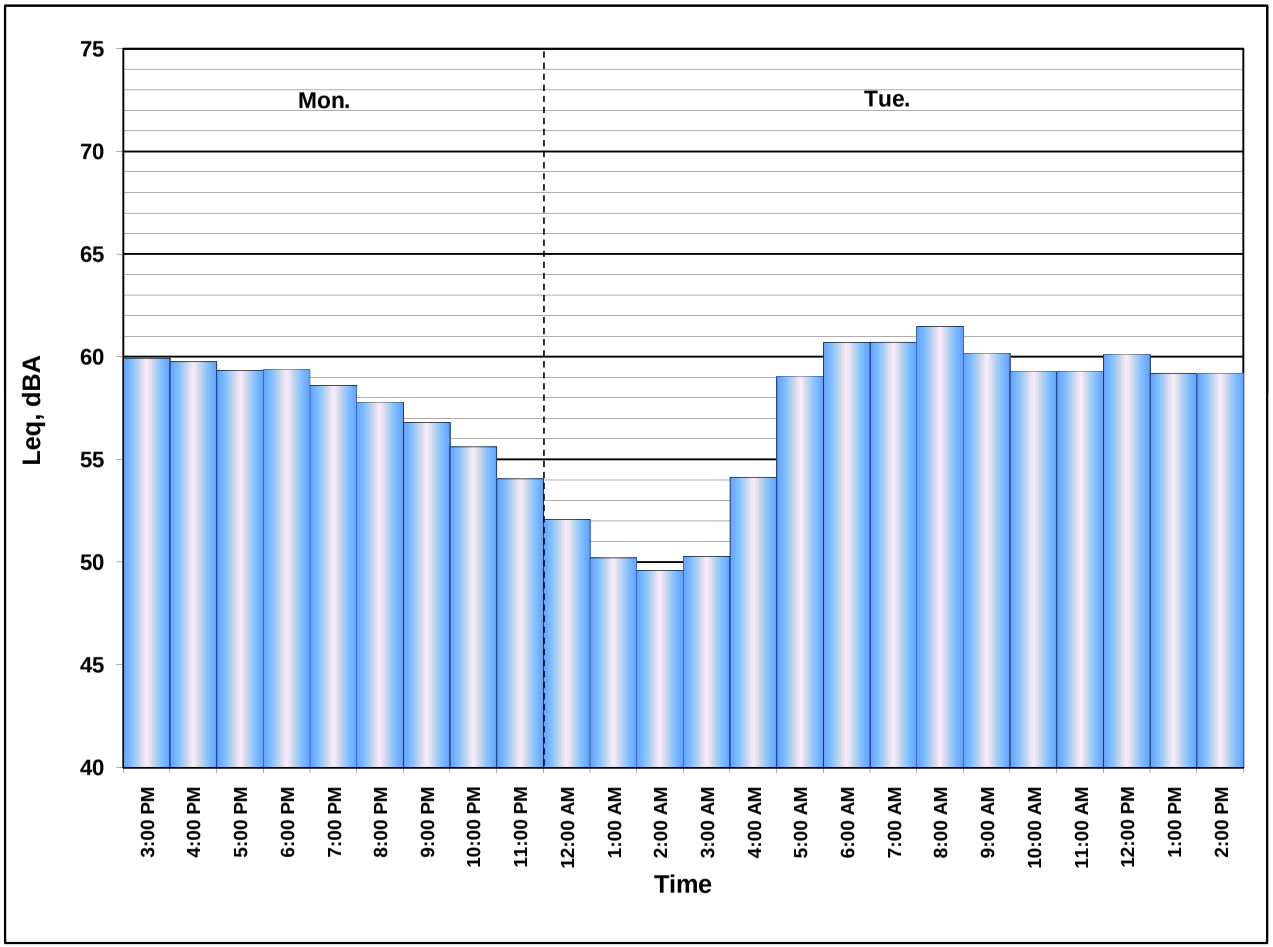


PARSONS

Site LT2 Hourly Noise Levels, $L_{eq}(h)$

Location: 1142 Charleston St., Costa Mesa, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/07/10 - 06/08/10 **Notes:** See attached Noise Measurement Form.

TIME	6/07-6/08 $L_{eq(h)}$ dBA
03:00 - 04:00 PM	60
04:00 - 05:00 PM	60
05:00 - 06:00 PM	59
06:00 - 07:00 PM	59
07:00 - 08:00 PM	59
08:00 - 09:00 PM	58
09:00 - 10:00 PM	57
10:00 - 11:00 PM	56
11:00 - 12:00 AM	54
12:00 - 01:00 AM	52
01:00 - 02:00 AM	50
02:00 - 03:00 AM	50
03:00 - 04:00 AM	50
04:00 - 05:00 AM	54
05:00 - 06:00 AM	59
06:00 - 07:00 AM	61
07:00 - 08:00 AM	61
08:00 - 09:00 AM	61
09:00 - 10:00 AM	60
10:00 - 11:00 AM	59
11:00 - 12:00 PM	59
12:00 - 01:00 PM	60
01:00 - 02:00 PM	59
02:00 - 03:00 PM	59



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/08/10
MEASUREMENT ADDRESS: 1063 Tulare Dr.	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT3

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ NON-POLAR ☐ POLARIZED	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: 71 °F R.H.: 70 %
SERIAL #: 0659	☐ 1-INCH ☒ RANDOM	SERIAL #: 1891	WIND SPEED: 1.1 MPH
	SERIAL #: 3378		TOWARD (DIR): Calm

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☒ LD CA250	☒ 250	Before 114, 114, 6.8, 11:31
☐ B&K 4231	☐ 1000	After 114, 113.9, 6.8, 14:06
S/N 2480	☐ _____	

SKIES: Partly Cloudy

CAMERA iphone

PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

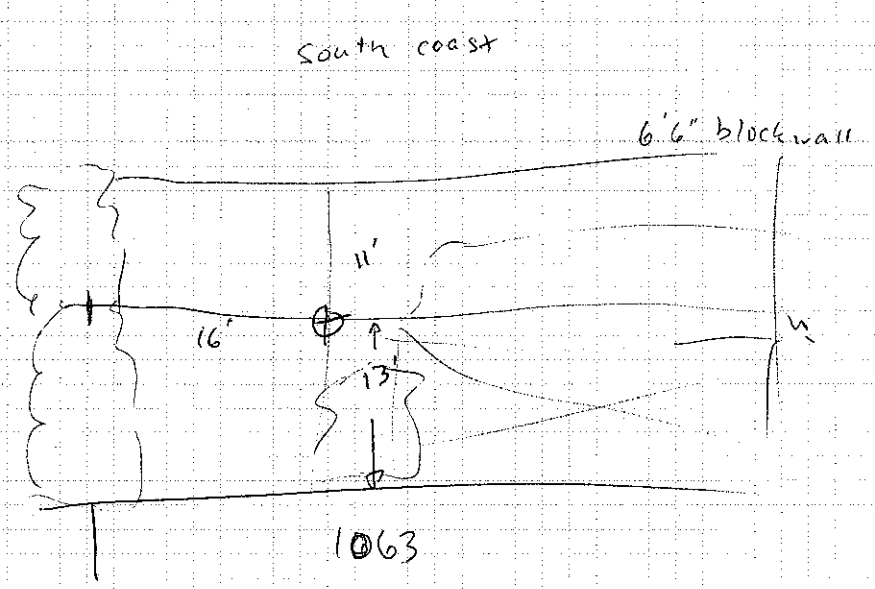
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/8	11:36											
6/9		14:05										

SKETCH

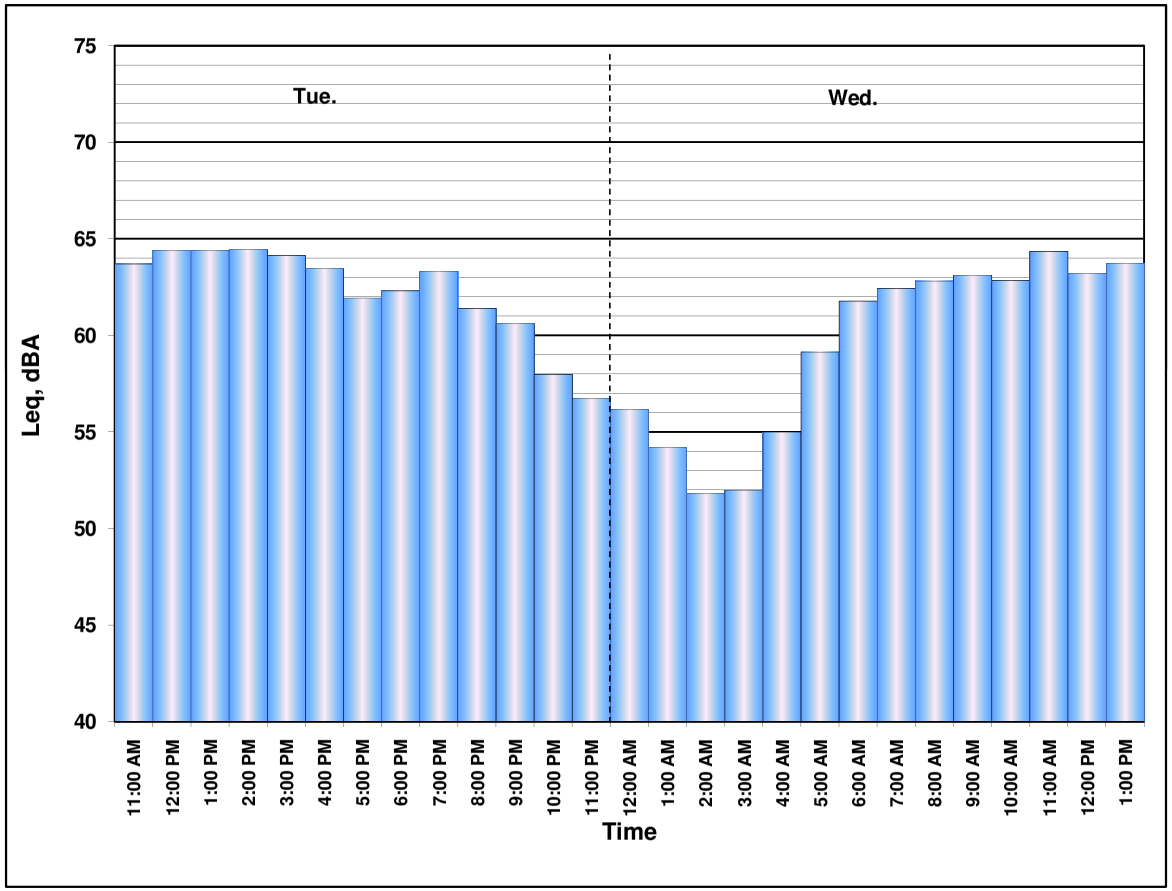


PARSONS

Site LT3 Hourly Noise Levels, $L_{eq}(h)$

Location: 1063 Leandro Ln., Costa Mesa, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/08/10 - 06/09/10 **Notes:** See attached Noise Measurement Form.

TIME	6/08-6/09 $L_{eq(h)}$ dBA	6/08-6/09 $L_{eq(h)}$ dBA
11:00 - 12:00 PM	64	64
12:00 - 01:00 PM	64	63
01:00 - 02:00 PM	64	64
02:00 - 03:00 PM	64	
03:00 - 04:00 PM	64	
04:00 - 05:00 PM	63	
05:00 - 06:00 PM	62	
06:00 - 07:00 PM	62	
07:00 - 08:00 PM	63	
08:00 - 09:00 PM	61	
09:00 - 10:00 PM	61	
10:00 - 11:00 PM	58	
11:00 - 12:00 AM	57	
12:00 - 01:00 AM	56	
01:00 - 02:00 AM	54	
02:00 - 03:00 AM	52	
03:00 - 04:00 AM	52	
04:00 - 05:00 AM	55	
05:00 - 06:00 AM	59	
06:00 - 07:00 AM	62	
07:00 - 08:00 AM	62	
08:00 - 09:00 AM	63	
09:00 - 10:00 AM	63	
10:00 - 11:00 AM	63	



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: Jason O. / Ibrahim A.	DATE: 06/08/2010
MEASUREMENT ADDRESS: 1288 Londonderry St	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT4

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ NON-POLAR ☐ POLARIZED	☐ LD-828	(observations at start of measurement)
☐ LD-2900 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: 71 °F R.H.: 70 %
SERIAL #: 0638	☐ 1-INCH ☒ RANDOM	SERIAL #: 1901	WIND SPEED: 1.1 MPH
	SERIAL #: 3158		TOWARD (DIR): _____

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114 / 114 / 8.8 / 10:45

After 114 / 114 / 8.8 / 10:46

SKIES: Cloudy

CAMERA _____

PHOTO NOs. 72-78

METER SETTINGS:

☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE

☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

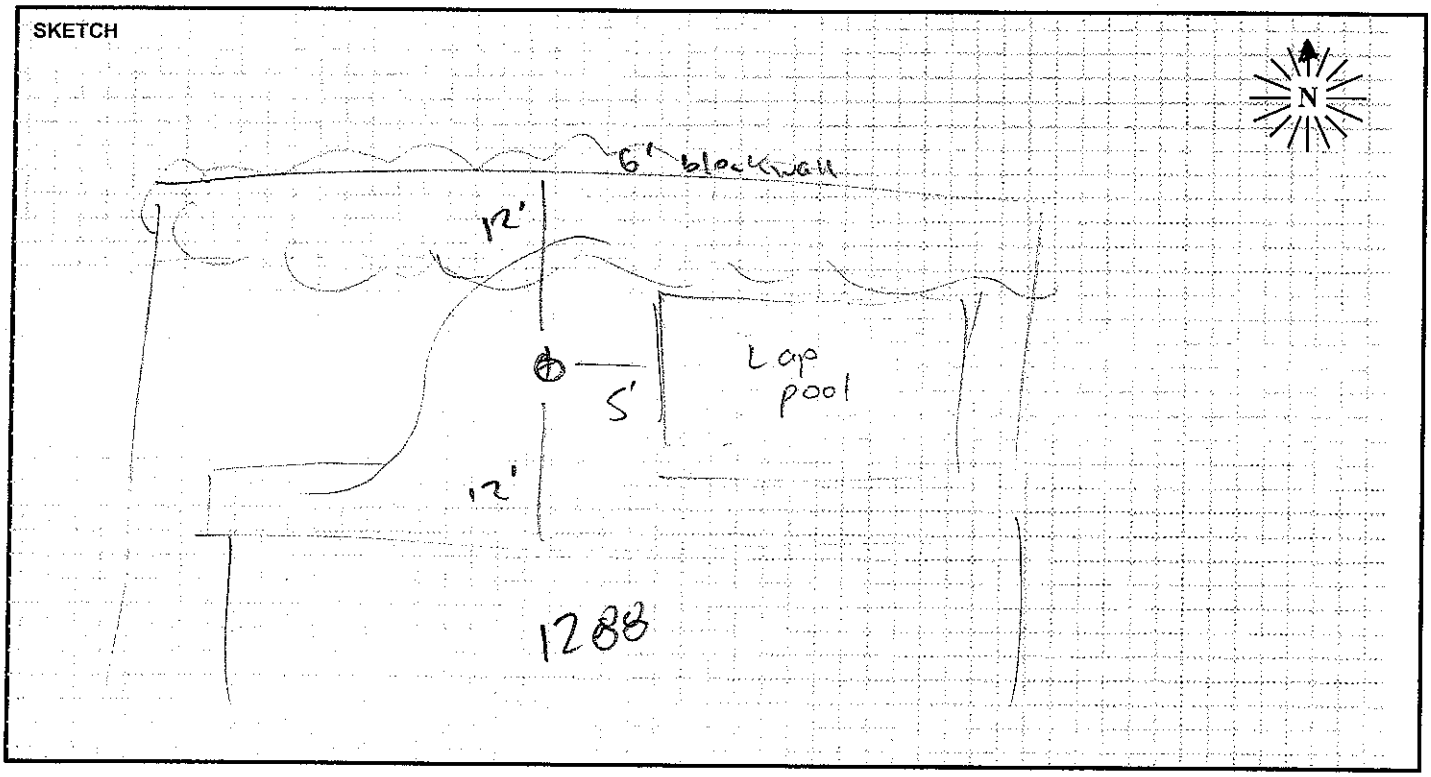
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/08	10:47											6-10pm pool pump
6/9		10:45										

SKETCH

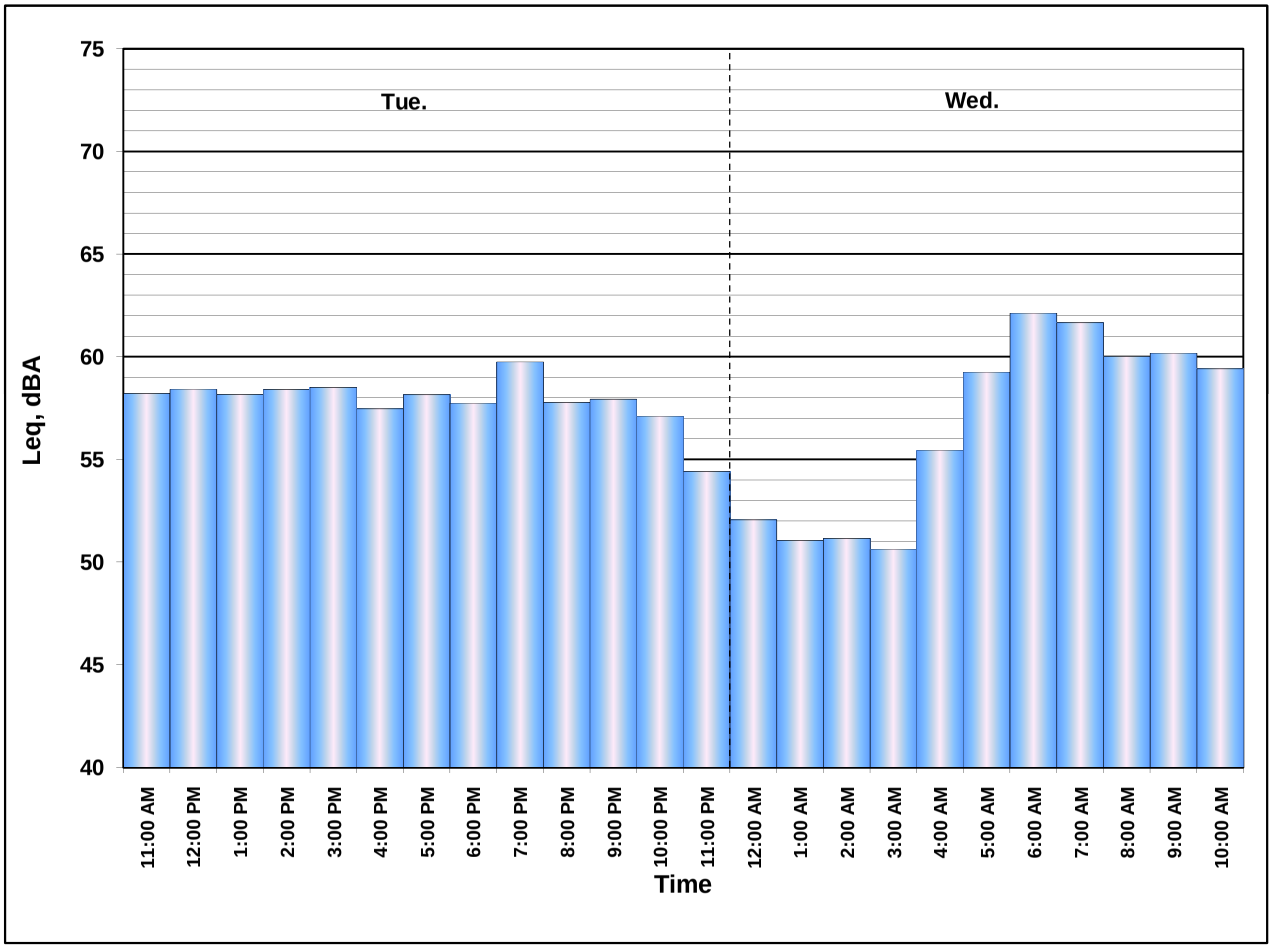


PARSONS

Site LT4 Hourly Noise Levels, $L_{eq}(h)$

Location: 1288 Londonderry St., Costa Mesa, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/08/10 - 06/09/10 **Notes:** See attached Noise Measurement Form.

TIME	6/08-6/09 $L_{eq(h)}$ dBA
11:00 - 12:00 PM	58
12:00 - 01:00 PM	58
01:00 - 02:00 PM	58
02:00 - 03:00 PM	58
03:00 - 04:00 PM	59
04:00 - 05:00 PM	57
05:00 - 06:00 PM	58
06:00 - 07:00 PM	58
07:00 - 08:00 PM	60
08:00 - 09:00 PM	58
09:00 - 10:00 PM	58
10:00 - 11:00 PM	57
11:00 - 12:00 AM	54
12:00 - 01:00 AM	52
01:00 - 02:00 AM	51
02:00 - 03:00 AM	51
03:00 - 04:00 AM	51
04:00 - 05:00 AM	55
05:00 - 06:00 AM	59
06:00 - 07:00 AM	62
07:00 - 08:00 AM	62
08:00 - 09:00 AM	60
09:00 - 10:00 AM	60
10:00 - 11:00 AM	59



FIELD SURVEY FORM

PROJECT: I-405 PA-ED

ENGINEER: OGDEN

DATE: 6/9/10

MEASUREMENT ADDRESS: 3334 Maryland Ct.

CITY: Costa Mesa

☐ Single-Family ☐ Recreational
☐ Multi-Family ☐ Commercial

SITE NO.: LTS

SOUND LEVEL METER:
☐ LD-870 ☐ LD-820
☐ LD-824 ☒ LD-812
☐ B&K-2250 ☐ _____
SERIAL #: 0638

MICROPHONE: ☒ WIND SCREEN
☒ NON-POLAR ☐ POLARIZED
☒ 1/2-INCH ☐ FREEFIELD
☐ 1-INCH ☒ RANDOM
SERIAL #: 3158

PRE AMP:
☐ LD-900
☒ LD-828
☐ _____
SERIAL #: 1907

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: _____ °F R.H.: _____ %

WIND SPEED: _____ MPH

TOWARD (DIR): _____

SKIES: _____

CAMERA _____

PHOTO NOs. _____

CALIBRATOR:
☒ LD CA250
☐ B&K 4231
S/N 2480

Freq, Hz.
☒ 250
☐ 1000
☐ _____

CALIBRATION RECORD:
Input, dB / Reading, dB / Offset, dB / Time
Before 114, 114, 8.7, 11:44
After 114, 113.9, 8.7, 08:09

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES:

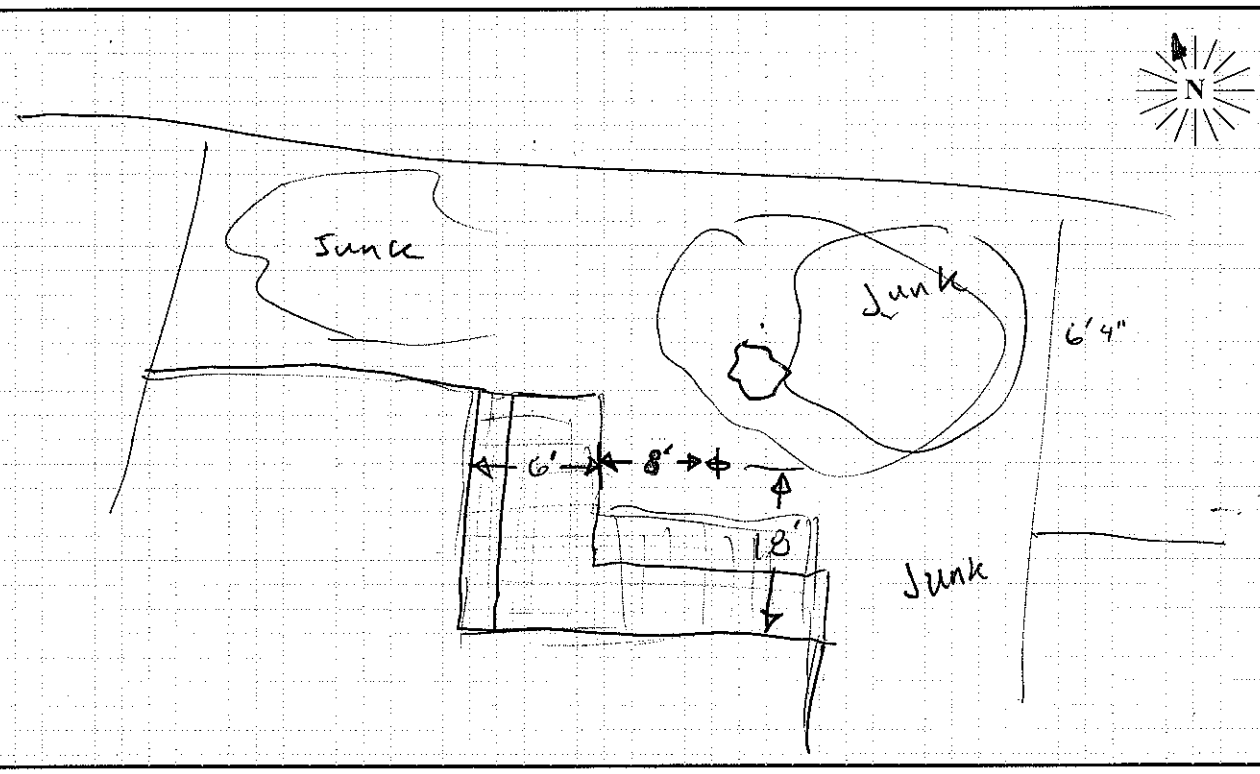
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE:
☒ Long Term
☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/9	11:50											
6/10		13:01										

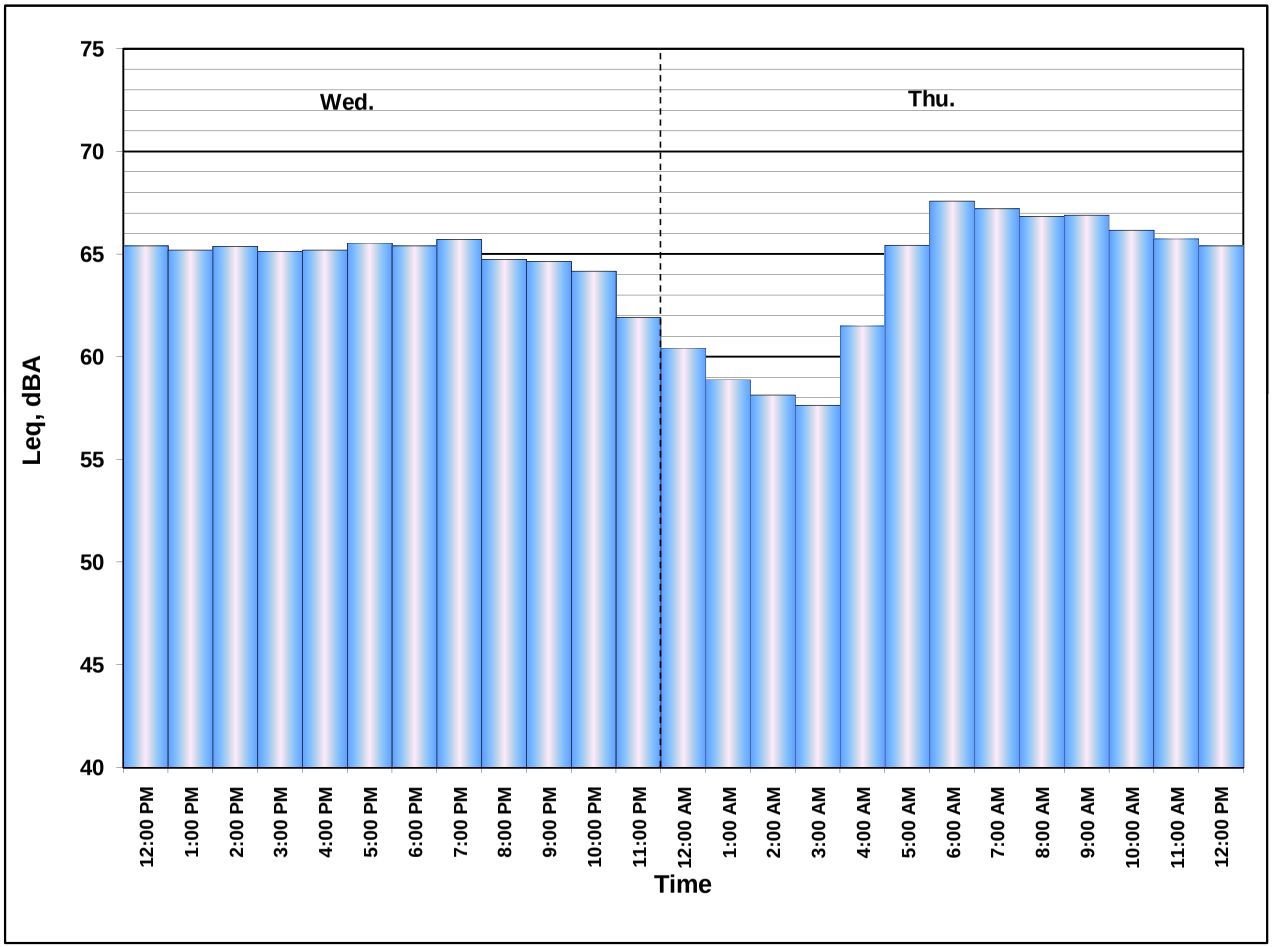
SKETCH



Site LT5 Hourly Noise Levels, $L_{eq}(h)$

Location: 3334 Maryland Ct., Costa Mesa
Position: Backyard
Sources: Traffic on I- 405
Date: 06/09/10 - 06/10/10 **Notes:** See attached Noise Measurement Form.

TIME	6/09-6/10 $L_{eq(h)}$ dBA
12:00 - 01:00 PM	65
01:00 - 02:00 PM	65
02:00 - 03:00 PM	65
03:00 - 04:00 PM	65
04:00 - 05:00 PM	65
05:00 - 06:00 PM	66
06:00 - 07:00 PM	65
07:00 - 08:00 PM	66
08:00 - 09:00 PM	65
09:00 - 10:00 PM	65
10:00 - 11:00 PM	64
11:00 - 12:00 AM	62
12:00 - 01:00 AM	60
01:00 - 02:00 AM	59
02:00 - 03:00 AM	58
03:00 - 04:00 AM	58
04:00 - 05:00 AM	62
05:00 - 06:00 AM	65
06:00 - 07:00 AM	68
07:00 - 08:00 AM	67
08:00 - 09:00 AM	67
09:00 - 10:00 AM	67
10:00 - 11:00 AM	66
11:00 - 12:00 PM	66
12:00 - 01:00 PM	65



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OWEN	DATE: 6/9/10
MEASUREMENT ADDRESS: 18125 Sand Dunes Ct.	CITY: Fountain Valley	☐ Single-Family ☒ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: LT 6

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____
SERIAL #: 0659

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM
SERIAL #: 3378

PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____
SERIAL #: 1891

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480
Freq, Hz. ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
Before 114, 114, 6.9, 16:18
After 114, 113.9, 6.9, 17:52

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:
SYSTEM PWR: ☒ BAT ☐ AC
(observations at start of measurement)
TEMP: _____ °F R.H.: _____ %
WIND SPEED: _____ MPH
TOWARD (DIR): _____
SKIES: _____
CAMERA _____
PHOTO NOs. _____

NOTES: mic @ 7'

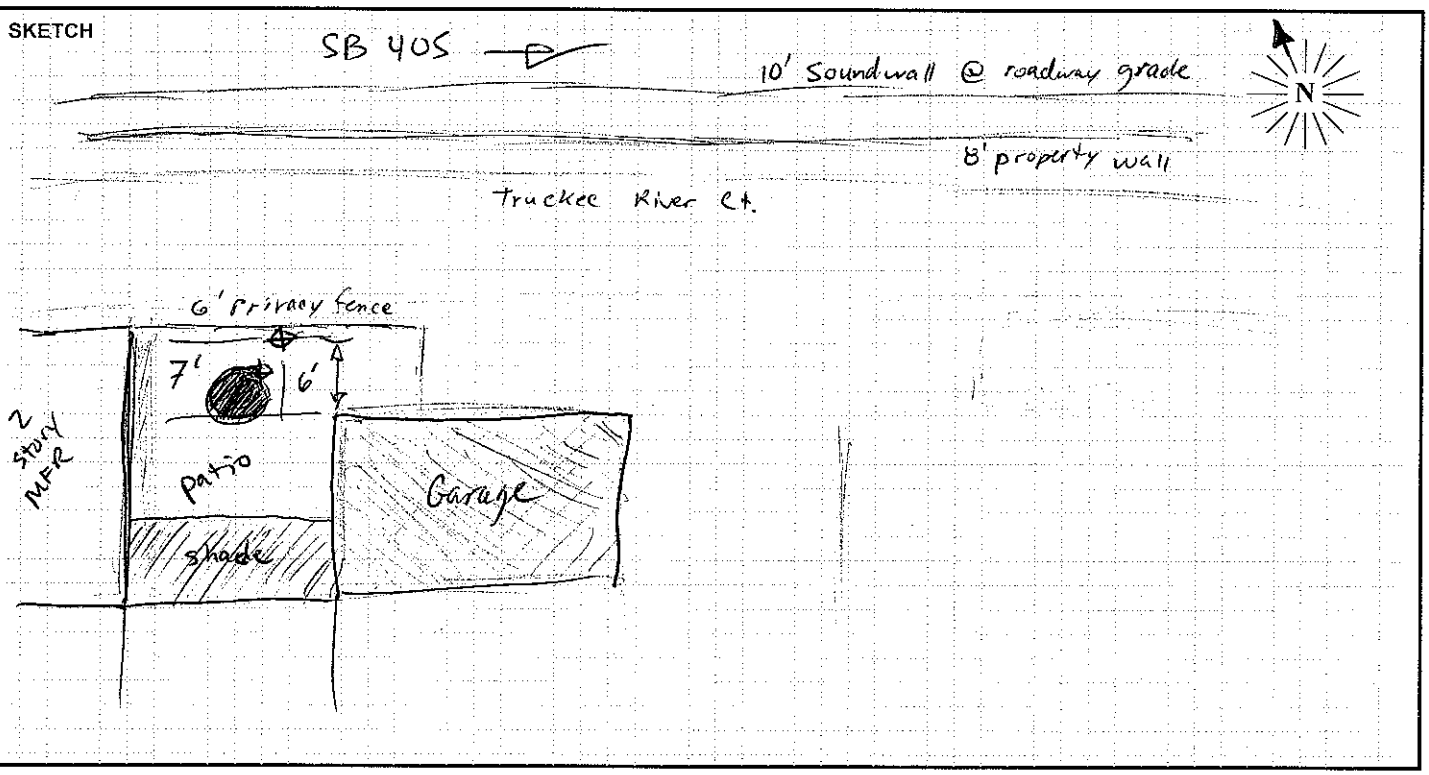
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/9	16:19											
6/10		17:48										

SKETCH

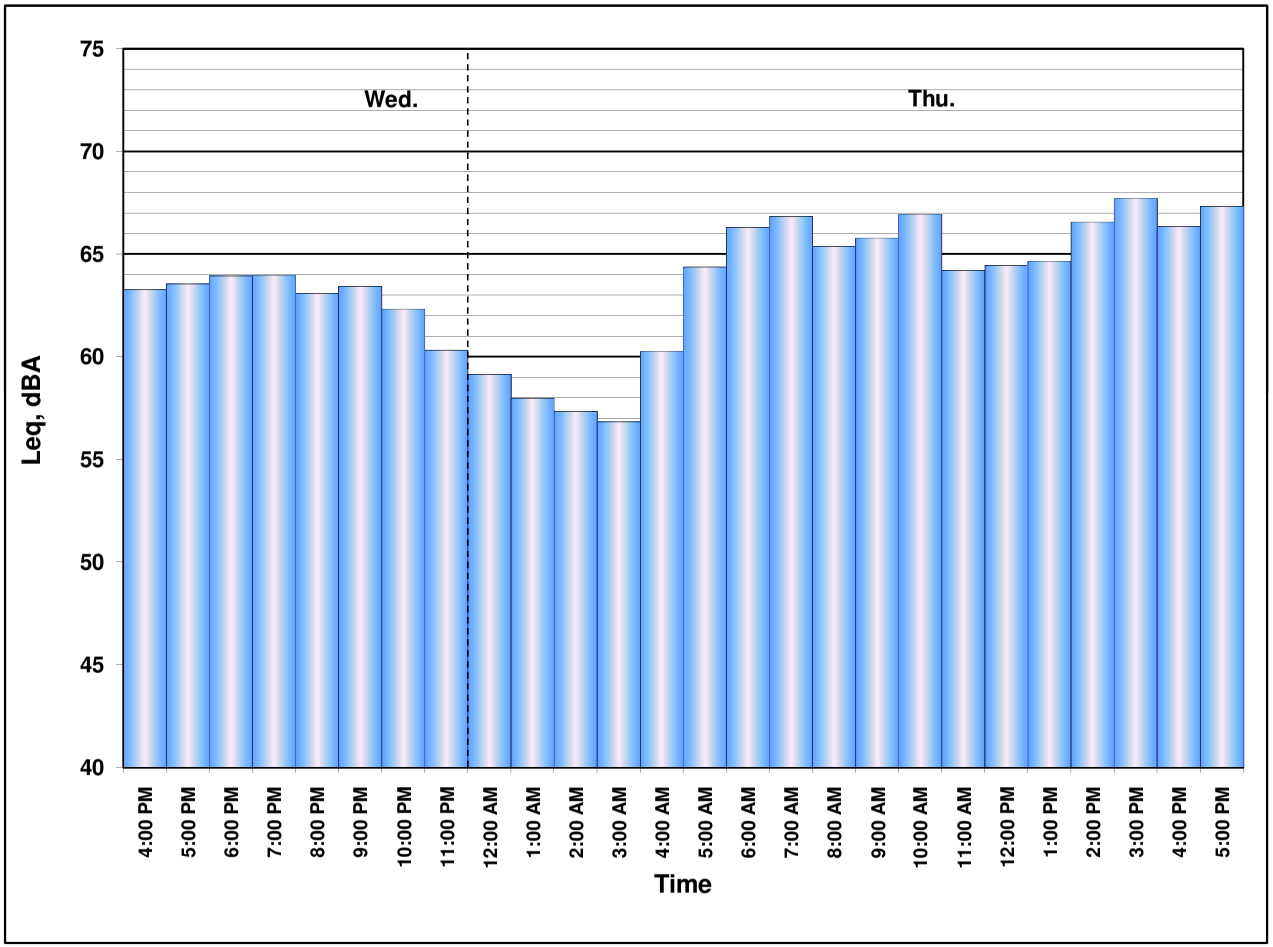


PARSONS

Site LT6 Hourly Noise Levels, $L_{eq}(h)$

Location: 18125 Sand Dunes Ct., Fountain Valley, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/09/10 - 06/10/10 **Notes:** See attached Noise Measurement Form.

TIME	6/09-6/10 $L_{eq(h)}$ dBA
04:00 - 05:00 PM	63
05:00 - 06:00 PM	64
06:00 - 07:00 PM	64
07:00 - 08:00 PM	64
08:00 - 09:00 PM	63
09:00 - 10:00 PM	63
10:00 - 11:00 PM	62
11:00 - 12:00 AM	60
12:00 - 01:00 AM	59
01:00 - 02:00 AM	58
02:00 - 03:00 AM	57
03:00 - 04:00 AM	57
04:00 - 05:00 AM	60
05:00 - 06:00 AM	64
06:00 - 07:00 AM	66
07:00 - 08:00 AM	67
08:00 - 09:00 AM	65
09:00 - 10:00 AM	66
10:00 - 11:00 AM	67
11:00 - 12:00 PM	64
12:00 - 01:00 PM	64
01:00 - 02:00 PM	65
02:00 - 03:00 PM	67
03:00 - 04:00 PM	68
04:00 - 05:00 PM	66
05:00 - 06:00 PM	67



FIELD SURVEY FORM

PROJECT: I-405 PA-ED

ENGINEER: OGDEN

DATE: 6/9/10

MEASUREMENT ADDRESS: 17893 San Rafael St

CITY: Fountain Valley

☐ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: LT7

SOUND LEVEL METER: ☐ LD-870 ☒ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 1177

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 16967

PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____

SERIAL #: 1629

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: _____ °F R.H.: _____ %

WIND SPEED: 3-5 MPH

TOWARD (DIR): Northeast

SKIES: Partly Cloudy

CAMERA _____

PHOTO NOs. _____

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2479

Freq, Hz.: ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 7.8, 11:07

After 114, 113.9, 7.8, 17:33 next day

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☒ L_N PERCENTILE VALUES

NOTES:

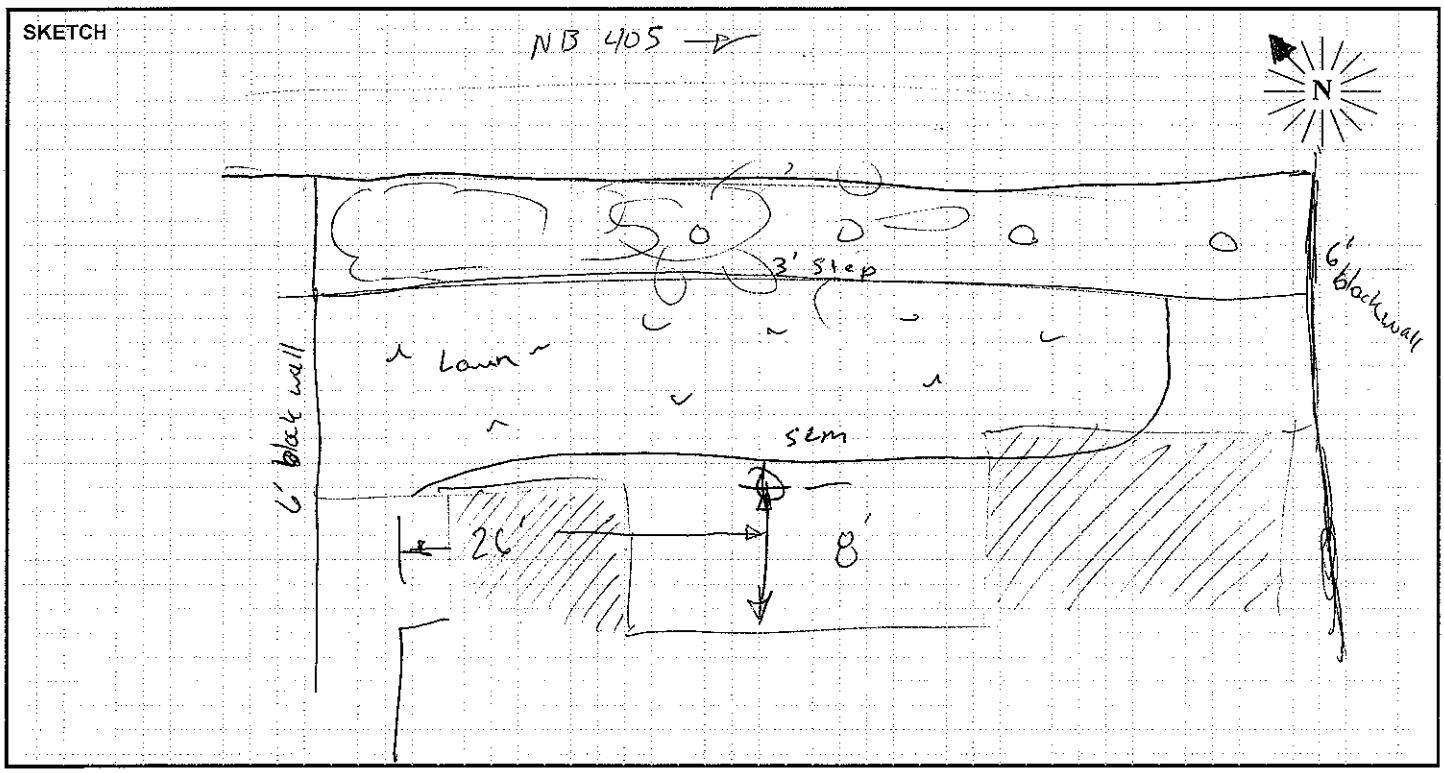
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/9	15:43											
6/10		17:25										

SKETCH

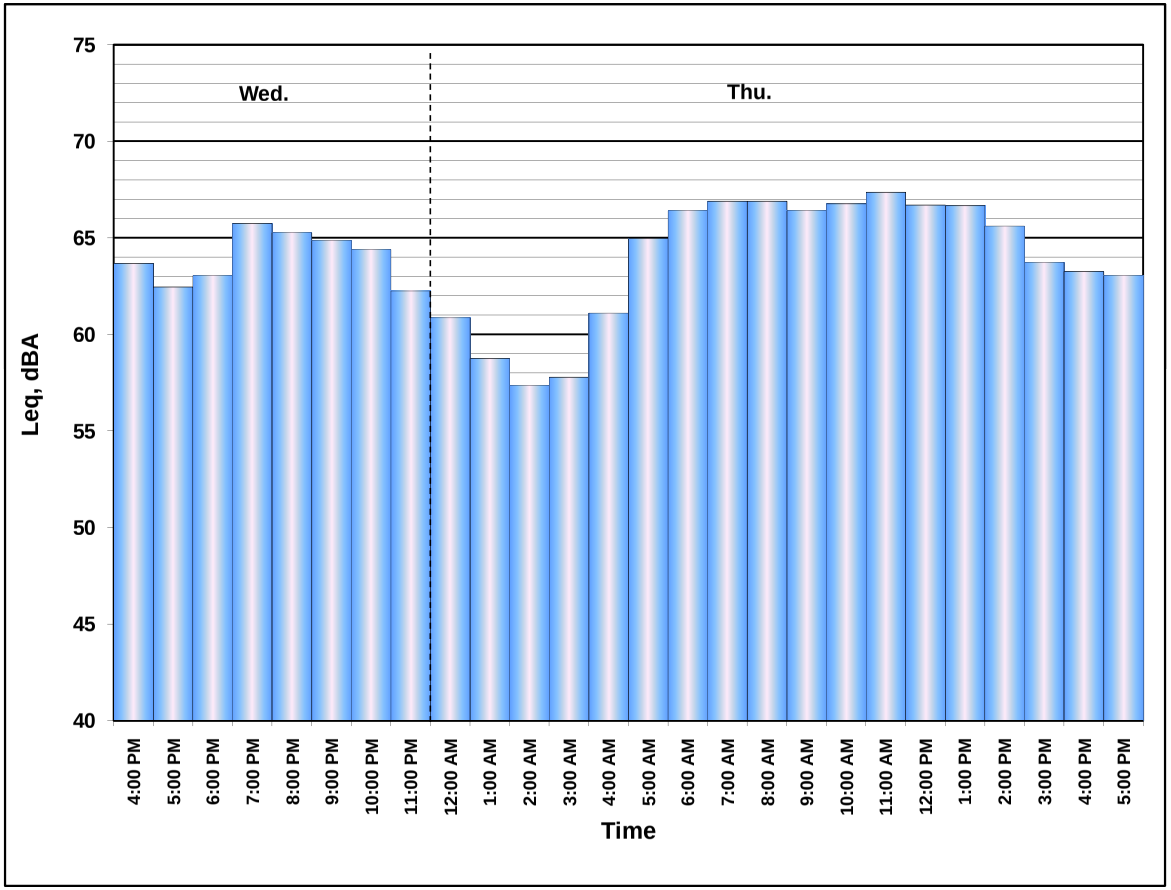


PARSONS

Site LT7 Hourly Noise Levels, $L_{eq}(h)$

Location: 17893 San Rafael St., Fountain Valley, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/09/10 - 06/10/10 **Notes:** See attached Noise Measurement Form.

TIME	6/09-6/10 $L_{eq(h)}$ dBA	6/09-6/10 $L_{eq(h)}$ dBA
04:00 - 05:00 PM	64	63
05:00 - 06:00 PM	62	63
06:00 - 07:00 PM	63	
07:00 - 08:00 PM	66	
08:00 - 09:00 PM	65	
09:00 - 10:00 PM	65	
10:00 - 11:00 PM	64	
11:00 - 12:00 AM	62	
12:00 - 01:00 AM	61	
01:00 - 02:00 AM	59	
02:00 - 03:00 AM	57	
03:00 - 04:00 AM	58	
04:00 - 05:00 AM	61	
05:00 - 06:00 AM	65	
06:00 - 07:00 AM	66	
07:00 - 08:00 AM	67	
08:00 - 09:00 AM	67	
09:00 - 10:00 AM	66	
10:00 - 11:00 AM	67	
11:00 - 12:00 PM	67	
12:00 - 01:00 PM	67	
01:00 - 02:00 PM	67	
02:00 - 03:00 PM	66	
03:00 - 04:00 PM	64	



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 6/9/10
MEASUREMENT ADDRESS: 9849 Oscar Cir. / CITY: Fountain valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT8

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ NON-POLAR ☒ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☐ 1-INCH ☒ RANDOM	☐ _____	TEMP: 73 °F R.H.: 62 %
SERIAL #: 0639	SERIAL #: 3155	SERIAL #: 1938	WIND SPEED: 5 MPH

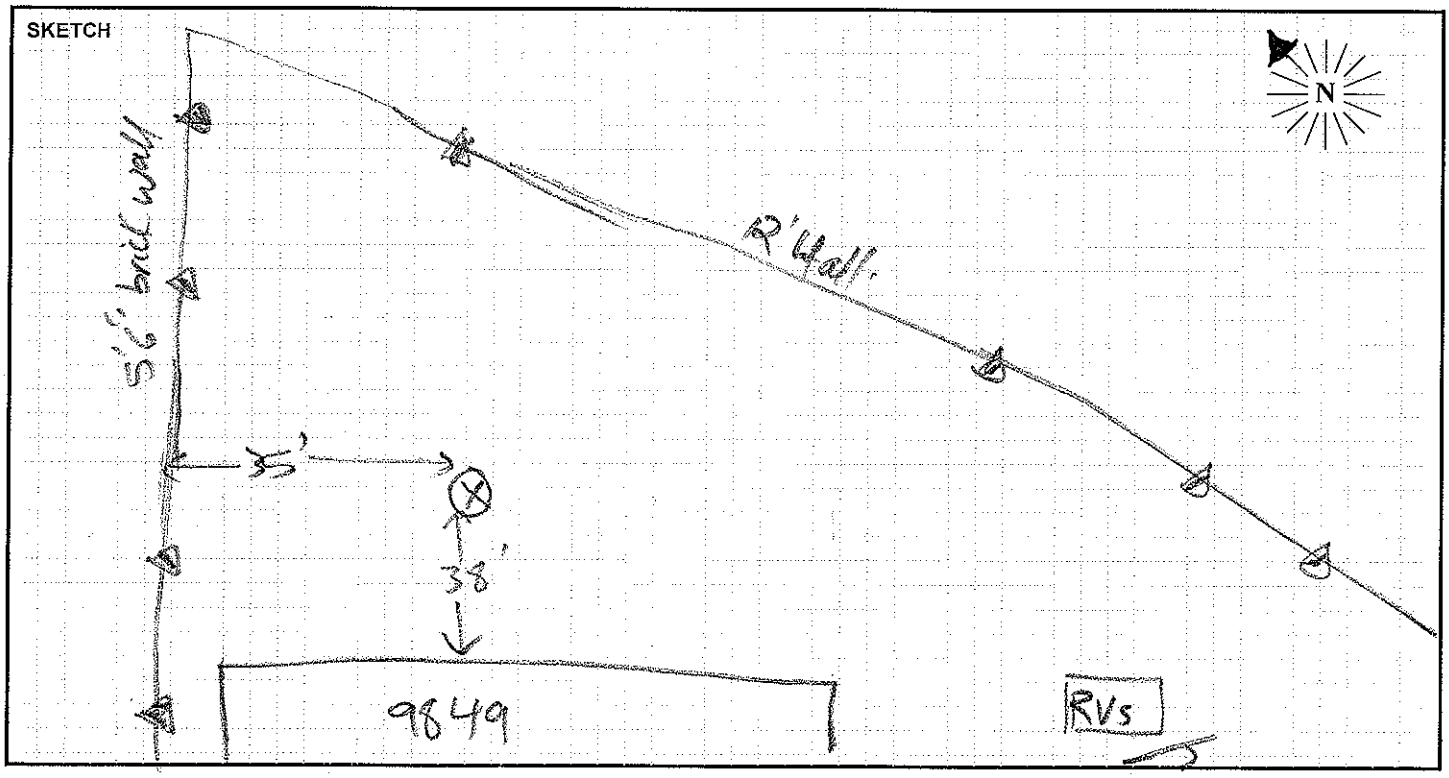
CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LD CA250	☒ 250	Before	114, 114, 6.7, 17:06
☐ B&K 4231	☐ 1000	After	114, 113.9, 6.7, 17:03 next day
S/N 2480 ~~2479~~	☐ _____		

METER SETTINGS:					
☒ A-WTD	☐ LINEAR	☒ SLOW	☐ 1/1 OCT	☒ INTERVALS 20 - MINUTE	CAMERA: ~~Iphone~~
☐ C-WTD	☐ IMPULSE	☐ FAST	☐ 1/3 OCT	☒ L_N PERCENTILE VALUES	PHOTO NOs. 19-22

NOTES:	Dist. to Center of Nearest Lane _____	☐ Video ☐ Radar	Counts AT MT HT	MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/9	17:08											
6/10		17:02										

SKETCH

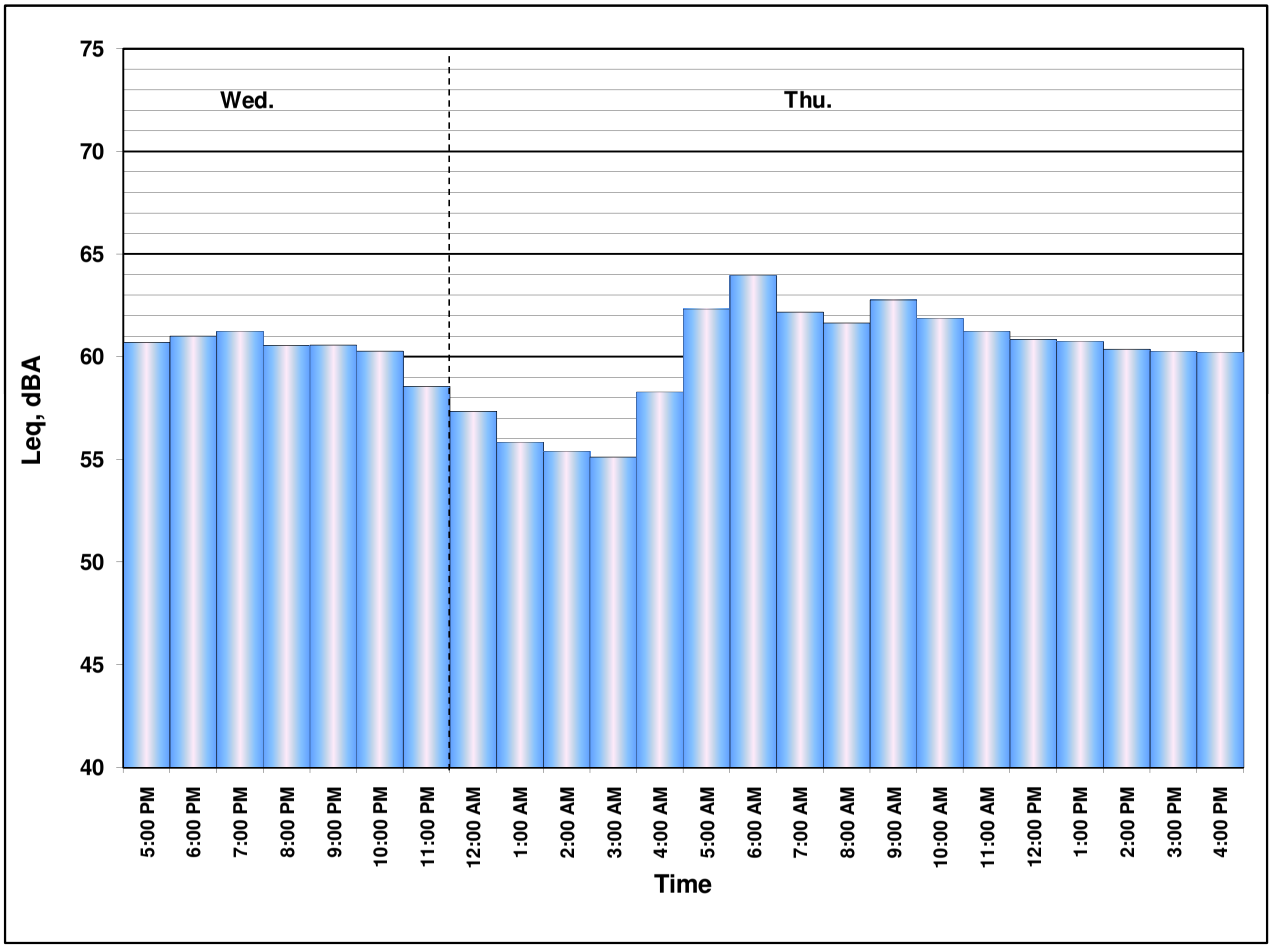


PARSONS

Site LT8 Hourly Noise Levels, $L_{eq}(h)$

Location: 9849 Oscar Cir. Fountain Valley, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/09/10 - 06/10/10 **Notes:** See attached Noise Measurement Form.

TIME	6/09-6/10 $L_{eq(h)}$ dBA
05:00 - 06:00 PM	61
06:00 - 07:00 PM	61
07:00 - 08:00 PM	61
08:00 - 09:00 PM	61
09:00 - 10:00 PM	61
10:00 - 11:00 PM	60
11:00 - 12:00 AM	59
12:00 - 01:00 AM	57
01:00 - 02:00 AM	56
02:00 - 03:00 AM	55
03:00 - 04:00 AM	55
04:00 - 05:00 AM	58
05:00 - 06:00 AM	62
06:00 - 07:00 AM	64
07:00 - 08:00 AM	62
08:00 - 09:00 AM	62
09:00 - 10:00 AM	63
10:00 - 11:00 AM	62
11:00 - 12:00 PM	61
12:00 - 01:00 PM	61
01:00 - 02:00 PM	61
02:00 - 03:00 PM	60
03:00 - 04:00 PM	60
04:00 - 05:00 PM	60



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 6/15/10
MEASUREMENT ADDRESS: 17231 Buttonwood St.	CITY: Fountain Valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial
		SITE NO.: LT 9

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900
☐ LD-824 ☒ LD-812	☒ NON-POLAR ☐ POLARIZED	☒ LD-828
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☒ FREEFIELD	☐ _____
	☐ 1-INCH ☒ RANDOM	
SERIAL #: 0639	SERIAL #: 3155	SERIAL #: 1938

CALIBRATOR:
☒ LD CA250
☐ B&K 4231
S/N 2479

Freq, Hz.
☒ 250
☐ 1000
☐ _____

CALIBRATION RECORD:
Input, dB / Reading, dB / Offset, dB / Time
Before 114, 114.0, 6.5, 15:07
After 114, 113.9, 6.5, 16:50

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

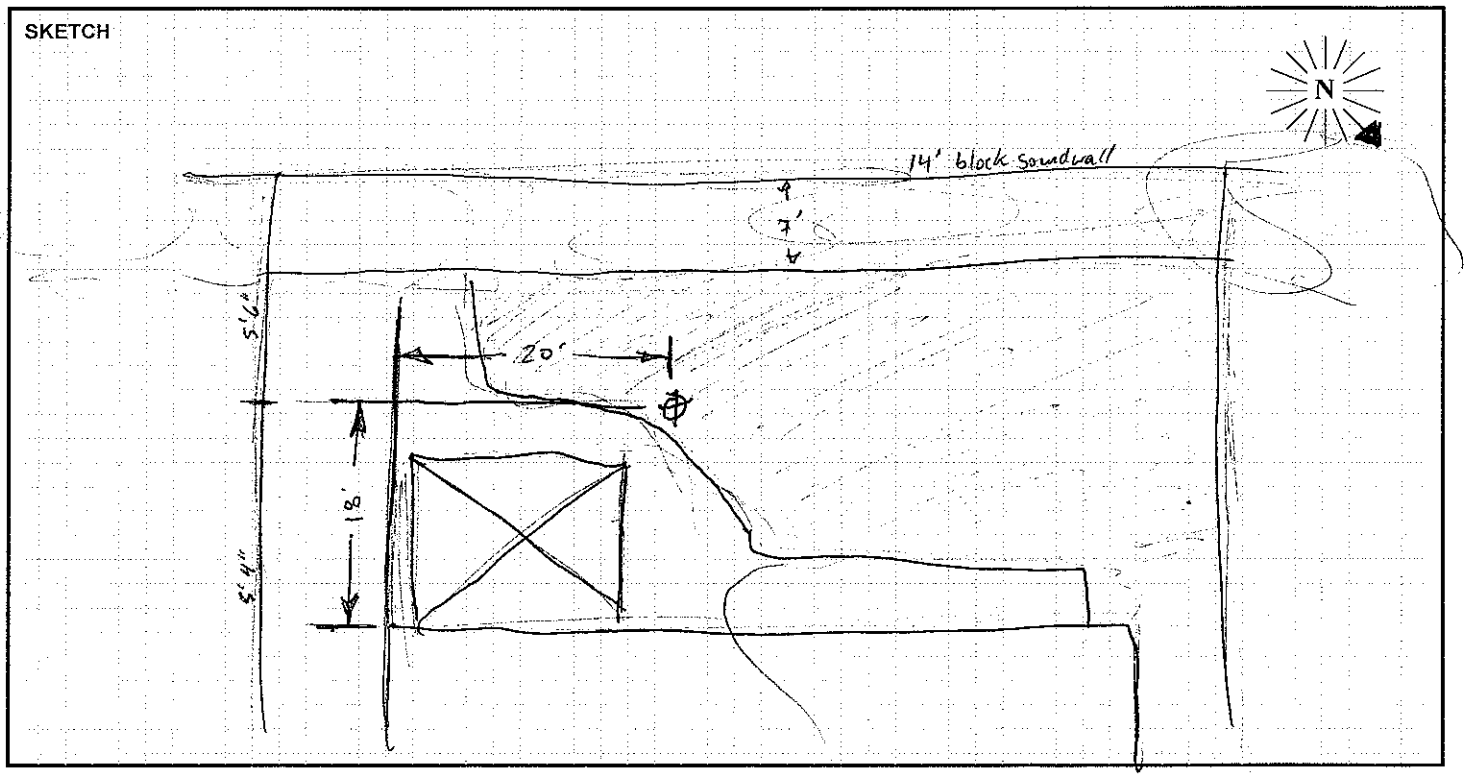
NOTES:
SYSTEM PWR: ☒ BAT ☐ AC
(observations at start of measurement)
TEMP: _____ °F R.H.: _____ %
WIND SPEED: _____ MPH
TOWARD (DIR): _____
SKIES: Clear
CAMERA iPhone
PHOTO NOs. _____

NOTES:
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar
Counts AT MT HT

MEAS. TYPE:
☒ Long Term
☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/15	15:20											
6/16		16:46										

SKETCH

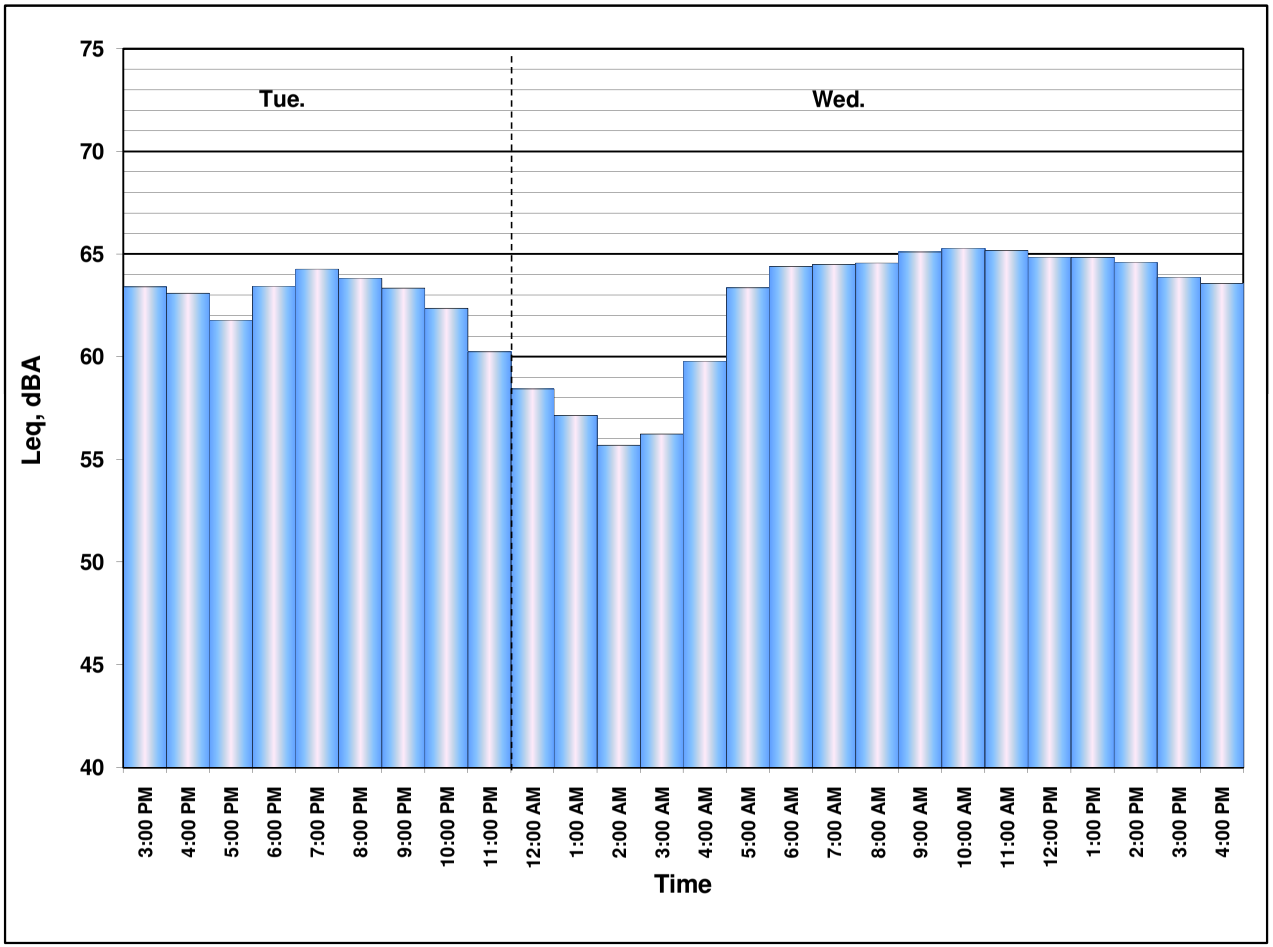


PARSONS

Site LT9 Hourly Noise Levels, $L_{eq}(h)$

Location: 17231 Buttonwood St., Fountain Valley, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/15/10 - 06/16/10 **Notes:** See attached Noise Measurement Form.

TIME	6/15-6/16 $L_{eq(h)}$ dBA
03:00 - 04:00 PM	63
04:00 - 05:00 PM	63
05:00 - 06:00 PM	62
06:00 - 07:00 PM	63
07:00 - 08:00 PM	64
08:00 - 09:00 PM	64
09:00 - 10:00 PM	63
10:00 - 11:00 PM	62
11:00 - 12:00 AM	60
12:00 - 01:00 AM	58
01:00 - 02:00 AM	57
02:00 - 03:00 AM	56
03:00 - 04:00 AM	56
04:00 - 05:00 AM	60
05:00 - 06:00 AM	63
06:00 - 07:00 AM	64
07:00 - 08:00 AM	65
08:00 - 09:00 AM	65
09:00 - 10:00 AM	65
10:00 - 11:00 AM	65
11:00 - 12:00 PM	65
12:00 - 01:00 PM	65
01:00 - 02:00 PM	65
02:00 - 03:00 PM	65
03:00 - 04:00 PM	64
04:00 - 05:00 PM	64



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 6/15/10
MEASUREMENT ADDRESS: 9460 Andalusia Ave	CITY: Fountain Valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: LT 10

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820	☒ NON-POLAR ☐ POLARIZED	☒ LD-900	SYSTEM PWR: ☐ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☐ 1-INCH ☒ RANDOM	☐ _____	
SERIAL #: 0128	SERIAL #:	SERIAL #: 3203	TEMP: 68 °F R.H.: 71 %

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LD CA250	☒ 250	Before	114, 114, 20.9, 17:13
☐ B&K 4231	☐ 1000	After	114, 113.9, 20.9, 17:22
S/N 2479	☐ _____		

WIND SPEED: 2.1 MPH
TOWARD (DIR): South
SKIES: Clear
CAMERA iphone
PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES:

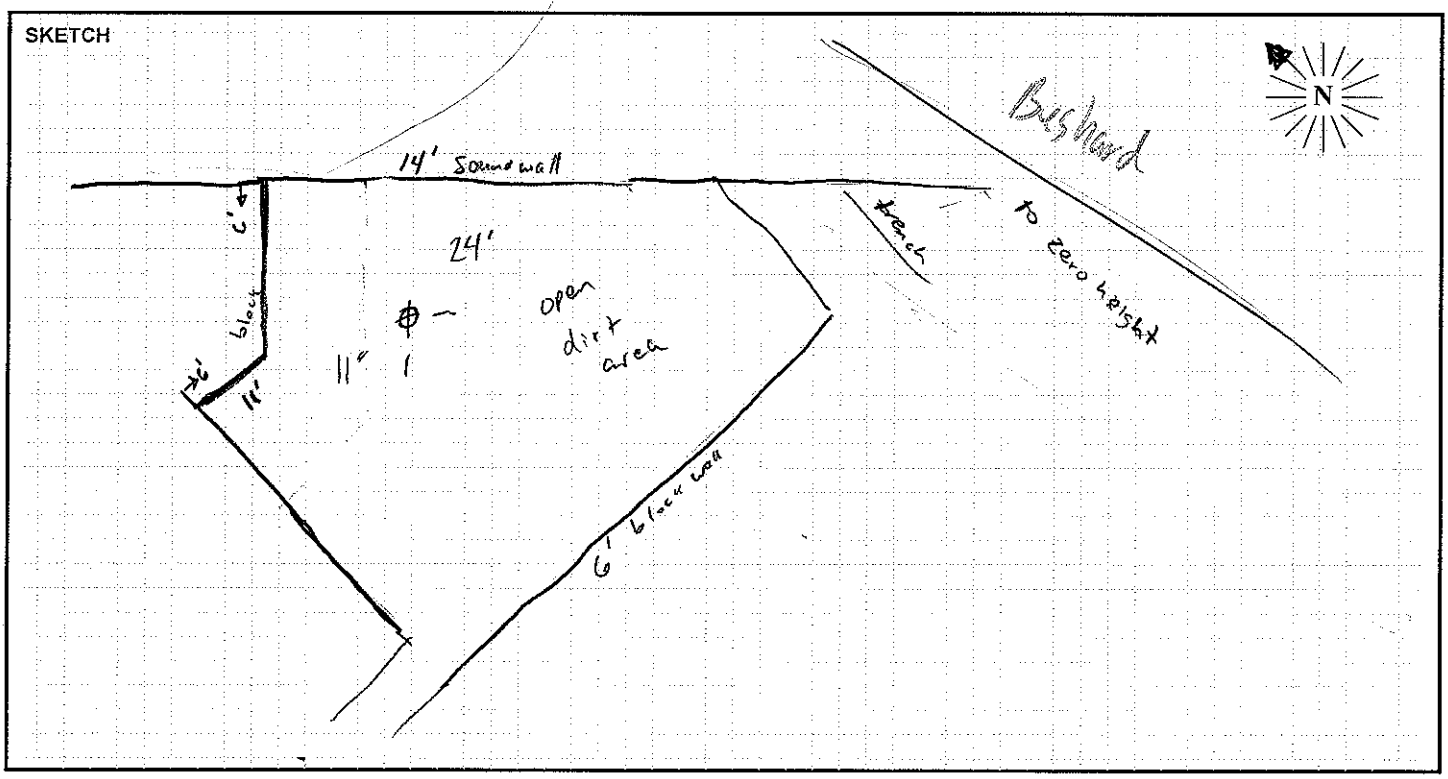
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/15	17:20											
6/16		17:20										

SKETCH

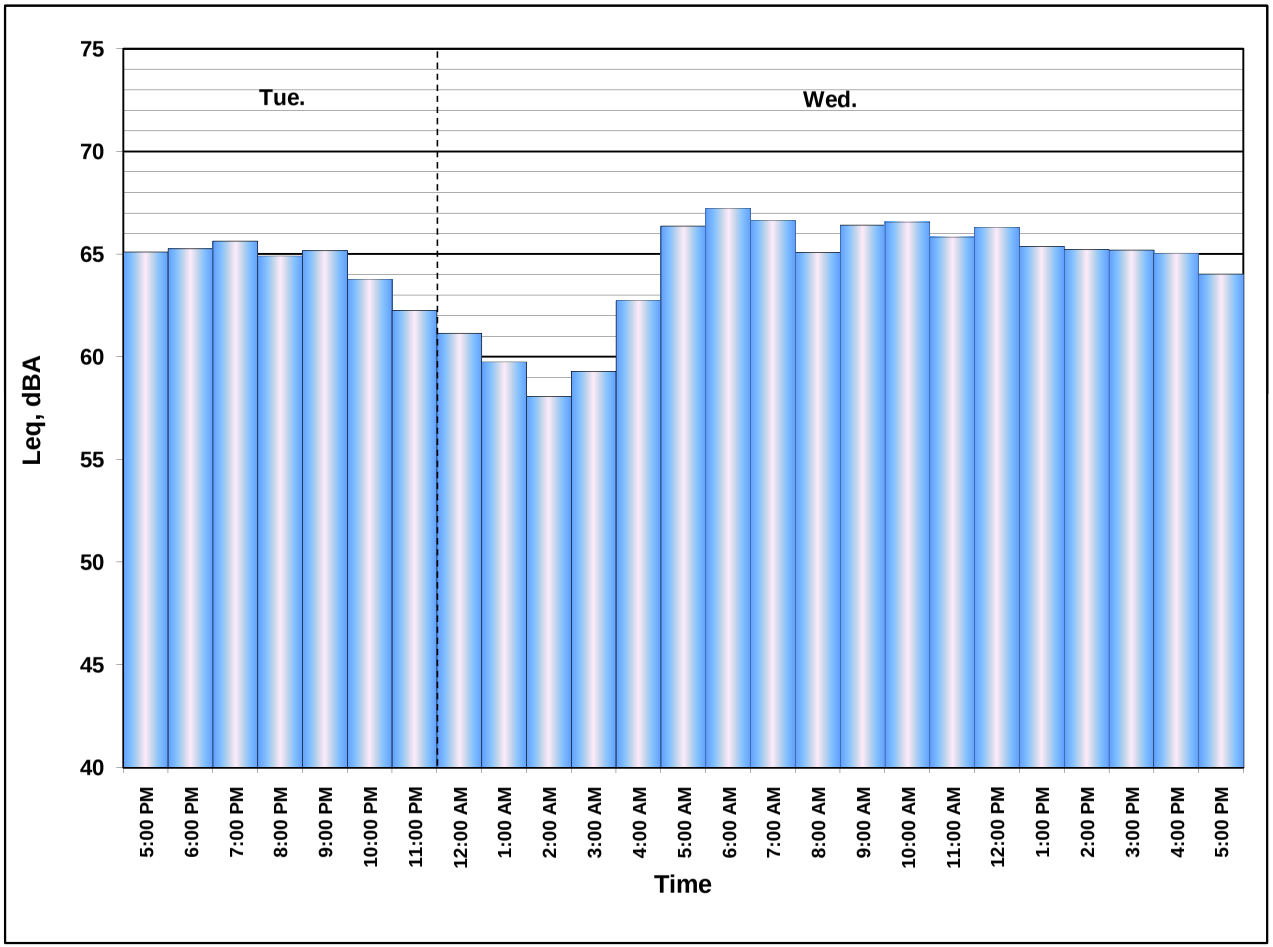


PARSONS

Site LT10 Hourly Noise Levels, $L_{eq}(h)$

Location: 9460 Andalusia Ave.,
Position: Backyard
Sources: Traffic on I- 405
Date: 06/15/10 - 06/16/10 **Notes:** See attached Noise Measurement Form.

TIME	6/15-6/16 $L_{eq(h)}$ dBA
05:00 - 06:00 PM	65
06:00 - 07:00 PM	65
07:00 - 08:00 PM	66
08:00 - 09:00 PM	65
09:00 - 10:00 PM	65
10:00 - 11:00 PM	64
11:00 - 12:00 AM	62
12:00 - 01:00 AM	61
01:00 - 02:00 AM	60
02:00 - 03:00 AM	58
03:00 - 04:00 AM	59
04:00 - 05:00 AM	63
05:00 - 06:00 AM	66
06:00 - 07:00 AM	67
07:00 - 08:00 AM	67
08:00 - 09:00 AM	65
09:00 - 10:00 AM	66
10:00 - 11:00 AM	67
11:00 - 12:00 PM	66
12:00 - 01:00 PM	66
01:00 - 02:00 PM	65
02:00 - 03:00 PM	65
03:00 - 04:00 PM	65
04:00 - 05:00 PM	65
05:00 - 06:00 PM	64



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 6/11/10
MEASUREMENT ADDRESS: 16841 Daisy Ave	CITY: Fountain Valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial
		SITE NO.: LT 11

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:
☐ LD-870 ☒ LD-820	☒ WIND SCREEN	☐ LD-900
☐ LD-824 ☐ LD-812	☐ NON-POLAR ☒ POLARIZED	☒ LD-828
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____
	☐ 1-INCH ☒ RANDOM	
SERIAL #: 1172	SERIAL #: 16967	SERIAL #: 1629

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 75 °F R.H.: 58 %

WIND SPEED: 1-2 MPH

TOWARD (DIR): Calm

SKIES: Clear

CAMERA iPhone

PHOTO NOs. _____

CALIBRATOR:

☒ LD CA250
☐ B&K 4231
S/N 2480/2479

Freq, Hz.
☒ 250
☐ 1000
☐ _____

CALIBRATION RECORD:

Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 7.8, 12:59

After 114, 114.0, 7.8, 11:23

METER SETTINGS:

☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES:

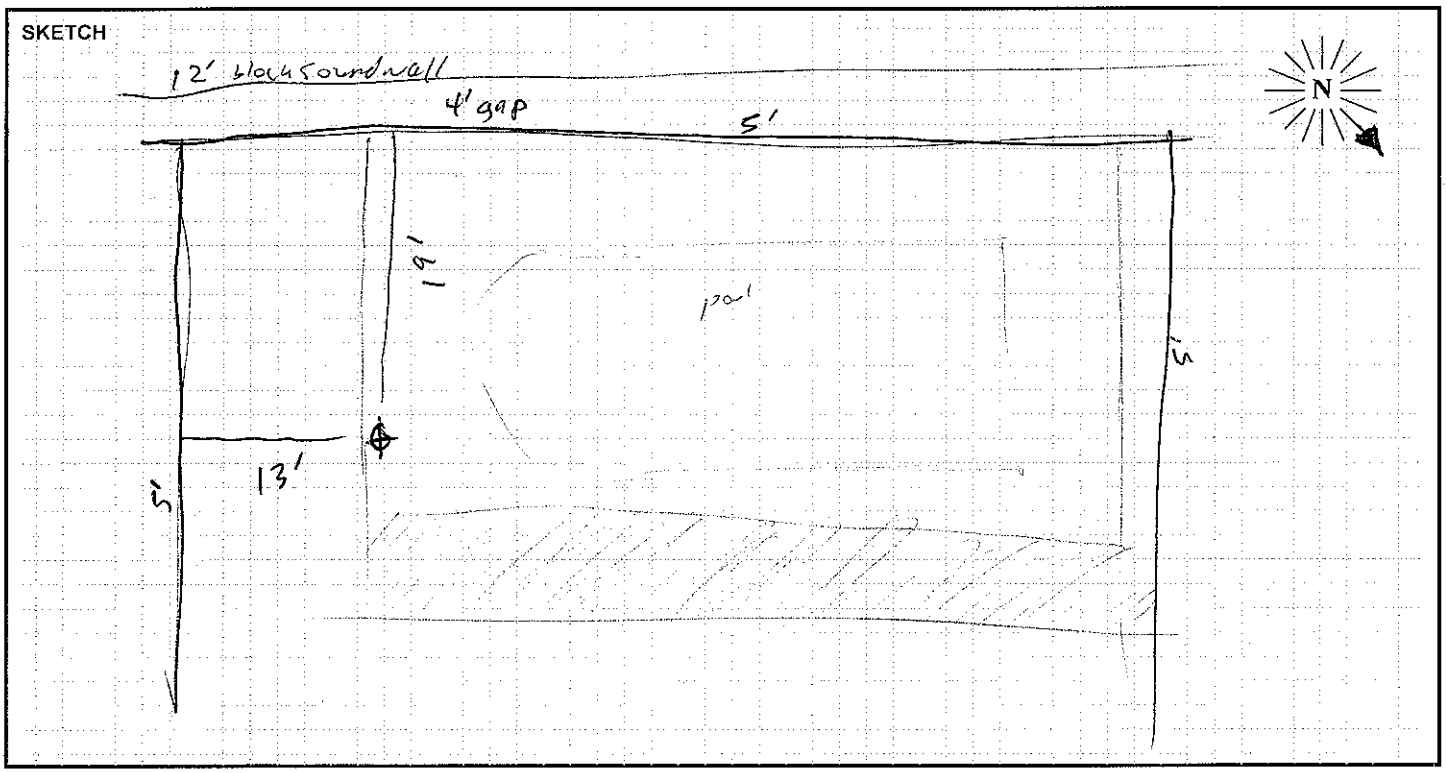
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/11	13:00											
6/15		11:22										

SKETCH

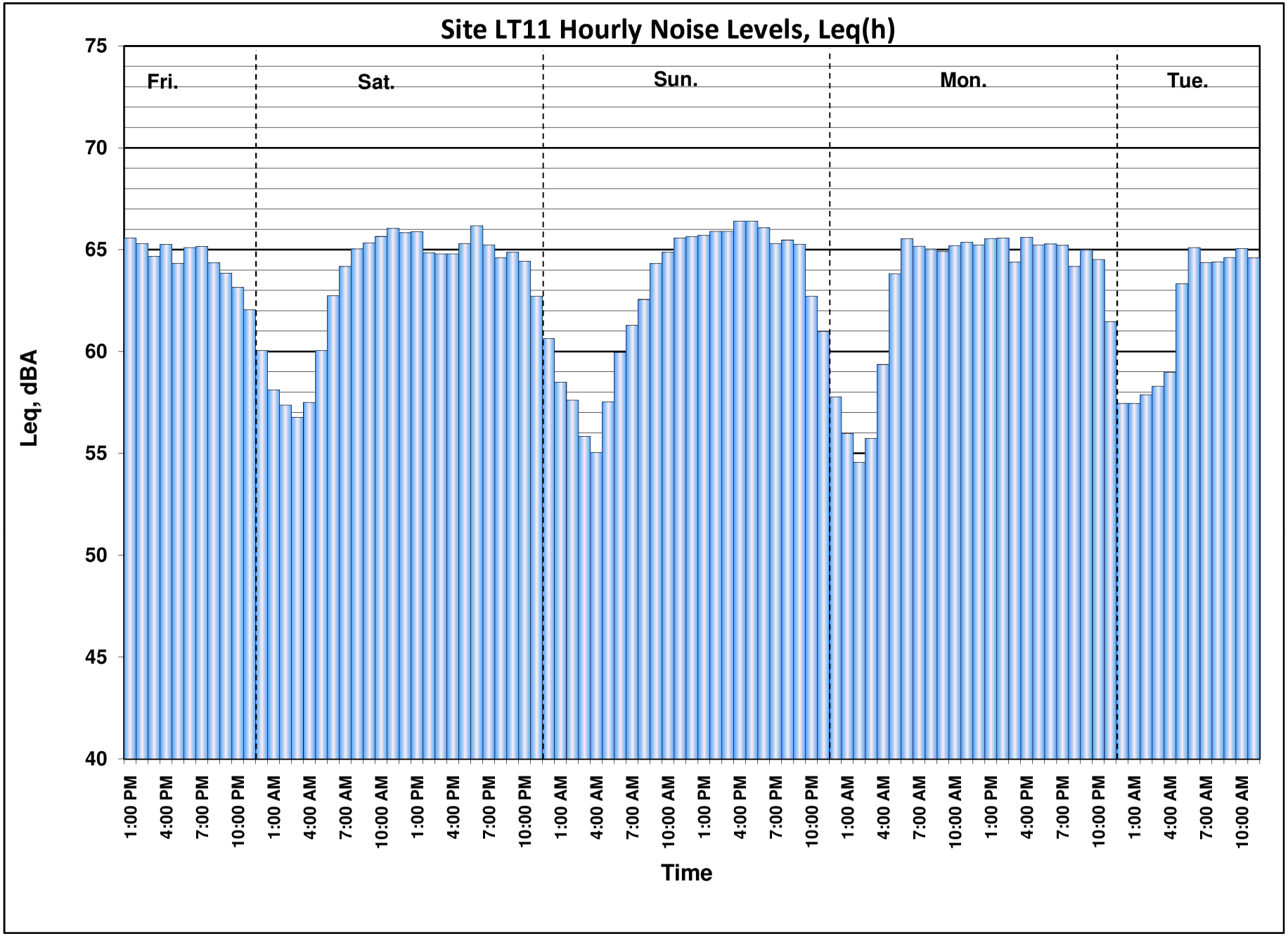


PARSONS

Site LT11 Hourly Noise Levels, $L_{eq}(h)$

Location: 16841 Daisy Ave, Fountain Valley
Position: Backyard
Sources: Traffic on I- 405
Date: 06/11/10 - 06/15/10 **Notes:** See attached Noise Measurement Form.

TIME	6/11-6/12 $L_{eq(h)}$ dBA	6/12-6/13 $L_{eq(h)}$ dBA	6/13-6/14 $L_{eq(h)}$ dBA	6/14-6/15 $L_{eq(h)}$ dBA
01:00 - 02:00 PM	66	66	66	66
02:00 - 03:00 PM	65	65	66	66
03:00 - 04:00 PM	65	65	66	64
04:00 - 05:00 PM	65	65	66	66
05:00 - 06:00 PM	64	65	66	65
06:00 - 07:00 PM	65	66	66	65
07:00 - 08:00 PM	65	65	65	65
08:00 - 09:00 PM	64	65	65	64
09:00 - 10:00 PM	64	65	65	65
10:00 - 11:00 PM	63	64	63	65
11:00 - 12:00 AM	62	63	61	61
12:00 - 01:00 AM	60	61	58	57
01:00 - 02:00 AM	58	58	56	57
02:00 - 03:00 AM	57	58	55	58
03:00 - 04:00 AM	57	56	56	58
04:00 - 05:00 AM	58	55	59	59
05:00 - 06:00 AM	60	58	64	63
06:00 - 07:00 AM	63	60	66	65
07:00 - 08:00 AM	64	61	65	64
08:00 - 09:00 AM	65	63	65	64
09:00 - 10:00 AM	65	64	65	65
10:00 - 11:00 AM	66	65	65	65
11:00 - 12:00 PM	66	66	65	65
12:00 - 01:00 PM	66	66	65	


Site LT11 Hourly Noise Levels, Leq(h)
Fri.
Sat.
Sun.
Mon.
Tue.
Leq, dBA
75
70
65
60
55
50
45
40
1:00 PM
4:00 PM
7:00 PM
10:00 PM
1:00 AM
4:00 AM
7:00 AM
10:00 AM
1:00 PM
4:00 PM
7:00 PM
10:00 PM
1:00 AM
4:00 AM
7:00 AM
10:00 AM
1:00 PM
4:00 PM
7:00 PM
10:00 PM
1:00 AM
4:00 AM
7:00 AM
10:00 AM
1:00 PM
4:00 PM
7:00 PM
10:00 PM
1:00 AM
4:00 AM
7:00 AM
10:00 AM
Time

FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 6/15/10
MEASUREMENT ADDRESS: 8711 Heil Ave	CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: LT12

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☒ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☐ NON-POLAR ☒ POLARIZED	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: 78 °F R.H.: 56 %
SERIAL #: 1177	☐ 1-INCH ☒ RANDOM	SERIAL #: 1629	WIND SPEED: 11 MPH
	SERIAL #: 16967		TOWARD (DIR): _____

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☒ LD CA250	☒ 250	Before 114, 114.0, 7.9, 15:57
☐ B&K 4231	☐ 1000	After 114, 113.9, 7.9, 17:00
S/N 2479	☐ _____	

SKIES: _____

CAMERA _____

PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES: MIC @ 5'6"

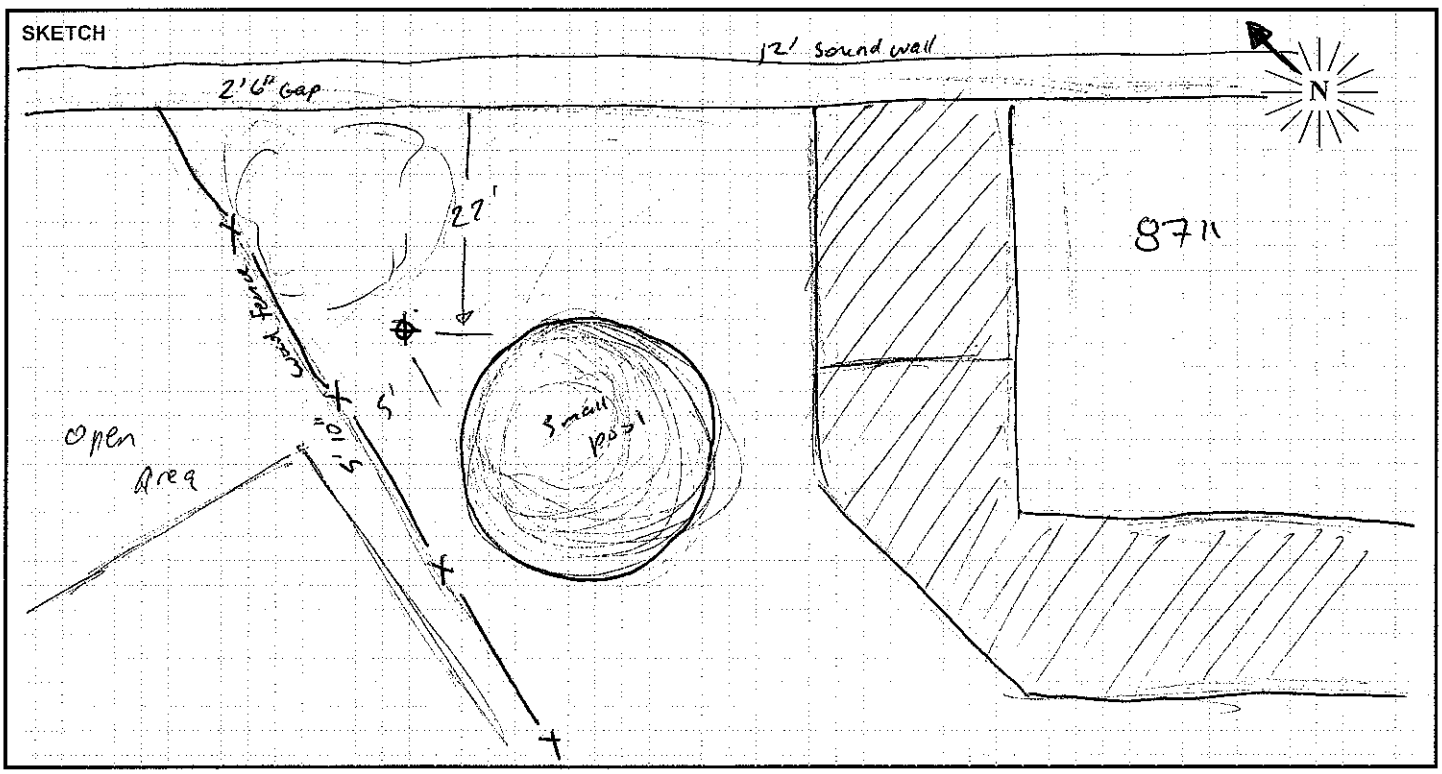
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/15	16:05											
6/16		16:59										

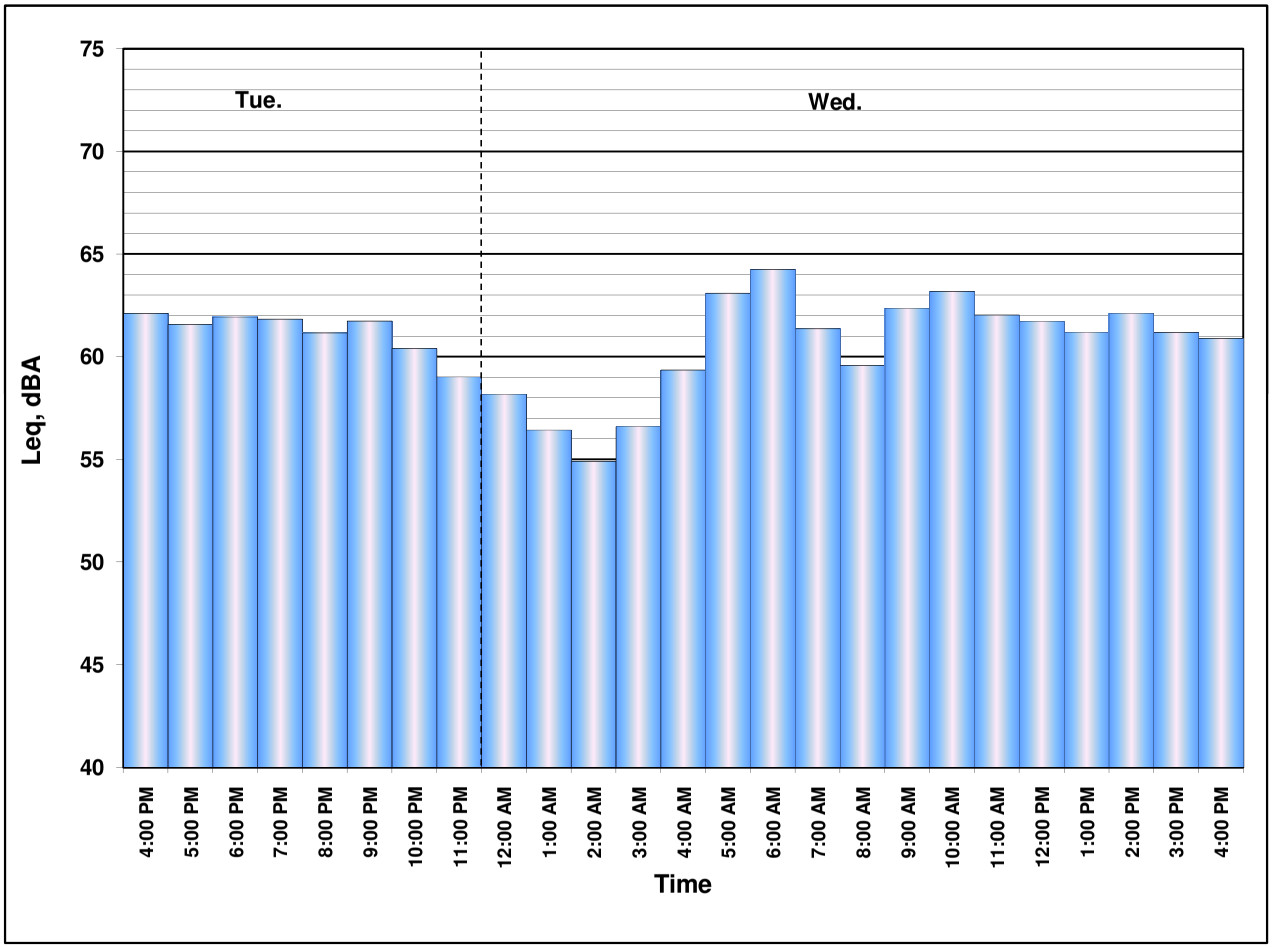
SKETCH



Site LT12 Hourly Noise Levels, $L_{eq}(h)$

Location: 8711 Heil Ave., Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/15/10 - 06/16/10 **Notes:** See attached Noise Measurement Form.

TIME	6/15-6/16 $L_{eq(h)}$ dBA
04:00 - 05:00 PM	62
05:00 - 06:00 PM	62
06:00 - 07:00 PM	62
07:00 - 08:00 PM	62
08:00 - 09:00 PM	61
09:00 - 10:00 PM	62
10:00 - 11:00 PM	60
11:00 - 12:00 AM	59
12:00 - 01:00 AM	58
01:00 - 02:00 AM	56
02:00 - 03:00 AM	55
03:00 - 04:00 AM	57
04:00 - 05:00 AM	59
05:00 - 06:00 AM	63
06:00 - 07:00 AM	64
07:00 - 08:00 AM	61
08:00 - 09:00 AM	60
09:00 - 10:00 AM	62
10:00 - 11:00 AM	63
11:00 - 12:00 PM	62
12:00 - 01:00 PM	62
01:00 - 02:00 PM	61
02:00 - 03:00 PM	62
03:00 - 04:00 PM	61
04:00 - 05:00 PM	61



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/11/10
MEASUREMENT ADDRESS: 16381 Venus Pl.	CITY: Westminster	☐ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT13

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____	MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☒ FREEFIELD ☐ 1-INCH ☐ RANDOM	PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____	NOTES: SYSTEM PWR: ☒ BAT ☐ AC (observations at start of measurement)
SERIAL #: 0638	SERIAL #: 3158	SERIAL #: 1901	TEMP: 72 °F R.H.: 56 %

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480	Freq, Hz. ☒ 250 ☐ 1000 ☐ _____	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time Before 114, 114, 8.7, 13:32 After 114, 114.2, 8.7, 11:42

WIND SPEED: 3 MPH
TOWARD (DIR): NE
SKIES: Clear
CAMERA iPhone
PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

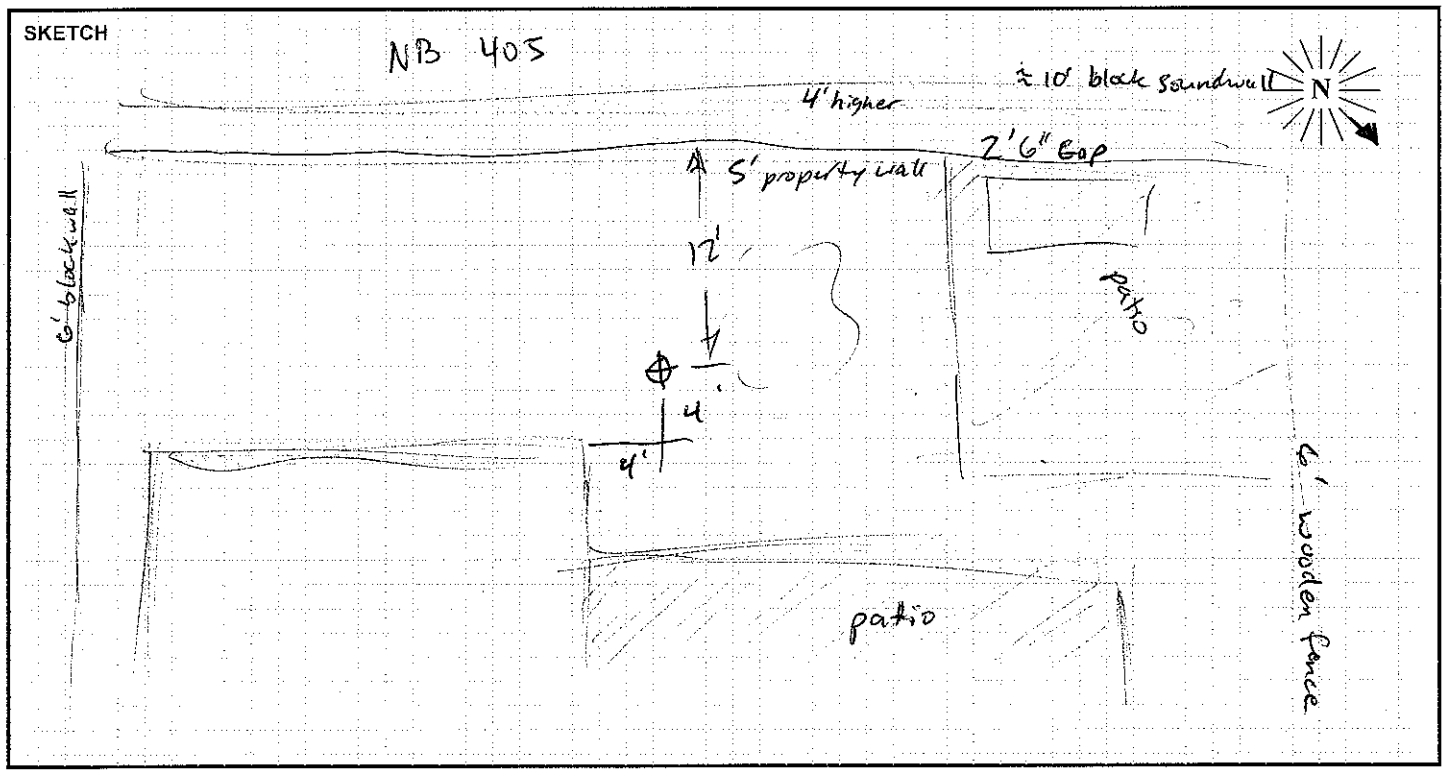
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/11	13:33											
6/15		11:39										

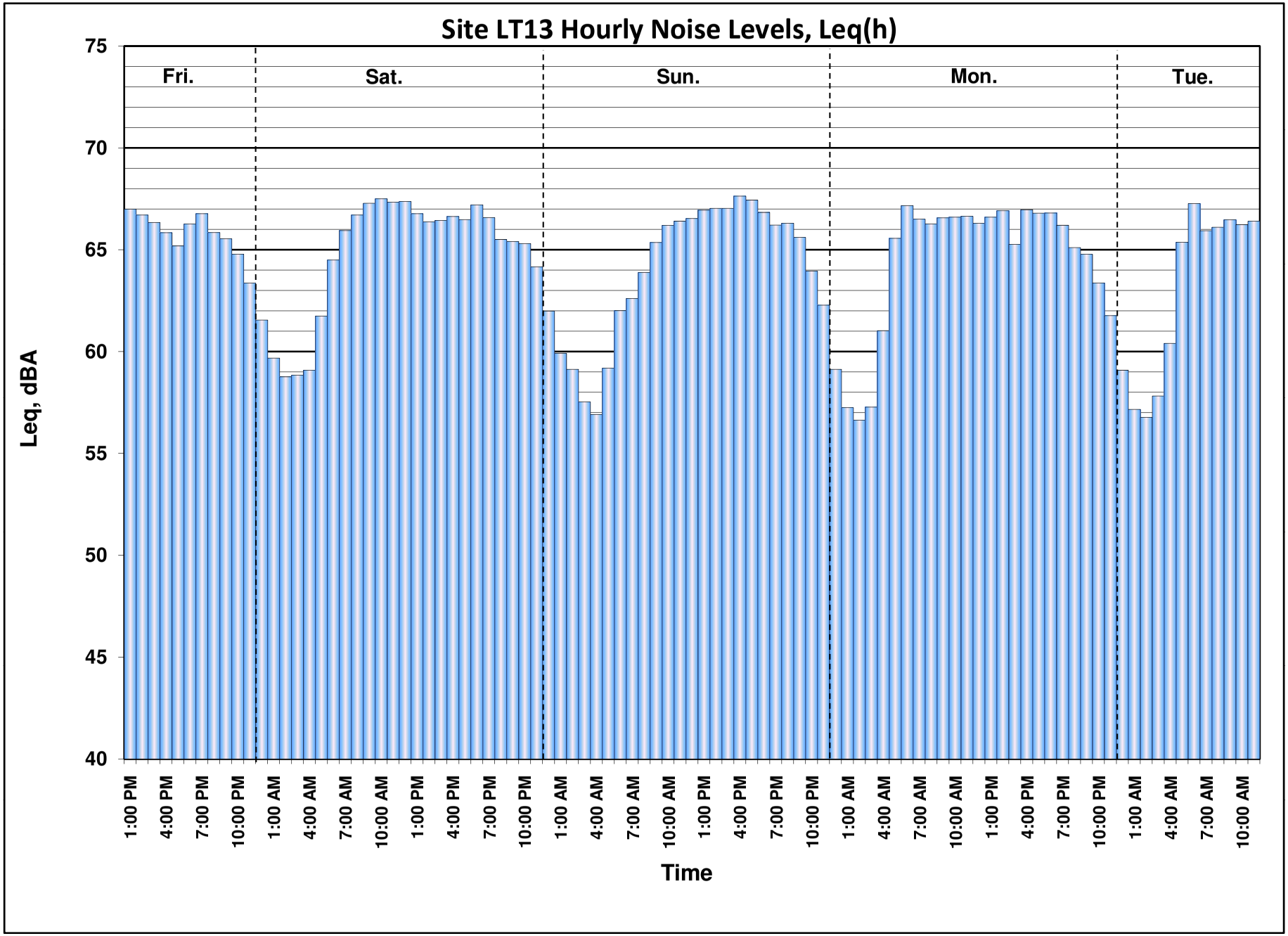
SKETCH



Site LT13 Hourly Noise Levels, $L_{eq}(h)$

Location: 16381 Venus St., Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/11/10 - 06/15/10 **Notes:** See attached Noise Measurement Form.

TIME	6/11-6/12 $L_{eq(h)}$ dBA	6/12-6/13 $L_{eq(h)}$ dBA	6/13-6/14 $L_{eq(h)}$ dBA	6/14-6/15 $L_{eq(h)}$ dBA
01:00 - 02:00 PM	67	67	67	67
02:00 - 03:00 PM	67	66	67	67
03:00 - 04:00 PM	66	66	67	65
04:00 - 05:00 PM	66	67	68	67
05:00 - 06:00 PM	65	66	67	67
06:00 - 07:00 PM	66	67	67	67
07:00 - 08:00 PM	67	67	66	66
08:00 - 09:00 PM	66	66	66	65
09:00 - 10:00 PM	66	65	66	65
10:00 - 11:00 PM	65	65	64	63
11:00 - 12:00 AM	63	64	62	62
12:00 - 01:00 AM	62	62	59	59
01:00 - 02:00 AM	60	60	57	57
02:00 - 03:00 AM	59	59	57	57
03:00 - 04:00 AM	59	58	57	58
04:00 - 05:00 AM	59	57	61	60
05:00 - 06:00 AM	62	59	66	65
06:00 - 07:00 AM	64	62	67	67
07:00 - 08:00 AM	66	63	67	66
08:00 - 09:00 AM	67	64	66	66
09:00 - 10:00 AM	67	65	67	66
10:00 - 11:00 AM	68	66	67	66
11:00 - 12:00 PM	67	66	67	66
12:00 - 01:00 PM	67	67	66	


Site LT13 Hourly Noise Levels, Leq(h)
Fri.
Sat.
Sun.
Mon.
Tue.
Leq, dBA
75
70
65
60
55
50
45
40
1:00 PM
4:00 PM
7:00 PM
10:00 PM
1:00 AM
4:00 AM
7:00 AM
10:00 AM
1:00 PM
4:00 PM
7:00 PM
10:00 PM
1:00 AM
4:00 AM
7:00 AM
10:00 AM
1:00 PM
4:00 PM
7:00 PM
10:00 PM
1:00 AM
4:00 AM
7:00 AM
10:00 AM
1:00 PM
4:00 PM
7:00 PM
10:00 PM
1:00 AM
4:00 AM
7:00 AM
10:00 AM
Time

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OLDEN	DATE: 6/15/10
MEASUREMENT ADDRESS: 8480 Wells Rd.	CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT 14

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☐ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☐ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☐ 1-INCH ☐ RANDOM	☐ _____	TEMP: 73 °F R.H.: 66 %
SERIAL #: 0638	SERIAL #: 3158	SERIAL #: 1901	WIND SPEED: 1.4 MPH

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LD CA250	☒ 250	Before	114, 114, 8.8, 14:06
☐ B&K 4231	☐ 1000	After	114, 114, 8.8, 16:34
S/N 2479	☐ _____		

TOWARD (DIR): Calm
SKIES: Clear
CAMERA iphone
PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☐ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

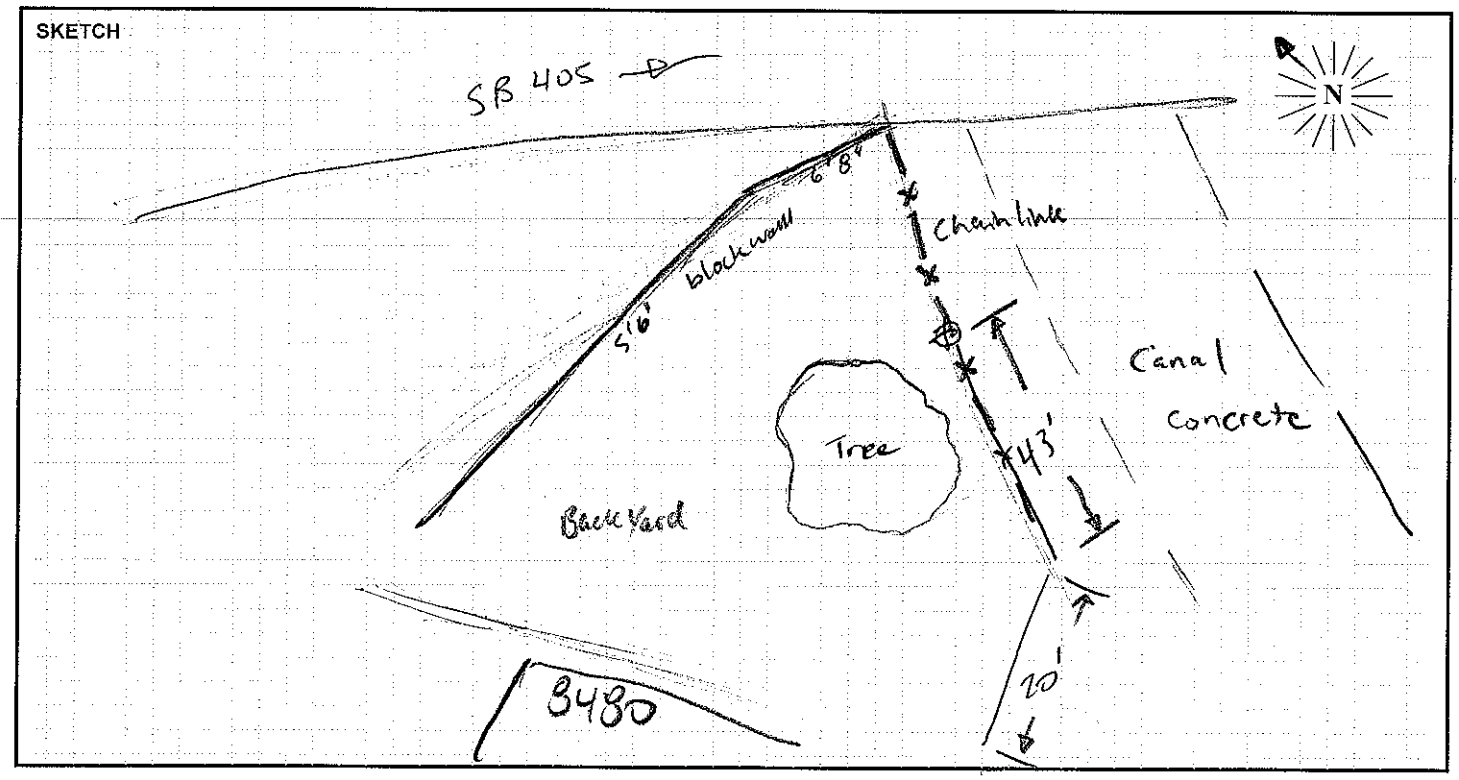
NOTES: mic @ 5'8"

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/15	14:09											
6/16		16:26										

SKETCH

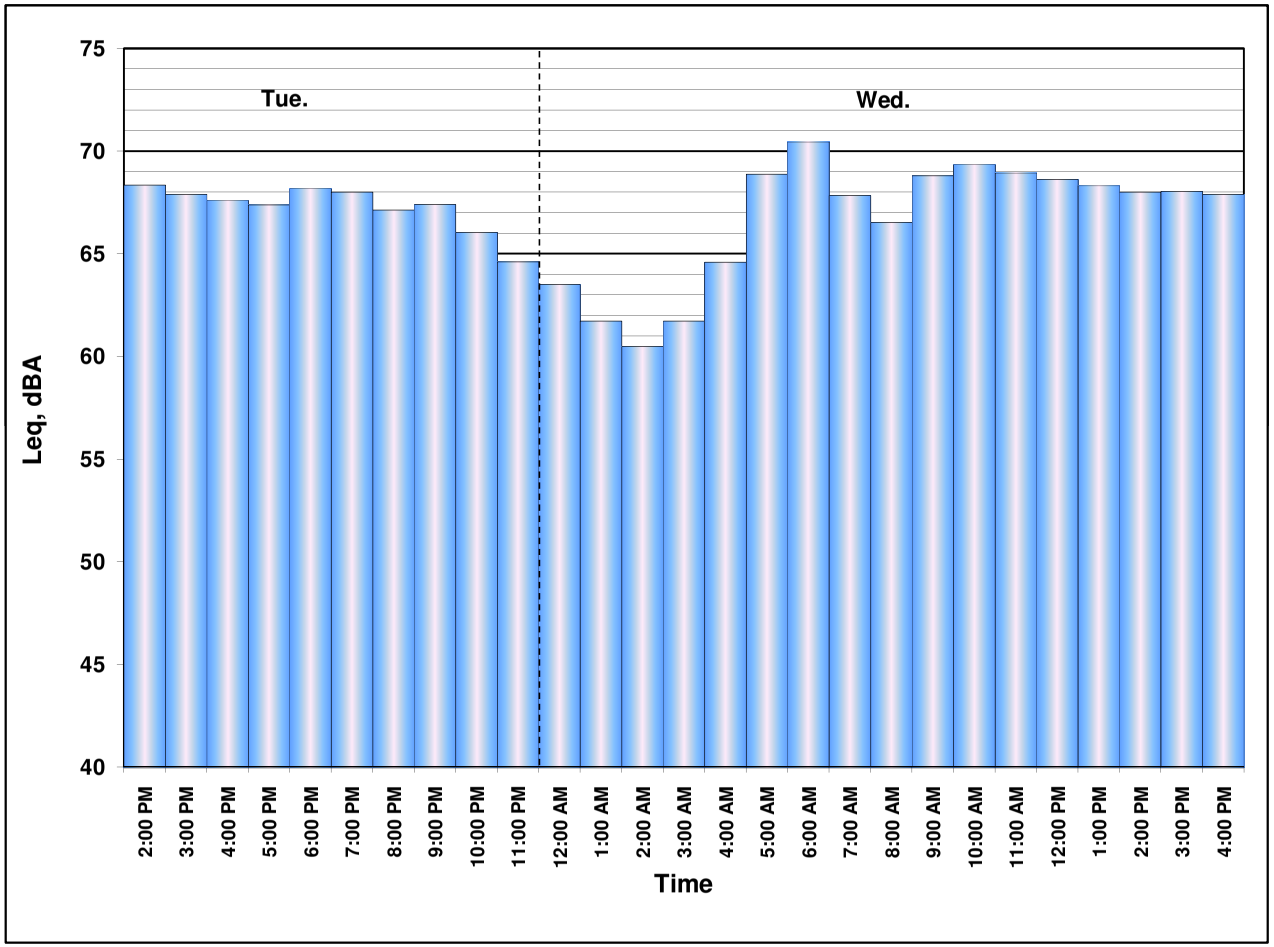


PARSONS

Site LT14 Hourly Noise Levels, $L_{eq}(h)$

Location: 8480 Wells Road, Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/15/10 - 06/16/10 **Notes:** See attached Noise Measurement Form.

TIME	6/15-6/16 $L_{eq(h)}$ dBA
02:00 - 03:00 PM	68
03:00 - 04:00 PM	68
04:00 - 05:00 PM	68
05:00 - 06:00 PM	67
06:00 - 07:00 PM	68
07:00 - 08:00 PM	68
08:00 - 09:00 PM	67
09:00 - 10:00 PM	67
10:00 - 11:00 PM	66
11:00 - 12:00 AM	65
12:00 - 01:00 AM	64
01:00 - 02:00 AM	62
02:00 - 03:00 AM	60
03:00 - 04:00 AM	62
04:00 - 05:00 AM	65
05:00 - 06:00 AM	69
06:00 - 07:00 AM	70
07:00 - 08:00 AM	68
08:00 - 09:00 AM	67
09:00 - 10:00 AM	69
10:00 - 11:00 AM	69
11:00 - 12:00 PM	69
12:00 - 01:00 PM	69
01:00 - 02:00 PM	68
02:00 - 03:00 PM	68
03:00 - 04:00 PM	68
04:00 - 05:00 PM	68



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/11/10
MEASUREMENT ADDRESS: 15431 Cascade Ln	CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT 15

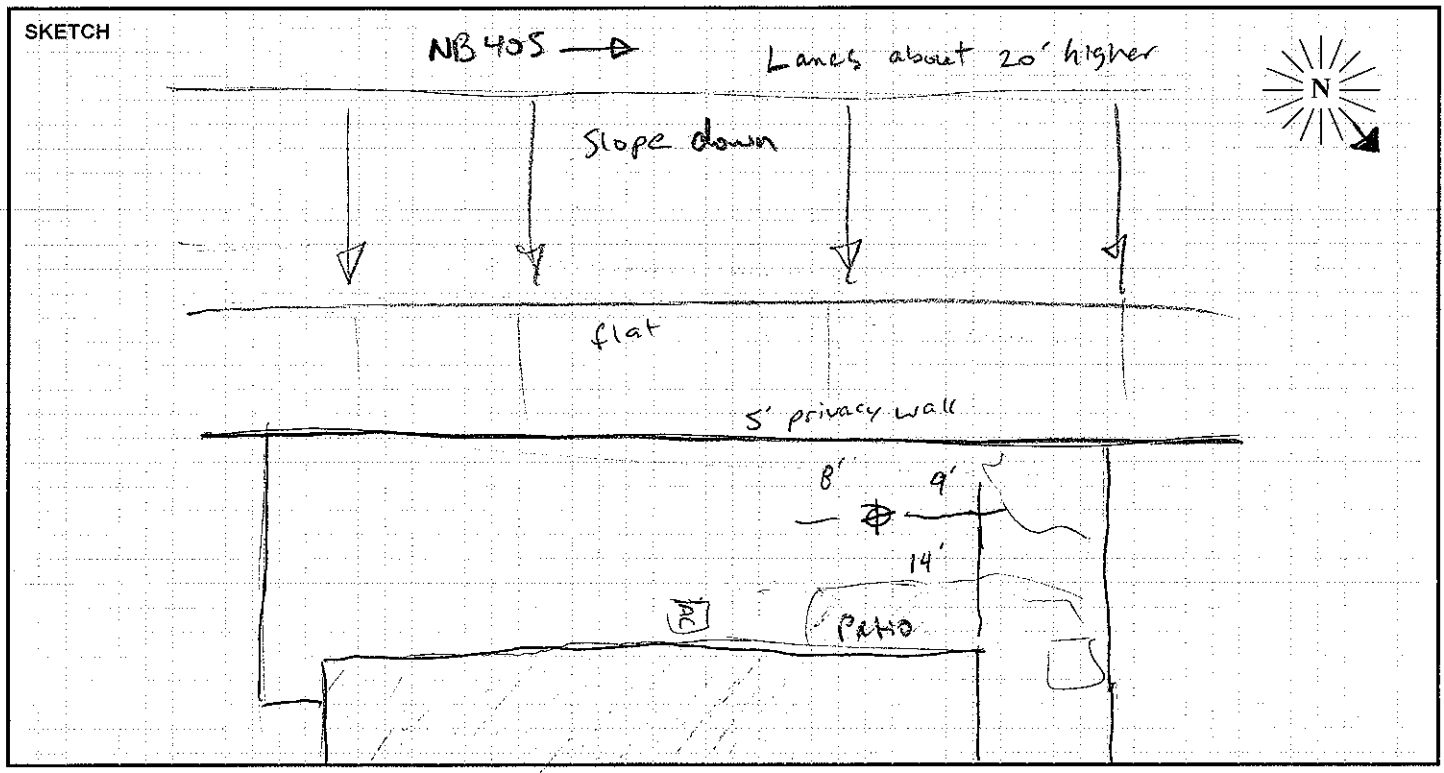
SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☐ 1-INCH ☐ RANDOM	☐ _____	
SERIAL #: 0639	SERIAL #: [redacted] 3155	SERIAL #: [redacted]	TEMP: 73 °F R.H.: 57 %

CALIBRATOR:		CALIBRATION RECORD: 1938	
	Freq, Hz.	Input, dB / Reading, dB / Offset, dB / Time	WIND SPEED: 1-2 MPH
☒ LD CA250	☒ 250	Before 114, 114, 6.6, 14:48	TOWARD (DIR): Colin
☐ B&K 4231	☐ 1000		SKIES: Partly Cloudy
S/N 2480 / 2479	☐ _____	After 114, 113.9, 6.6, 12:01	CAMERA iphone
METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE			PHOTO NOs. _____
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES			

NOTES:	Dist. to Center of Nearest Lane _____	☐ Video ☐ Radar	Counts AT MT HT	MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/11	14:48											
6/15		12:00										

SKETCH

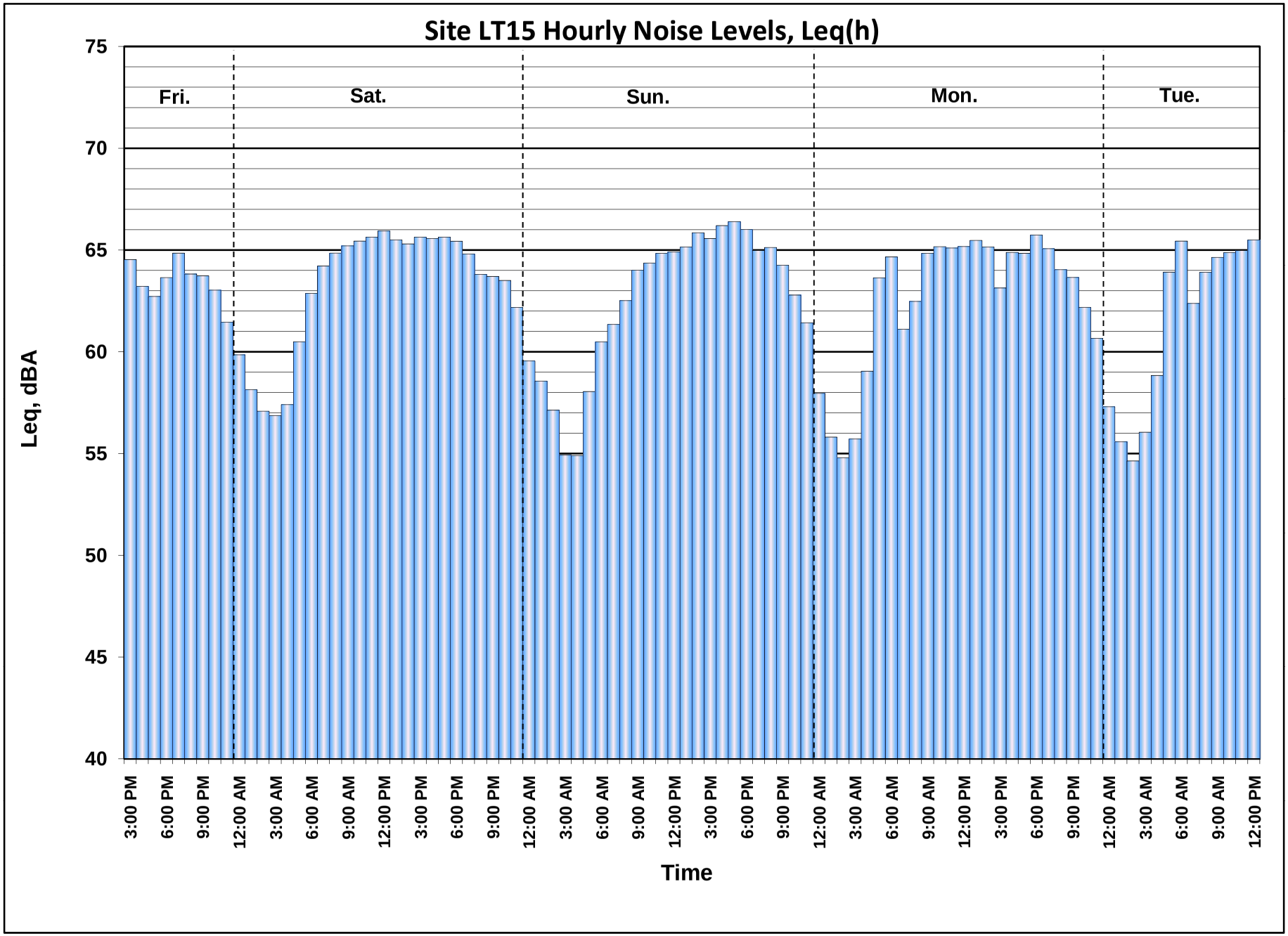


PARSONS

Site LT15 Hourly Noise Levels, $L_{eq}(h)$

Location: 15431 Cascade Ln., Huntington Beach, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/11/10 - 06/15/10 **Notes:** See attached Noise Measurement Form.

TIME	6/11-6/12 $L_{eq(h)}$ dBA	6/12-6/13 $L_{eq(h)}$ dBA	6/13-6/14 $L_{eq(h)}$ dBA	6/14-6/15 $L_{eq(h)}$ dBA
03:00 - 04:00 PM	65	66	66	63
04:00 - 05:00 PM	63	66	66	65
05:00 - 06:00 PM	63	66	66	65
06:00 - 07:00 PM	64	65	66	66
07:00 - 08:00 PM	65	65	65	65
08:00 - 09:00 PM	64	64	65	64
09:00 - 10:00 PM	64	64	64	64
10:00 - 11:00 PM	63	64	63	62
11:00 - 12:00 AM	61	62	61	61
12:00 - 01:00 AM	60	60	58	57
01:00 - 02:00 AM	58	59	56	56
02:00 - 03:00 AM	57	57	55	55
03:00 - 04:00 AM	57	55	56	56
04:00 - 05:00 AM	57	55	59	59
05:00 - 06:00 AM	60	58	64	64
06:00 - 07:00 AM	63	60	65	65
07:00 - 08:00 AM	64	61	61	62
08:00 - 09:00 AM	65	63	62	64
09:00 - 10:00 AM	65	64	65	65
10:00 - 11:00 AM	65	64	65	65
11:00 - 12:00 PM	66	65	65	65
12:00 - 01:00 PM	66	65	65	66
01:00 - 02:00 PM	66	65	65	--
02:00 - 03:00 PM	65	66	65	--


Site LT15 Hourly Noise Levels, Leq(h)
Fri.
Sat.
Sun.
Mon.
Tue.
Leq, dBA
75
70
65
60
55
50
45
40
3:00 PM
6:00 PM
9:00 PM
12:00 AM
3:00 AM
6:00 AM
9:00 AM
12:00 PM
Time

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A / Philip J.

DATE: 06/15/10

MEASUREMENT ADDRESS: 15272 Vermont St.

CITY: Westminster

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: LT 16

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0659

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 3378

PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____

SERIAL #: 1891

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 73 °F R.H.: 61 %

WIND SPEED: 1.6 MPH

TOWARD (DIR): Calm

SKIES: Sunny

CAMERA _____

PHOTO NOs. 39-47

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N _____

Freq, Hz. ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 6.7, 14:01

After 114, 113.7, 6.7, 15:14

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

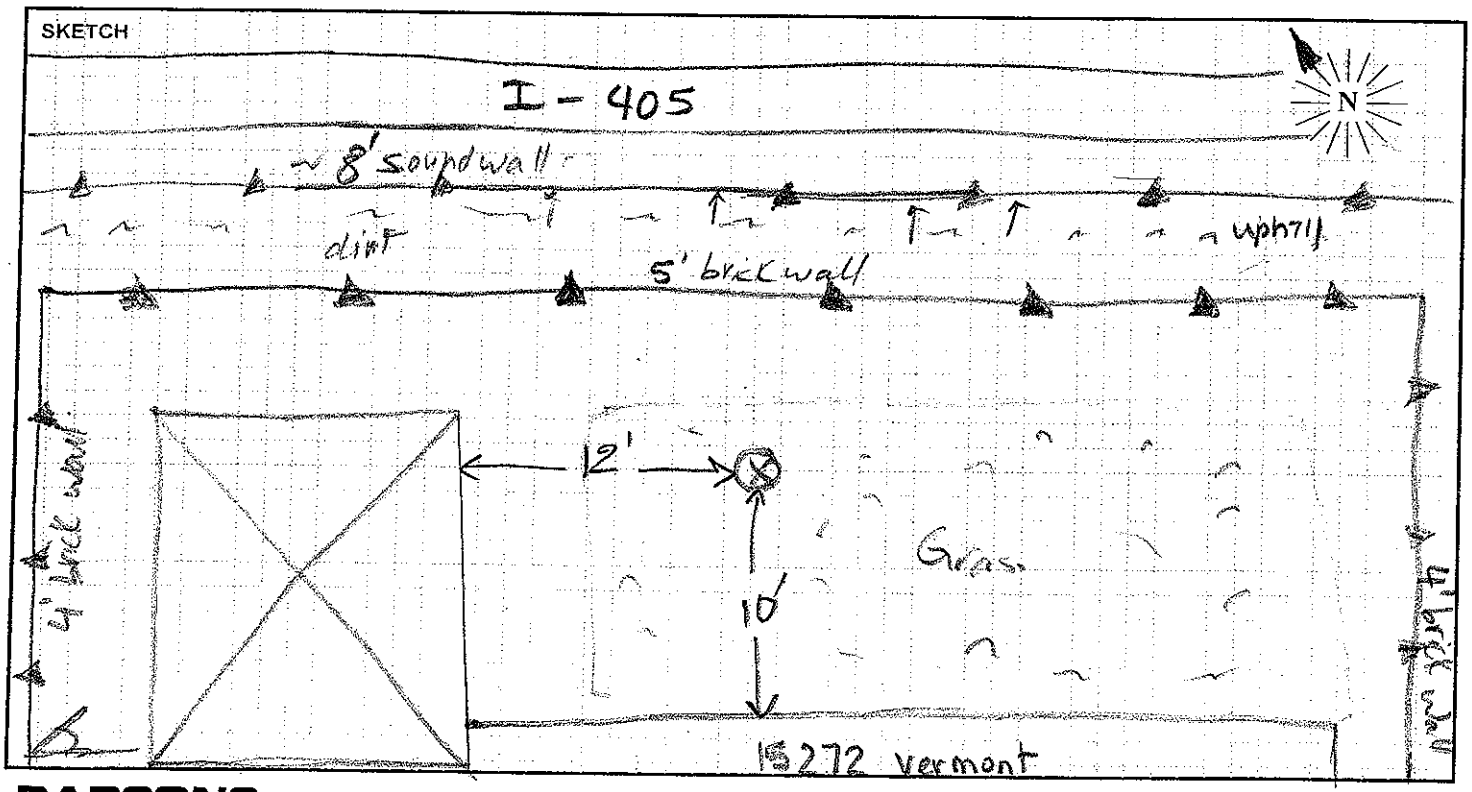
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/15	14:02											sound wall starts 2
6/16		15:11										houses down (on the left)

SKETCH

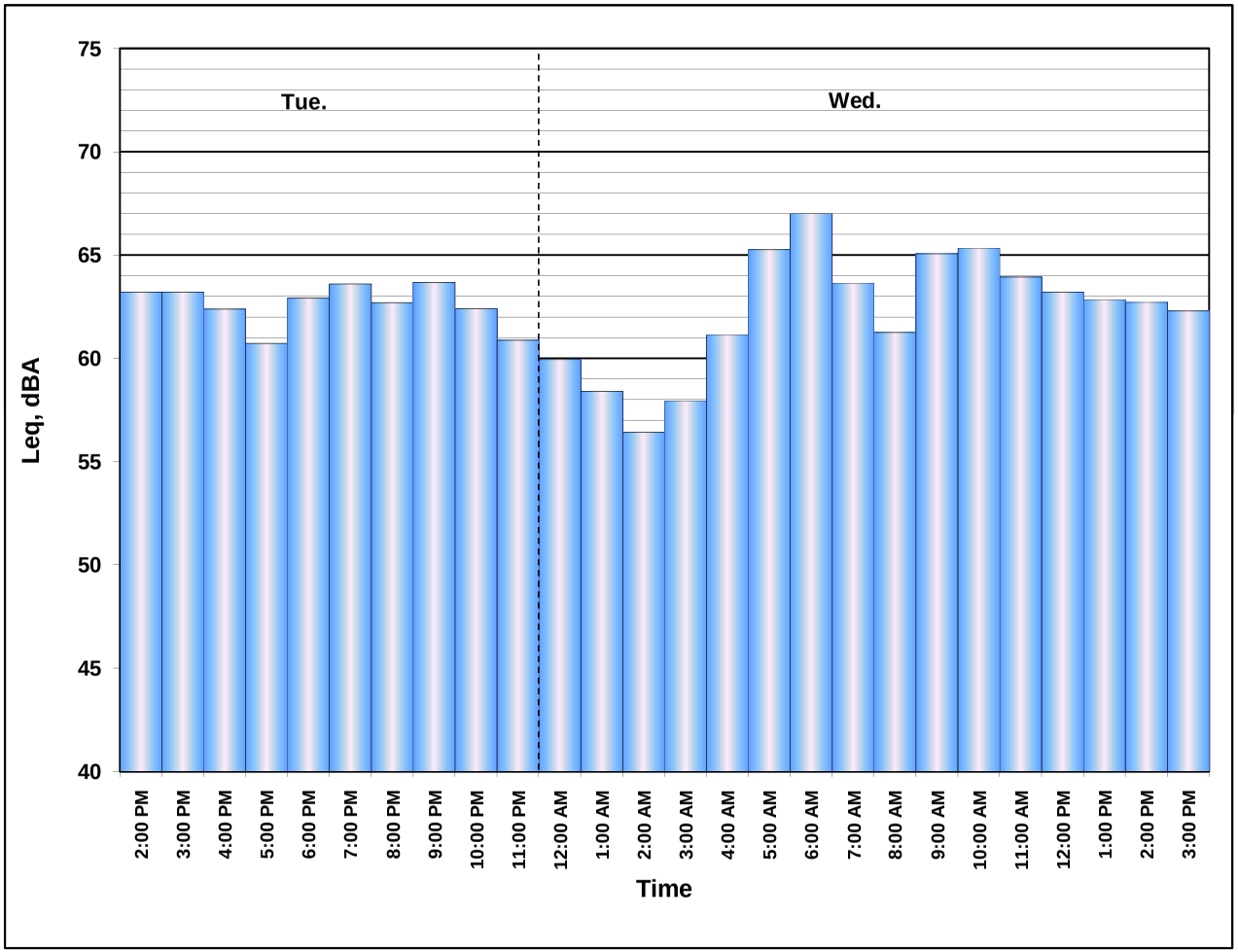


PARSONS

Site LT16 Hourly Noise Levels, $L_{eq}(h)$

Location: 15272 Vermont St., Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/15/10 - 06/16/10 **Notes:** See attached Noise Measurement Form.

TIME	6/15-6/16 $L_{eq(h)}$ dBA
02:00 - 03:00 PM	63
03:00 - 04:00 PM	62
04:00 - 05:00 PM	61
05:00 - 06:00 PM	63
06:00 - 07:00 PM	64
07:00 - 08:00 PM	63
08:00 - 09:00 PM	64
09:00 - 10:00 PM	62
10:00 - 11:00 PM	61
11:00 - 12:00 AM	60
12:00 - 01:00 AM	58
01:00 - 02:00 AM	56
02:00 - 03:00 AM	58
03:00 - 04:00 AM	61
04:00 - 05:00 AM	65
05:00 - 06:00 AM	67
06:00 - 07:00 AM	64
07:00 - 08:00 AM	61
08:00 - 09:00 AM	65
09:00 - 10:00 AM	65
10:00 - 11:00 AM	64
11:00 - 12:00 PM	63
12:00 - 01:00 PM	63
01:00 - 02:00 PM	63
02:00 - 03:00 PM	62



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Jason Ogden / Ibrahim Abdullah	DATE: 6/21/10
MEASUREMENT ADDRESS: 6872 Sowell Avenue	CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT17

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____	☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM	☐ LD-900 ☒ LD-828 ☐ _____	SYSTEM PWR: ☒ BAT ☐ AC (observations at start of measurement) TEMP: _____ °F R.H.: _____ % WIND SPEED: _____ MPH TOWARD (DIR): _____ SKIES: _____ CAMERA iPhone PHOTO NOs. _____
SERIAL #: 0638	SERIAL #: 3159	SERIAL #: 1901	

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☒ LOCAL200 ☐ LD CA250 ☐ B&K 4231 S/N 2924	☐ 250 ☒ 1000 ☐ _____	Before 114, 114, 8.8, 10:11 After 114, 113.8, 8.8, 11:07

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

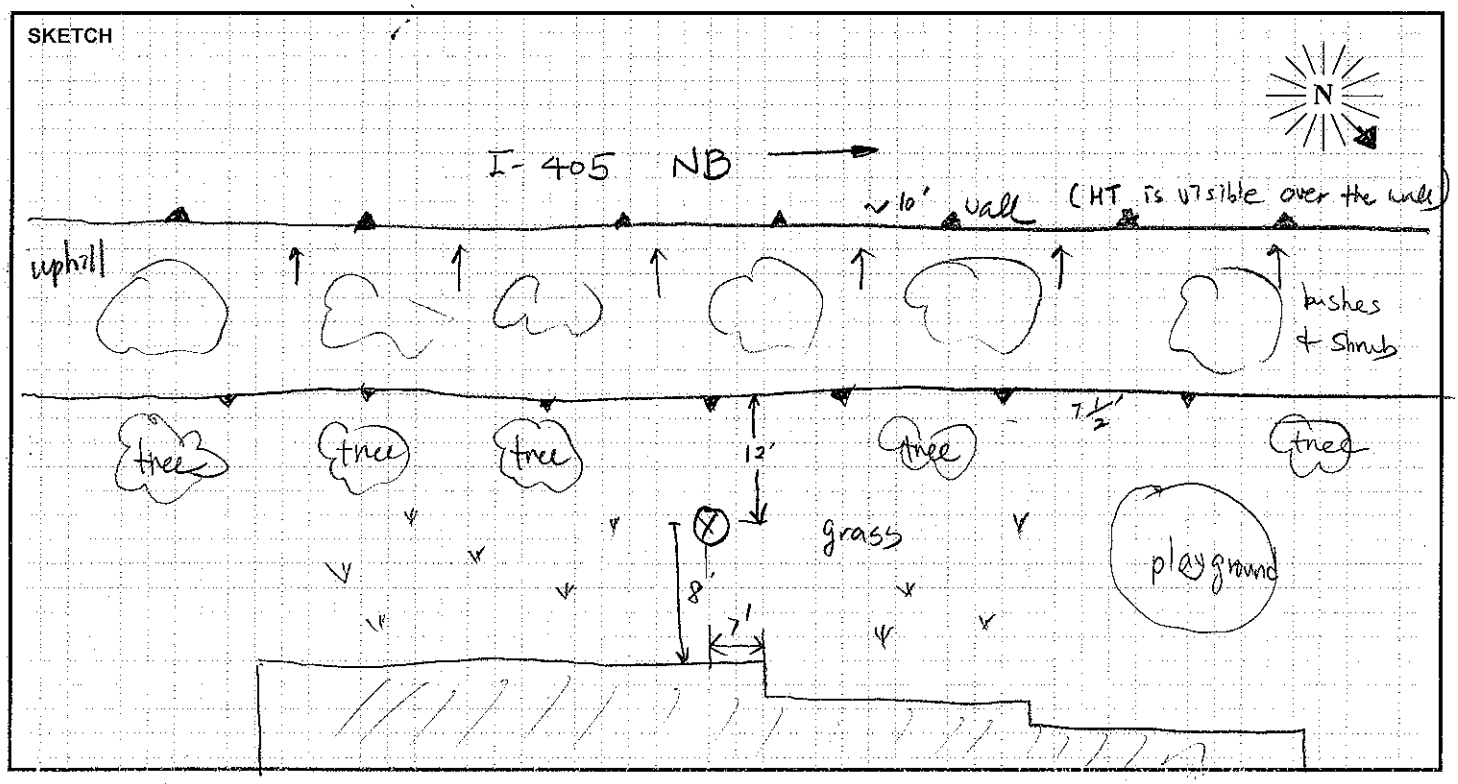
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/21/10	10:11											~62 to 63 at the time of start
6/22		11:06										

SKETCH

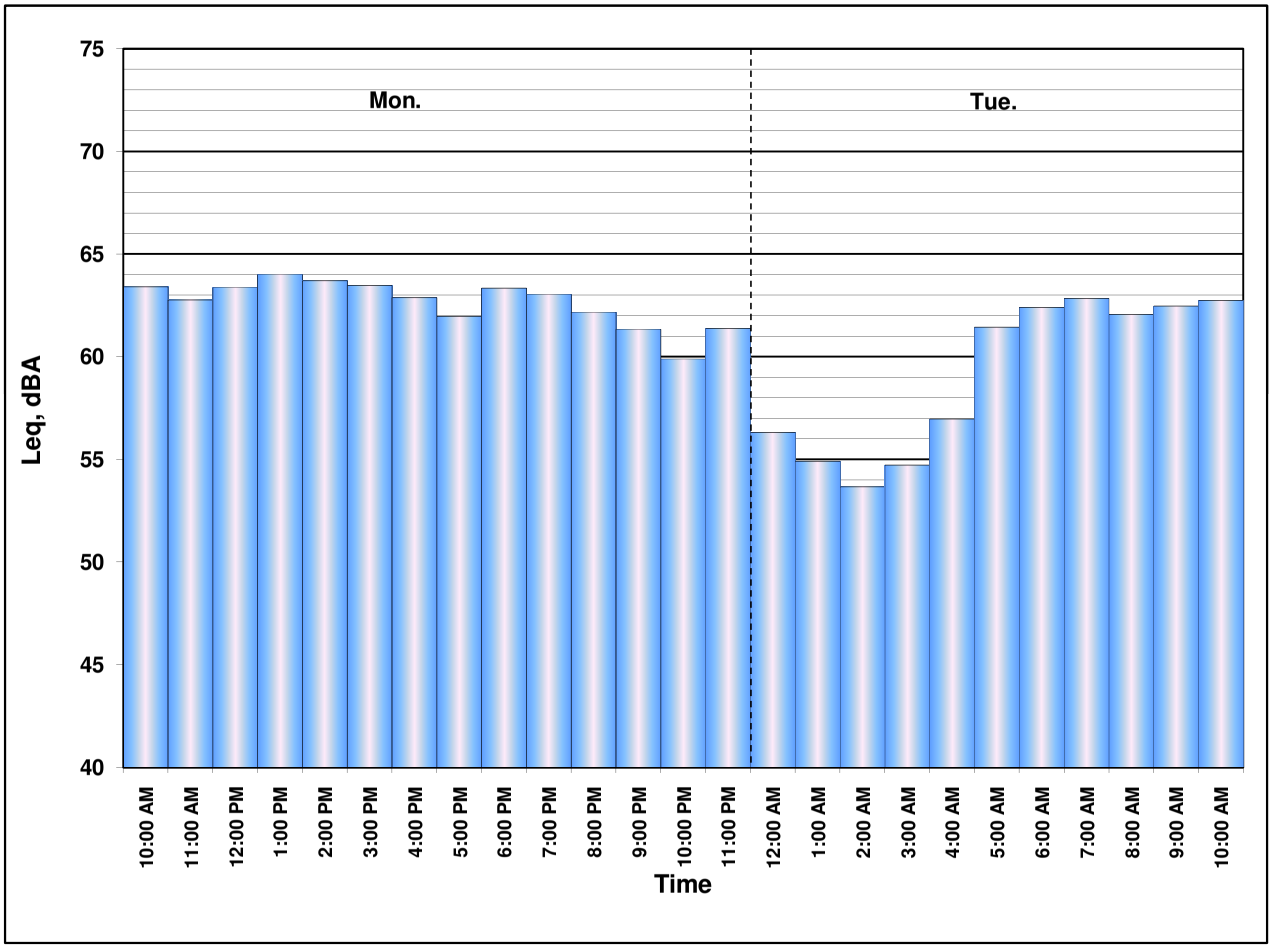


PARSONS

Site LT17 Hourly Noise Levels, $L_{eq}(h)$

Location: 6872 Sowell Ave., Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/21/10 - 06/22/10 **Notes:** See attached Noise Measurement Form.

TIME	6/21-6/22 $L_{eq(h)}$ dBA
10:00 - 11:00 AM	63
11:00 - 12:00 PM	63
12:00 - 01:00 PM	63
01:00 - 02:00 PM	64
02:00 - 03:00 PM	64
03:00 - 04:00 PM	63
04:00 - 05:00 PM	63
05:00 - 06:00 PM	62
06:00 - 07:00 PM	63
07:00 - 08:00 PM	63
08:00 - 09:00 PM	62
09:00 - 10:00 PM	61
10:00 - 11:00 PM	60
11:00 - 12:00 AM	61
12:00 - 01:00 AM	56
01:00 - 02:00 AM	55
02:00 - 03:00 AM	54
03:00 - 04:00 AM	55
04:00 - 05:00 AM	57
05:00 - 06:00 AM	61
06:00 - 07:00 AM	62
07:00 - 08:00 AM	63
08:00 - 09:00 AM	62
09:00 - 10:00 AM	62
10:00 - 12:00 AM	63



FIELD SURVEY FORM

PROJECT: **I-405 PA-ED**	ENGINEER: Ogden	DATE: 6/21
MEASUREMENT ADDRESS: 14151 WYNN St	CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: LT18

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☒ LD-820	☒ WIND SCREEN		
☐ LD-824 ☐ LD-812	☐ NON-POLAR ☒ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☒ LD-828	(observations at start of measurement)
	☐ 1-INCH ☒ RANDOM	☐ _____	
SERIAL #: 1177	SERIAL #: 16967	SERIAL #: 1629	TEMP: _____ °F R.H.: _____ %

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☒ LDCAL200		
☐ LD CA250	☐ 250	Before 114, 114, 8.0, 10:56
☐ B&K 4231	☒ 1000	
S/N _____	☐ _____	After 114, 113.9, 8.0, 12:46

METER SETTINGS:					
☒ A-WTD	☐ LINEAR	☒ SLOW	☐ 1/1 OCT	☒ INTERVALS 20 - MINUTE	WIND SPEED: _____ MPH
☐ C-WTD	☐ IMPULSE	☐ FAST	☐ 1/3 OCT	☒ L_N PERCENTILE VALUES	TOWARD (DIR): _____
					SKIES: Clear
					CAMERA iPhone/Jason
					PHOTO NOs. _____

NOTES:

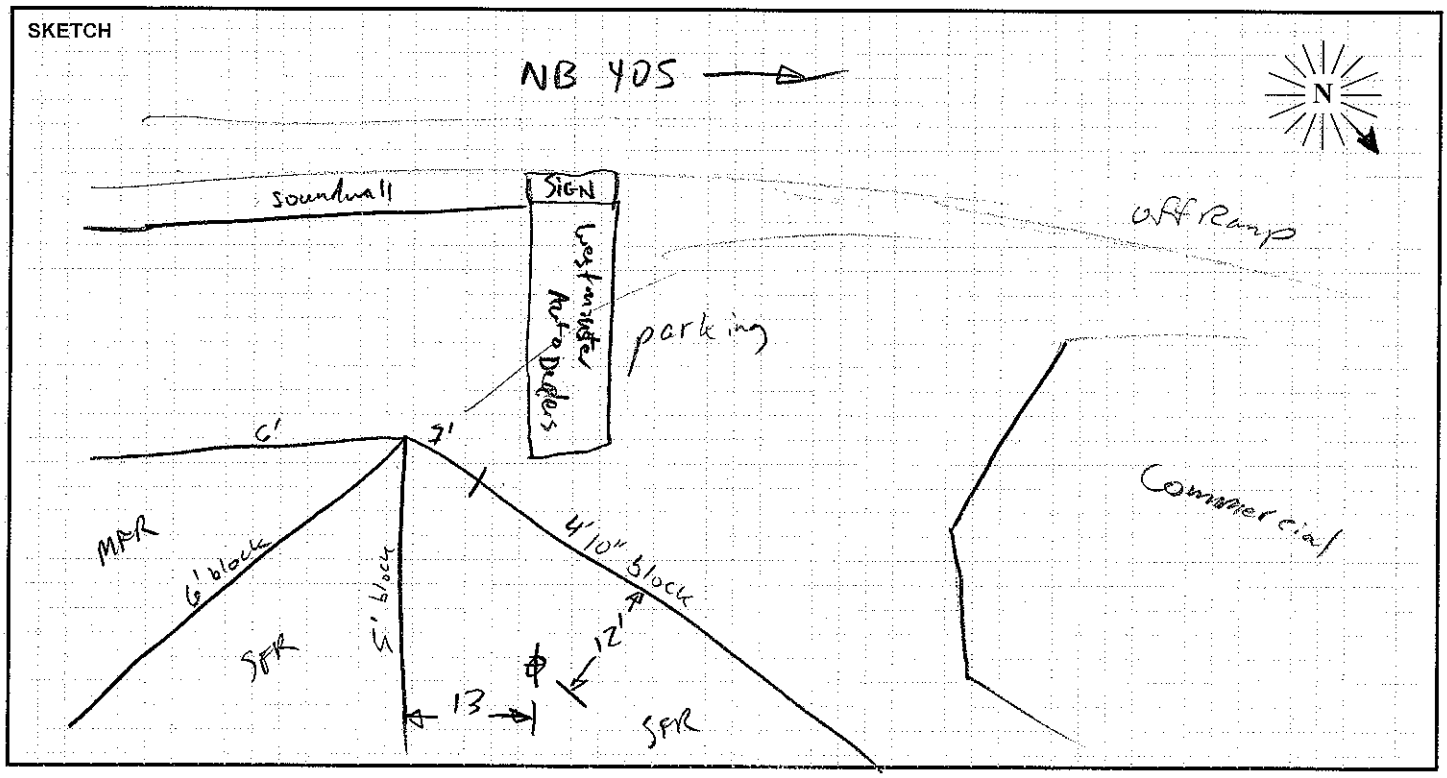
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/21	10:57											
6/22		12:46										

SKETCH

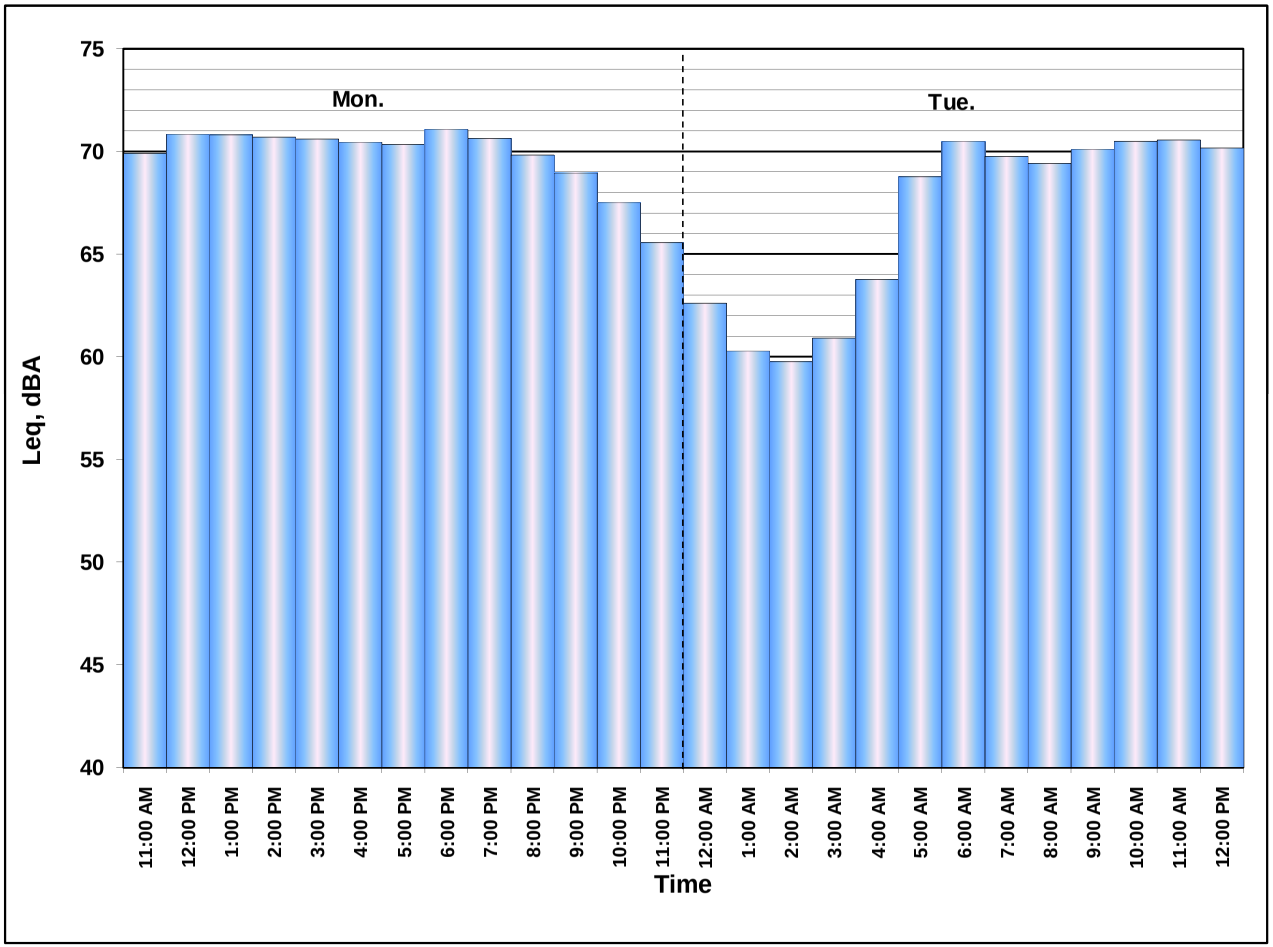


PARSONS

Site LT18 Hourly Noise Levels, $L_{eq}(h)$

Location: 14151 Wynn St., Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/21/10 - 06/22/10 **Notes:** See attached Noise Measurement Form.

TIME	6/21-6/22 $L_{eq(h)}$ dBA
11:00 - 12:00 PM	70
12:00 - 01:00 PM	71
01:00 - 02:00 PM	71
02:00 - 03:00 PM	71
03:00 - 04:00 PM	71
04:00 - 05:00 PM	70
05:00 - 06:00 PM	70
06:00 - 07:00 PM	71
07:00 - 08:00 PM	71
08:00 - 09:00 PM	70
09:00 - 10:00 PM	69
10:00 - 11:00 PM	68
11:00 - 12:00 AM	66
12:00 - 01:00 AM	63
01:00 - 02:00 AM	60
02:00 - 03:00 AM	60
03:00 - 04:00 AM	61
04:00 - 05:00 AM	64
05:00 - 06:00 AM	69
06:00 - 07:00 AM	70
07:00 - 08:00 AM	70
08:00 - 09:00 AM	69
09:00 - 10:00 AM	70
10:00 - 11:00 AM	71
11:00 - 12:00 PM	71
12:00 - 01:00 PM	70



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/21/10
MEASUREMENT ADDRESS: 6251 Mahogany Ave	CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT19

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820	☒ WIND SCREEN	☒ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ NON-POLAR ☐ POLARIZED	☐ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: 78 °F R.H.: 55 %
SERIAL #: 0128	☐ 1-INCH ☒ RANDOM	SERIAL #: 3202	WIND SPEED: 0.6 MPH
	SERIAL #: 2029		TOWARD (DIR): calm

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☒ LD CA250	☒ 250	Before 114, 114, 22.3, 11:53
☐ B&K 4231	☐ 1000	After 114, 113.7, 22.3, 12:40
S/N 2480	☐ _____	

SKIES: some clouds

CAMERA _____

PHOTO NOS. 653 - 661

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

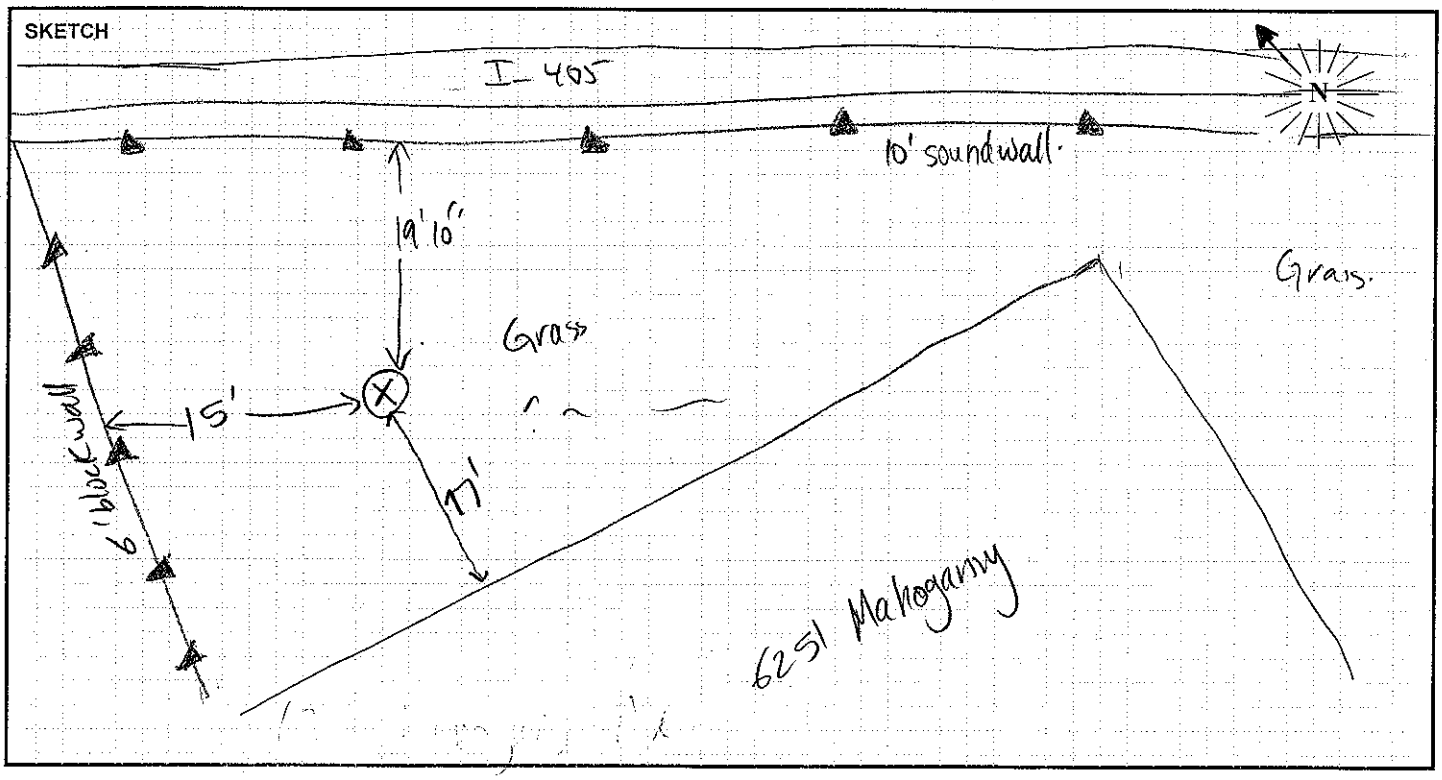
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/21	11:54											
6/22		12:39										

SKETCH

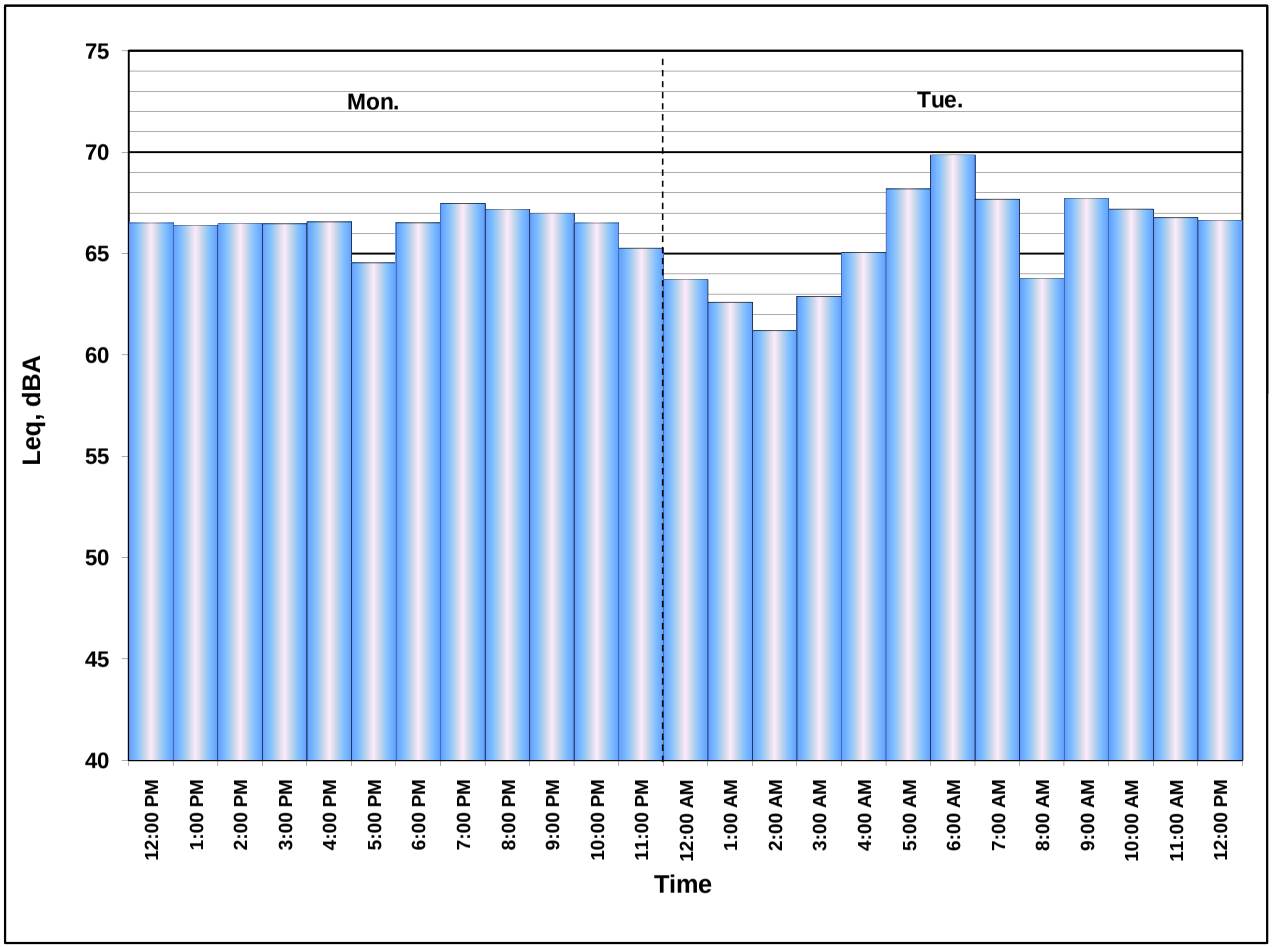


PARSONS

Site LT19 Hourly Noise Levels, $L_{eq}(h)$

Location: 6251 Mahogany Ave, Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/21/10 - 06/22/10 **Notes:** See attached Noise Measurement Form.

TIME	6/21-6/22 $L_{eq(h)}$ dBA
12:00 - 01:00 PM	67
01:00 - 02:00 PM	66
02:00 - 03:00 PM	66
03:00 - 04:00 PM	66
04:00 - 05:00 PM	67
05:00 - 06:00 PM	65
06:00 - 07:00 PM	67
07:00 - 08:00 PM	67
08:00 - 09:00 PM	67
09:00 - 10:00 PM	67
10:00 - 11:00 PM	67
11:00 - 12:00 AM	65
12:00 - 01:00 AM	64
01:00 - 02:00 AM	63
02:00 - 03:00 AM	61
03:00 - 04:00 AM	63
04:00 - 05:00 AM	65
05:00 - 06:00 AM	68
06:00 - 07:00 AM	70
07:00 - 08:00 AM	68
08:00 - 09:00 AM	64
09:00 - 10:00 AM	68
10:00 - 11:00 AM	67
11:00 - 12:00 PM	67
12:00 - 01:00 PM	67



FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/21/2010

MEASUREMENT ADDRESS: 5741 Meinhardt Rd.

CITY: Westminster

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: LT20

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0639

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 3155

PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____

SERIAL #: 1938

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 66 °F R.H.: 54 %

WIND SPEED: 2.5 MPH

TOWARD (DIR): Calm

SKIES: cloudy

CAMERA _____

PHOTO NOs. 1-6

CALIBRATOR: LDCA200 ☐ LD CA250 ☐ B&K 4231 S/N 2924

Freq, Hz.: ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 6.7, 8:39

After 114, 114.1, 6.7, 9:09

METER SETTINGS:

☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE

☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

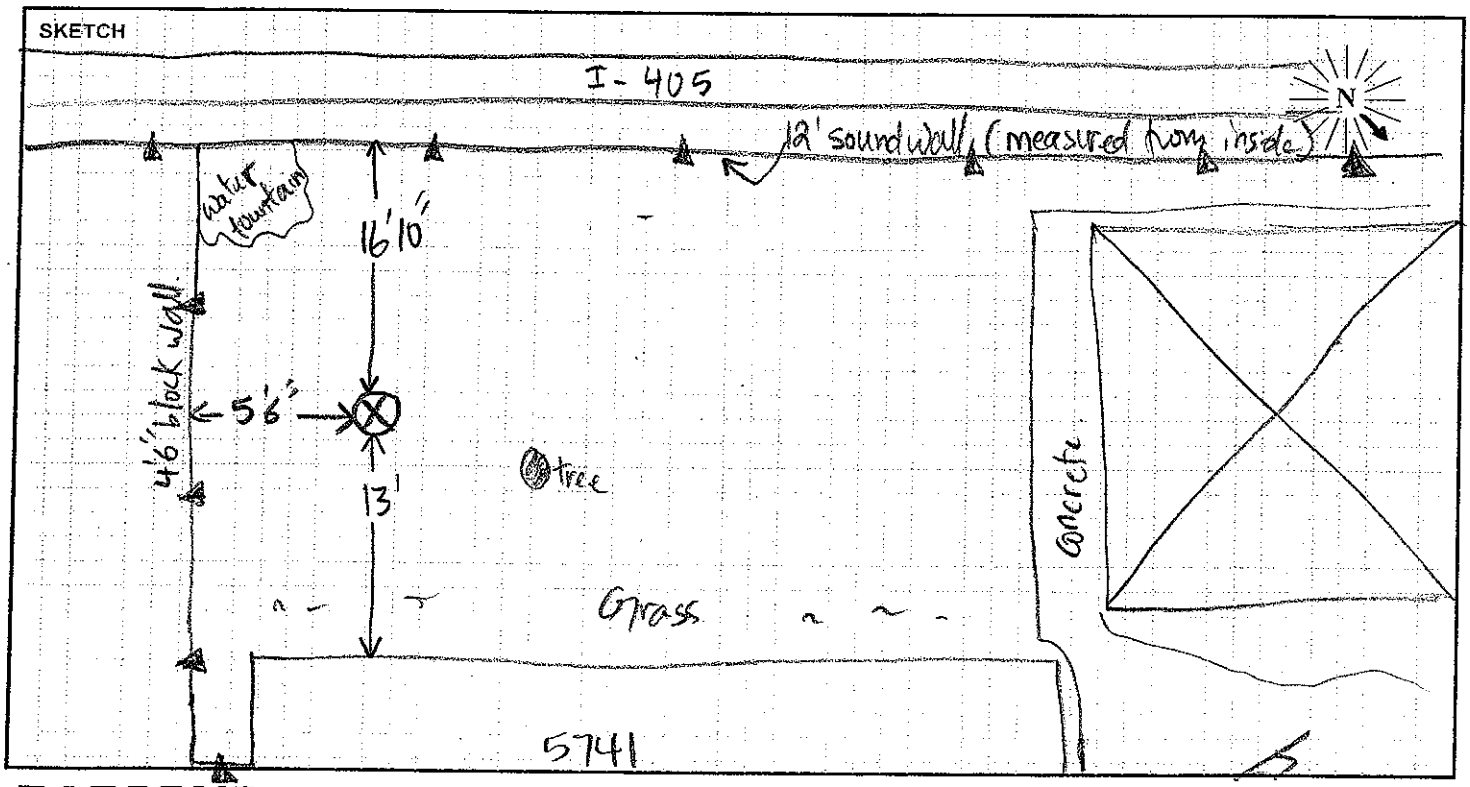
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/21	8:40											
6/22		9:08										

SKETCH

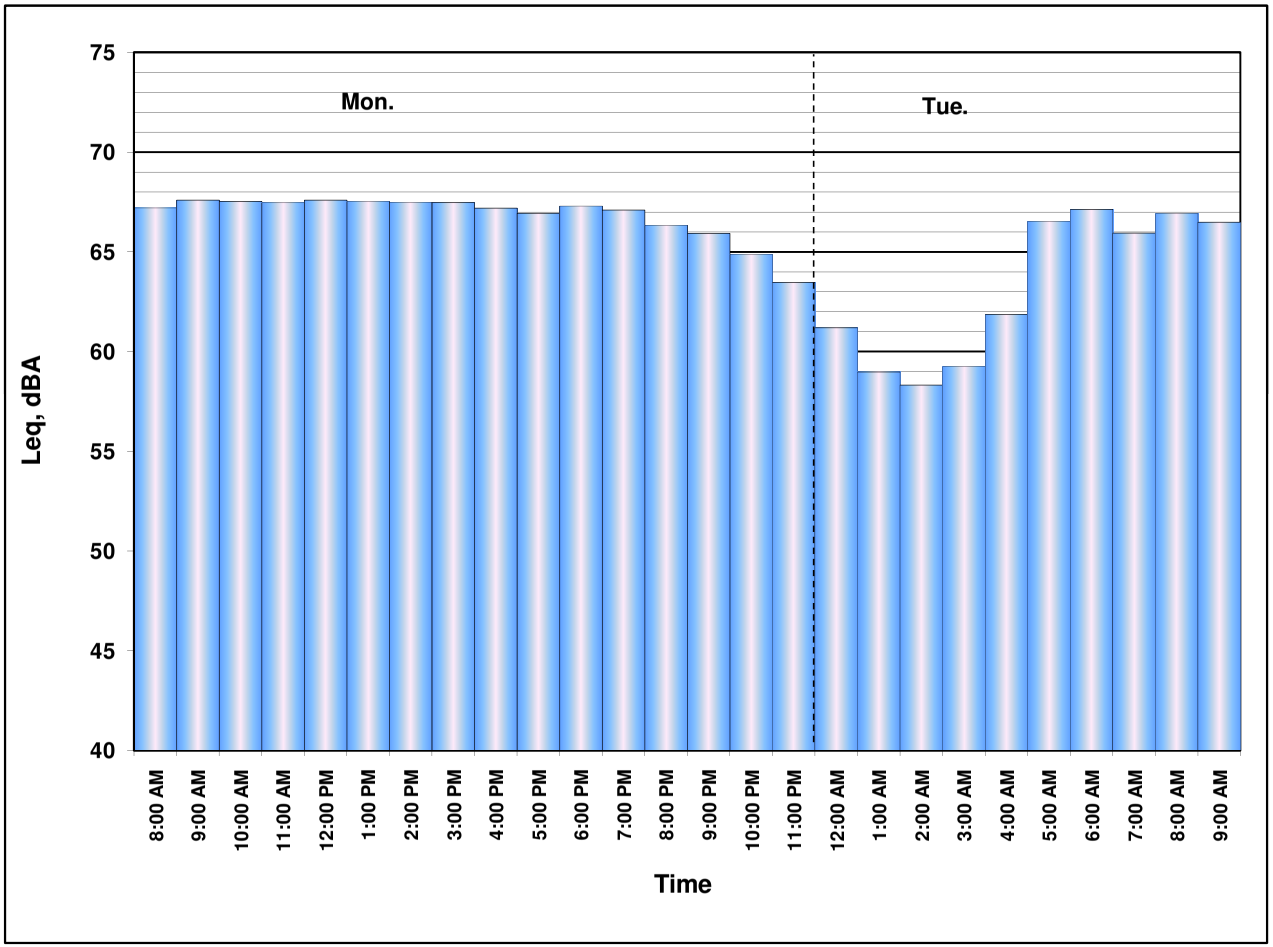


PARSONS

Site LT20 Hourly Noise Levels, $L_{eq}(h)$

Location: 5741 Meinhardt Rd., Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/21/10 - 06/22/10 **Notes:** See attached Noise Measurement Form.

TIME	6/21-6/22 $L_{eq(h)}$ dBA
08:00 - 09:00 AM	67
09:00 - 10:00 AM	68
10:00 - 11:00 AM	68
11:00 - 12:00 PM	67
12:00 - 01:00 PM	68
01:00 - 02:00 PM	68
02:00 - 03:00 PM	68
03:00 - 04:00 PM	67
04:00 - 05:00 PM	67
05:00 - 06:00 PM	67
06:00 - 07:00 PM	67
07:00 - 08:00 PM	67
08:00 - 09:00 PM	66
09:00 - 10:00 PM	66
10:00 - 11:00 PM	65
11:00 - 12:00 AM	63
12:00 - 01:00 AM	61
01:00 - 02:00 AM	59
02:00 - 03:00 AM	58
03:00 - 04:00 AM	59
04:00 - 05:00 AM	62
05:00 - 06:00 AM	67
06:00 - 07:00 AM	67
07:00 - 08:00 AM	66
08:00 - 09:00 AM	67
09:00 - 10:00 AM	67



FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/23/10

MEASUREMENT ADDRESS: 3142 Anthony Ave.

CITY: Garden Grove

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: LT20A

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0638

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 3159

PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____

SERIAL #: 1901

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 74 °F R.H.: 60 %

WIND SPEED: 1.3 MPH

TOWARD (DIR): calm.

SKIES: clear

CAMERA IA

PHOTO NOs. 207 – 214

CALIBRATOR: LDCAL200. ☐ LD CA250 ☐ B&K 4231 S/N 2924

Freq, Hz.: ☐ 250 ☒ 1000 ☒ [redacted]

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 8.8, 17:29

After 114, 114, 8.8, 16:2

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☒ L_N PERCENTILE VALUES

NOTES: Meter stopped early upon Resident's request

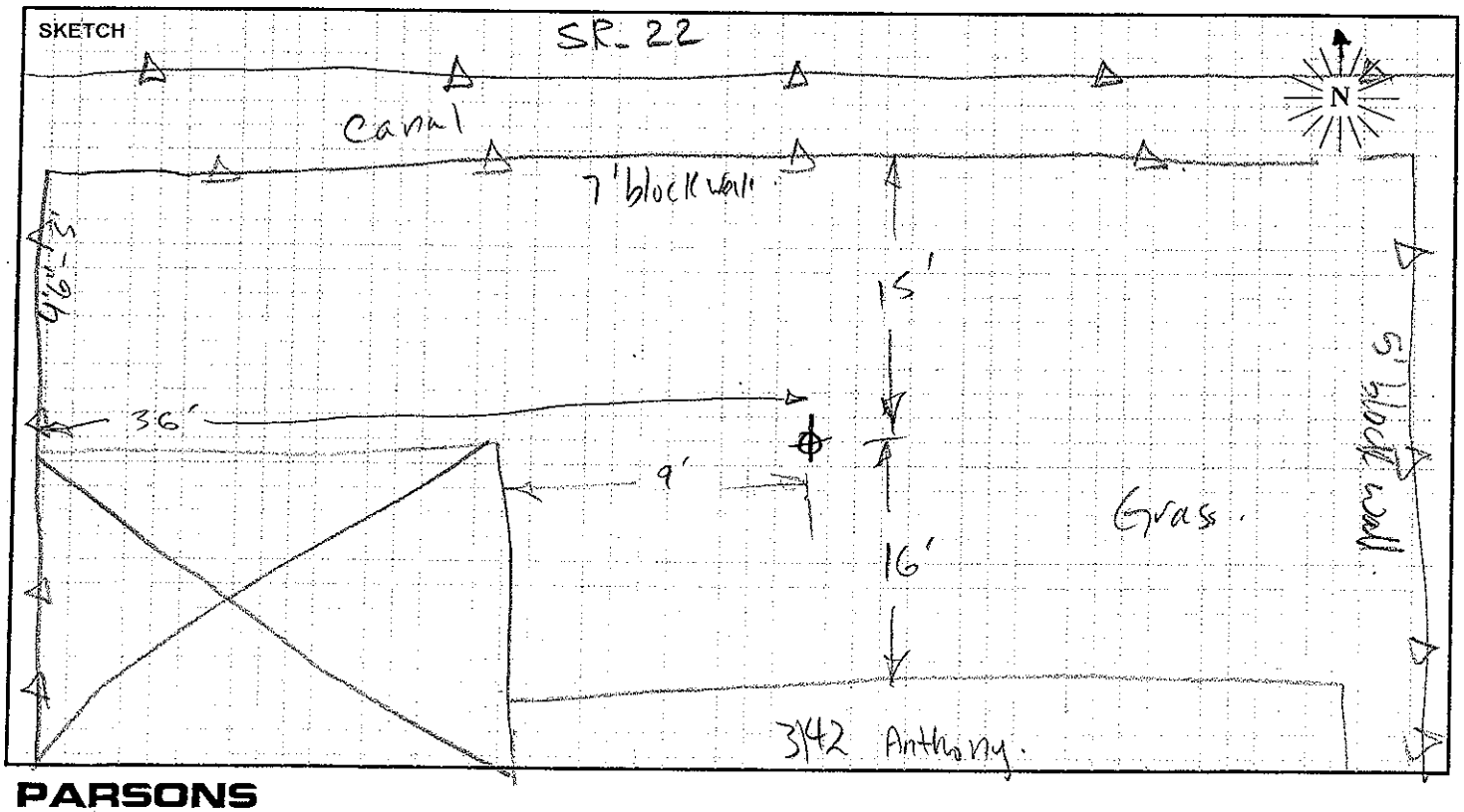
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/23	17:30	[illegible]										
6/24		16:20										

SKETCH



PARSONS

Site LT20A Hourly Noise Levels, $L_{eq}(h)$

Location: 3142 Anthony Ave., Garden Grove, CA
Position: Backyard
Sources: Traffic on SR- 22
Date: 06/23/10 - 06/24/10 **Notes:** See attached Noise Measurement Form.

TIME	6/23-6/24 $L_{eq(h)}$ dBA
05:00 - 06:00 PM	59
06:00 - 07:00 PM	62
07:00 - 08:00 PM	62
08:00 - 09:00 PM	60
09:00 - 10:00 PM	59
10:00 - 11:00 PM	58
11:00 - 12:00 AM	55
12:00 - 01:00 AM	54
01:00 - 02:00 AM	51
02:00 - 03:00 AM	50
03:00 - 04:00 AM	51
04:00 - 05:00 AM	56
05:00 - 06:00 AM	59
06:00 - 07:00 AM	61
07:00 - 08:00 AM	61
08:00 - 09:00 AM	60
09:00 - 10:00 AM	60
10:00 - 11:00 AM	61
11:00 - 12:00 PM	60
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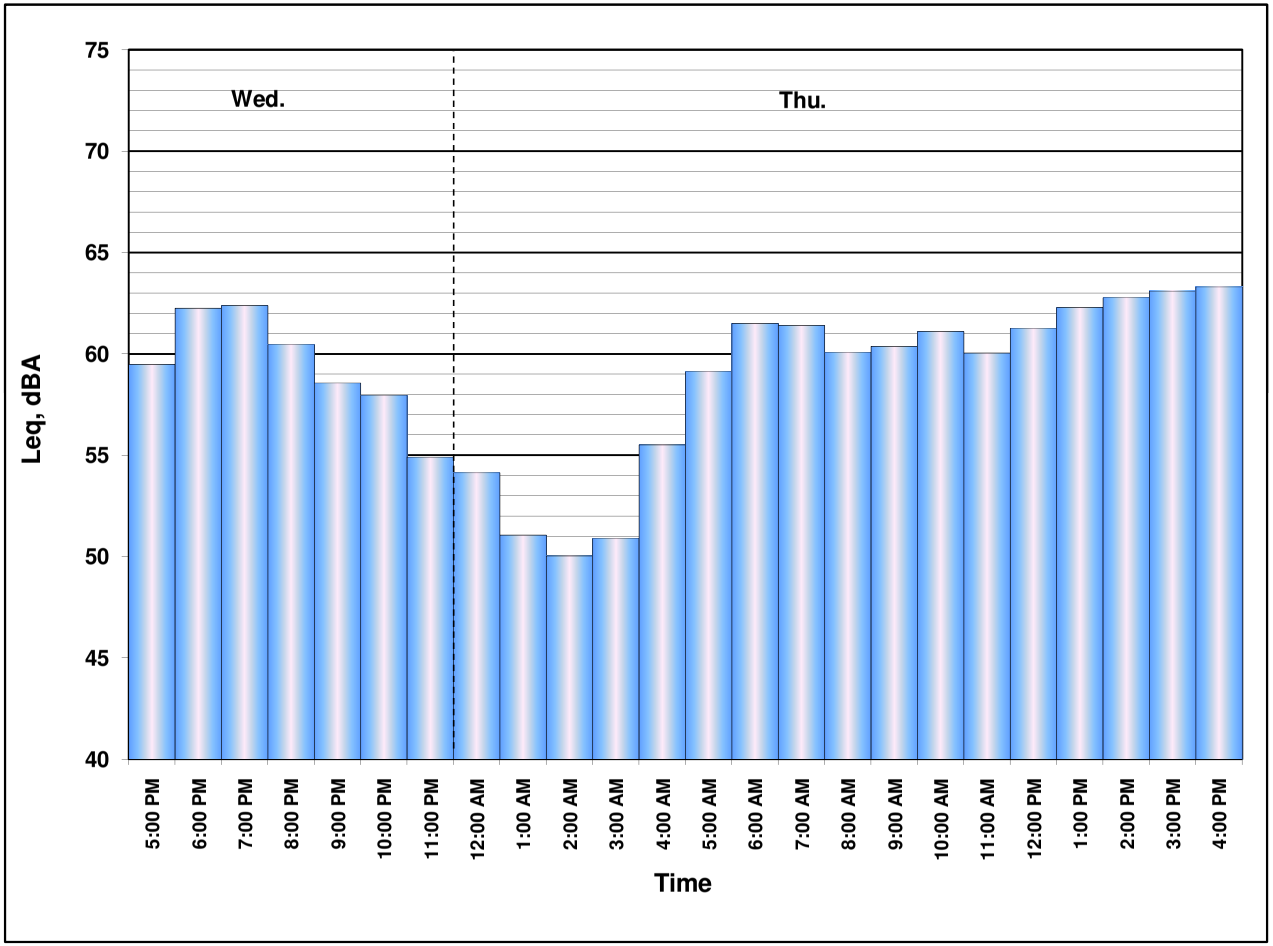
01:00 - 02:00 PM	62
02:00 - 03:00 PM	63
03:00 - 04:00 PM	63
04:00 - 05:00 PM	63



FIELD SURVEY FORM

PROJECT: I 405

ENGINEER: Ibrahim A/Jason O.

DATE: 06/24/16

MEASUREMENT ADDRESS: 655 Via Desanso.

CITY: Garden Grove.

☐ Single-Family ☒ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: LT20B

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0659

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 3378

PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____

SERIAL #: 1891

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 74 °F R.H.: _____ %

WIND SPEED: _____ MPH

TOWARD (DIR): Calm.

SKIES: Some clouds

CAMERA _____

PHOTO NOs. 223-230.

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N _____

Freq, Hz. ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD:

Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 6.9, 9:52

After 114, 113.7, 6.9, 12:34

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

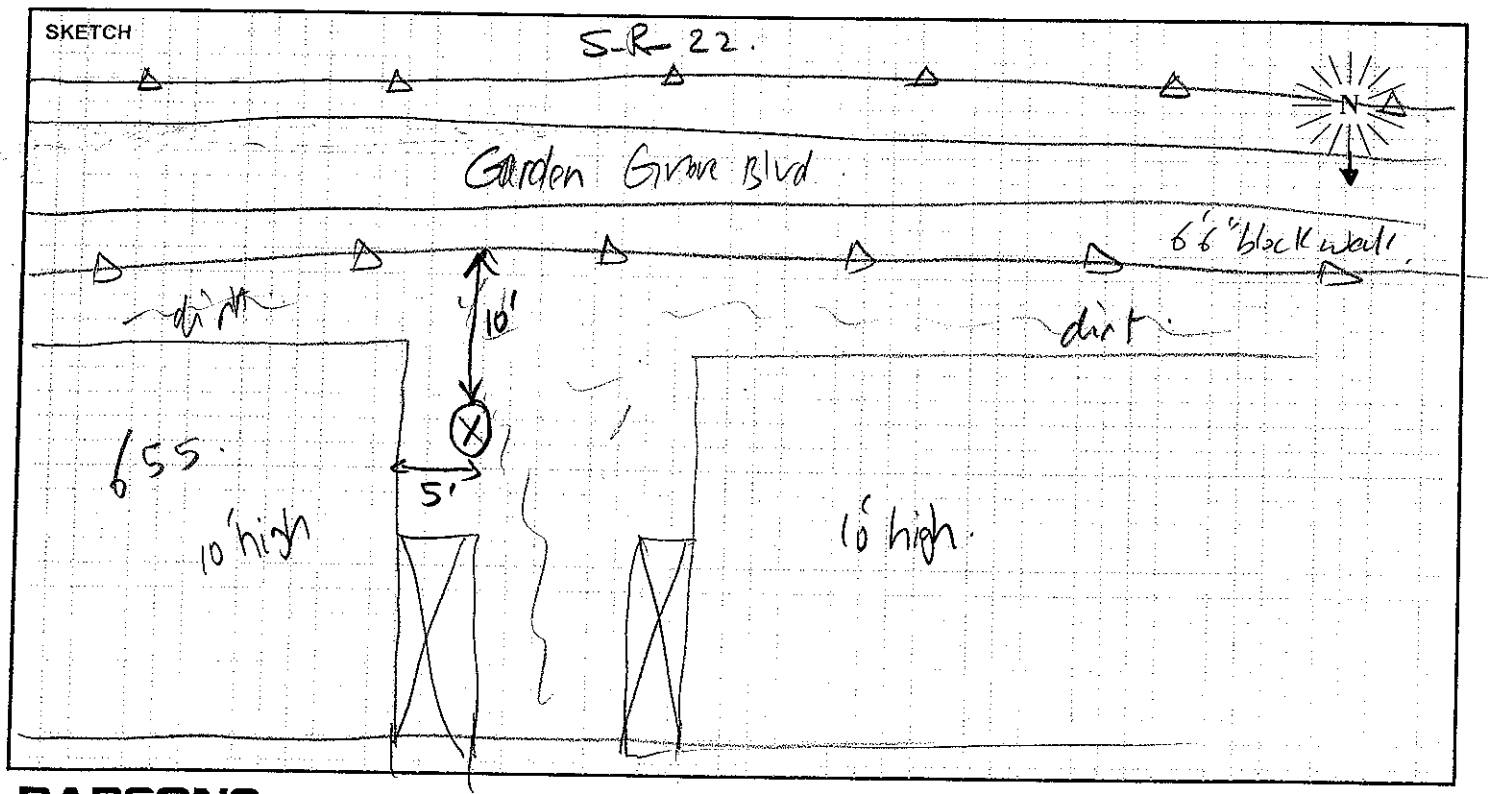
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/24	9:53											
6/25		12:32										

SKETCH

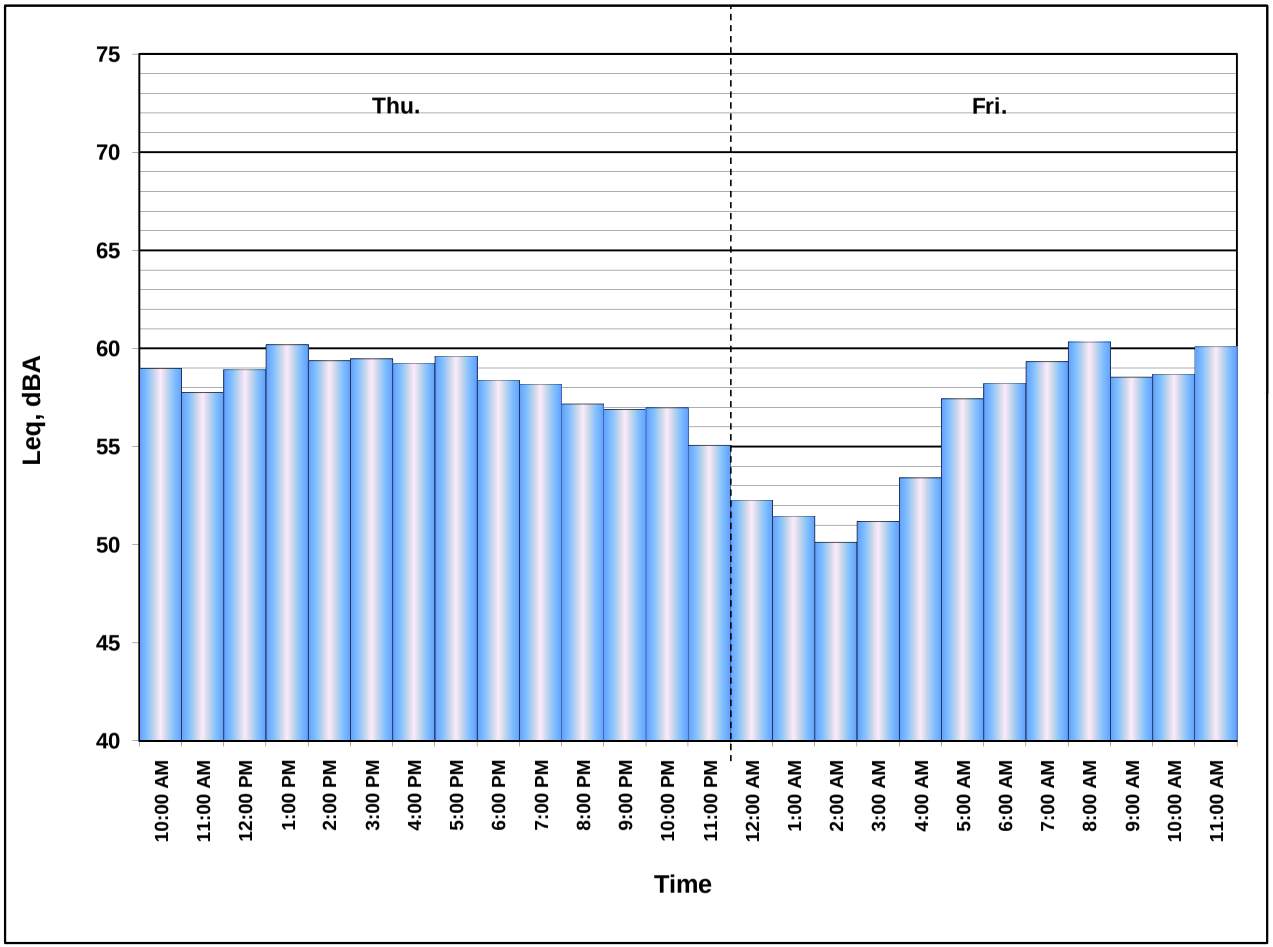


PARSONS

Site LT20B Hourly Noise Levels, $L_{eq}(h)$

Location: 655 Via Descanso, Garden Grove, CA
Position: Patio
Sources: Traffic on SR- 22
Date: 06/24/10 - 06/25/10 **Notes:** See attached Noise Measurement Form.

TIME	6/24-6/25 $L_{eq(h)}$ dBA
10:00 - 11:00 AM	59
11:00 - 12:00 PM	58
12:00 - 01:00 PM	59
01:00 - 02:00 PM	60
02:00 - 03:00 PM	59
03:00 - 04:00 PM	59
04:00 - 05:00 PM	59
05:00 - 06:00 PM	60
06:00 - 07:00 PM	58
07:00 - 08:00 PM	58
08:00 - 09:00 PM	57
09:00 - 10:00 PM	57
10:00 - 11:00 PM	57
11:00 - 12:00 AM	55
12:00 - 01:00 AM	52
01:00 - 02:00 AM	51
02:00 - 03:00 AM	50
03:00 - 04:00 AM	51
04:00 - 05:00 AM	53
05:00 - 06:00 AM	57
06:00 - 07:00 AM	58
07:00 - 08:00 AM	59
08:00 - 09:00 AM	60
09:00 - 10:00 AM	59
10:00 - 11:00 AM	59
11:00 - 12:00 PM	60



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Ogden	DATE: 6/21/10
MEASUREMENT ADDRESS: 5721 Vallecito Dr.	CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT21

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☐ 1-INCH ☒ RANDOM	☐ _____	
SERIAL #: 0659	SERIAL #: 3378	SERIAL #: 1891	TEMP: _____ °F R.H.: _____ %

CALIBRATOR:		CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
LDCA200	Freq, Hz.		WIND SPEED: _____ MPH
☐ LD CA250	☐ 250	Before 114, 114, 6.9, 09:24	TOWARD (DIR): _____
☐ B&K 4231	☒ 1000	After 114, 113.8, 6.9, 10:35	SKIES: Marine Layer
S/N 2924	☐ _____		CAMERA _____
METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE			PHOTO NOs. _____
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES			

NOTES:

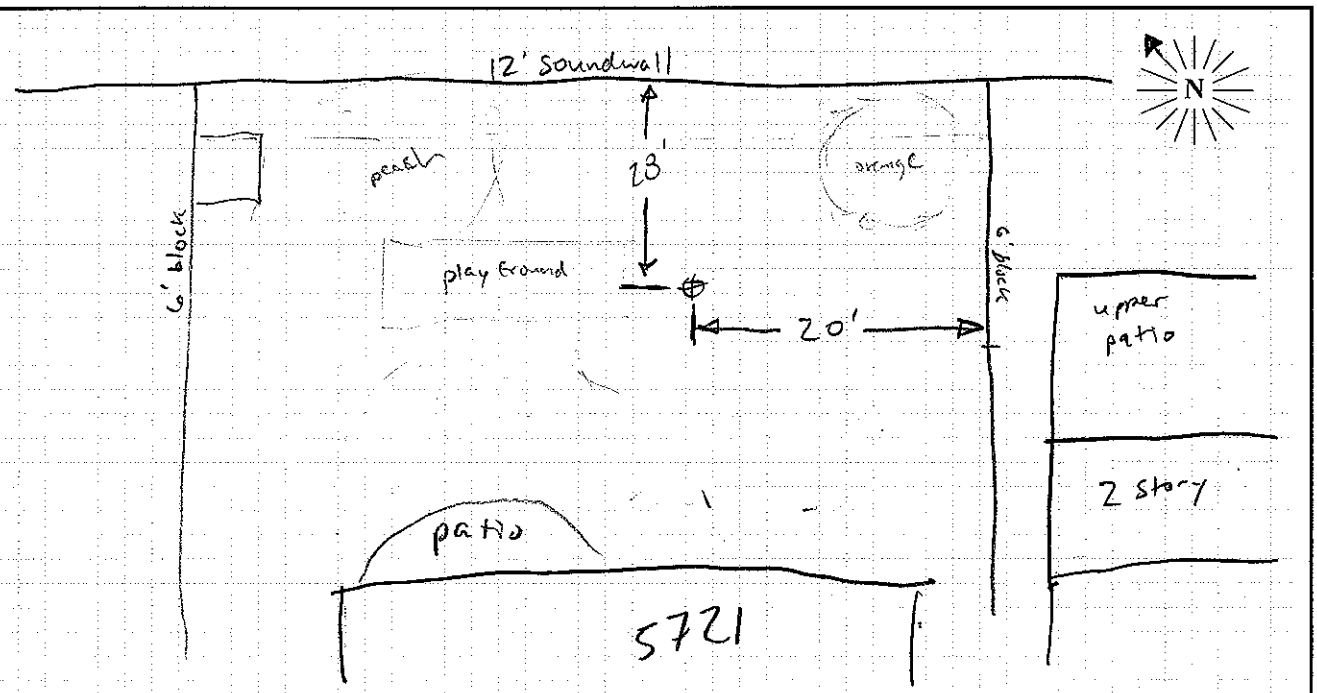
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/21	09:26											
6/22		10:34										

SKETCH

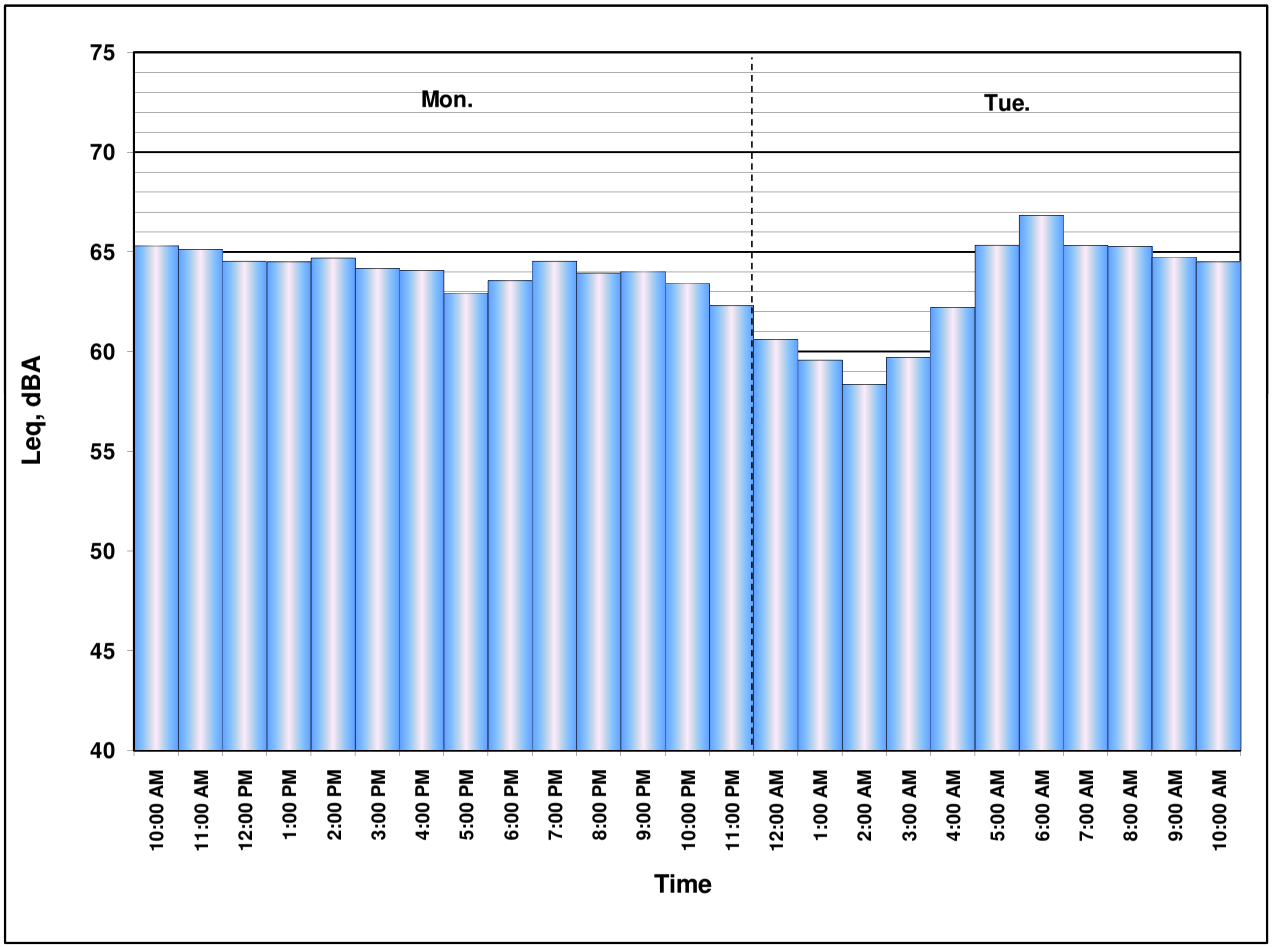


PARSONS

Site LT21 Hourly Noise Levels, $L_{eq}(h)$

Location: 5721 Vallecito Ave., Westminster, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/21/10 - 06/22/10 **Notes:** See attached Noise Measurement Form.

TIME	6/21-6/22 $L_{eq(h)}$ dBA
09:00 - 10:00 AM	66
10:00 - 11:00 AM	65
11:00 - 12:00 PM	65
12:00 - 01:00 PM	65
01:00 - 02:00 PM	65
02:00 - 03:00 PM	65
03:00 - 04:00 PM	64
04:00 - 05:00 PM	64
05:00 - 06:00 PM	63
06:00 - 07:00 PM	64
07:00 - 08:00 PM	65
08:00 - 09:00 PM	64
09:00 - 10:00 PM	64
10:00 - 11:00 PM	63
11:00 - 12:00 AM	62
12:00 - 01:00 AM	61
01:00 - 02:00 AM	60
02:00 - 03:00 AM	58
03:00 - 04:00 AM	60
04:00 - 05:00 AM	62
05:00 - 06:00 AM	65
06:00 - 07:00 AM	67
07:00 - 08:00 AM	65
08:00 - 09:00 AM	65
09:00 - 10:00 AM	65
10:00 - 11:00 AM	65



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Ogden	DATE: 6/22/10
MEASUREMENT ADDRESS: 3520 Camelia St	CITY: Seal Beach	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT 22

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ NON-POLAR ☐ POLARIZED	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☒ FREEFIELD	☐ _____	
	☐ 1-INCH ☐ RANDOM		
SERIAL #: 0639	SERIAL #: 3155	SERIAL #: 1938	TEMP: _____ °F R.H.: _____ %

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LDCAL200			WIND SPEED: _____ MPH
☐ LD CA250	☐ 250	Before 114, 114.1, 6.7, 09:09	TOWARD (DIR): North
☐ B&K 4231	☒ 1000		SKIES: Clear
S/N _____	☐ _____	After 114, 114, 6.7, 15:22	CAMERA Jason

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

PHOTO NOs. _____

NOTES:

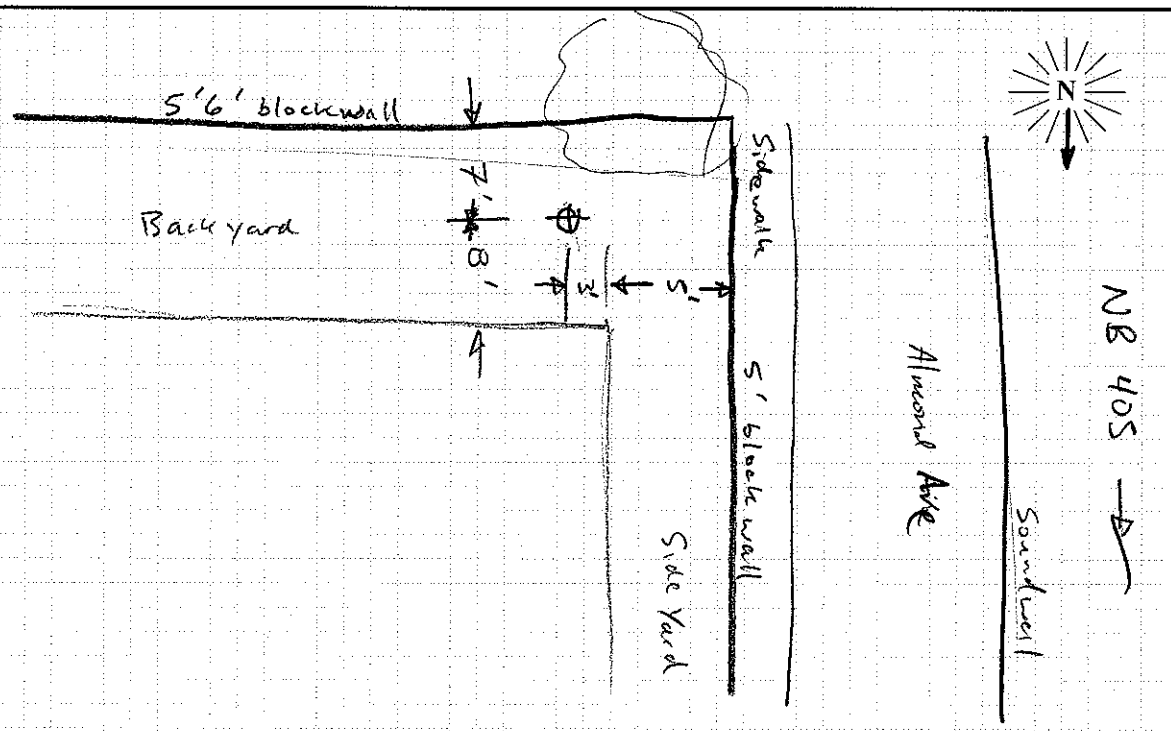
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/22	18:27											
6/24		15:21										

SKETCH

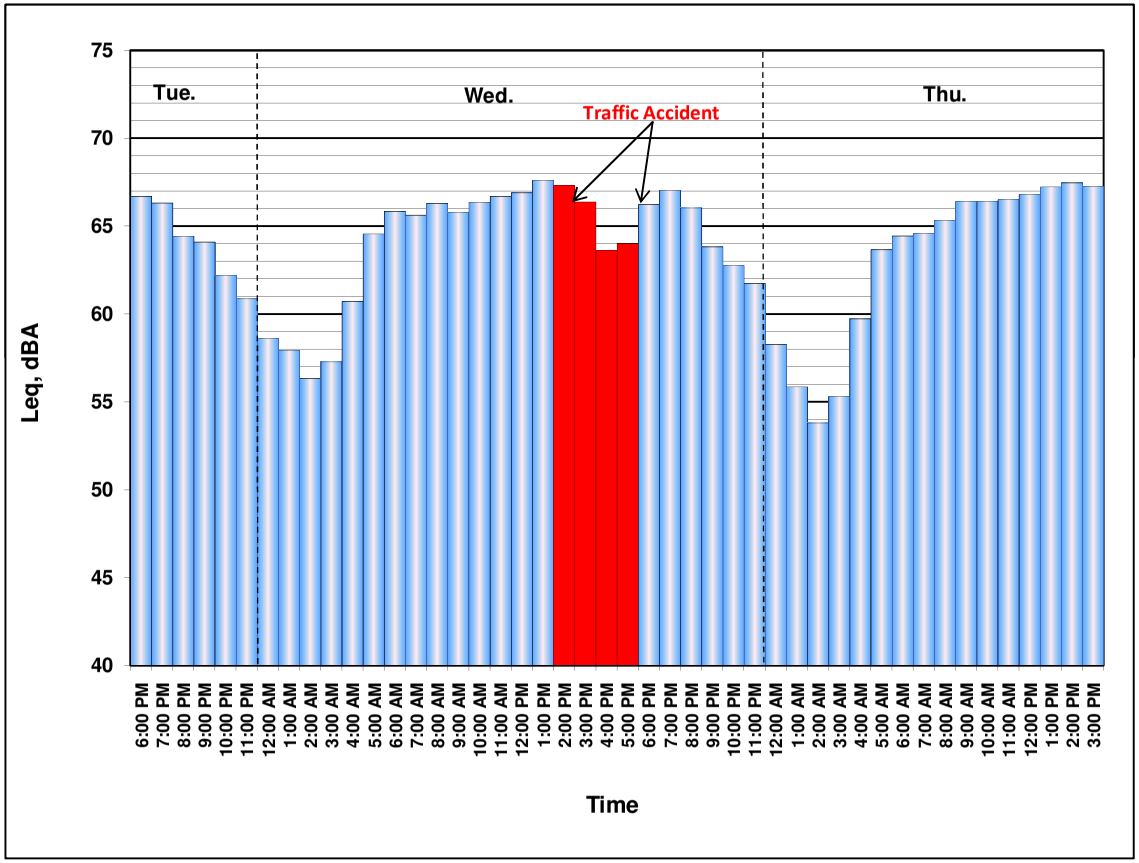


PARSONS

Site LT22 Hourly Noise Levels, $L_{eq}(h)$

Location: 3520 Camelia St., Seal Beach, CA
Position: Backyard
Sources: Traffic on I- 405
Date: 06/22/10 - 06/24/10 **Notes:** See attached Noise Measurement Form.

TIME	6/22-6/23 $L_{eq(h)}$ dBA	6/23-6/24 $L_{eq(h)}$ dBA
06:00 - 07:00 PM	67	66
07:00 - 08:00 PM	66	67
08:00 - 09:00 PM	64	66
09:00 - 10:00 PM	64	64
10:00 - 11:00 PM	62	63
11:00 - 12:00 AM	61	62
12:00 - 01:00 AM	59	58
01:00 - 02:00 AM	58	56
02:00 - 03:00 AM	56	54
03:00 - 04:00 AM	57	55
04:00 - 05:00 AM	61	60
05:00 - 06:00 AM	65	64
06:00 - 07:00 AM	66	64
07:00 - 08:00 AM	66	65
08:00 - 09:00 AM	66	65
09:00 - 10:00 AM	66	66
10:00 - 11:00 AM	66	66
11:00 - 12:00 PM	67	67
12:00 - 01:00 PM	67	67
01:00 - 02:00 PM	68	67
02:00 - 03:00 PM	67	67
03:00 - 04:00 PM	66	67
04:00 - 05:00 PM	64	
05:00 - 06:00 PM	64	



FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim Jason

DATE: 06/22/10

MEASUREMENT ADDRESS: 3002 Yellowtail

CITY: Rossmoor

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: LT23

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0659

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 3378

PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____

SERIAL #: 1891

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 79 °F R.H.: 57 %

WIND SPEED: 1.5 MPH

TOWARD (DIR): Calm

SKIES: Clear

CAMERA _____

PHOTO NOs. 148-157

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N _____

Freq, Hz.: ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 6.9, 15:41

After 114, 113.8, 6.9, 16:30

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

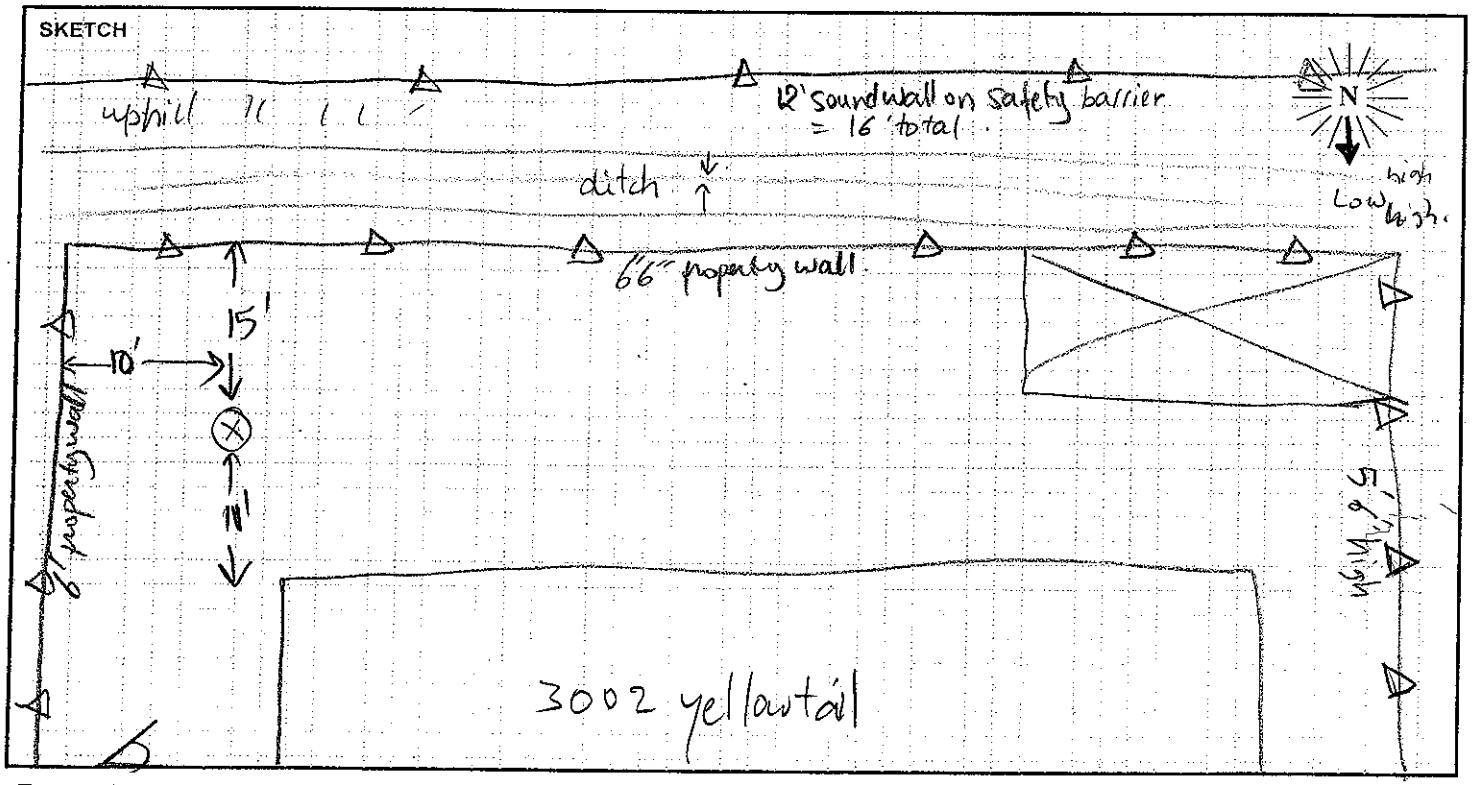
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/22	15:42											
6/23		16:29										

SKETCH

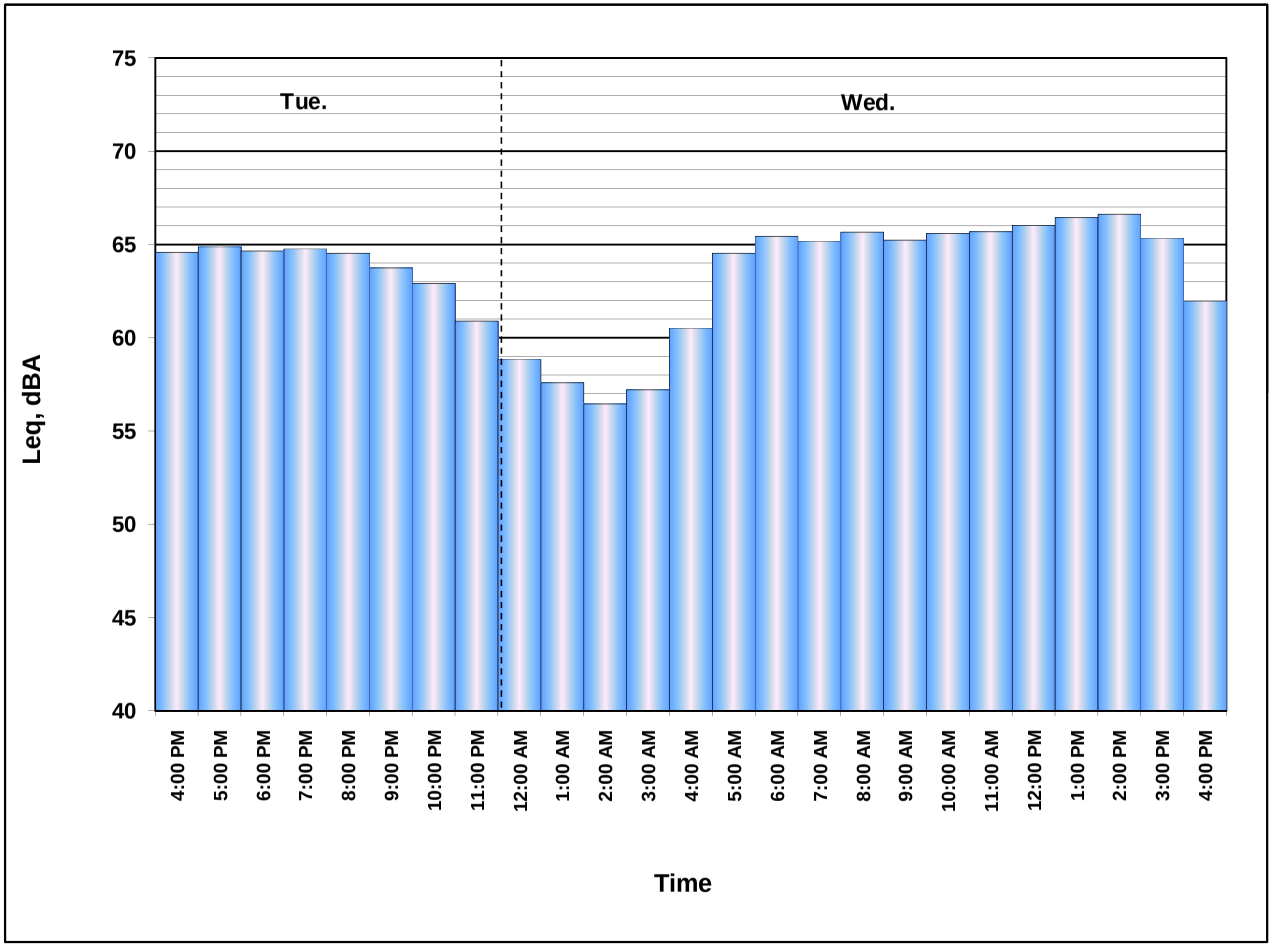


PARSONS

Site LT23 Hourly Noise Levels, $L_{eq}(h)$

Location: 3002 Yellowtail Dr., Rossmoor, CA
Position: Backyard
Sources: Traffic on I- 405 and SR- 22
Date: 06/22/10 - 06/23/10 **Notes:** See attached Noise Measurement Form.

TIME	6/22-6/23 $L_{eq(h)}$ dBA
04:00 - 05:00 PM	65
05:00 - 06:00 PM	65
06:00 - 07:00 PM	65
07:00 - 08:00 PM	65
08:00 - 09:00 PM	65
09:00 - 10:00 PM	64
10:00 - 11:00 PM	63
11:00 - 12:00 AM	61
12:00 - 01:00 AM	59
01:00 - 02:00 AM	58
02:00 - 03:00 AM	56
03:00 - 04:00 AM	57
04:00 - 05:00 AM	61
05:00 - 06:00 AM	65
06:00 - 07:00 AM	65
07:00 - 08:00 AM	65
08:00 - 09:00 AM	66
09:00 - 10:00 AM	65
10:00 - 11:00 AM	66
11:00 - 12:00 PM	66
12:00 - 01:00 PM	66
01:00 - 02:00 PM	66
02:00 - 03:00 PM	67
03:00 - 04:00 PM	65
04:00 - 05:00 PM	62



FIELD SURVEY FORM

PROJECT: **I-405 PA-ED**	ENGINEER: OGDEN	DATE: 6/23/10
MEASUREMENT ADDRESS: Leisure World	CITY: Seal Beach	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: LT24

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☒ LD-820	☒ WIND SCREEN		
☐ LD-824 ☐ LD-812	☐ NON-POLAR ☒ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☒ LD-828	(observations at start of measurement)
	☐ 1-INCH ☒ RANDOM	☐ _____	
SERIAL #: 1177	SERIAL #: 16967	SERIAL #: 1629	TEMP: _____ °F R.H.: _____ %

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LD CAL 200			WIND SPEED: _____ MPH
☐ LD CA250	☐ 250	Before 114, 114.1, 8.0, 11:39	TOWARD (DIR): _____
☐ B&K 4231	☒ 1000	After 114, 113.9, 8.0, 11:54	SKIES: Clear
S/N _____	☐ _____		CAMERA Nison

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

PHOTO NOs. _____

NOTES:

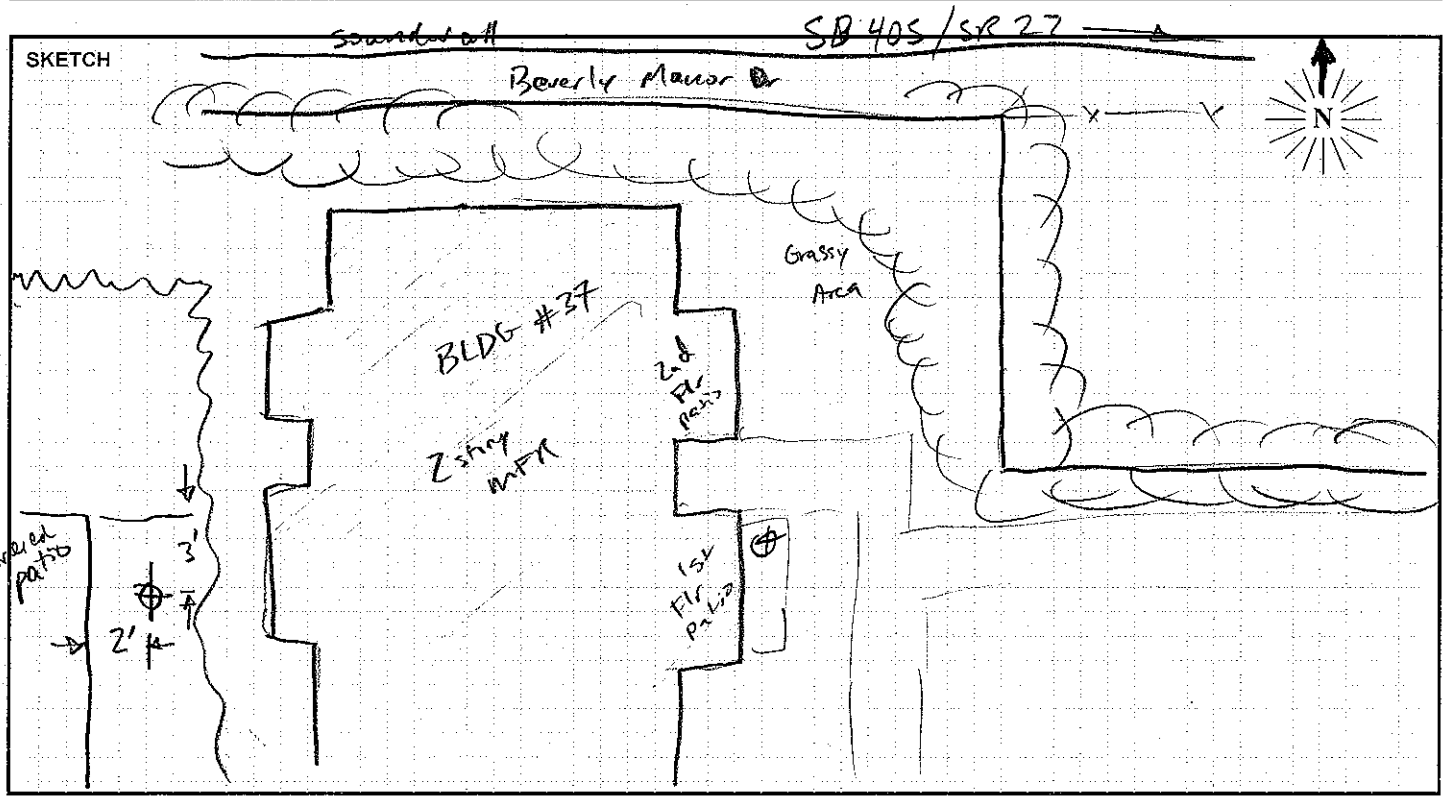
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/23	11:40											
6/24		11:53										

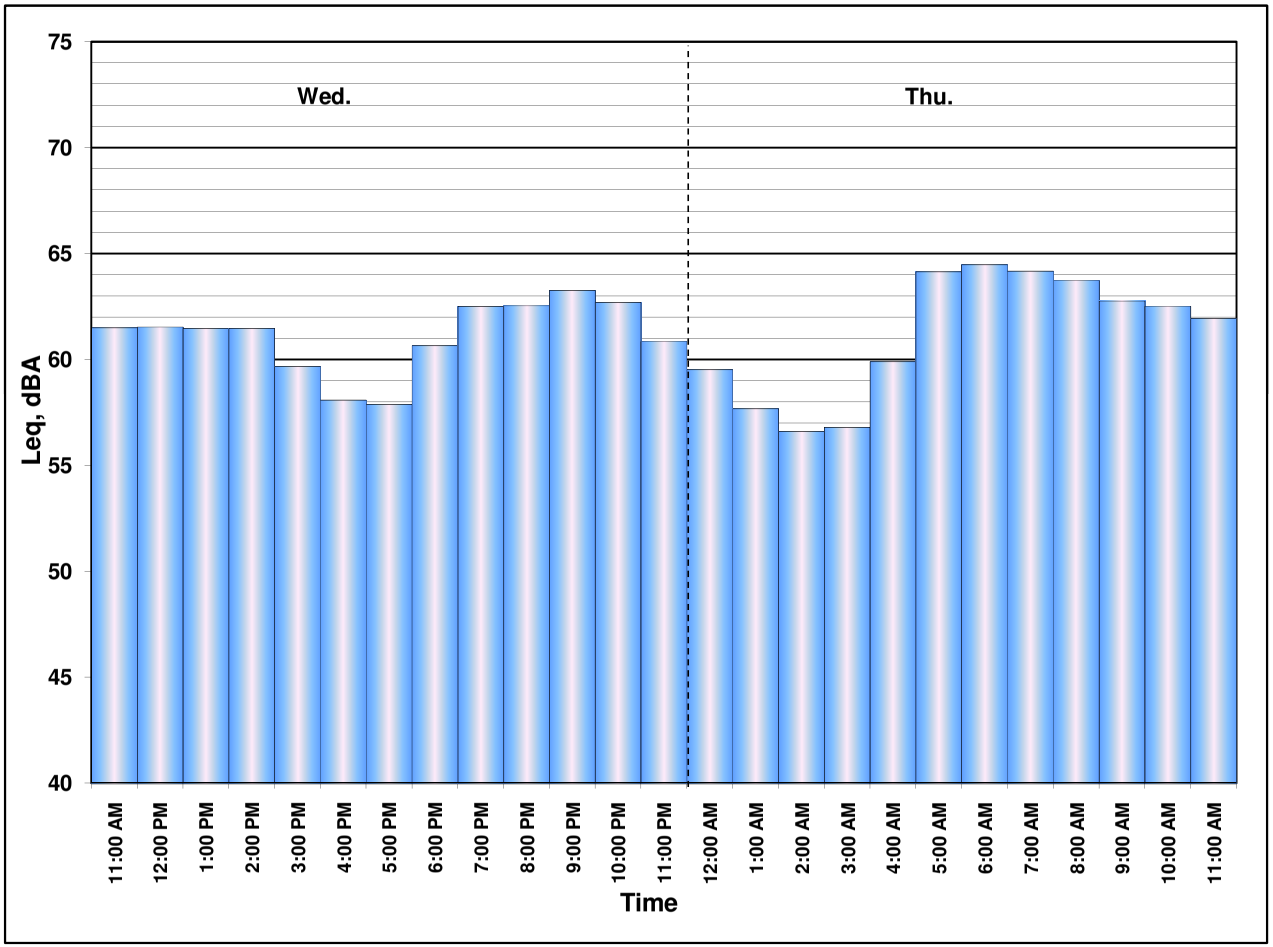
SKETCH



Site LT24 Hourly Noise Levels, $L_{eq}(h)$

Location: Leisure World, Seal Beach, CA
Position: Patio
Sources: Traffic on I- 405 and SR- 22
Date: 06/23/10 - 06/24/10 **Notes:** See attached Noise Measurement Form.

TIME	6/23-6/24 $L_{eq(h)}$ dBA
11:00 - 12:00 PM	62
12:00 - 01:00 PM	62
01:00 - 02:00 PM	61
02:00 - 03:00 PM	61
03:00 - 04:00 PM	60
04:00 - 05:00 PM	58
05:00 - 06:00 PM	58
06:00 - 07:00 PM	61
07:00 - 08:00 PM	63
08:00 - 09:00 PM	63
09:00 - 10:00 PM	63
10:00 - 11:00 PM	63
11:00 - 12:00 AM	61
12:00 - 01:00 AM	60
01:00 - 02:00 AM	58
02:00 - 03:00 AM	57
03:00 - 04:00 AM	57
04:00 - 05:00 AM	60
05:00 - 06:00 AM	64
06:00 - 07:00 AM	64
07:00 - 08:00 AM	64
08:00 - 09:00 AM	64
09:00 - 10:00 AM	63
10:00 - 11:00 AM	63
11:00 - 12:00 PM	62



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER:	DATE: 6/22/10
MEASUREMENT ADDRESS: 12621 Martha Ann Dr	CITY: Rossmoor	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: LT25

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☒ LD-812	☒ NON-POLAR ☐ POLARIZED	☒ LD-828	(observations at start of measurement)
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: _____ °F R.H.: _____ %
SERIAL #: 0638	☐ 1-INCH ☒ RANDOM	SERIAL #: 1901	WIND SPEED: _____ MPH
	SERIAL #: 3159		TOWARD (DIR): _____

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	METER SETTINGS:
LDCAL200			☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ LD CA250	☐ 250	Before 114, 114, 8.8, 16:32	☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES
☐ B&K 4231	☒ 1000	After 114, 113.8, 8.8, 16:48	SKIES: Clear
S/N 2924	☐ _____		CAMERA Jason
			PHOTO NOs. _____

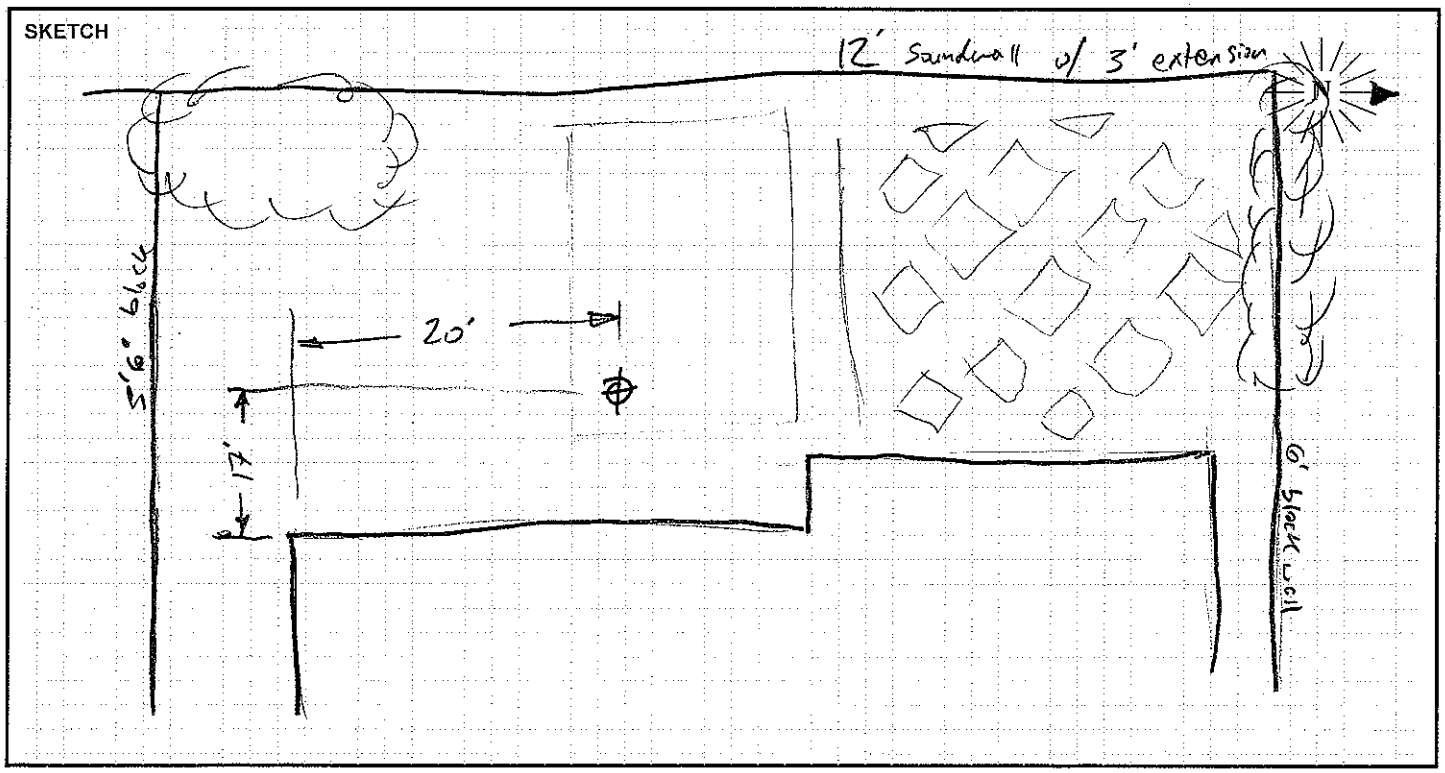
NOTES: about 59 - 61 dBA @ start

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/23	11:40											
6/24		11:53										

SKETCH

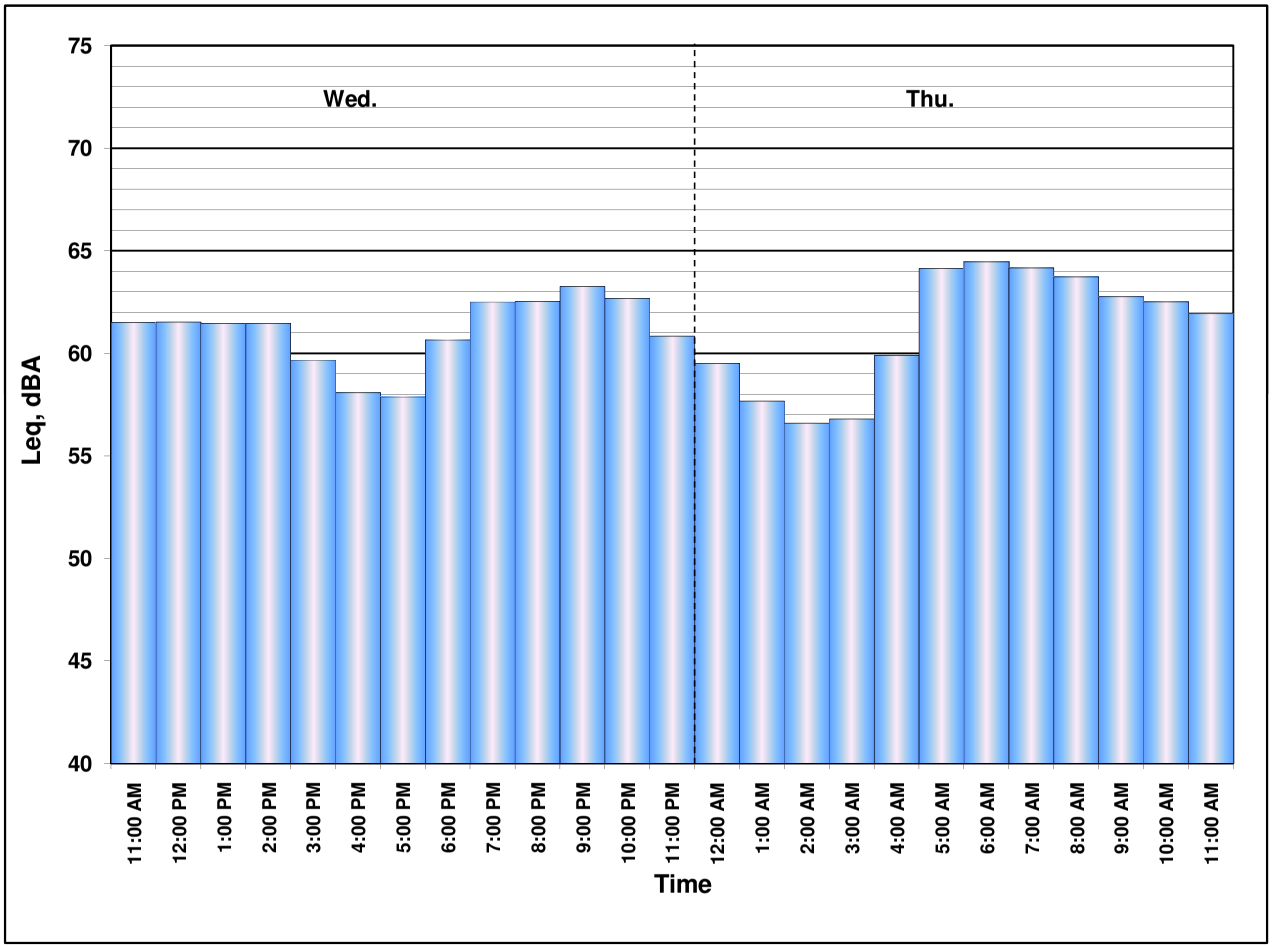


PARSONS

Site LT25 Hourly Noise Levels, $L_{eq}(h)$

Location: 12621 Martha Ann Dr., Rossmoor, CA
Position: Backyard
Sources: Traffic on I- 605
Date: 06/23/10 - 06/24/10 **Notes:** See attached Noise Measurement Form.

TIME	6/23-6/24 $L_{eq(h)}$ dBA
11:00 - 12:00 PM	62
12:00 - 01:00 PM	62
01:00 - 02:00 PM	61
02:00 - 03:00 PM	61
03:00 - 04:00 PM	60
04:00 - 05:00 PM	58
05:00 - 06:00 PM	58
06:00 - 07:00 PM	61
07:00 - 08:00 PM	63
08:00 - 09:00 PM	63
09:00 - 10:00 PM	63
10:00 - 11:00 PM	63
11:00 - 12:00 AM	61
12:00 - 01:00 AM	60
01:00 - 02:00 AM	58
02:00 - 03:00 AM	57
03:00 - 04:00 AM	57
04:00 - 05:00 AM	60
05:00 - 06:00 AM	64
06:00 - 07:00 AM	64
07:00 - 08:00 AM	64
08:00 - 09:00 AM	64
09:00 - 10:00 AM	63
10:00 - 11:00 AM	63
11:00 - 12:00 PM	62



FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A/Jason O.

DATE: 06/23/10

MEASUREMENT ADDRESS: 11541 Martha Ann

CITY: Rossmoor

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: LT26

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2029

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3202

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 76 °F R.H.: 60.5 %

WIND SPEED: 0.6 MPH

TOWARD (DIR): calm

SKIES: Some clouds

CAMERA Jason's

PHOTO NOs. 752-761

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz. ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 22.1, 10:15

After 114, 113.9, 22.1, 11:30

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

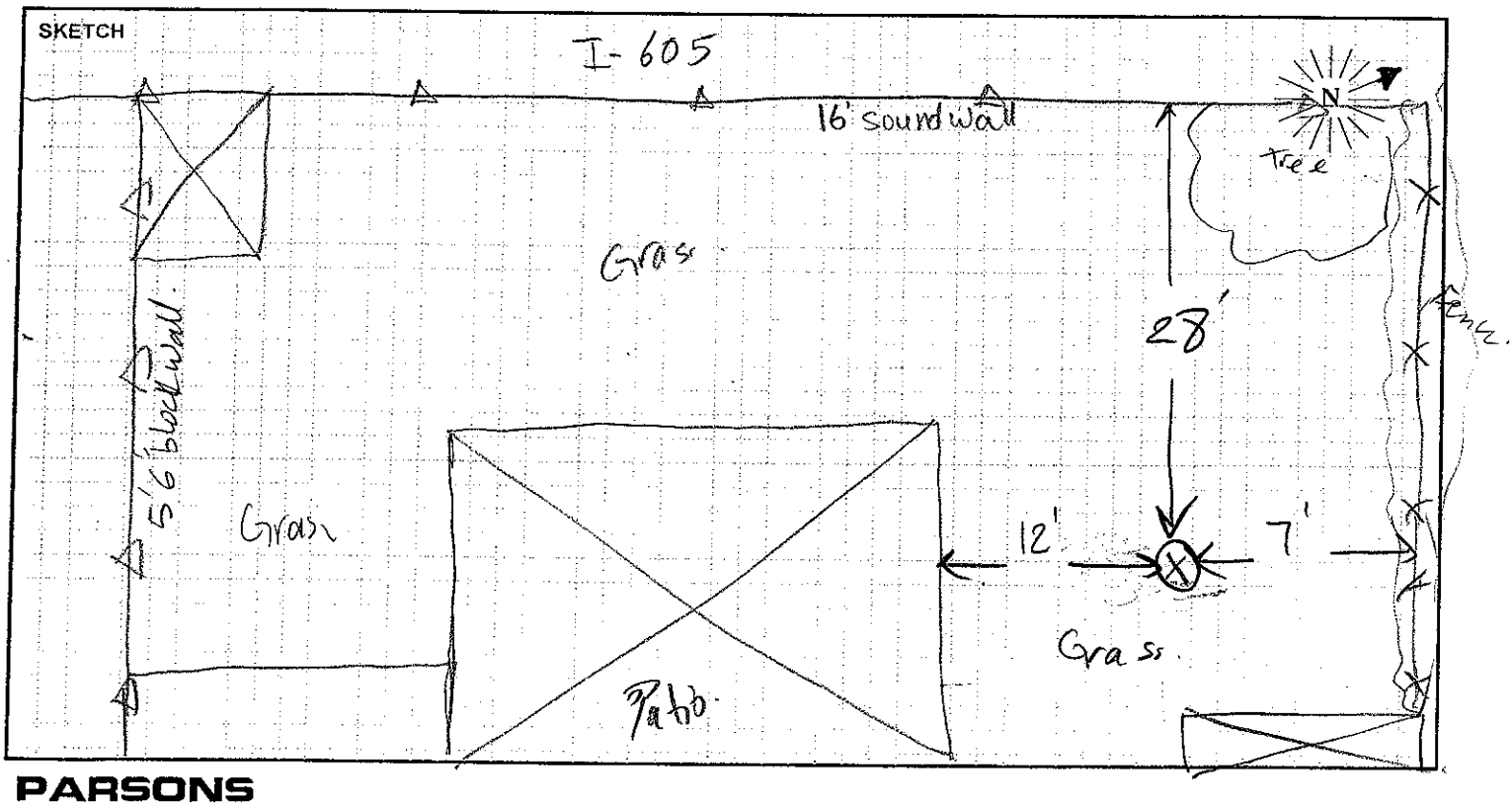
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☒ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/23	10:15											
6/24		15:02										

SKETCH

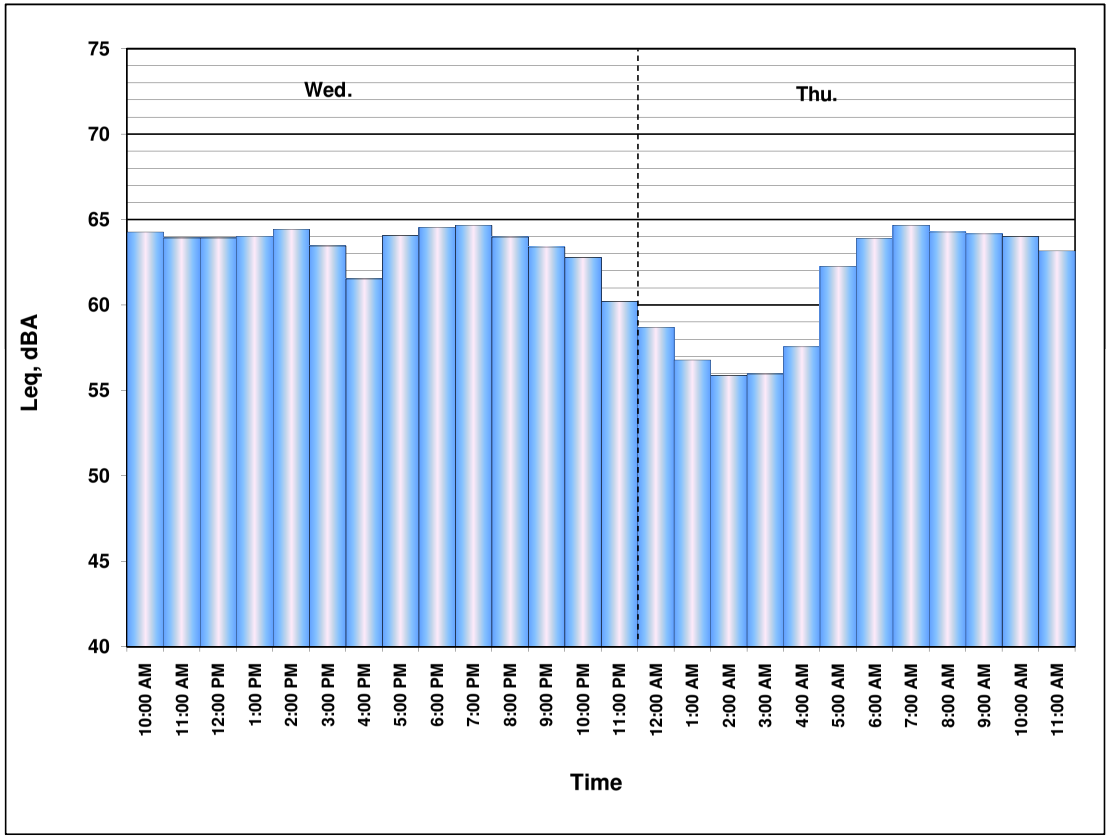


PARSONS

Site LT26 Hourly Noise Levels, $L_{eq}(h)$

Location: 11541 Martha Ann Dr., Rossmoor, CA
Position: Backyard
Sources: Traffic on I- 605
Date: 06/23/10 - 06/24/10 **Notes:** See attached Noise Measurement Form.

TIME	6/23-6/24 $L_{eq(h)}$ dBA
10:00 - 11:00 AM	64
11:00 - 12:00 PM	64
12:00 - 01:00 PM	64
01:00 - 02:00 PM	64
02:00 - 03:00 PM	64
03:00 - 04:00 PM	63
04:00 - 05:00 PM	62
05:00 - 06:00 PM	64
06:00 - 07:00 PM	65
07:00 - 08:00 PM	65
08:00 - 09:00 PM	64
09:00 - 10:00 PM	63
10:00 - 11:00 PM	63
11:00 - 12:00 AM	60
12:00 - 01:00 AM	59
01:00 - 02:00 AM	57
02:00 - 03:00 AM	56
03:00 - 04:00 AM	56
04:00 - 05:00 AM	58
05:00 - 06:00 AM	62
06:00 - 07:00 AM	64
07:00 - 08:00 AM	65
08:00 - 09:00 AM	64
09:00 - 10:00 AM	64
10:00 - 11:00 AM	64
11:00 - 12:00 PM	63



FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Jason O. / Ibrahim A.	DATE: 06/08/10
MEASUREMENT ADDRESS: 13671 Olympic Ave	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST1

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ LD-2900 ☐ _____	☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM	☒ LD-900 ☐ LD-828 ☐ _____	SYSTEM PWR: ☒ BAT ☐ AC (observations at start of measurement)
SERIAL #: 0344	SERIAL #: 1785	SERIAL #: 3203	TEMP: 71 °F R.H.: 70 %

CALIBRATOR:	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LD CA250 ☐ _____ S/N 2480 — Freq, Hz.: ☒ 250 ☐ 1000 ☐	Before 114, 114, 91.1, 13:34	WIND SPEED: 1.4 MPH
	After 114, 113.9, 91.1, 14:03	TOWARD (DIR): _____
		SKIES: cloudy
		CAMERA _____
		PHOTO NOs. 110-119

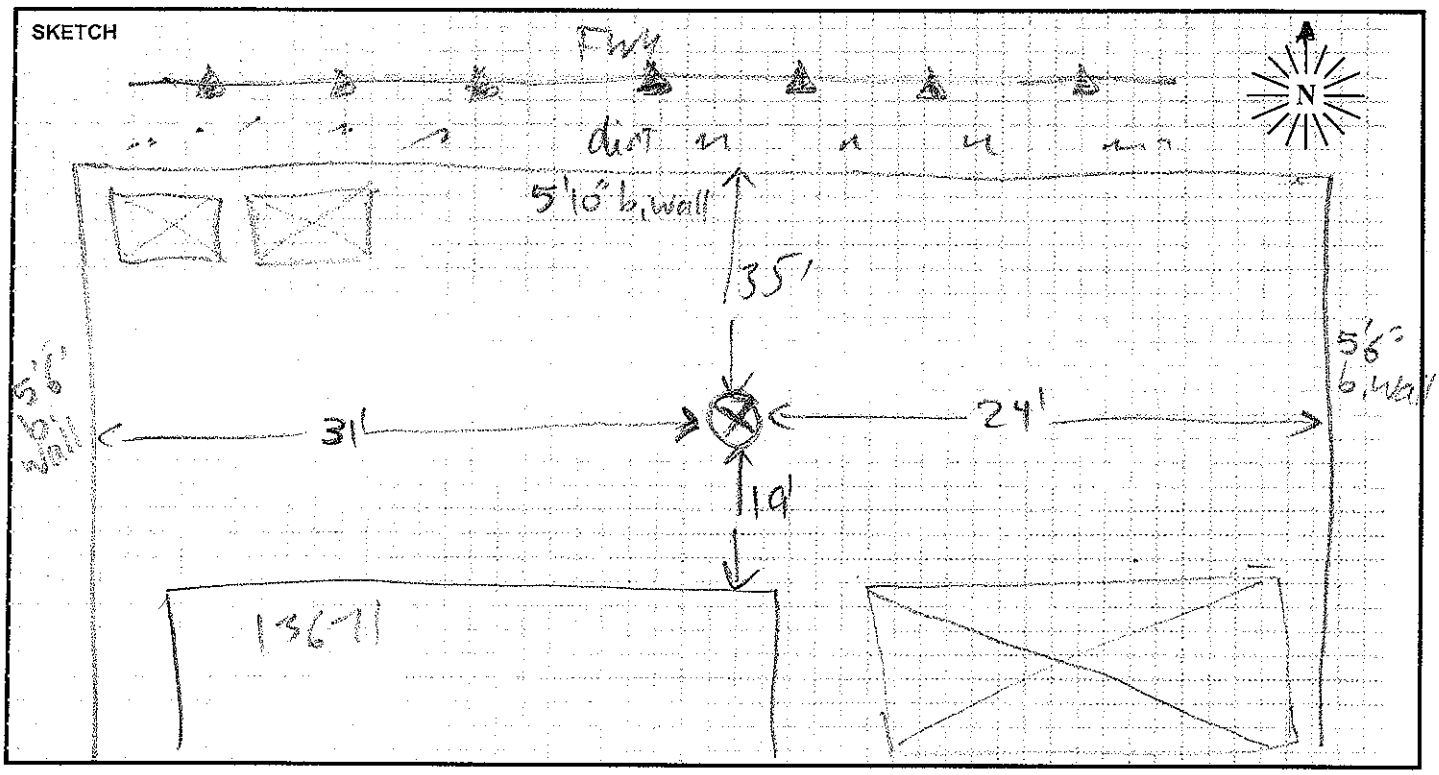
METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES: Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/08	1:40	2:00	60.9	61.6	62.9	64.5	65.4	66.0	67.6	68.4	64.6	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: Jason O. / Ibrahim A.	DATE: 06/07/10
MEASUREMENT ADDRESS: 3049 Yukon Cir. / CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST1A

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☐ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☐ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☐ 1-INCH ☐ RANDOM	☐ _____	
SERIAL #: 2676029	SERIAL #: #4199 2663101	SERIAL #: 10729	TEMP: 70 °F R.H.: 55 %

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☐ LD CA250	☐ 250	6/7 Before	_____, 46.35, n/a, 11:18
☒ B&K 4231	☒ 1000	6/9 After	_____, 46.58, _____, 9:28
S/N 2507137	☐ _____		

METER SETTINGS:					
☒ A-WTD	☐ LINEAR	☒ SLOW	☐ 1/1 OCT	☒ INTERVALS 20 - MINUTE	WIND SPEED: 1 MPH
☐ C-WTD	☐ IMPULSE	☐ FAST	☐ 1/3 OCT	☐ L_N PERCENTILE VALUES	TOWARD (DIR): _____

SKIES: Partly cloudy

CAMERA _____

PHOTO NOs. 14-34

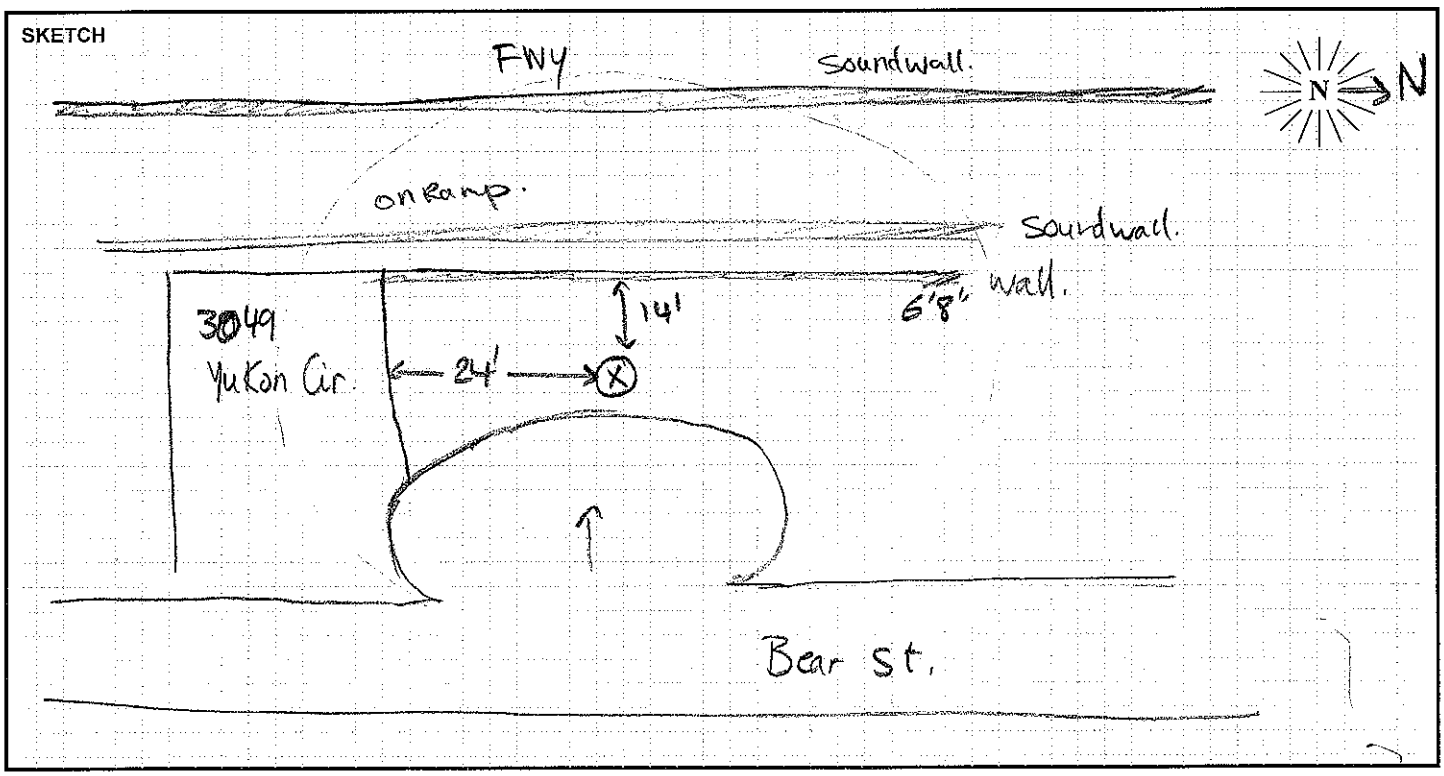
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/07	11:19	11:40	50.9	51.2	52.4	53.6	/	55.4	61.0	67.3	54.4	Carhorn, Motorcycle

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Ibrahim A.	DATE: 06/07/10
MEASUREMENT ADDRESS: 960 Springfield	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: STIB

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____	☒ NON-POLAR ☐ POLARIZED ☐ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM ☐ WIND SCREEN	☒ LD-900 ☐ LD-828 ☐ _____	SYSTEM PWR: ☒ BAT ☐ AC
SERIAL #: 0344	SERIAL #: 1785	SERIAL #: 3203	(observations at start of measurement)
			TEMP: 76 °F R.H.: 61 %
			WIND SPEED: 1.6 MPH
			TOWARD (DIR): _____
			SKIES: Partly cloudy
			CAMERA _____
			PHOTO NOs. 35-39

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 21.1, 12:07

After 114, 113.9, 21.1, 15:14

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

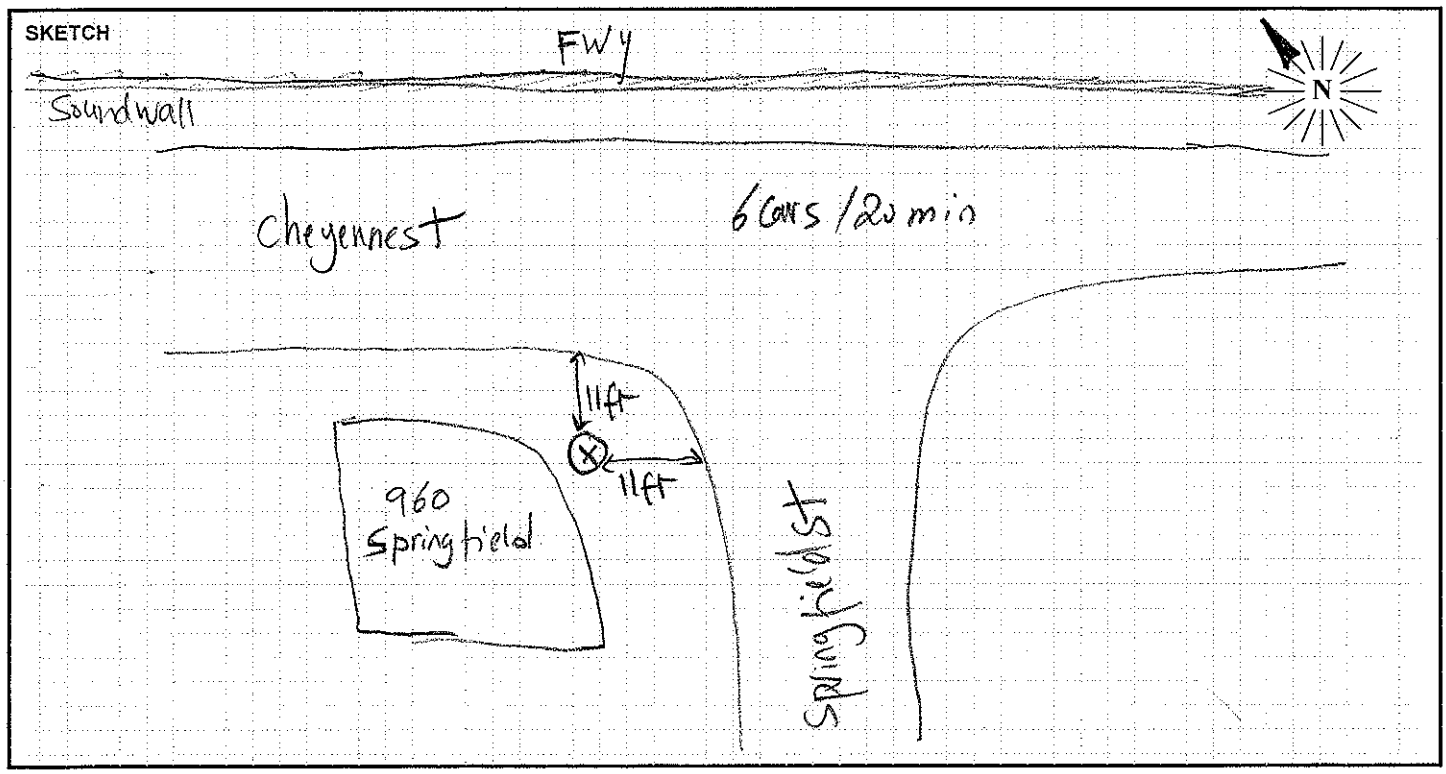
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/07	12:20	12:40	50.4	50.8	51.8	53.5	54.4	55.5	60.9	63.7	54.1	Car starts at 12:22, 57 dBA
												Prop at 12:34-12:35
												car parking nearby at 12:39

SKETCH



FIELD SURVEY FORM

PROJECT: I-405_PA-ED	ENGINEER: Philip J. / Ibrahim M.	DATE: 06/07/2010
MEASUREMENT ADDRESS: 910 Liard Pl	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: STIC

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ LD-2900 ☐ _____
SERIAL #: 0344

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM
SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____
SERIAL #: 3203

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2480
Freq, Hz.: ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
Before 114, 114, 21.1, 12:07
After 114, 113.9, 21.1, 16:23

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

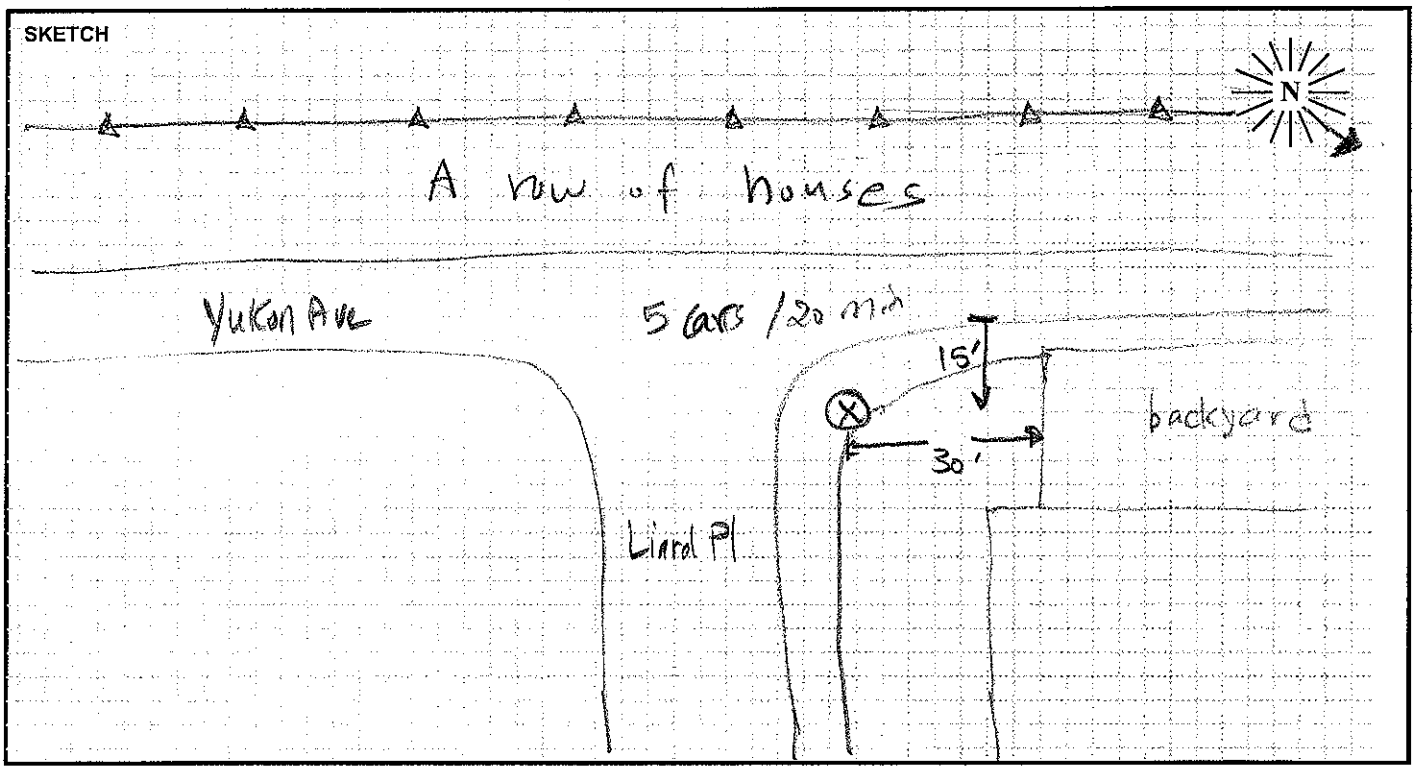
NOTES:
SYSTEM PWR: ☒ BAT ☐ AC
(observations at start of measurement)
TEMP: 72 °F R.H.: 65 %
WIND SPEED: 1.8 MPH
TOWARD (DIR): _____
SKIES: Partly cloudy
CAMERA _____
PHOTO NOs. 54-59

NOTES: Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/07	14:00	14:20	58.0	58.4	59.6	61.4	62.4	63.3	66.0	69.4	61.8	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405-PA-ED		ENGINEER: Philip S. / Ibrahim A	DATE: 06/07/10
MEASUREMENT ADDRESS: 990 Hartford Way	CITY: Costa Mesa	☐ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST2

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820	☒ NON-POLAR ☐ POLARIZED	☒ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☐ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☐ LD-2900 ☐ _____	☐ 1-INCH ☒ RANDOM	☐ _____	
SERIAL #: 0344	SERIAL #: 1785	SERIAL #: 3203	TEMP: 76 °F R.H.: 62 %

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 21.1, 12:07

After 114, 113.9, 21.1, 16:23

WIND SPEED: 2.6 MPH

TOWARD (DIR): _____

SKIES: Sunny

CAMERA _____

PHOTO NOs. 46 - 53

METER SETTINGS:

☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE

☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

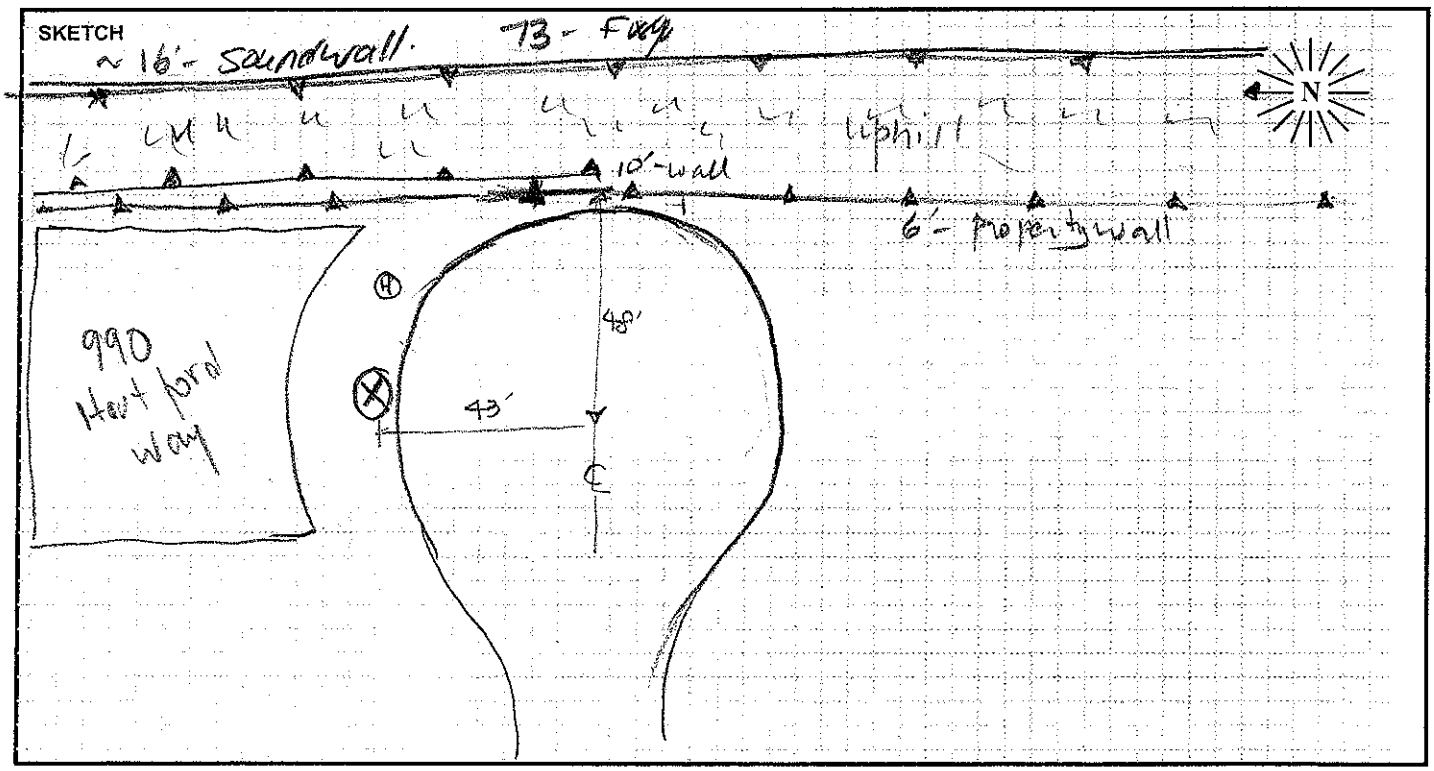
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/07	3:20	3:40	51.8	52.4	53.5	54.9	55.7	56.6	59.6	73.0	55.6	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I. 405. PA - ED		ENGINEER: Jason O. / Ibrahim A	DATE: 06/08/10
MEASUREMENT ADDRESS: 1072 Concord St	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST2A

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ LD-2900 ☐ _____
SERIAL #: 0344

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM
SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____
SERIAL #: 3203

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2480
Freq, Hz.: ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
Before 114, 114, 91.1, 11:18
After 114, 114, 91.1, 13:34

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

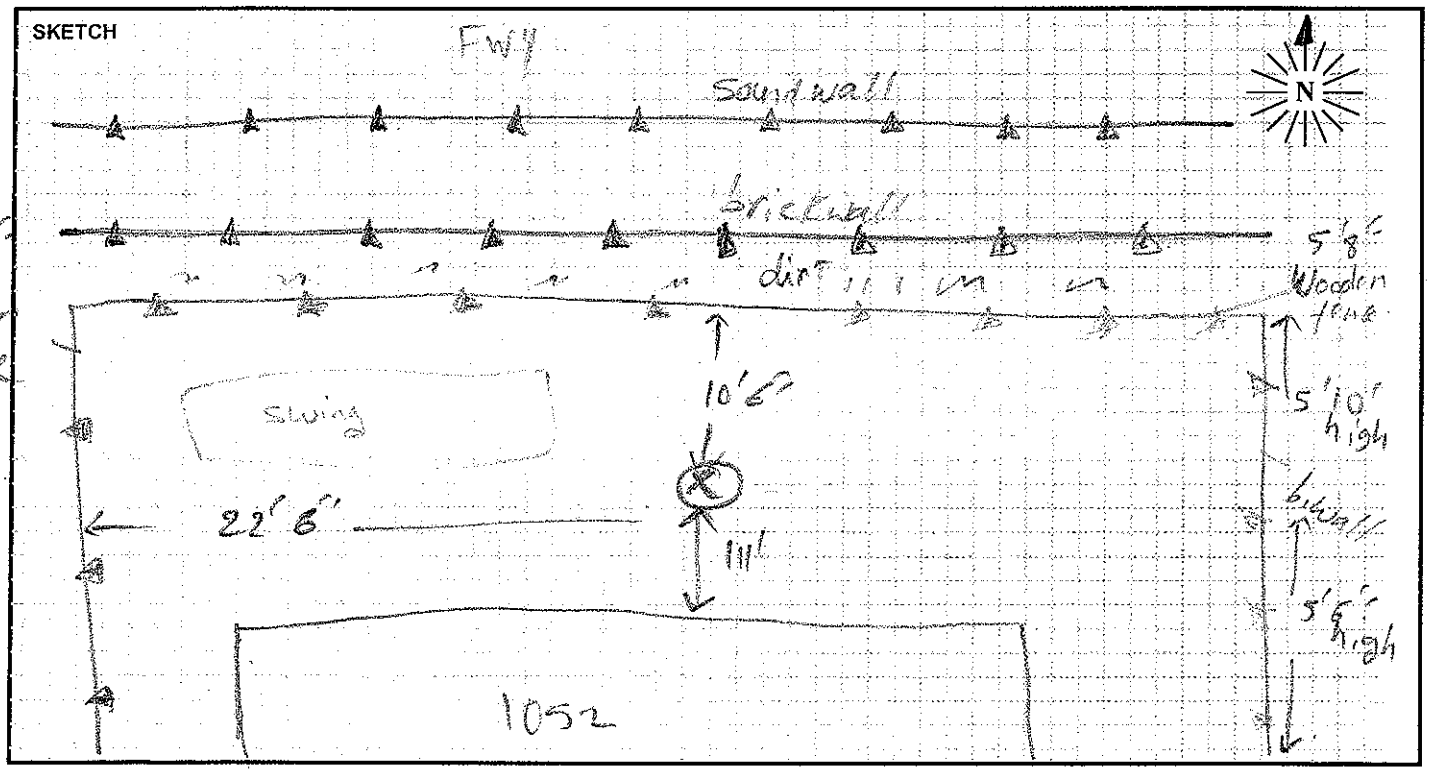
NOTES:
SYSTEM PWR: ☒ BAT ☐ AC
(observations at start of measurement)
TEMP: 71 °F R.H.: 70 %
WIND SPEED: 1.1 MPH
TOWARD (DIR): _____
SKIES: cloudy
CAMERA _____
PHOTO NOs. 79 - 87

NOTES:
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar
Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/08	11:20	11:40	52.0	53.1	54.8	57	58.1	59.1	61.5	63.9	57.4	Jet at 11:35

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/9/16
MEASUREMENT ADDRESS: (103/104) 100 south Coast Dr.	CITY: Costa Mesa	☐ Single-Family ☐ Recreational ☒ Multi-Family ☐ Commercial	SITE NO.: ST3

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☐ BAT ☐ AC
☐ LD-824 ☐ LD-812	☐ NON-POLAR ☐ POLARIZED	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☒ 1/2-INCH ☒ FREEFIELD	☒ _____	TEMP: 72 °F R.H.: 66 %
SERIAL #: 2676029	☐ 1-INCH ☐ RANDOM	SERIAL #: 10729	WIND SPEED: 1-2 MPH
	SERIAL #: #4189 2663101		

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☐ LD CA250	☐ 250	6/9 ~~Before~~ Sens, 46.58, mV/Pa, 09:29
☒ B&K 4231	☒ 1000	6/10 ~~After~~ , 47.19, , 9:52
S/N 2507137	☐ _____	

TOWARD (DIR): Calm

SKIES: Clear

CAMERA Phillip

PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES: Local street significant noise source

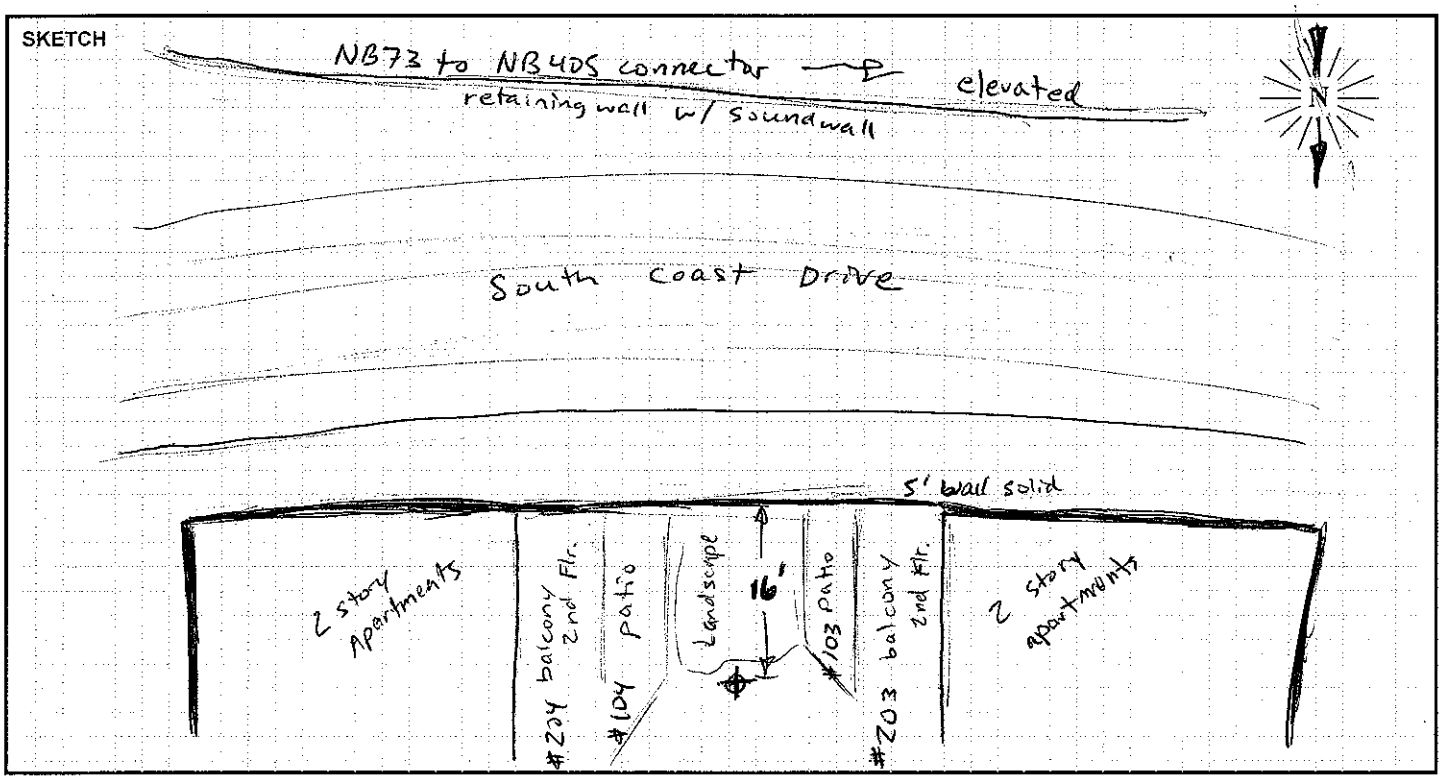
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/9	12:15	12:20										
	12:20	12:40	54.7	55.5	56.9	58.3		60.1	65.5	68.8	58.9	talking

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Ibrahim A.	DATE: 06/09/10
MEASUREMENT ADDRESS: Glen Winbeldon Apts	CITY: Costa Mesa	☐ Single-Family ☒ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST4

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820	☒ WIND SCREEN	☒ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ NON-POLAR ☐ POLARIZED	☐ LD-828	(observations at start of measurement)
☐ LD-2900 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☐ _____	TEMP: 72 °F R.H.: 66 %
	☐ 1-INCH ☒ RANDOM		WIND SPEED: 0.8 MPH
SERIAL #: 0344	SERIAL #: 1785	SERIAL #: 3203	TOWARD (DIR): _____

CALIBRATOR:		CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☐ LD CA250	Freq, Hz.	Before	114.2, 114.0, 21.0, 10:09
☐ _____	☐ 250	After	114, 113.9, 21, 1546
S/N _____	☐ 1000		
	☐		

METER SETTINGS:					
☒ A-WTD	☐ LINEAR	☒ SLOW	☐ 1/1 OCT	☒ INTERVALS 20 - MINUTE	SKIES: Cloudy
☐ C-WTD	☐ IMPULSE	☐ FAST	☐ 1/3 OCT	☐ L_N PERCENTILE VALUES	CAMERA _____
					PHOTO NOs. 29-42

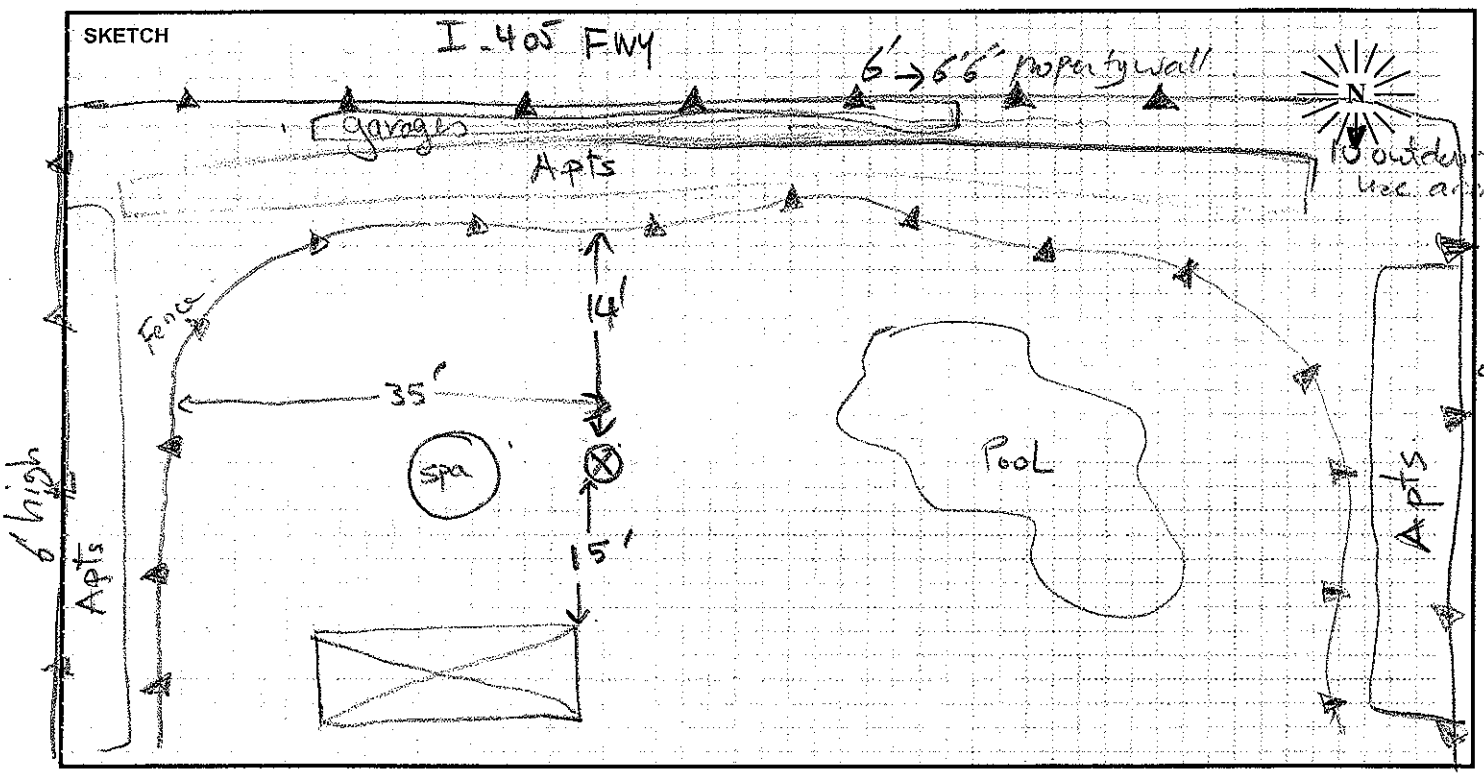
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/09	12:00	12:20	56.3	56.4	57.3	58.5	59.1	59.8	60.8	62.8	58.6	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-FD		ENGINEER: Ibrahim A.	DATE: 06/09/2010
MEASUREMENT ADDRESS: Gilsler Park	CITY: Costa Mesa	☐ Single-Family ☐ Multi-Family ☒ Recreational ☐ Commercial	SITE NO.: ST5

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:
☒ LD-870 ☐ LD-820	☒ NON-POLAR ☐ POLARIZED	☒ LD-900
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☐ LD-828
☐ LD-2900 ☐ _____	☐ 1-INCH ☒ RANDOM	☐ _____
SERIAL #: 0344	SERIAL #: 1785	SERIAL #: 5203

☒ WIND SCREEN

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114 / 114 / 21 / 908

After 114 / 114 / 21 / 10:09

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 64-67 °F R.H.: 81-79 %

WIND SPEED: 1-1 MPH

TOWARD (DIR): _____

SKIES: Cloudy-Mist

CAMERA _____

PHOTO NOs. 1-22

NOTES:

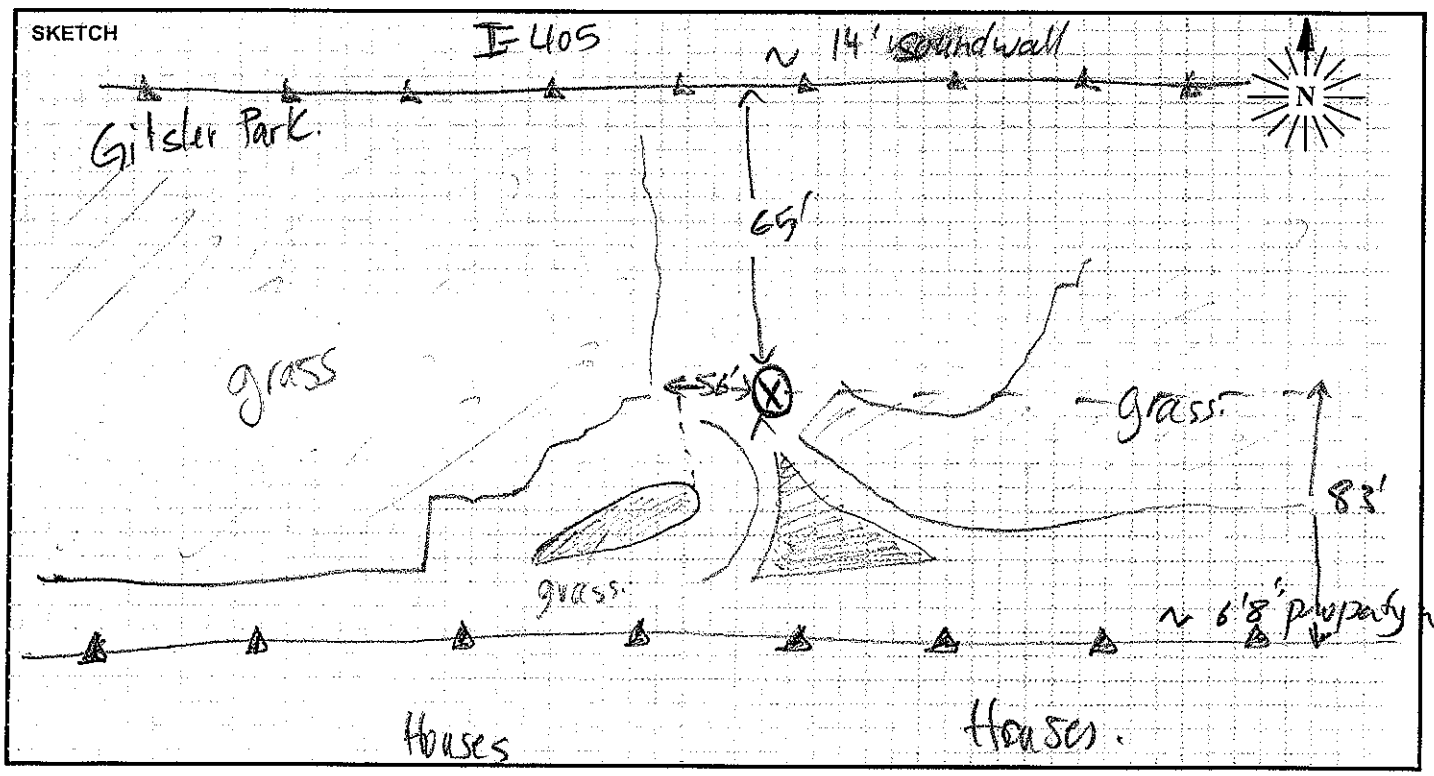
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/09	9:09	9:20	62.1	63.2	65.0	66.0	66.8	67.0	67.9	69.8	66.1	dog barking at 9:26
	9:20	9:40	63.7	64.0	65.0	65.9	66.5	66.9	70.8	84.1	66.4	and at 9:36

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/9/10
MEASUREMENT ADDRESS: 1376 Garlingford	CITY:	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST6

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☒ B&K-2250 ☐ _____	MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM	PRE AMP: ☐ LD-900 ☐ LD-828 ☒ _____	NOTES: SYSTEM PWR: ☒ BAT ☐ AC (observations at start of measurement)
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	TEMP: 66 °F R.H.: 77 %

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137	Freq, Hz. ☐ 250 ☒ 1000 ☐ _____	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time 6/9 ~~Before~~ _____, 46.58, n/a, 09:29 6/10 After _____, 47.19, _____, 9:52

WIND SPEED: 1.1 MPH

TOWARD (DIR): _____

SKIES: partly cloudy

CAMERA _____

PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

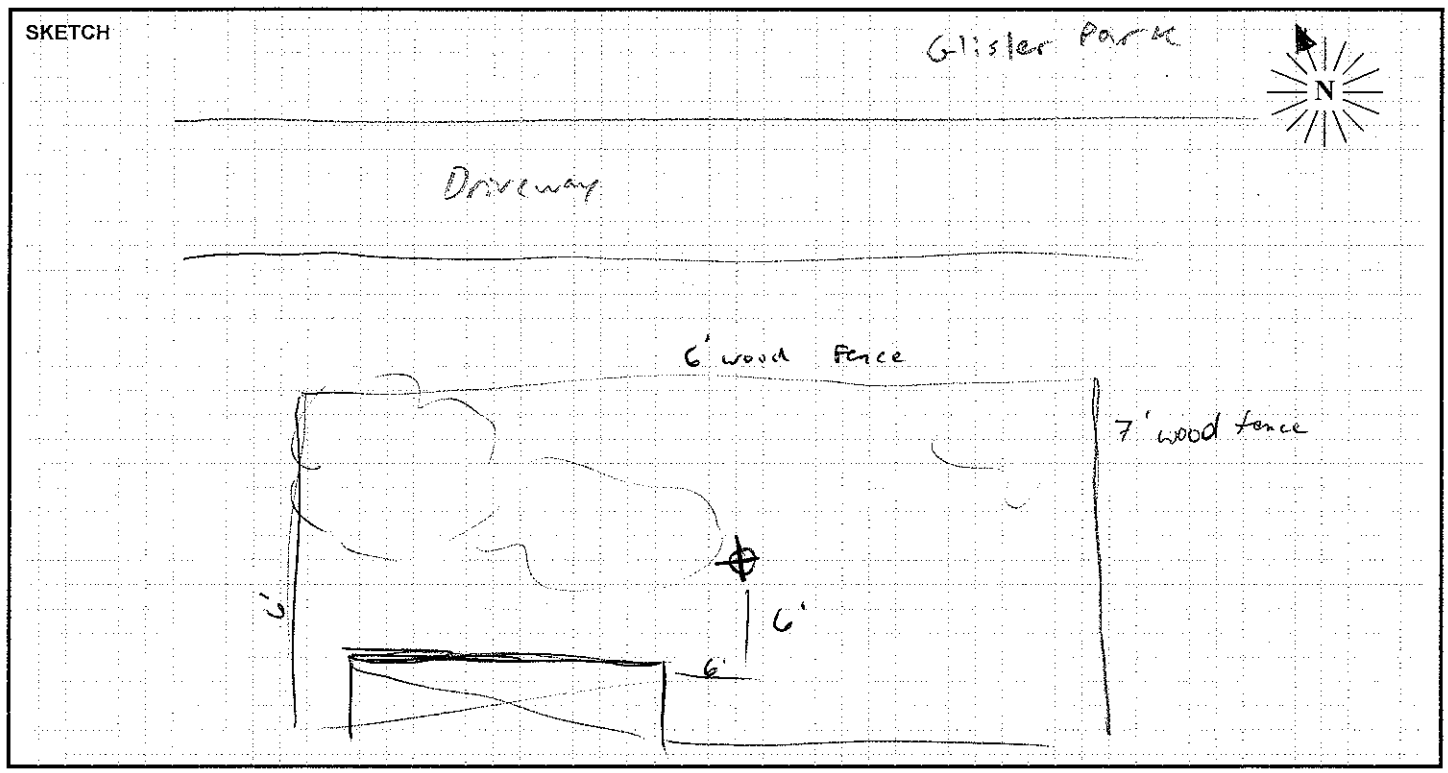
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/9	09:30	09:40	50.2	50.6	51.7	52.9		63.1	66.8	70.9	58.5	barking mutt
6/9	09:40	10:00	50.9	51.3	52.1	53.2		62.4	66.9	68.5	57.7	gardeners, heli

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I_405_ PA_ ED	ENGINEER: Ibrahim A.	DATE: 06/09
MEASUREMENT ADDRESS: Vagabond Inn (3205 harbor blvd)	CITY: Costa Mesa	☐ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial
		SITE NO.: ST7

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:
☒ LD-870 ☐ LD-820	☒ NON-POLAR ☐ POLARIZED	☒ LD-900
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☐ LD-828
☐ LD-2900 ☐ _____	☐ 1-INCH ☒ RANDOM	☐ _____
SERIAL #: 0128	SERIAL #: 1785	SERIAL #: 3203

☒ WIND SCREEN

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 71 °F R.H.: 68 %

WIND SPEED: 2, 3 MPH

TOWARD (DIR): _____

SKIES: Partly cloudy

CAMERA _____

PHOTO NOs. 51 - 59

CALIBRATOR:

☒ LD CA250

☐ _____

S/N 2479

Freq, Hz.

☒ 250

☐ 1000

☐

CALIBRATION RECORD:

Input, dB / Reading, dB / Offset, dB / Time

Before 114 / 113.9 / 21.0 / 15:46

After 114 / 113.9 / 21.0 / 16:54

METER SETTINGS:

☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE

☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

Dist. to Center of Nearest Lane _____

☐ Video ☐ Radar

Counts AT MT HT

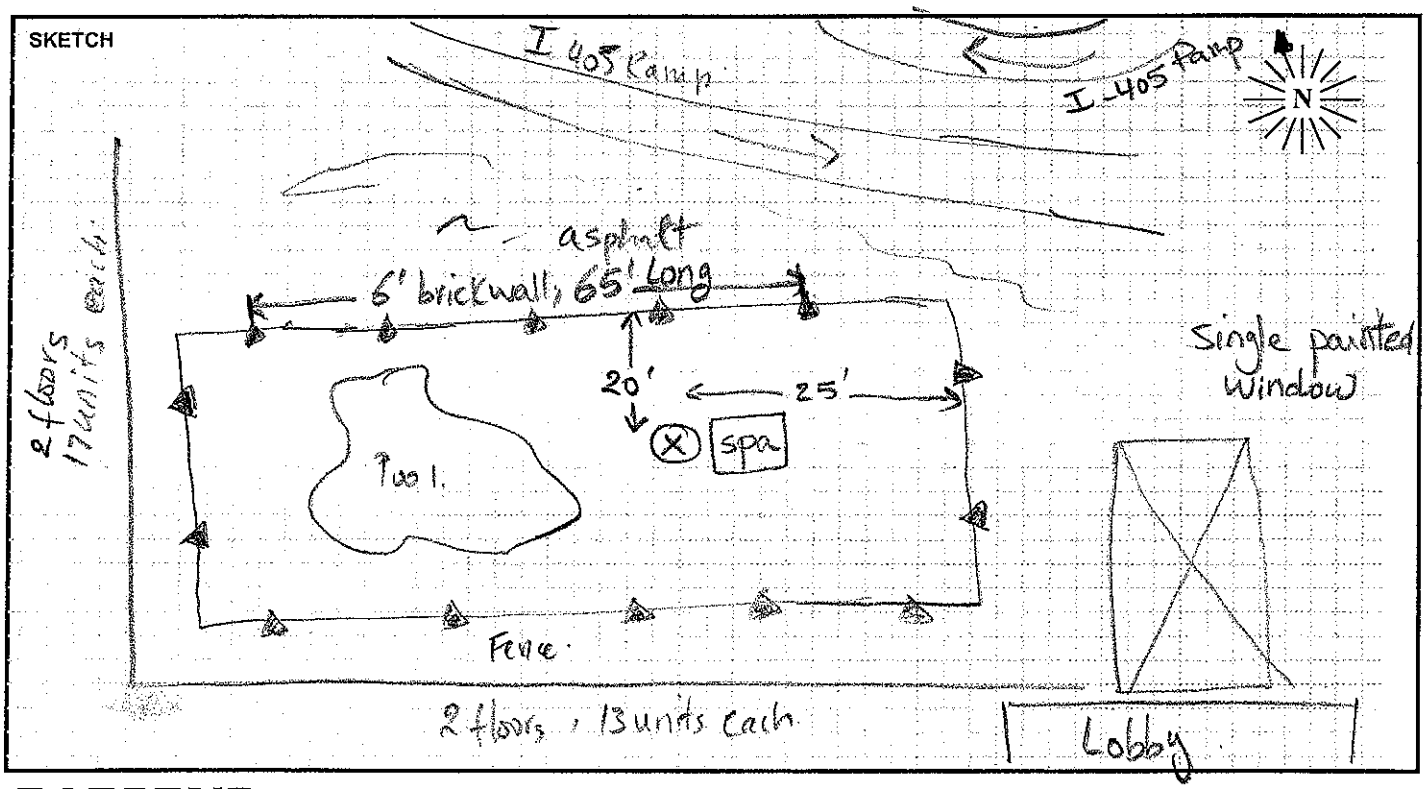
MEAS. TYPE:

☐ Long Term

☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/09	4:00	4:20	52.0	52.6	53.8	55.3	56.2	57	58.9	67.1	55.6	Ladies at the pool
												chatting the 1st
												5 min of the meas.

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Ibrahim A.	DATE: 06/09/2010
MEASUREMENT ADDRESS: 1630 Iowa St #D	CITY: Costa Mesa	☐ Single-Family ☒ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST8

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820	☒ NON-POLAR ☐ POLARIZED	☒ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☐ LD-2900 ☐ _____	☐ 1-INCH ☐ RANDOM	☐ _____	
SERIAL #: 0128	SERIAL #: 1785	SERIAL #: 3203	TEMP: 71 °F R.H.: 65 %

CALIBRATOR:		CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LD CA250	Freq, Hz.		WIND SPEED: 0.6 MPH
☐ _____	☒ 250	Before 114 / 113.9 / .21 / 16:54	TOWARD (DIR): _____
S/N 2479	☐ 1000	After 114 / 113.9 / .21 / 12:41	SKIES: Partly cloudy
	☐		CAMERA _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

PHOTO NOs. 60-64

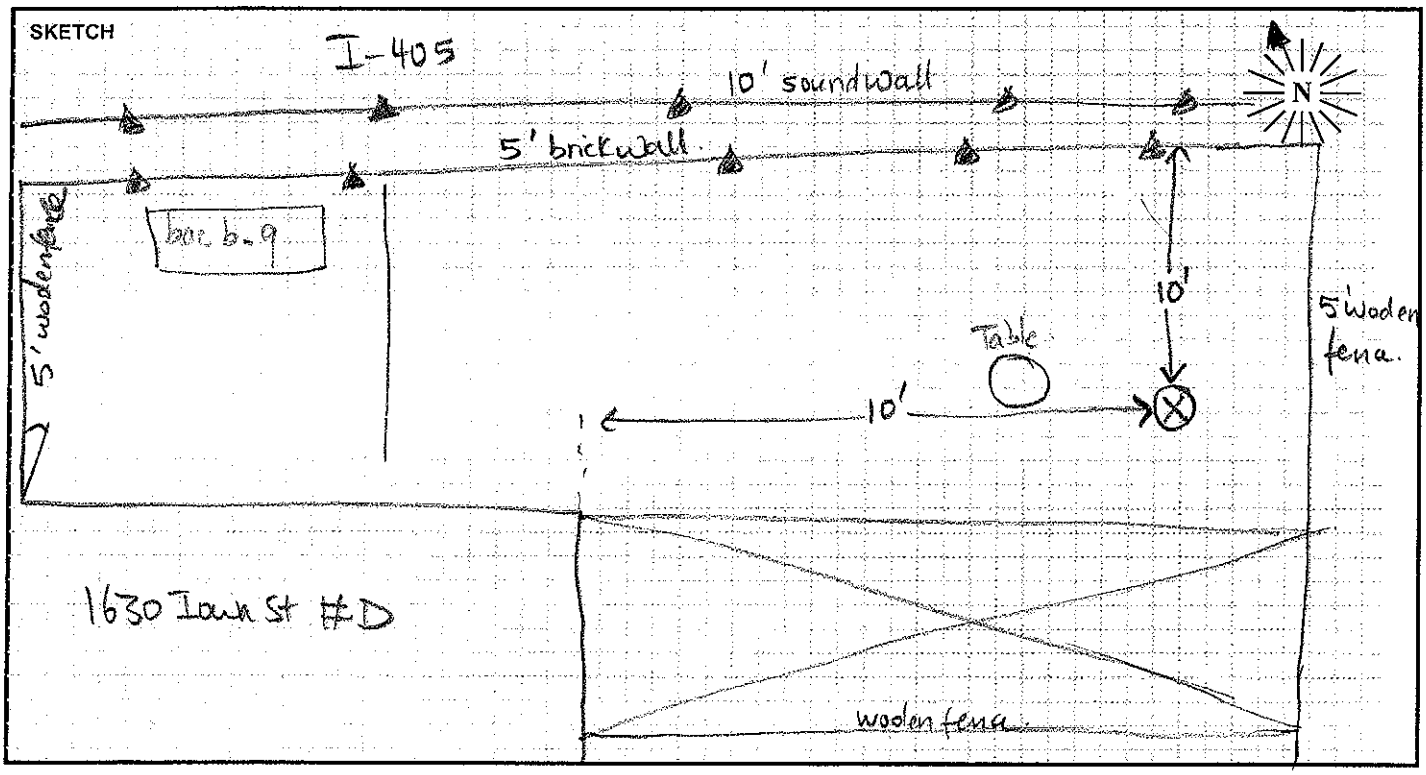
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/09	17:00	17:20	63.1	64.4	65.9	67.3	68.1	68.8	70.9	81.6	67.6	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405-PA-ED

ENGINEER: Ibrahim A.

DATE: 06/09/10

MEASUREMENT ADDRESS: 3342 Nevada Ave

CITY: Costa Mesa

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST9

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ LD-2900 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3203

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 75 °F R.H.: 60 %

WIND SPEED: 1 MPH

TOWARD (DIR): _____

SKIES: Partly cloudy

CAMERA _____

PHOTO NOs. 43-50

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2479

Freq, Hz. ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114 / 114 / 21 / 14:55

After 114 / 113.9 / 21 / 15:46

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

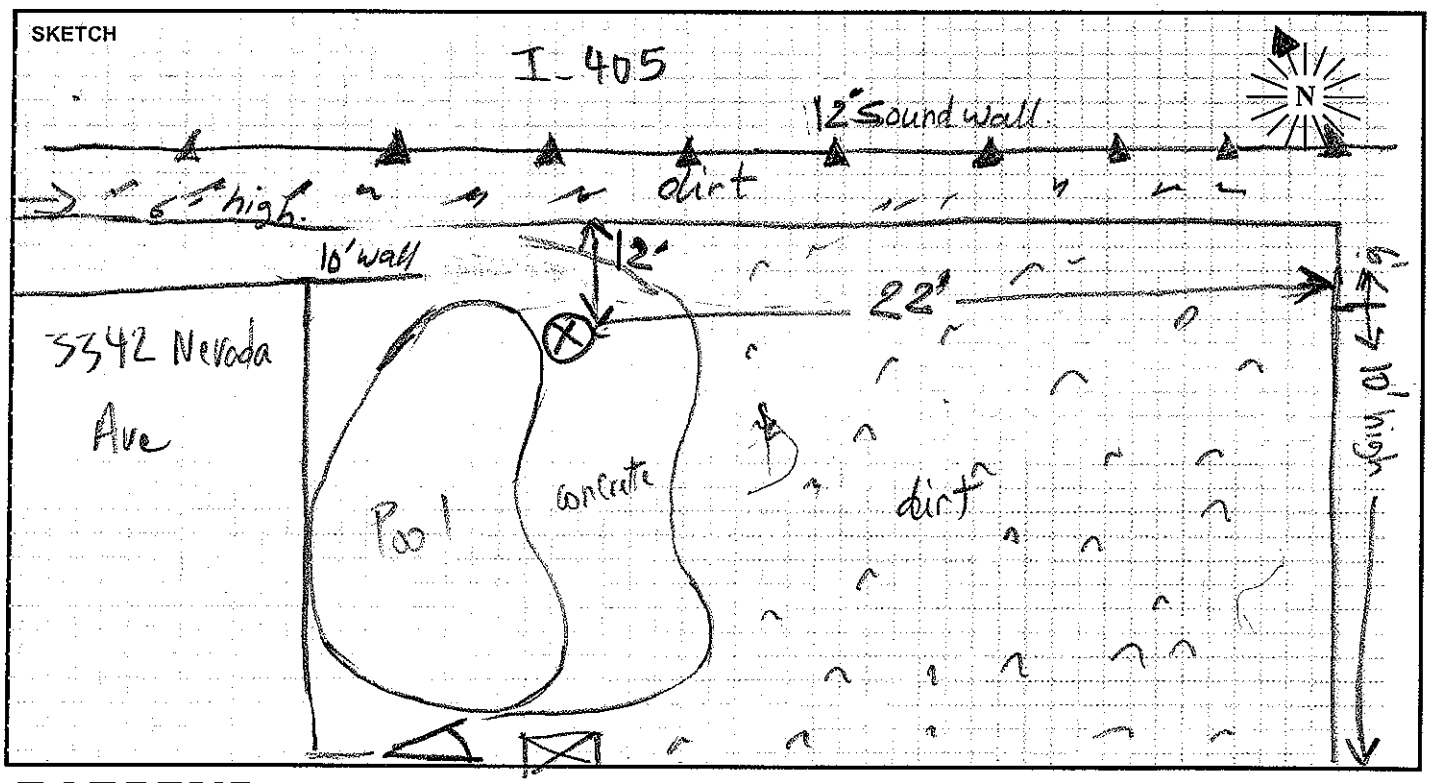
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/09	3:00	3:20	57.1	57.9	59.1	60.7	61.6	62.4	63.9	65.4	60.9	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/10/10
MEASUREMENT ADDRESS: 3324 Wyoming Cir.	CITY: Costa Mesa	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST9A

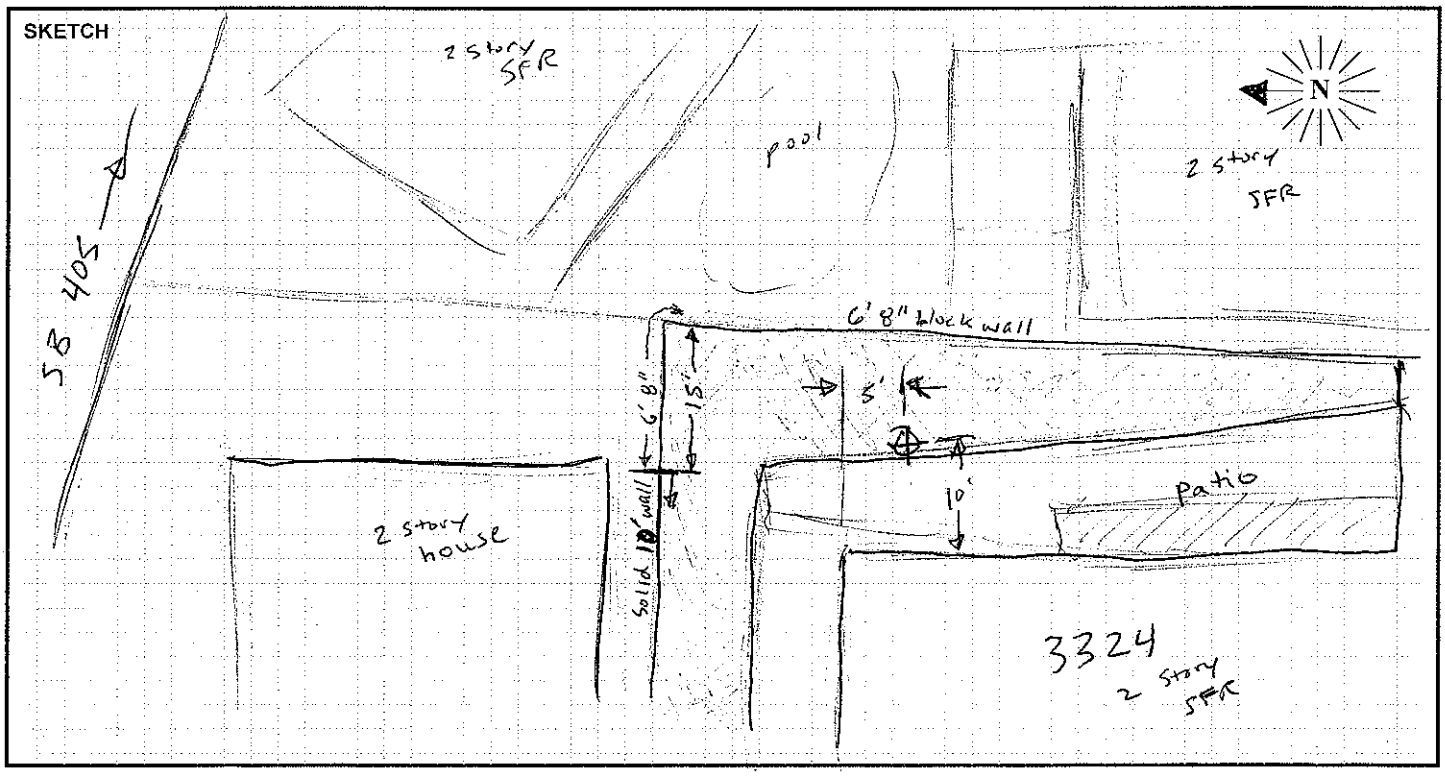
SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☐ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☐ 1-INCH ☒ RANDOM	☐ _____	
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	TEMP: 70 °F R.H.: 65 %

CALIBRATOR:		CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☐ LD CA250	Freq, Hz.		WIND SPEED: 20 MPH
☒ B&K 4231	☐ 250	Before Sens, 47.19, mV/Pa, 09:52	TOWARD (DIR): _____
S/N 2507137	☒ 1000	After _____, 46.82, _____, 14:10	SKIES: Clouds
	☐ _____		CAMERA _____
METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE			
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES			PHOTO NOs. _____

NOTES:	Dist. to Center of Nearest Lane _____	☐ Video ☐ Radar	Counts AT MT HT	MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/10	10:00	10:20	52.3	53.0	54.4	56.1		57.8	59.2	64.3	56.3	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Ibrahim A	DATE: 06/09/10
MEASUREMENT ADDRESS: La Quinta Inn 1515 South Coast Drive	CITY: Costa Mesa	☐ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST10

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ LD-2900 ☐ _____	☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM	☒ LD-900 ☐ LD-828 ☐ _____	SYSTEM PWR: ☒ BAT ☐ AC (observations at start of measurement)
SERIAL #: 0344	SERIAL #: 1785	SERIAL #: 3203	TEMP: 67 °F R.H.: 70 %

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114 / 114 / 0 / 10:09

After 114 / 113.9 / 21 / 1546

WIND SPEED: 1 MPH

TOWARD (DIR): _____

SKIES: Cloudy

CAMERA _____

PHOTO NOs. 23-28

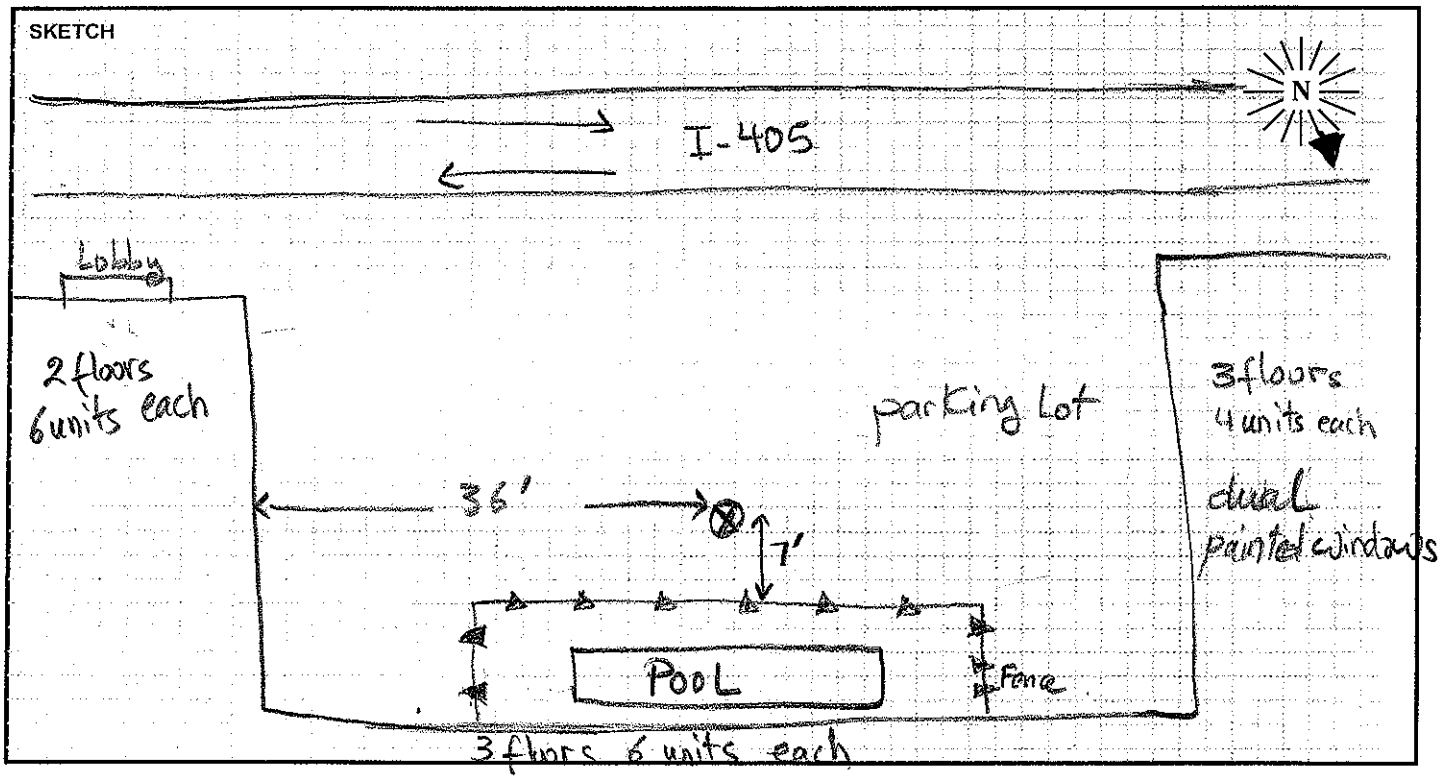
METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 90 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES: Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/09	10:40	11:00	65.5	69.0	69.0	70.8	71.6	72.5	75.5	79.0	71.0	helicopter at 10:47

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: Ogden	DATE: 6/10/10
MEASUREMENT ADDRESS: 10242 Durango River Ct.	CITY: Fountain Valley	☐ Single-Family ☐ Recreational ☒ Multi-Family ☐ Commercial — SITE NO.: ST 11

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☐ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☐ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☐ 1-INCH ☐ RANDOM	☒ _____	
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	TEMP: 75 °F R.H.: _____ %

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☐ LD CA250	☐ 250	6/14 ~~Before~~ Sens, 47.19, mV/Pa, 09:52	WIND SPEED: 1-2 MPH
☒ B&K 4231	☒ 1000	6/15 ~~After~~ _____, 47.29, _____, 10:05	TOWARD (DIR): Calm
S/N 2507137	☐ _____		SKIES: Clear

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

CAMERA _____
PHOTO NOs. _____

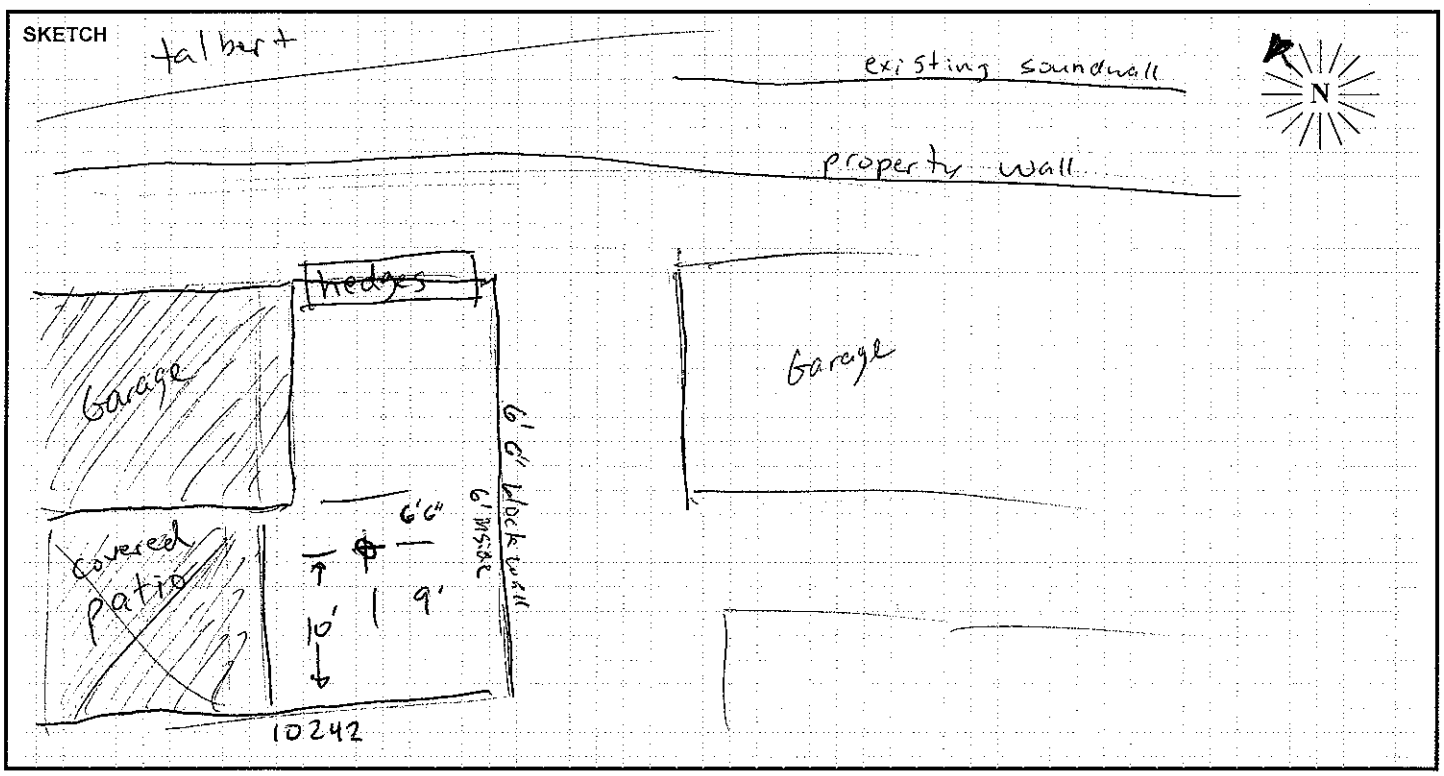
NOTES: Garages 9'6"

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/10	13:40	14:00	53.0	54.3	56.1	58.1	[illegible]	60.5	66.1	71.5	59.1	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/10/10
MEASUREMENT ADDRESS: 10328 La Despensa Ave	CITY: Fountain Valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST12

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☐ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☒ FREEFIELD	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☐ 1-INCH ☒ RANDOM	☒ _____	
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	TEMP: 72 °F R.H.: 65 %

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☐ LD CA250	☐ 250	6/14 Sens, 47.19, mV/Pa, 09:52
☒ B&K 4231	☒ 1000	6/15 _____, 47.29, _____, 10:05
S/N 2507137	☐ _____	

WIND SPEED: 2.1 MPH

TOWARD (DIR): _____

SKIES: Clouds

CAMERA _____

PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

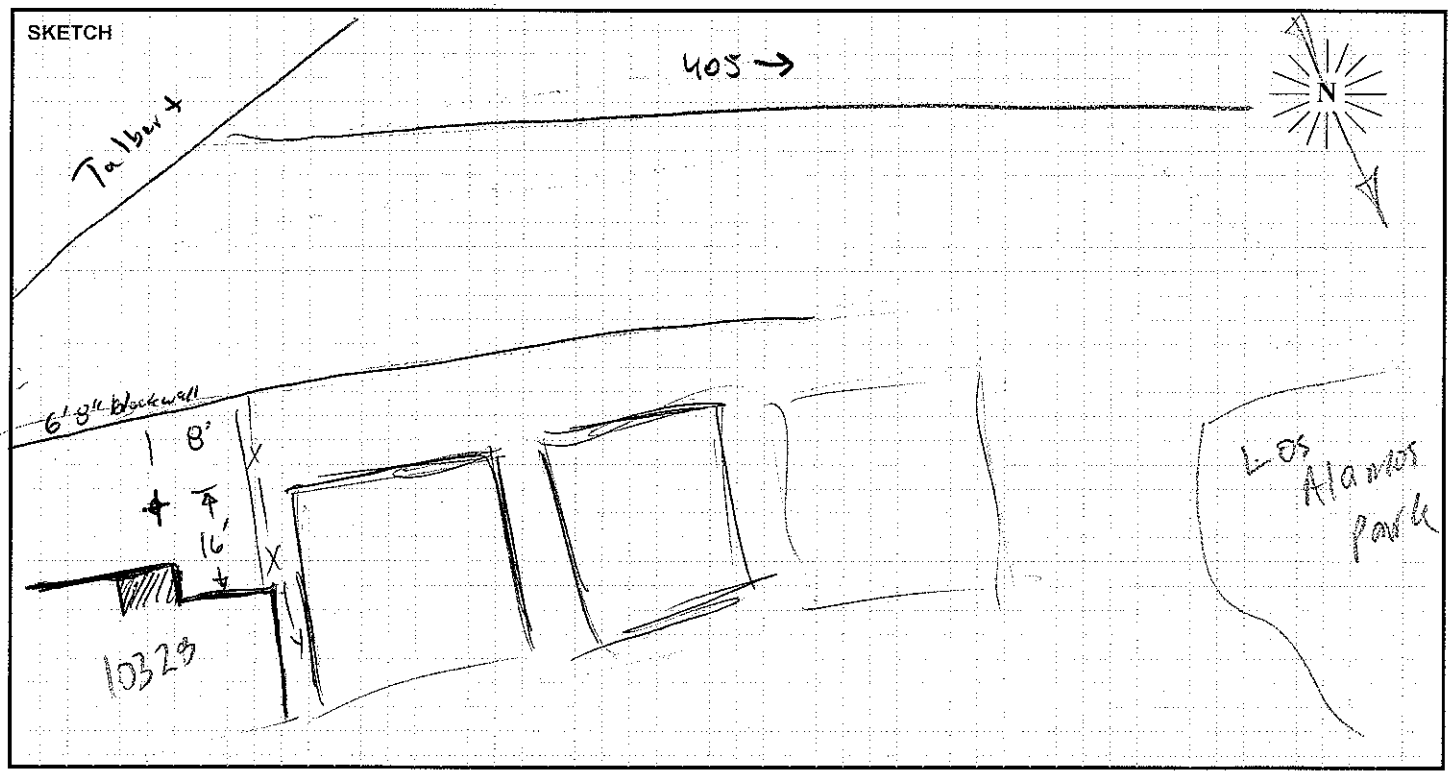
NOTES: mostly ambient
L_{50} best

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/10	11:04	11:20	52.7	53.2	54.3	56.0		61.1	68.3	72.6	58.9	talking
	11:20	11:40	51.7	53.0	54.2	55.7		57.9	62.8	68.1	56.5	redo

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405-PA-ED		ENGINEER: Jason O./Ibrahim A	DATE: 06/10/10
MEASUREMENT ADDRESS: 17828 Montezuma	CITY: Fountain Valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST12A

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ LD-2900 ☐ _____
SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM
SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____
SERIAL #: 3203

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2479
Freq, Hz. ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
Before 114, 113.9, .21, 12:41
After 114, 114, .21, 15:30

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

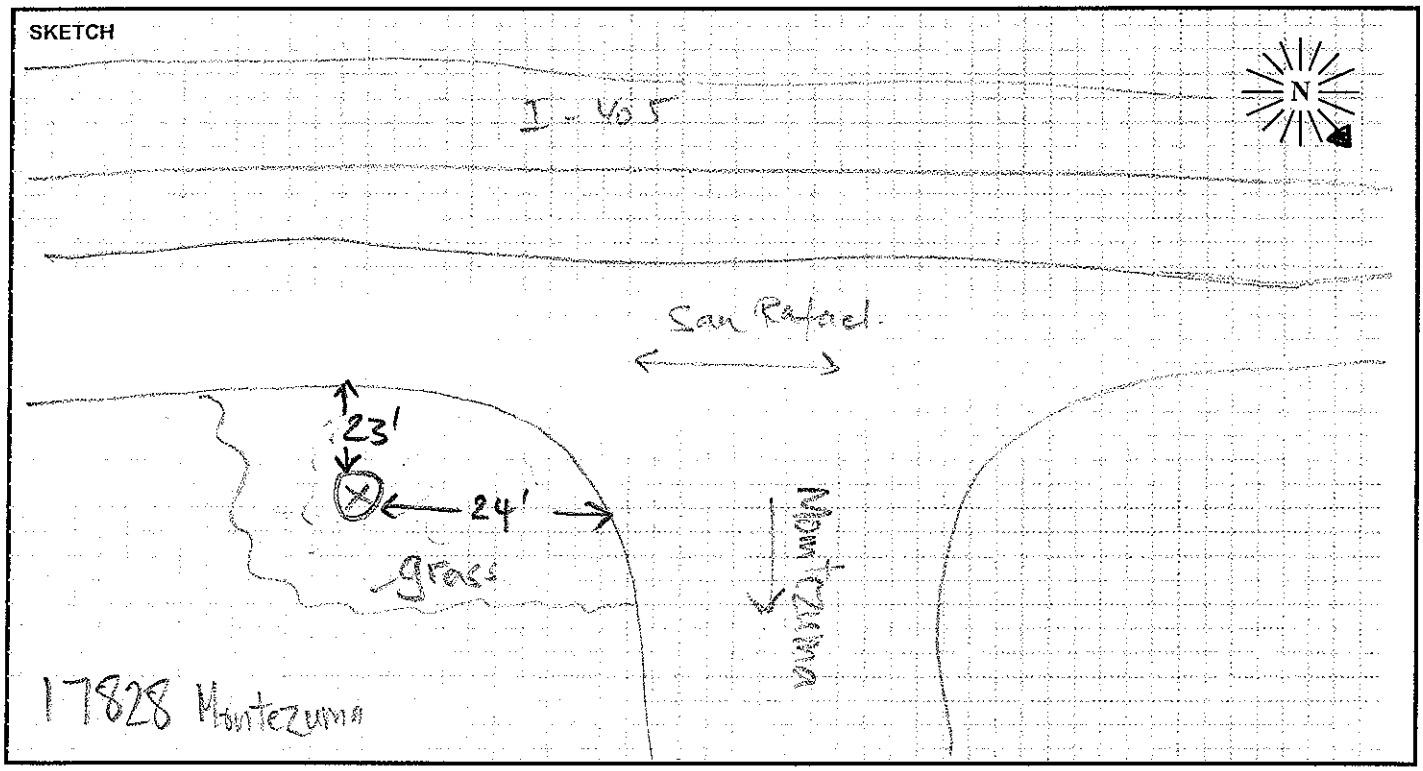
NOTES:
SYSTEM PWR: ☒ BAT ☐ AC
(observations at start of measurement)
TEMP: 72 °F R.H.: 65 %
WIND SPEED: 2.1 MPH
TOWARD (DIR): _____
SKIES: Some clouds
CAMERA _____
PHOTO NOs. 1-7

NOTES: Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/10	12:40	1:00	55.7	56.0	57.2	59.3	60.2	61.0	65.2	80.6	60.0	1 car honked horn

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/10
MEASUREMENT ADDRESS: 17701 San Rafael St.	CITY: Fountain Valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST13

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☐ BAT ☐ AC
☐ LD-824 ☐ LD-812	☐ NON-POLAR ☐ POLARIZED	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☒ 1/2-INCH ☐ FREEFIELD	☒ _____	TEMP: 72 °F R.H.: 65 %
	☐ 1-INCH ☐ RANDOM		WIND SPEED: 2.1 MPH
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	TOWARD (DIR): _____

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☐ LD CA250	☐ 250	6/14 Sens, 47.19, mV/Pa, 09:52	SKIES: Clouds
☒ B&K 4231	☒ 1000	6/15 ____, 47.29, ____, 10:05	CAMERA _____
S/N 2507137	☐ _____		PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

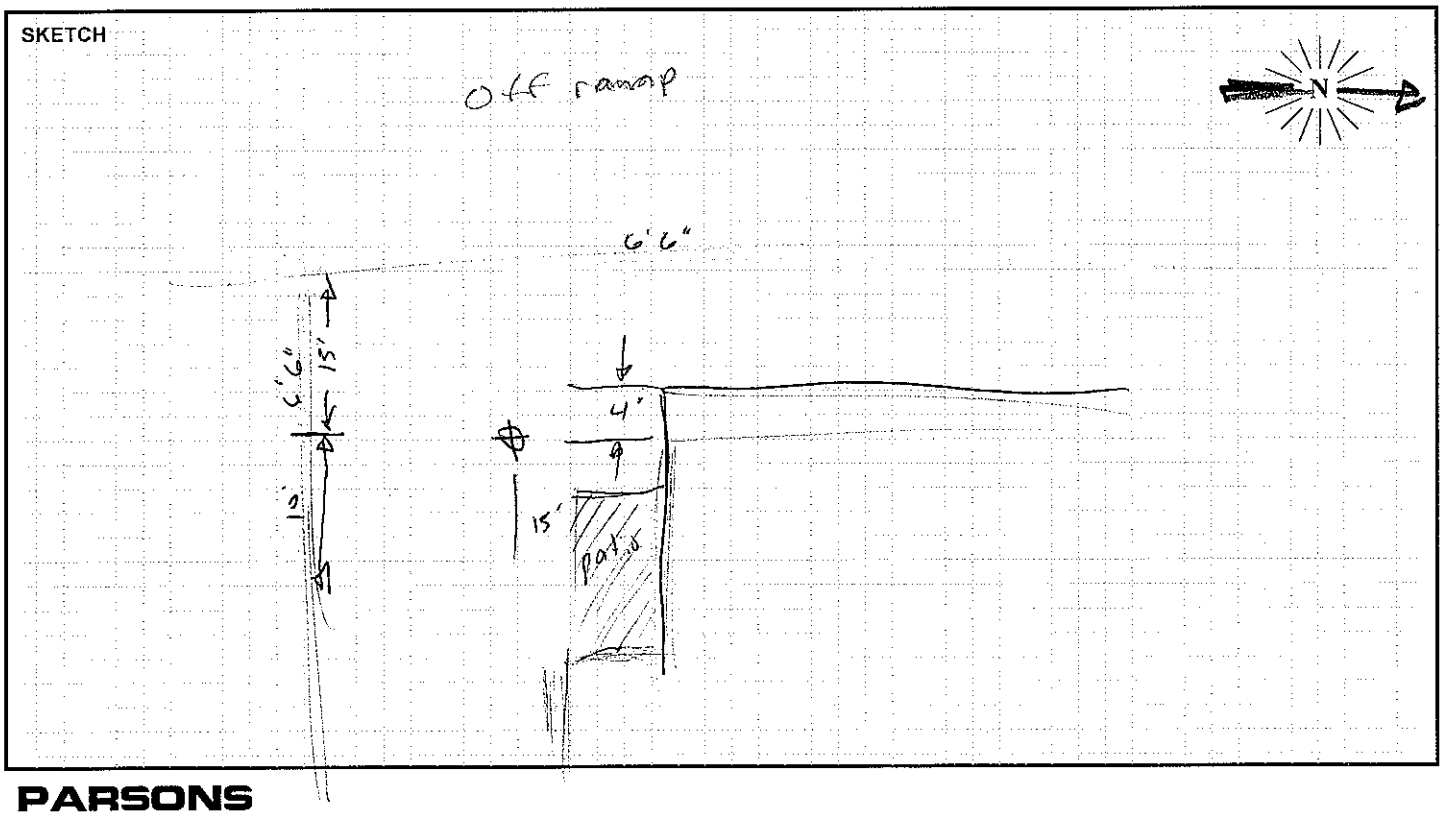
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/10	12:00	12:20	53.9	54.6	55.8	57.3		58.9	60.4	63.2	57.5	W/CAL 8 & LT7

SKETCH



FIELD SURVEY FORM

PROJECT: I_405_ PA _ED	ENGINEER: Ibrahim, A	DATE: 06/10/10
MEASUREMENT ADDRESS: 17820 Toiyabe ST (Front yard)	CITY: Fountain Valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: ST 14

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820	☒ NON-POLAR ☐ POLARIZED	☒ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☐ FREEFIELD	☐ LD-828	(observations at start of measurement)
☐ LD-2900 ☐ _____	☐ 1-INCH ☒ RANDOM	☐ _____	
SERIAL #: 0128	SERIAL #: 1785	SERIAL #: 3203	TEMP: 73 °F R.H.: 63 %

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2479

Freq, Hz.: ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 21, 15:30

After 114, 114, 21, 16:15

WIND SPEED: 3.5 MPH

TOWARD (DIR): _____

SKIES: Some clouds

CAMERA _____

PHOTO NOs. 8-13

METER SETTINGS:

☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE

☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

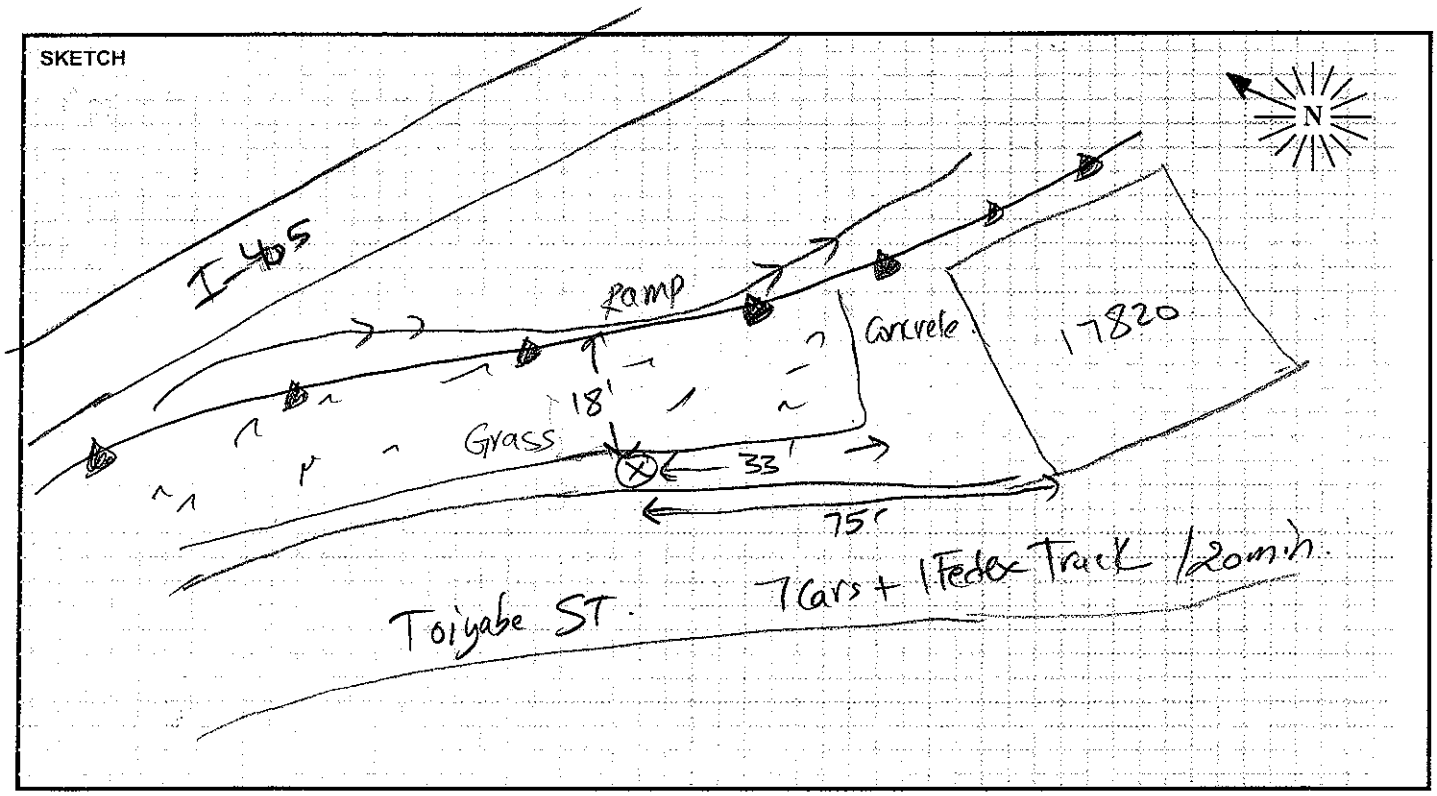
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/10	15:40	16:00	48.0	48.4	50.1	52	53.2	54.8	62.5	69.2	53.6	Fedex Truck at 15:56

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED

ENGINEER: Ibrahim A.

DATE: 06/10

MEASUREMENT ADDRESS: Fountain Valley High School

CITY: Fountain Valley

☐ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST15

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ LD-2900 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3203

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 73 °F R.H.: 66 %

WIND SPEED: 1.5 MPH

TOWARD (DIR): _____

SKIES: Sunny

CAMERA _____

PHOTO NOs. 14-17

CALIBRATOR: ☒ LD CA250 ☐ _____ S/N 2479

Freq, Hz.: ☒ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 21.0, 16:15

After 114, 114.1, 21.0, 16:45

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

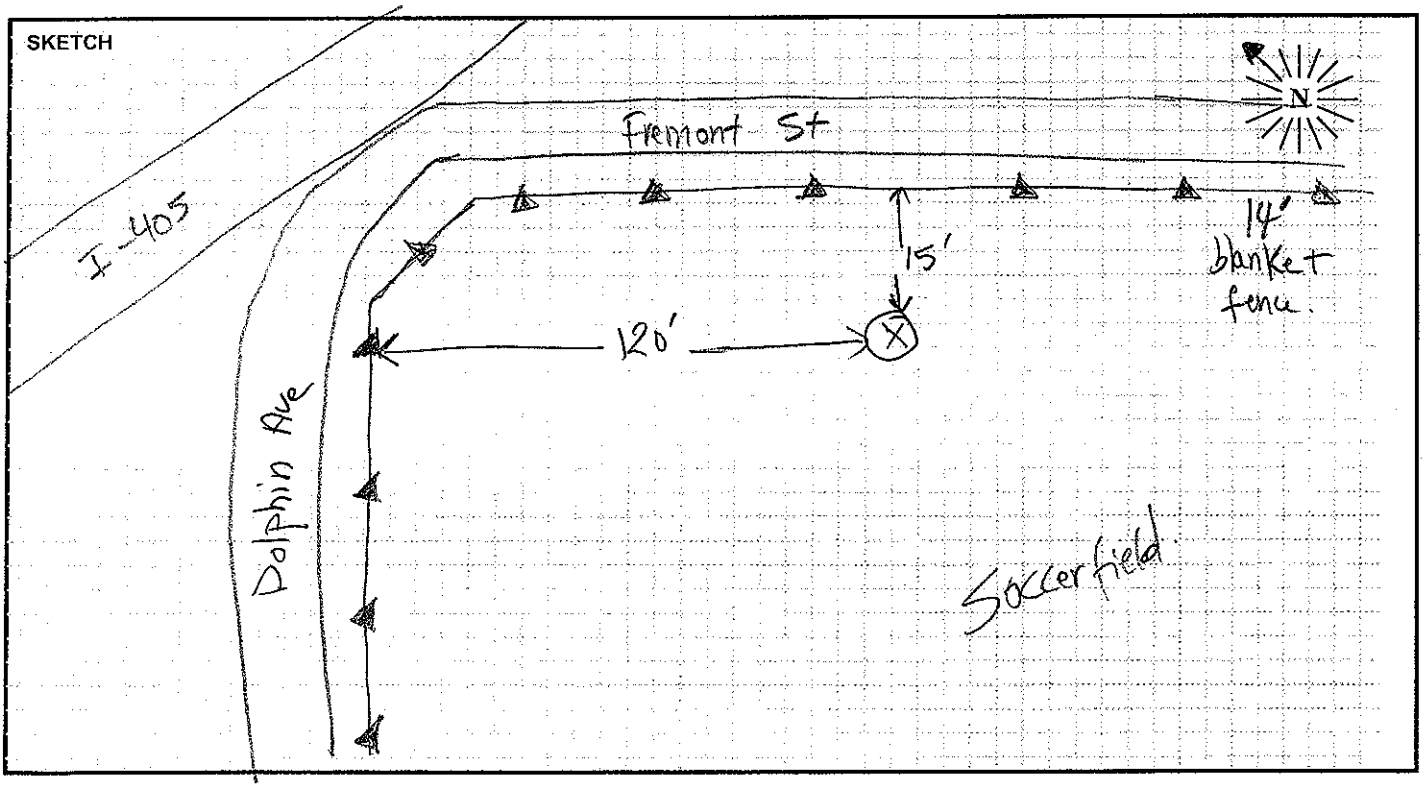
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/10	16:20	16:40	56.2	57.0	57.6	59.0	59.8	60.5	61.8	63.8	59.2	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/15/10

MEASUREMENT ADDRESS: Huntington Valley Pre school

CITY: Fountain Valley

☐ Single-Family ☒ Recreational
☐ Multi-Family ☐ Commercial

SITE NO.: ST16

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☒ B&K-2250 ☐ _____

SERIAL #: 2676029

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☒ FREEFIELD ☐ 1-INCH ☐ RANDOM

SERIAL #: #4189 2663101

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ _____

SERIAL #: 10729

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 68 °F R.H.: 71 %

WIND SPEED: 2.1 MPH

TOWARD (DIR): Calm

SKIES: Sunny

CAMERA _____

PHOTO NOs. 66-77

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

6/15 Sens, 47.29, mV/Pa, 10.05

6/16 ~~After~~ _____, 47.37, _____, 10.02

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

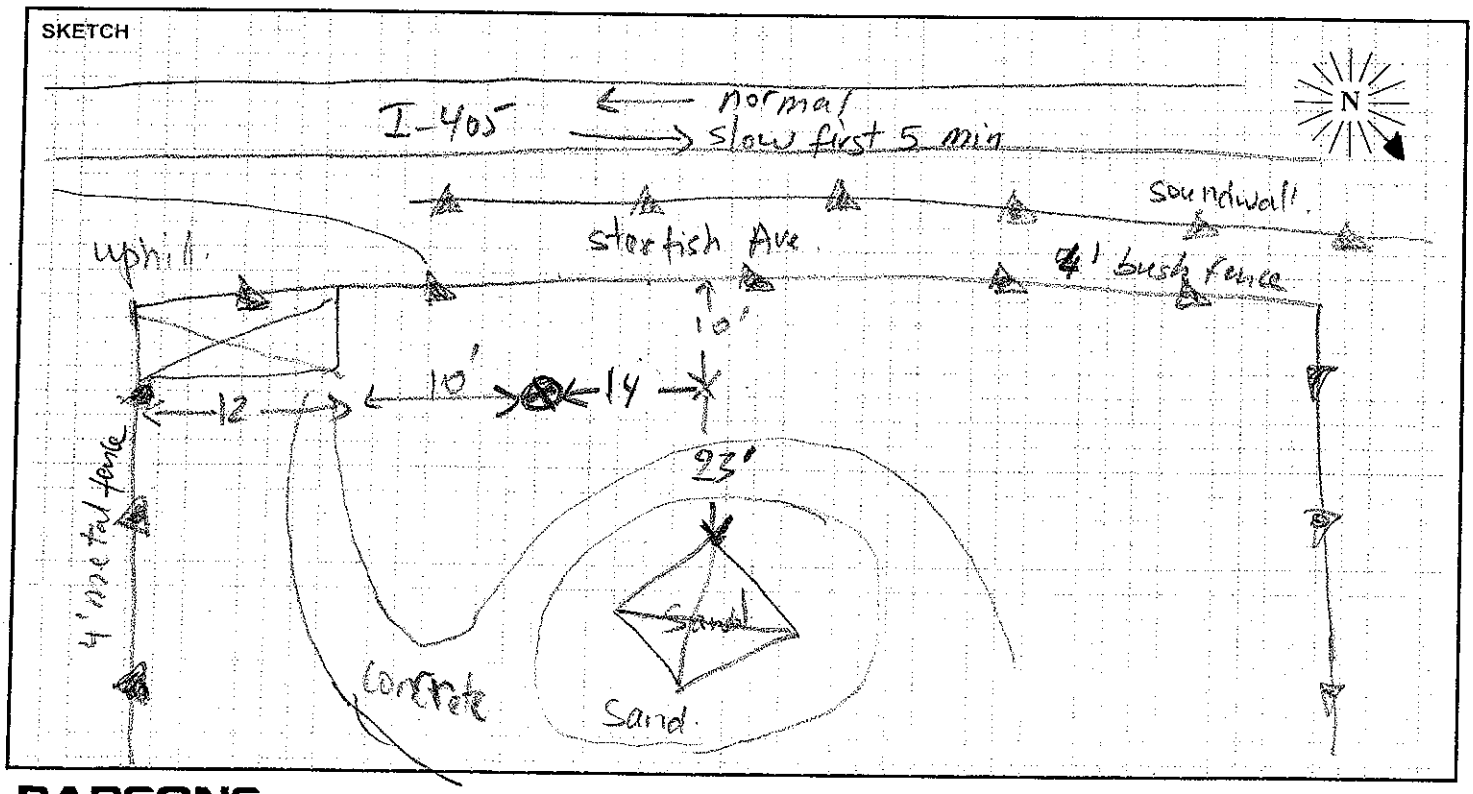
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/15	17:40	18:00	59.0	60.0	61.9	63.7		65.8	71.4	78.0	64.6	Sirens at 17.49.
												78-79 dBA

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/16/10

MEASUREMENT ADDRESS: Corte Bella Apt 19580 El Rey

CITY: Fountain Valley

☐ Single-Family ☒ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST17

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☒ B&K-2250 ☐ _____

SERIAL #: 2676029

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☒ FREEFIELD ☐ 1-INCH ☐ RANDOM

SERIAL #: #4189 263101

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ _____

SERIAL #: 10729

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before: Sens, 47.37, mV/Pa, 10:02

After: _____, 47.28, _____, 1644

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 72 °F R.H.: 58 %

WIND SPEED: 1 MPH

TOWARD (DIR): Calm

SKIES: Clear

CAMERA _____

PHOTO NOs. 103 – 110

NOTES:

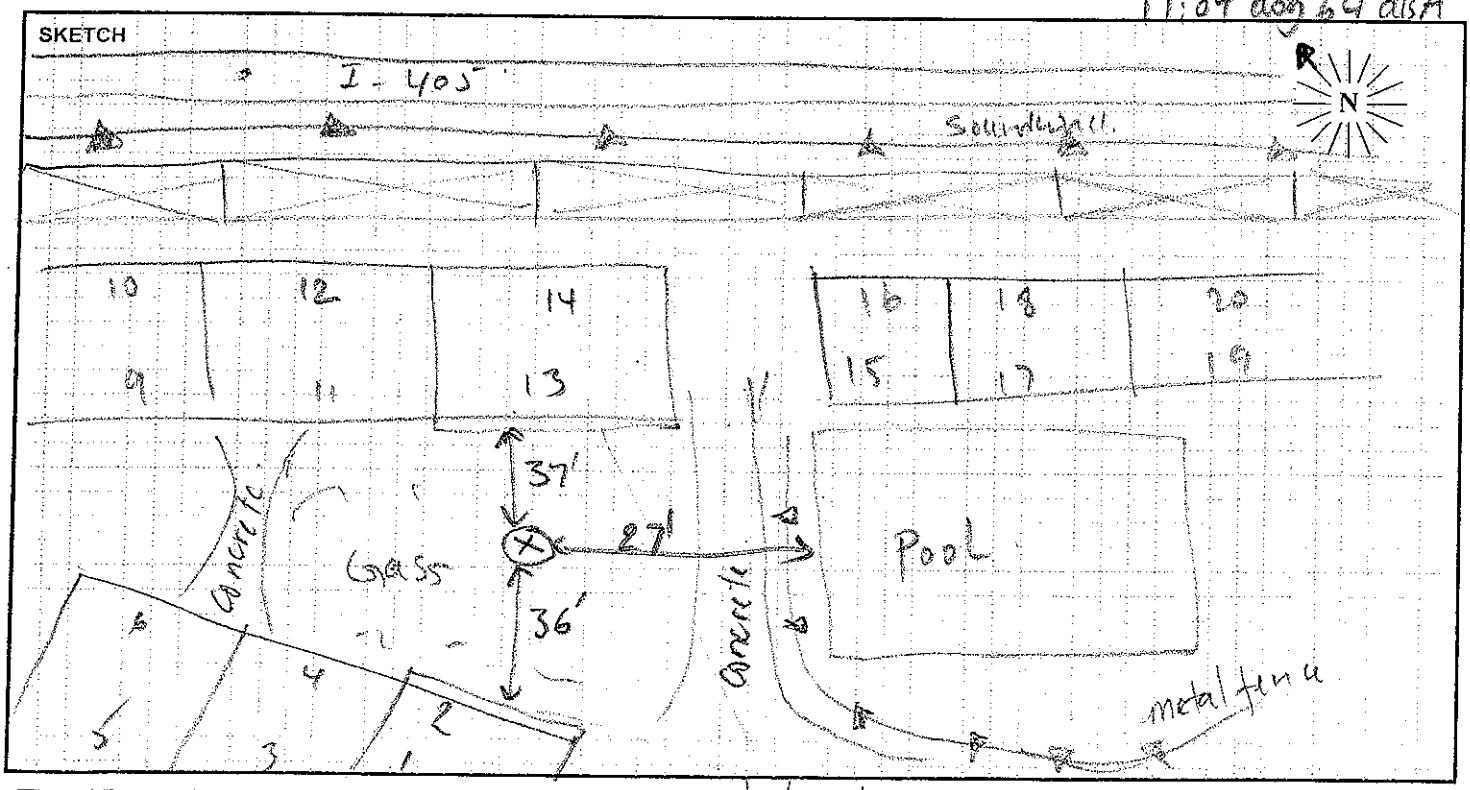
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☐ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/16	17:00	17:20	52.9	53.2	53.9	55.1		57.0	67.1	73.7	56.7	dog barks at 17:00
												siren at 17:01, 61dBA
												17:02 dog 68 dBA
												17:04 dog 64 dBA

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/16/10

MEASUREMENT ADDRESS: Corte Bella Apt #9580 El Rey

CITY: Fountain Valley

☐ Single-Family ☐ Recreational
☒ Multi-Family ☐ Commercial

SITE NO.: ST 17 A

SOUND LEVEL METER:
☐ LD-870 ☐ LD-820
☐ LD-824 ☐ LD-812
☒ B&K-2250 ☐ _____
SERIAL #: 2676029

MICROPHONE: ☒ WIND SCREEN
☐ NON-POLAR ☐ POLARIZED
☒ 1/2-INCH ☒ FREEFIELD
☐ 1-INCH ☐ RANDOM
SERIAL #: #4189 2663101

PRE AMP:
☐ LD-900
☐ LD-828
☒ _____
SERIAL #: 10729

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 72 °F R.H.: 58 %

WIND SPEED: 1 MPH

TOWARD (DIR): Calm

SKIES: clear

CAMERA _____

PHOTO NOs. 96-102

CALIBRATOR:
☐ LD CA250
☒ B&K 4231
S/N 2507137

Freq, Hz.
☐ 250
☒ 1000
☐ _____

CALIBRATION RECORD:
Input, dB / Reading, dB / Offset, dB / Time

Before Sens, 47.37, mV/Pa, 101.02

After _____, 47.28, _____, 1644

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

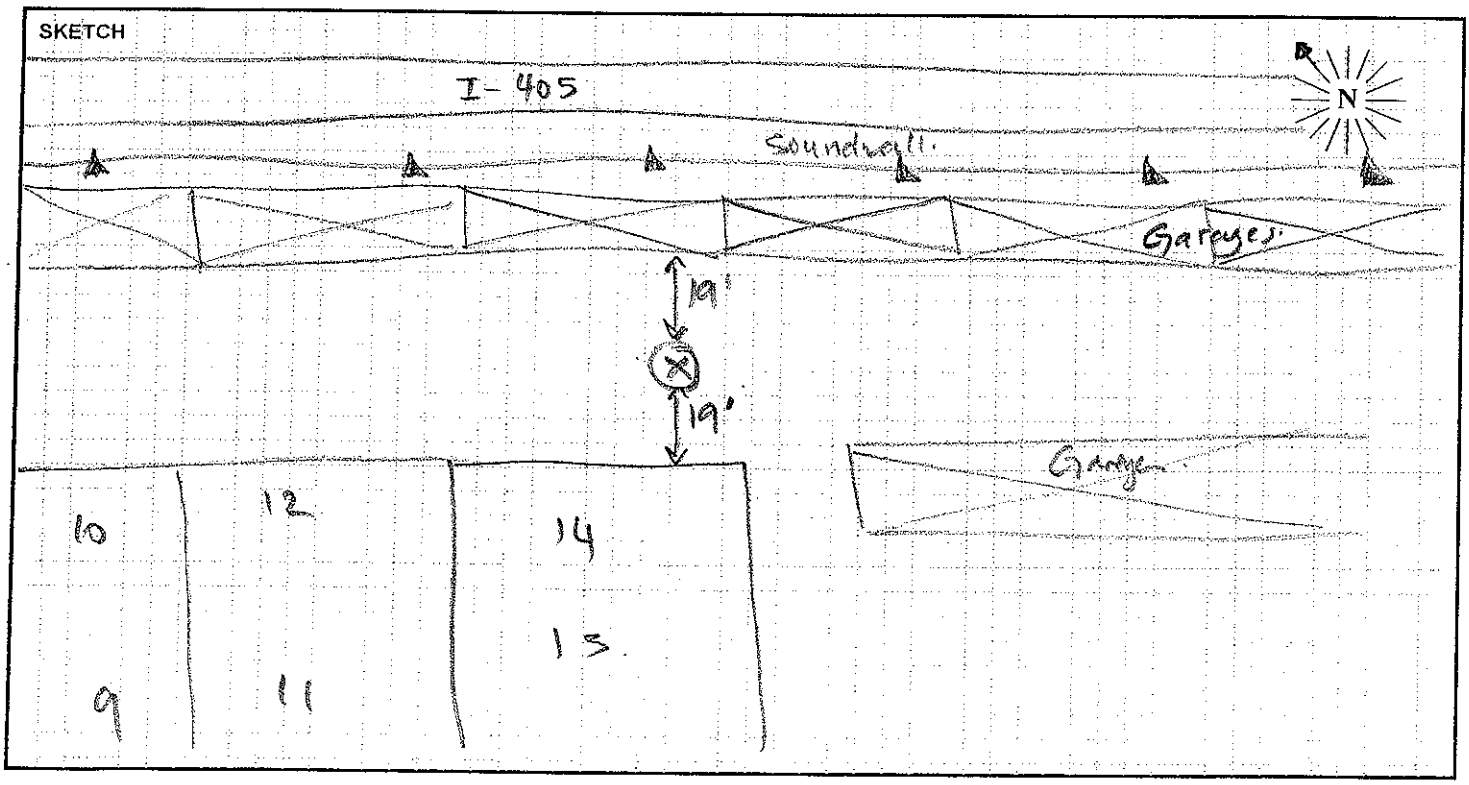
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE:
☐ Long Term
☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/16	16:40	17:00	55.6	56.4	61.9	63.6		65.2	67.6	73.6	63.9	Skater and car at 16:41. 67dBA

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: O GDEN	DATE: 6/15/10
MEASUREMENT ADDRESS: 9197 El Cortez	CITY: Fountain Valley	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST 18

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☐ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☒ FREEFIELD	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☐ 1-INCH ☐ RANDOM	☒ _____	
SERIAL #: 2676029	SERIAL #: ~~1489~~ 2663101	SERIAL #: 10729	TEMP: 66 °F R.H.: 71 %

CALIBRATOR:		CALIBRATION RECORD:	NOTES:
	Freq, Hz.	Input, dB / Reading, dB / Offset, dB / Time	WIND SPEED: hl MPH
☐ LD CA250	☐ 250	6/15 ~~Before~~ Sens, 47.29, mv/Pa, 10:05	TOWARD (DIR): calm
☒ B&K 4231	☒ 1000	6/16 ~~After~~ _____, 47.37, _____, 10:02	SKIES: Clear
S/N 2507137	☐ _____		CAMERA _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

PHOTO NOs. _____

NOTES:

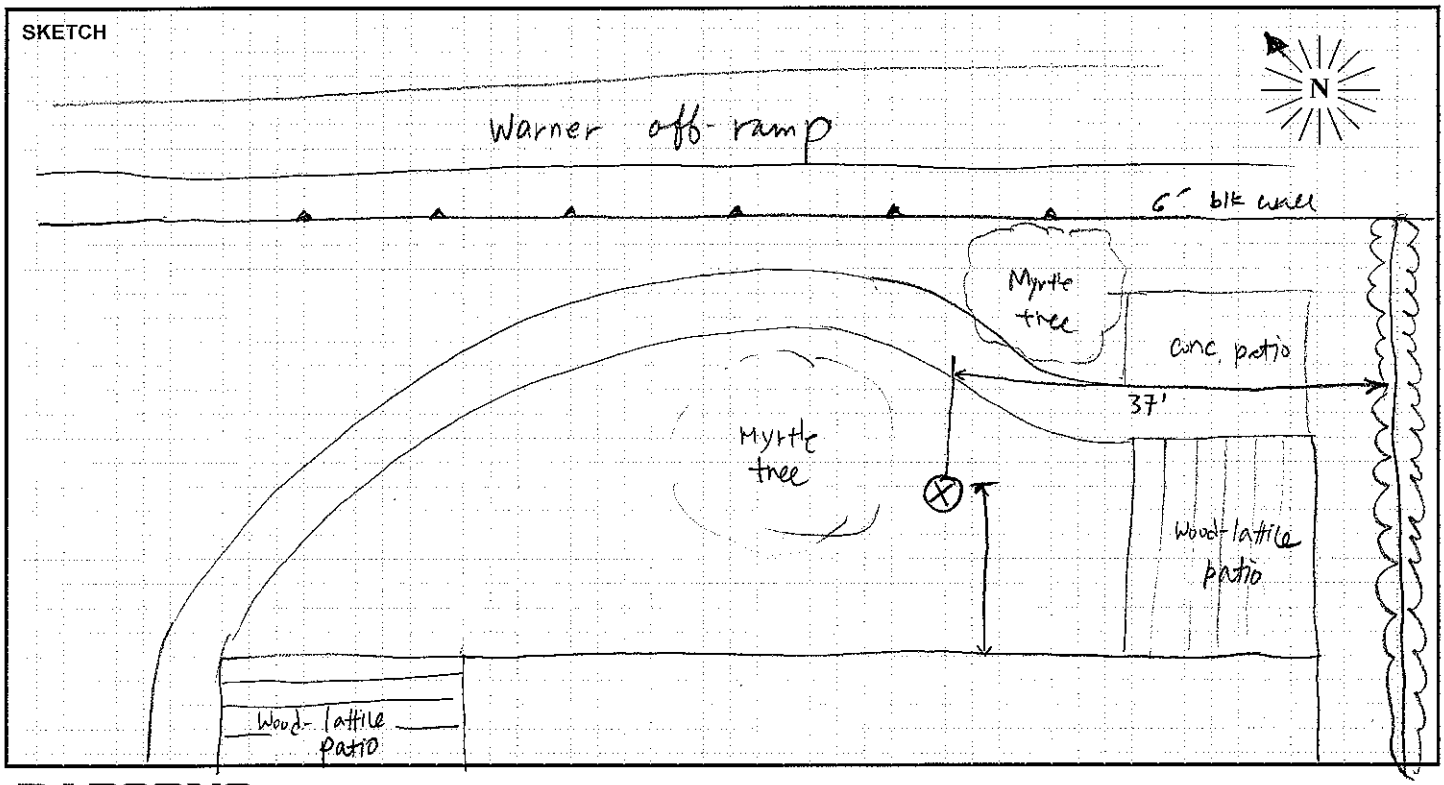
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/15	18:20	18:40	47.0	47.3	48.7	51.5		56.4	59.8	63.7	53.3	dog 2 houses away

SKETCH



FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/14/10

MEASUREMENT ADDRESS: Grande Apts (9350 Emery Ct.)

CITY:

☐ Single-Family ☐ Recreational
☒ Multi-Family ☐ Commercial

SITE NO.: ST19

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3203

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 73 °F R.H.: 52 %

WIND SPEED: 1 MPH

TOWARD (DIR): _____

SKIES: Sunny

CAMERA _____

PHOTO NOs. 1-8

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz. ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD:

Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114.1, 21.0, 9:48

After 114, 114.3, 21.0 10:30

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

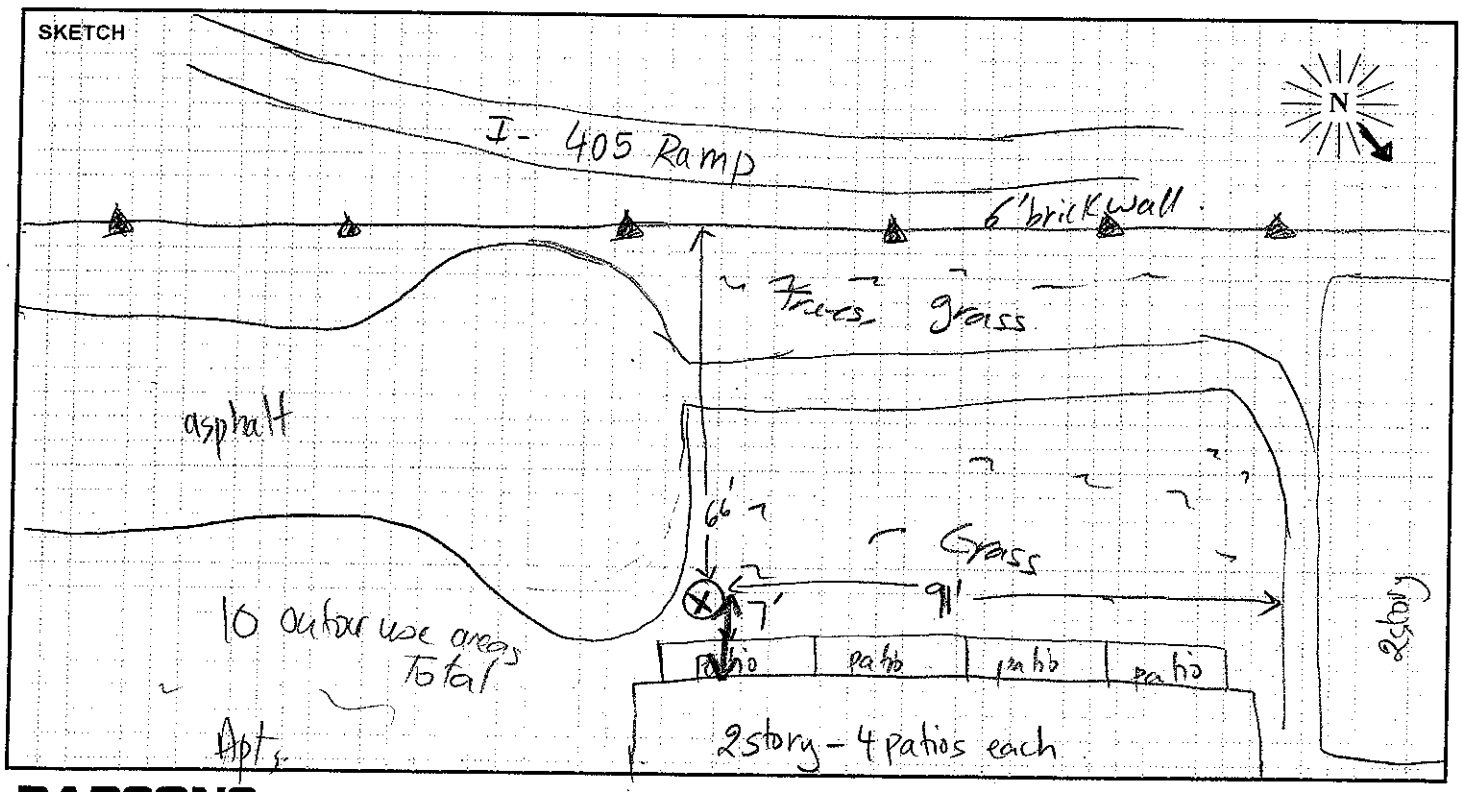
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/14	10:00	10:20	56.0	56.7	58.2	59.9	61.0	62.1	64.6	66.5	60.4	Truck engine at 10:06.

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/16/10

MEASUREMENT ADDRESS: Archstone Apts (8945 Riverbend Dr.)

CITY: Huntington Beach

☐ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST20

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☒ B&K-2250 ☐ _____

SERIAL #: 2676029

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☒ FREEFIELD ☐ 1-INCH ☐ RANDOM

SERIAL #: #4189 2663101

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ _____

SERIAL #: 10729

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 80 °F R.H.: 54 %

WIND SPEED: 1.1 MPH

TOWARD (DIR): calm

SKIES: clear

CAMERA _____

PHOTO NOs. 87-95

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before Sens, 47.37, mV/Pa, 10:02

After _____, 47.28, _____, 1644

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

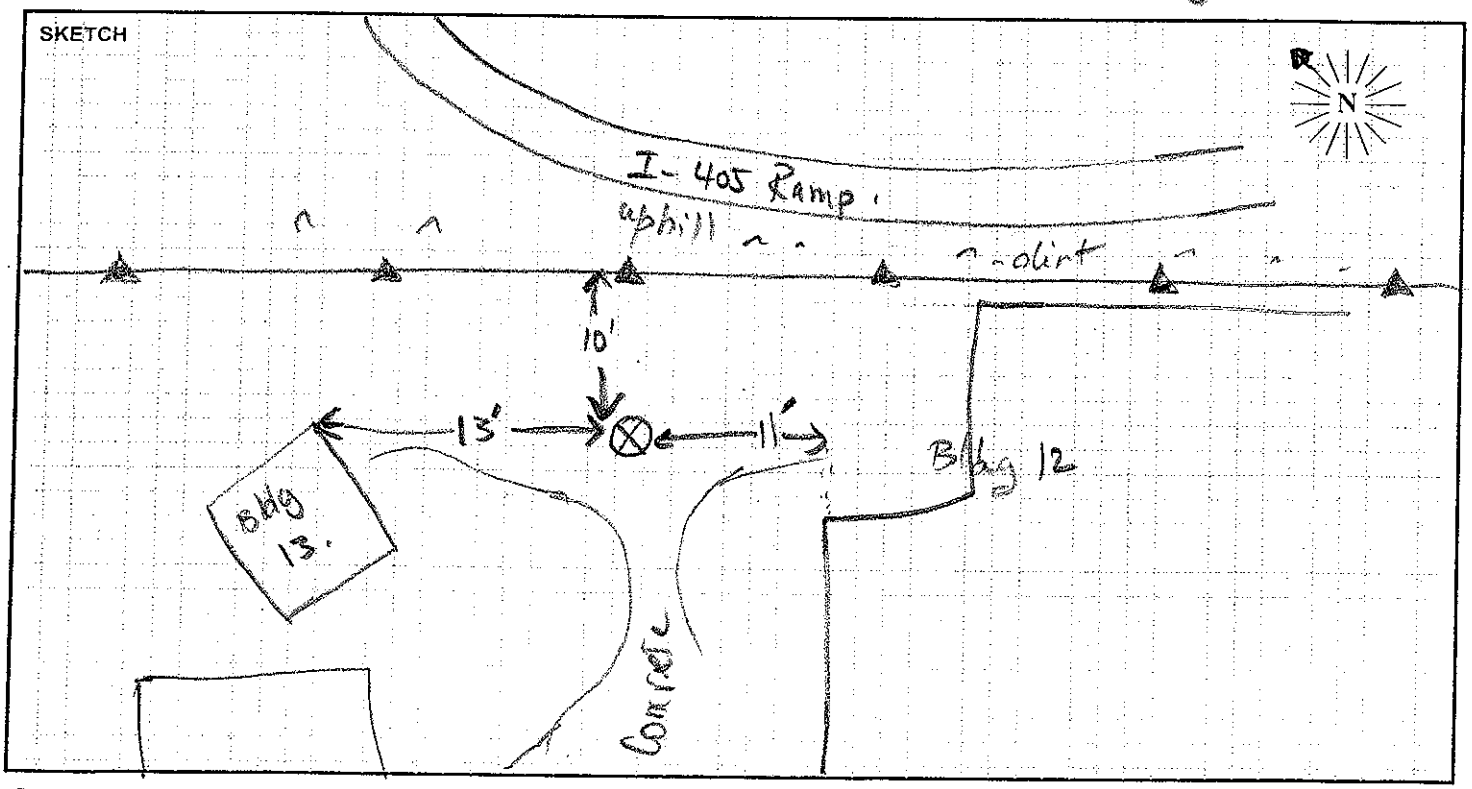
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/16	16:00	16:20	47.9	48.5	49.5	50.6	[illegible]	52.9	56.0	64.3	51.4	very quiet, water fountain in the background. dog barks at 16:08-09.

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: OGDEN	DATE: 6/16/10
MEASUREMENT ADDRESS: 16450 Ross Circle	CITY:	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST21

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☒ B&K-2250 ☐ _____	MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☒ FREEFIELD ☐ 1-INCH ☐ RANDOM	PRE AMP: ☐ LD-900 ☐ LD-828 ☒ _____	NOTES: SYSTEM PWR: ☐ BAT ☐ AC (observations at start of measurement)
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	TEMP: 75 °F R.H.: 55 %

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137	Freq, Hz. ☐ 250 ☒ 1000 ☐ _____	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time Before Sens, 47.37, n/a, 10:02 After _____, 47.28, _____, 1644

WIND SPEED: 2-3 MPH
TOWARD (DIR): NE
SKIES: Clear
CAMERA iPhone
PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES:

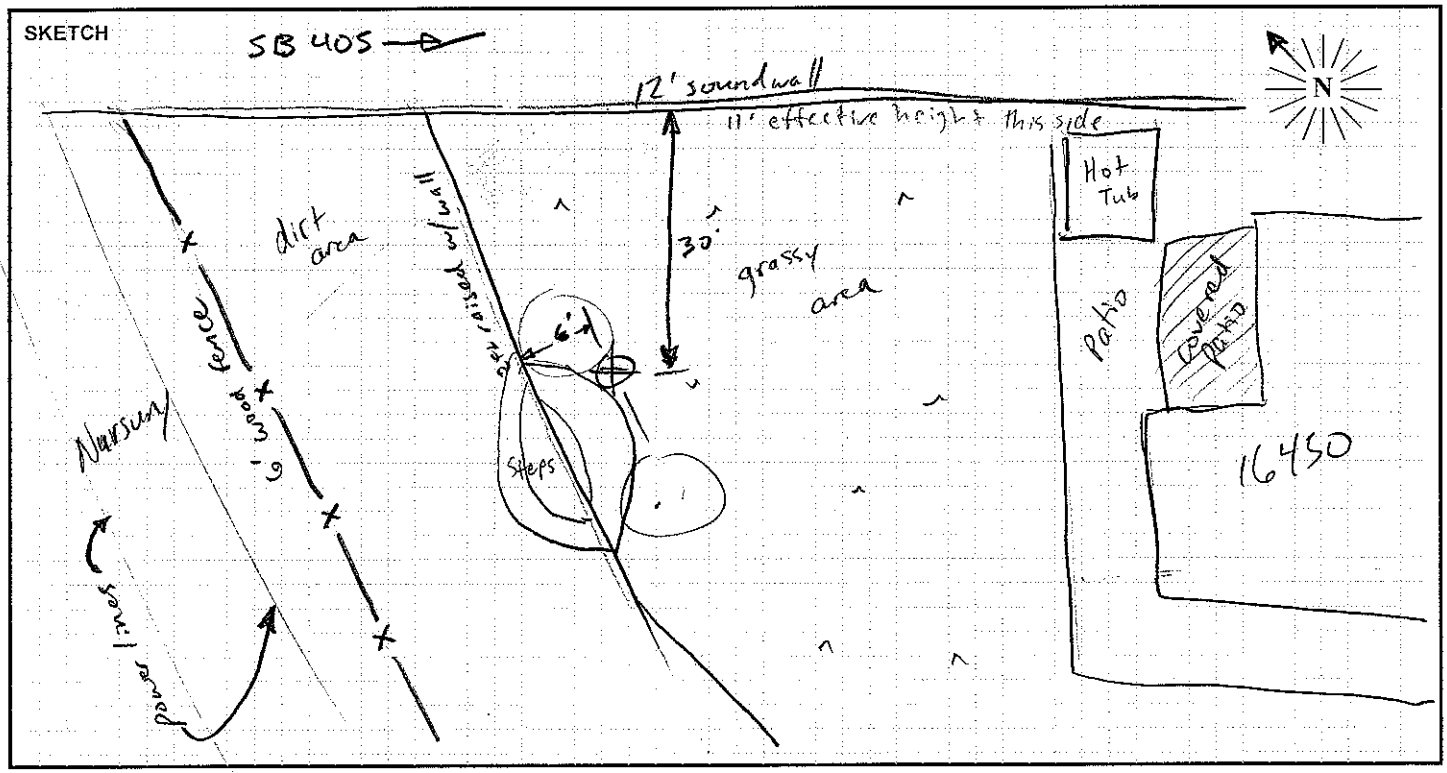
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/16	12:46	13:00	56.9	58.2	60.5	62.5		64.6	73.8	77.2	63.8	
6/16	13:00	13:20	56.9	58.1	60.6	62.5		64.5	66.3	68.1	62.8	CAL

SKETCH



FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Jason O./Ibrahim A.

DATE: 06/14/10

MEASUREMENT ADDRESS: 8882 Heil Ave. (Casa Tiempo Apts)

CITY: Westminster

☐ Single-Family ☒ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST 22

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3203

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 75 °F R.H.: 64 %

WIND SPEED: 1.3 MPH

TOWARD (DIR): _____

SKIES: Sunny

CAMERA _____

PHOTO NOs. 16-24

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114.0, 114.1, 21.0, 12:28

After 114, 114.2, 21.0, 16:24

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

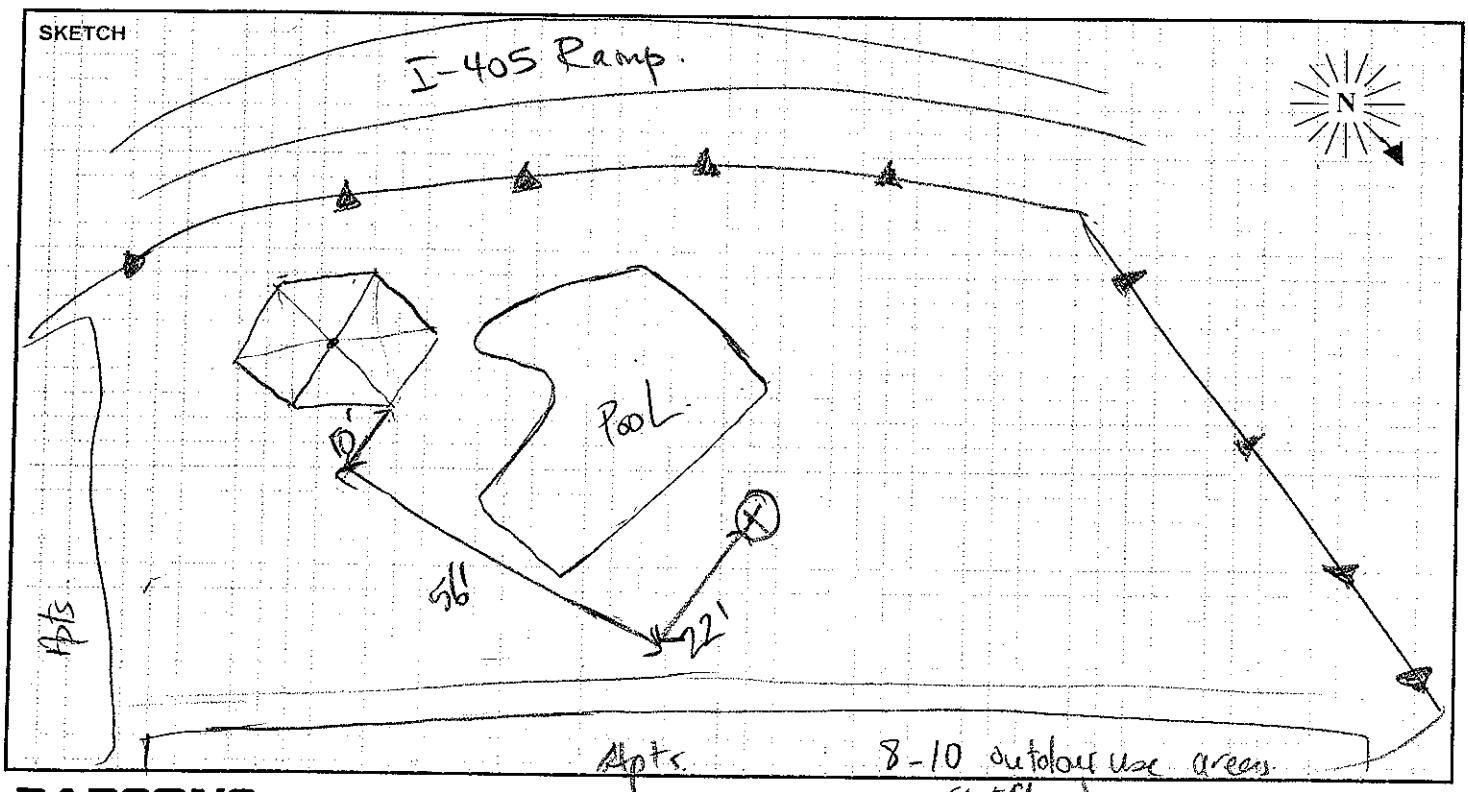
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/14	16:00	16:20	60.1	61.1	62.1	63.3	64.0	65.0	70.5	72.3	63.9	helicopter at 16:17 ~72 dBA and at 16:19

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim M.

DATE: 06/14/10

MEASUREMENT ADDRESS: 8541 Universe Ave.

CITY:

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST23

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3203

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 76 °F R.H.: 52 %

WIND SPEED: 1 MPH

TOWARD (DIR): _____

SKIES: Sunny

CAMERA _____

PHOTO NOs. 9-15

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114.0, 114.1, 21.0, 12:28

After 114.0, 114.4, 21.0, 13:04

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

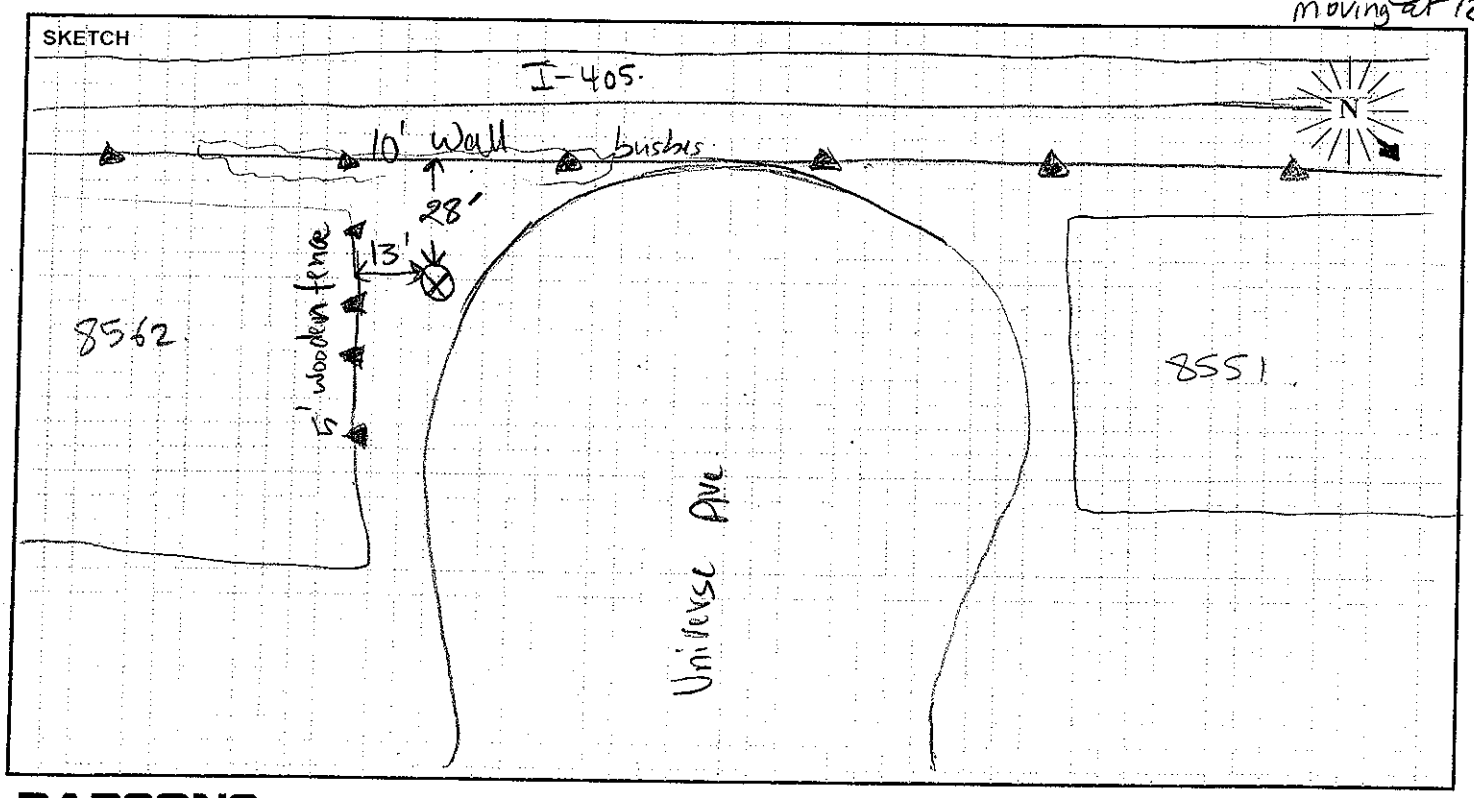
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/14	12:40	13:00	61.6	62.2	63.5	65.4	66.4	67.3	69.2	72.4	65.6	Car passed at 10:46
												Slamming car doors next to
												meter, car starting at 12:50 moving at 12:51

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: Ogden	DATE: 06/16/16
MEASUREMENT ADDRESS: Huntington Creek Apts	CITY: Huntington Beach	☐ Single-Family ☐ Recreational ☒ Multi-Family ☐ Commercial — SITE NO.: ST24

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☒ BAT ☐ AC
☐ LD-824 ☐ LD-812	☐ NON-POLAR ☐ POLARIZED	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☒ 1/2-INCH ☒ FREEFIELD	☒ _____	TEMP: 70 °F R.H.: 60 %
SERIAL #: 2676029	☐ 1-INCH ☐ RANDOM		WIND SPEED: 1.6 MPH
	SERIAL #: #4189 2663101	SERIAL #: 10729	TOWARD (DIR): calm
CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137	Freq, Hz. ☐ 250 ☒ 1000 ☐ _____	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time Before Sens, 47.37, mV/Pa, 10:02 After _____, 47.28, _____, 16:44	SKIES: Clear
METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES			CAMERA _____ PHOTO NOs. 78-86

NOTES:

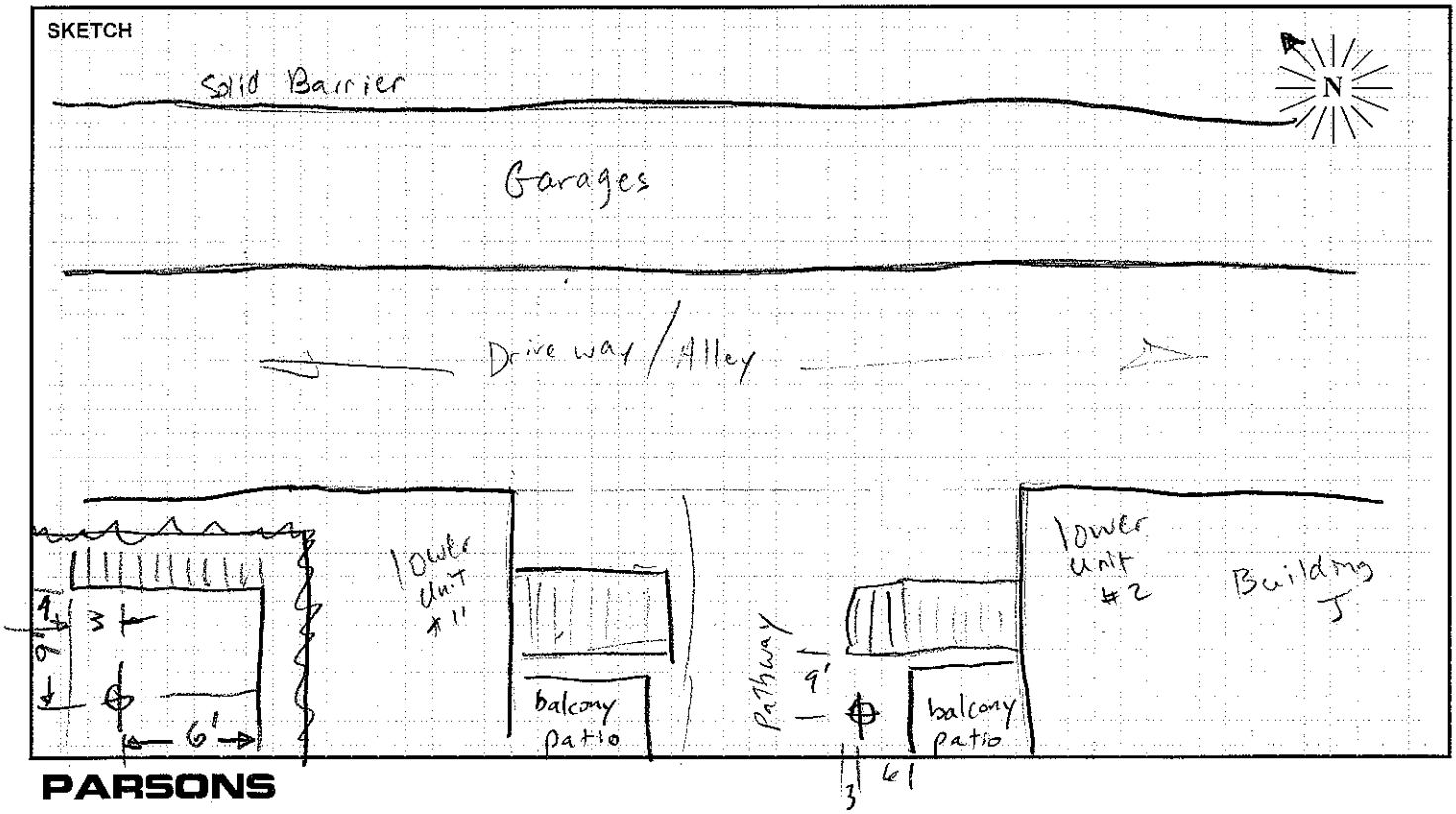
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/16	15:20	15:40	56.1	57.4	58.3	59.6		60.8	64.1	67.2	59.8	

SKETCH



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: Ogden	DATE: 6/14/10
MEASUREMENT ADDRESS: 8172 Crown Ct. / CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST25

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☒ LD-870 ☐ LD-820	☒ WIND SCREEN		
☐ LD-824 ☐ LD-812	☒ NON-POLAR ☐ POLARIZED	☒ LD-900	SYSTEM PWR: ☐ BAT ☐ AC
☐ B&K-2250 ☐ _____	☒ 1/2-INCH ☒ FREEFIELD	☐ LD-828	(observations at start of measurement)
	☐ 1-INCH ☐ RANDOM	☐ _____	
SERIAL #: 0128	SERIAL #: 1785	SERIAL #: 3203	TEMP: 73 °F R.H.: 52 %

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☒ LD CA250	☒ 250	6/14 ~~Before~~	114, 114, 20.9, 10:15
☐ B&K 4231	☐ 1000	After	114.0, 114.3, 20.9, 10:30
S/N 2479	☐ _____		

WIND SPEED: 1.0 MPH

TOWARD (DIR): _____

SKIES: Sunny

CAMERA _____

PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES:

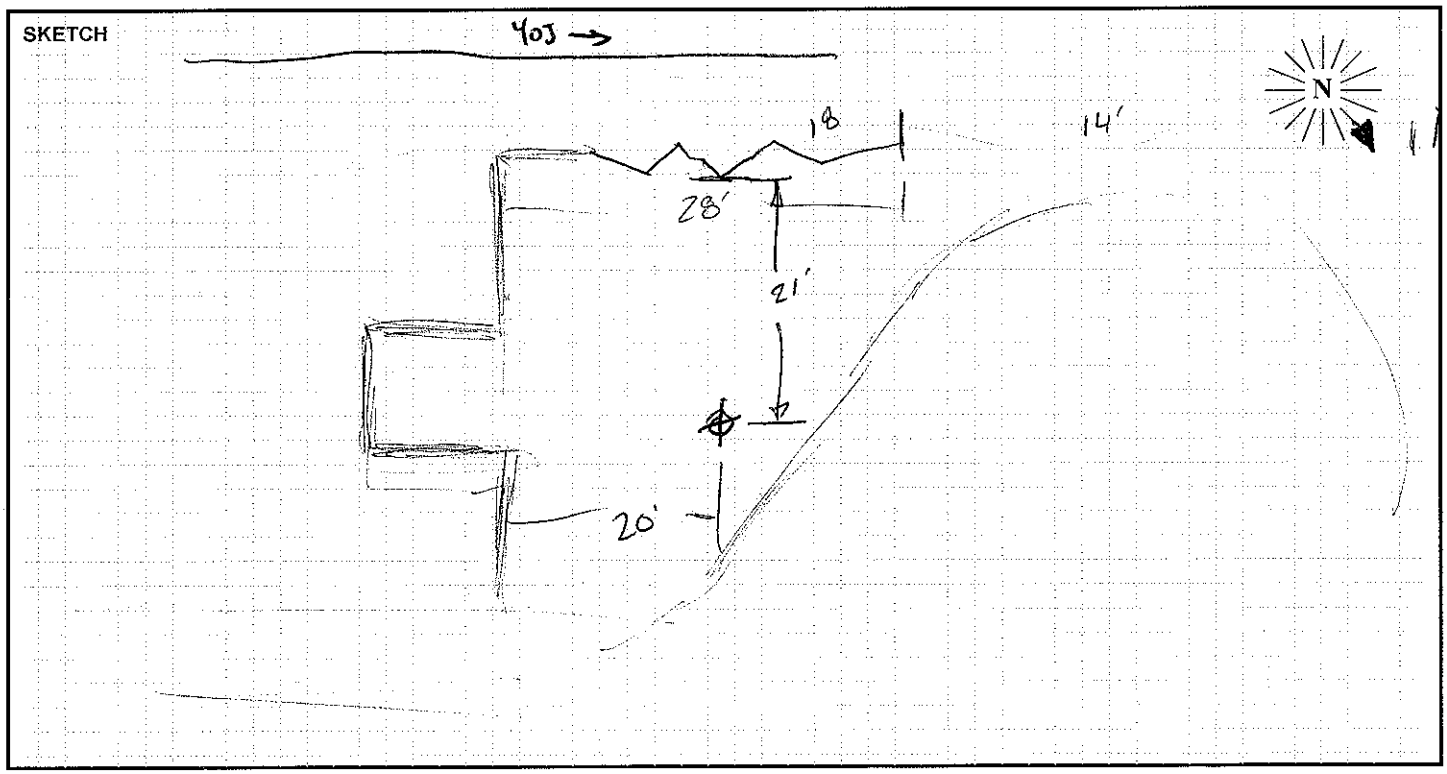
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/14												
6/15	10:20	10:40	57.8	58.3	60.0	61.4	62.3	63.0	65.7	70.1	61.7	heli ok

SKETCH



FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 6/14/10
MEASUREMENT ADDRESS: 8172 Crown Ct. / CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: 5725A

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☐ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☐ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☒ FREEFIELD	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☐ 1-INCH ☐ RANDOM	☒ _____	TEMP: 73 °F R.H.: 52 %
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	WIND SPEED: 1.0 MPH

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☐ LD CA250	☐ 250	6/14 ~~Before~~ Sens, 47.19, mV/Pa, 09:52 6/10
☒ B&K 4231	☒ 1000	6/15 ~~After~~ Sens, 47.29, mV/Pa, 10:05
S/N 2507137	☐ _____	

TOWARD (DIR): _____

SKIES: Sunny

CAMERA _____

PHOTO NOs. _____

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES:

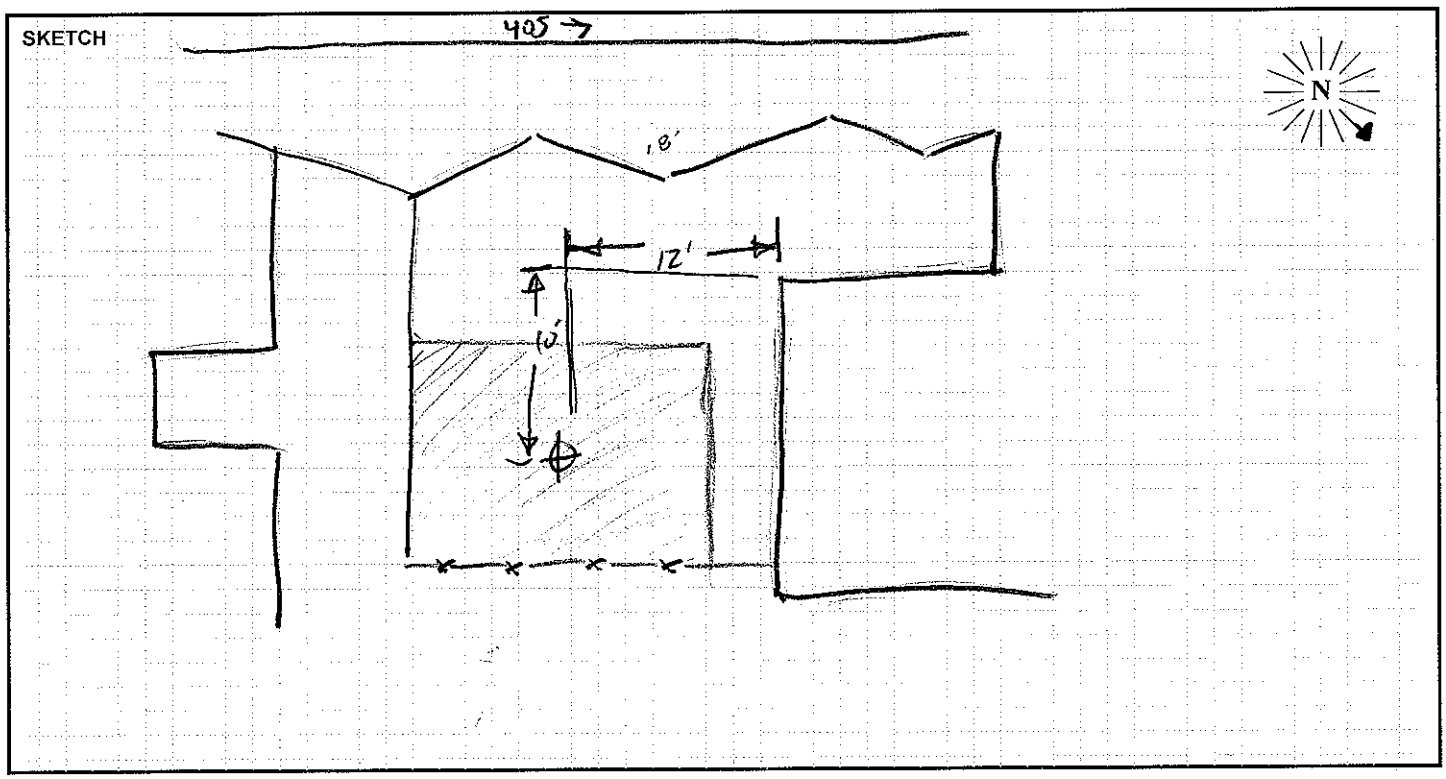
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/14	13:40	14:00	55.8	57.0	58.5	60.2		62.0	64.6	66.8	60.5	Aborted CAL
6/15	10:20	10:40	55.8	56.8	58.3	59.8		61.6	66.1	69.1	60.2	CAL

SKETCH



FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/14

MEASUREMENT ADDRESS: 8095 Worthy Dr.

CITY: Westminster

☐ Single-Family ☐ Recreational
☒ Multi-Family ☐ Commercial

SITE NO.: ST26.

SOUND LEVEL METER:
☒ LD-870 ☐ LD-820
☐ LD-824 ☐ LD-812
☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN
☒ NON-POLAR ☐ POLARIZED
☒ 1/2-INCH ☐ FREEFIELD
☐ 1-INCH ☒ RANDOM

SERIAL #: 1785

PRE AMP:
☒ LD-900
☐ LD-828
☐ _____

SERIAL #: 3203

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 81 °F R.H.: 62 %

WIND SPEED: 1.2 MPH

TOWARD (DIR): calm

SKIES: Sunny

CAMERA _____

PHOTO NOs. 32 - 38

CALIBRATOR:
☒ LD CA250
☐ B&K 4231
S/N 2480

Freq, Hz.
☒ 250
☐ 1000
☐ _____

CALIBRATION RECORD:

Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114.2, 21.0, 17:22

After 114, 114.3, 21.0, 18:22

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

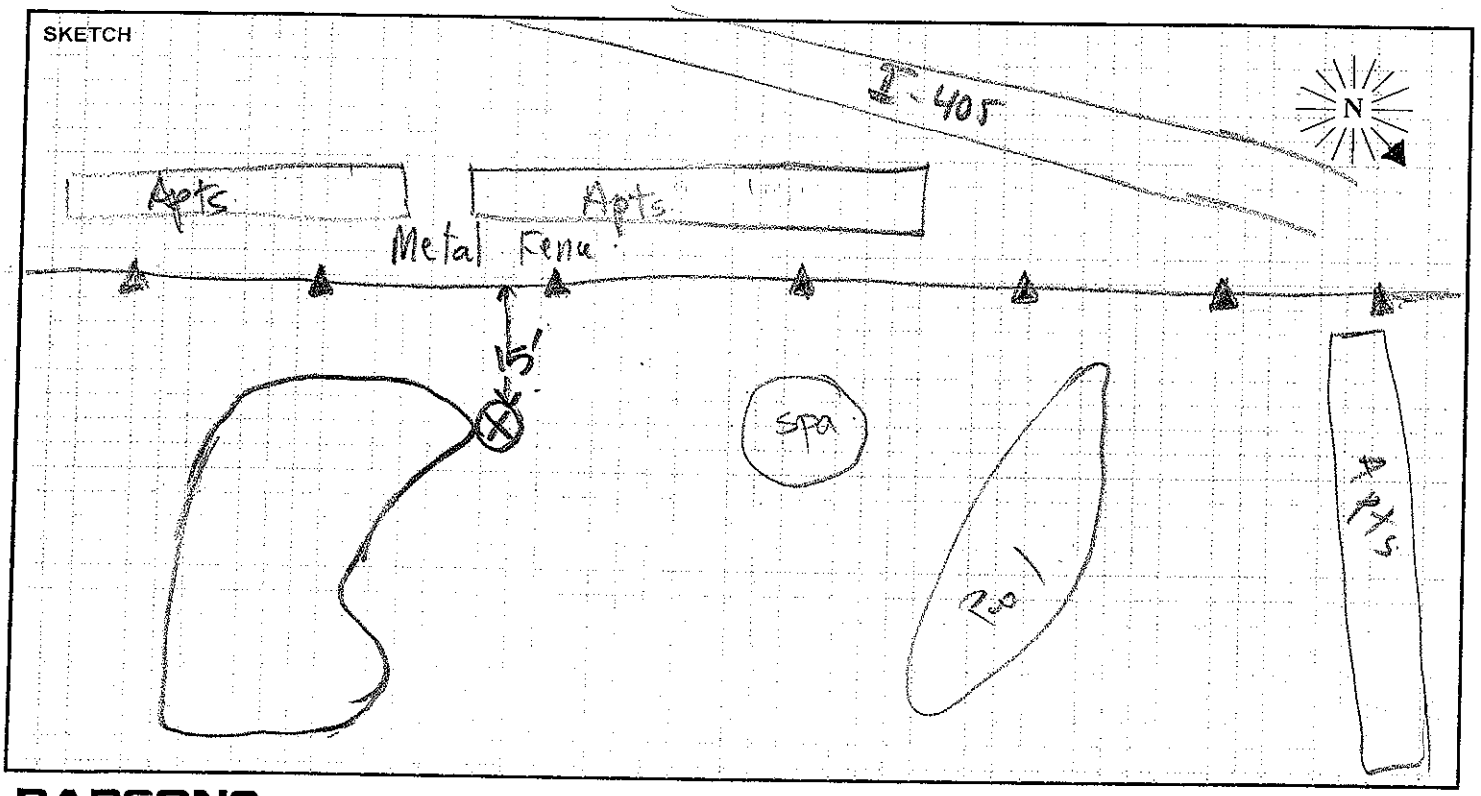
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE:
☐ Long Term
☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/14	18:00	18:20	57.1	57.1	57.7	58.6	59.2	59.8	62.5	66.8	58.9	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Jason O./Ibrahim A.

DATE: 06/14/10

MEASUREMENT ADDRESS: 53 Maplewood

CITY:

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST 27

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3203

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 77 °F R.H.: 54 %

WIND SPEED: 2 MPH

TOWARD (DIR): Calm

SKIES: Sunny

CAMERA _____

PHOTO NOs. 25-31

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114.2, 21.0, 16:24

After 114, 114.2, 21.0, 17:22

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

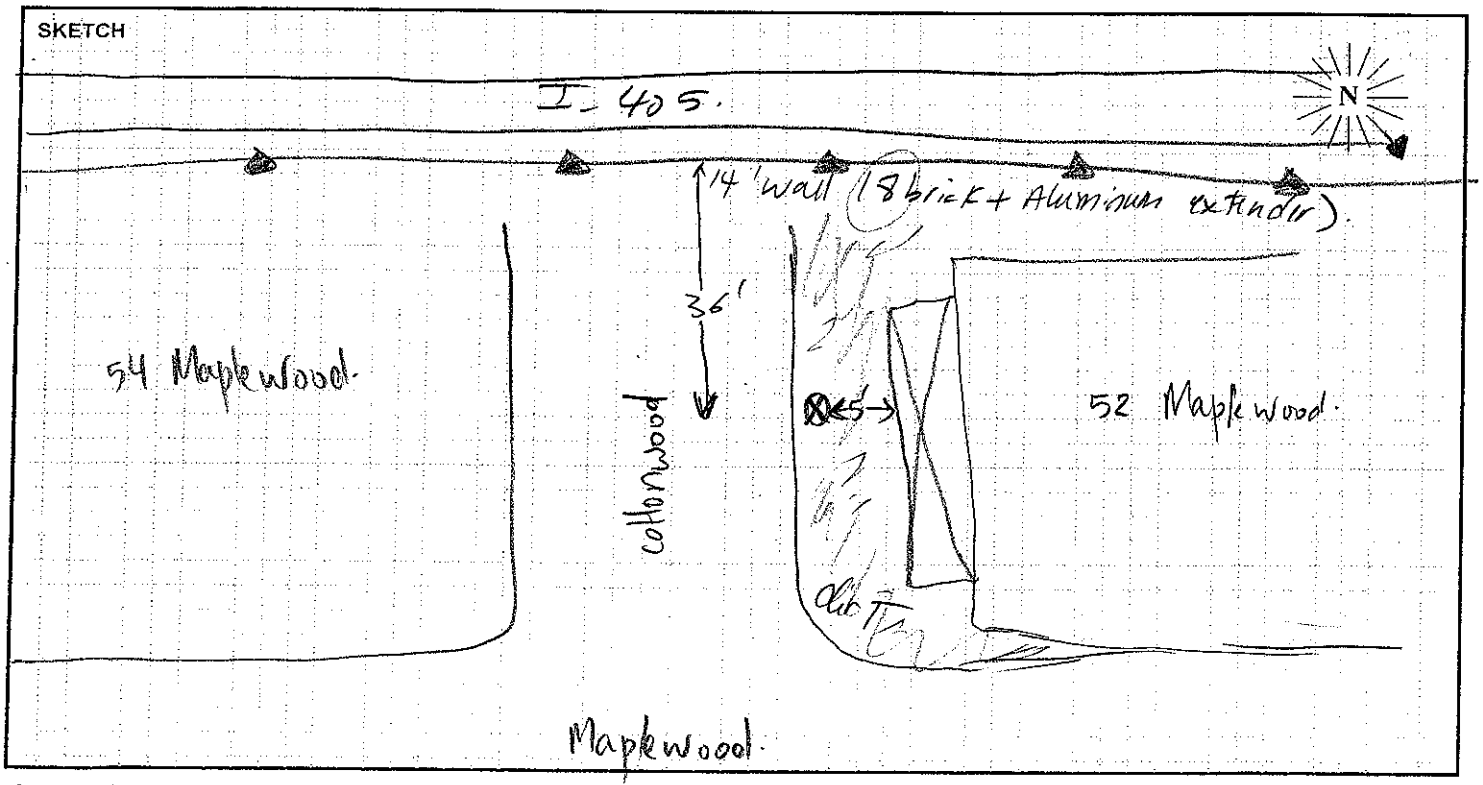
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/14	17:00	17:20	58.9	60.0	60.6	61.9	62.7	63.5	65.7	68.6	62.2	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim, A.

DATE: 06/15/10

MEASUREMENT ADDRESS: College Park at (vermont st)

CITY: westminster

☐ Single-Family ☒ Recreational
☐ Multi-Family ☐ Commercial

SITE NO.: ST 28

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 1785

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3203

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 20.9, 14:26

After 114, 114.1, 20.9, 15:02

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 73 °F R.H.: 66 %

WIND SPEED: 1.4 MPH

TOWARD (DIR): _____

SKIES: Sunny

CAMERA _____

PHOTO NOs. 48 - 56

NOTES:

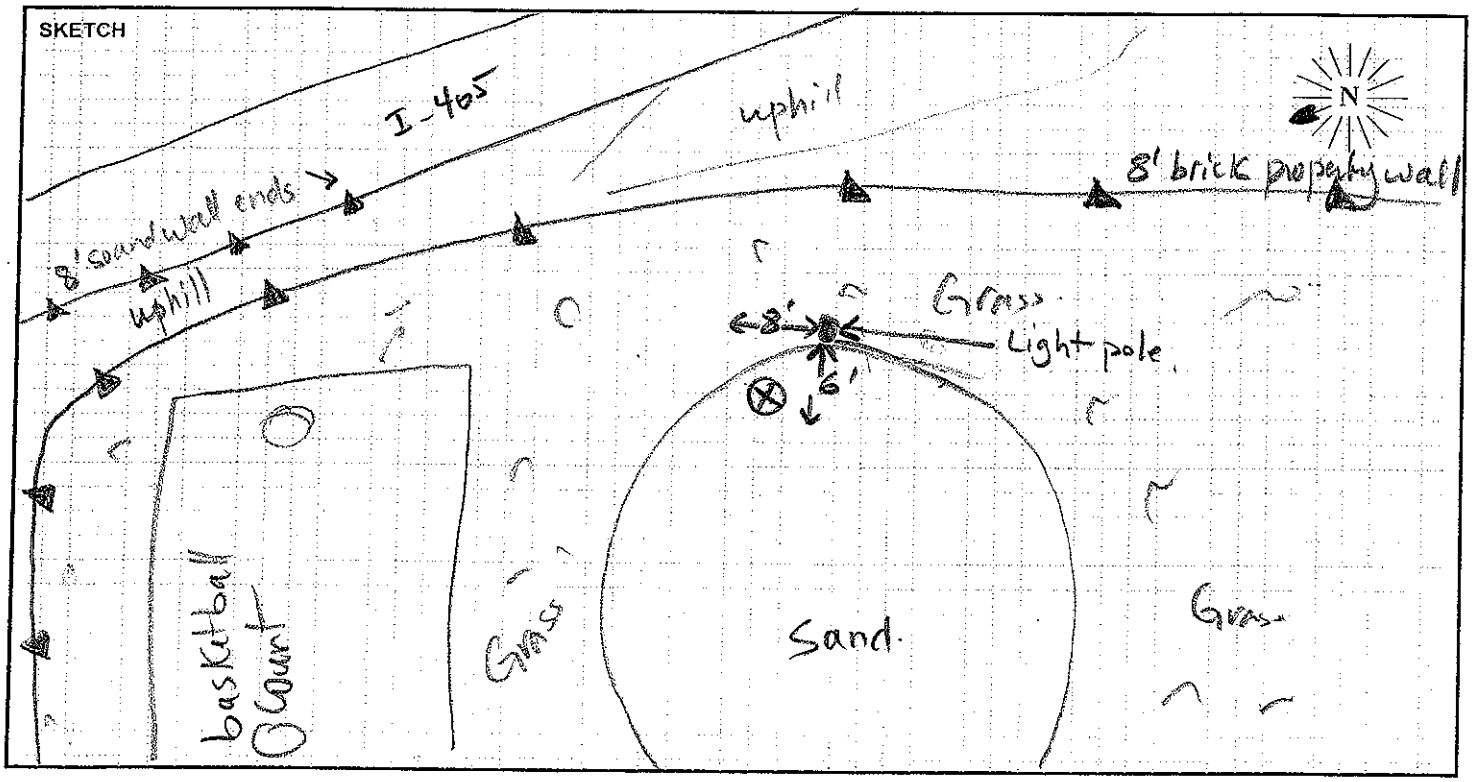
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/15	14:40	15:00	55.9	57.0	58.3	59.8	60.9	62.4	66.8	70.1	60.6	Jet at 14:40

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 6/16/10
MEASUREMENT ADDRESS: 7141 Rutgers Ave	CITY:	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: ST29

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☒ B&K-2250 ☐ _____	☒ WIND SCREEN ☐ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☒ FREEFIELD ☐ 1-INCH ☐ RANDOM	☐ LD-900 ☐ LD-828 ☒ _____	SYSTEM PWR: ☒ BAT ☐ AC (observations at start of measurement) TEMP: 68 °F R.H.: 56 % WIND SPEED: 1 MPH TOWARD (DIR): Calm SKIES: Marine layer CAMERA iPhone PHOTO NOs. _____
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
☐ LD CA250 ☒ B&K 4231 S/N 2507137	☐ 250 ☒ 1000 ☐ _____	Before Sens, 47.37, mV/Pa, 10:52 After _____, 47.28, _____, 1644

METER SETTINGS:				
☒ A-WTD	☐ LINEAR	☒ SLOW	☐ 1/1 OCT	☒ INTERVALS 20 - MINUTE
☐ C-WTD	☐ IMPULSE	☐ FAST	☐ 1/3 OCT	☒ L_N PERCENTILE VALUES

NOTES: elevated ramp almost even with TOW. L_{50} better for ambient adjustment

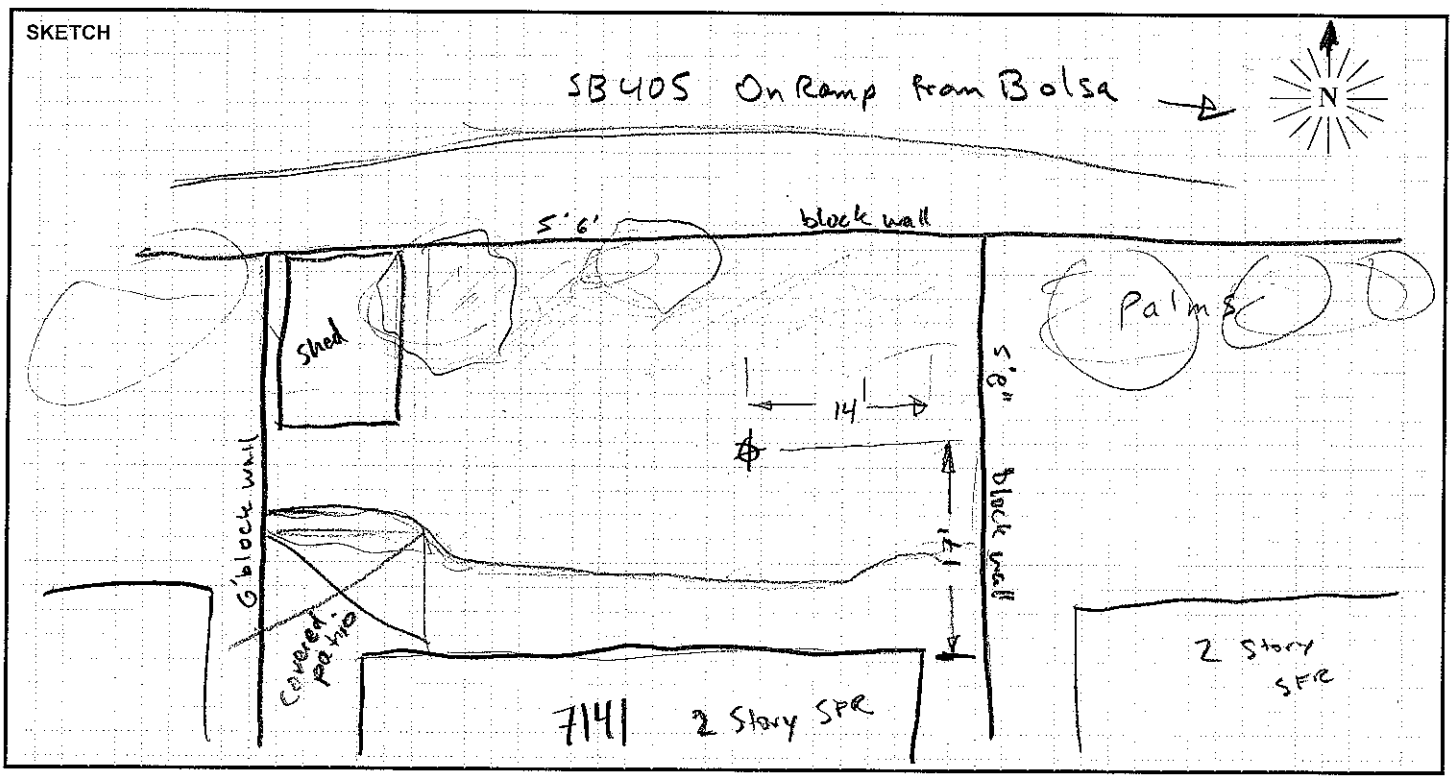
Dist. to Center of Nearest Lane _____ ☒ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/16	10:04	10:20	56.2	57.4	59.7	61.3		63.4	67.7	69.3	61.9	
6/16	10:20	10:40	56.2	57.8	59.3	60.9		63.0	63.0	66.7	61.7	with CAL 17 (LT16)

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A/Philip Jo

DATE: 06/21/10

MEASUREMENT ADDRESS: 6722 Hazard Ave.

CITY: Westminster

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST30

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ B&K 2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK 4138

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 78 °F R.H.: 61 %

WIND SPEED: 1 MPH

TOWARD (DIR): calm

SKIES: sunny

CAMERA

PHOTO NOs. 662-669

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz. ☐ 250 ☒ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.8, 12:15

After 94, 93.8, -30.9, 8:11

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

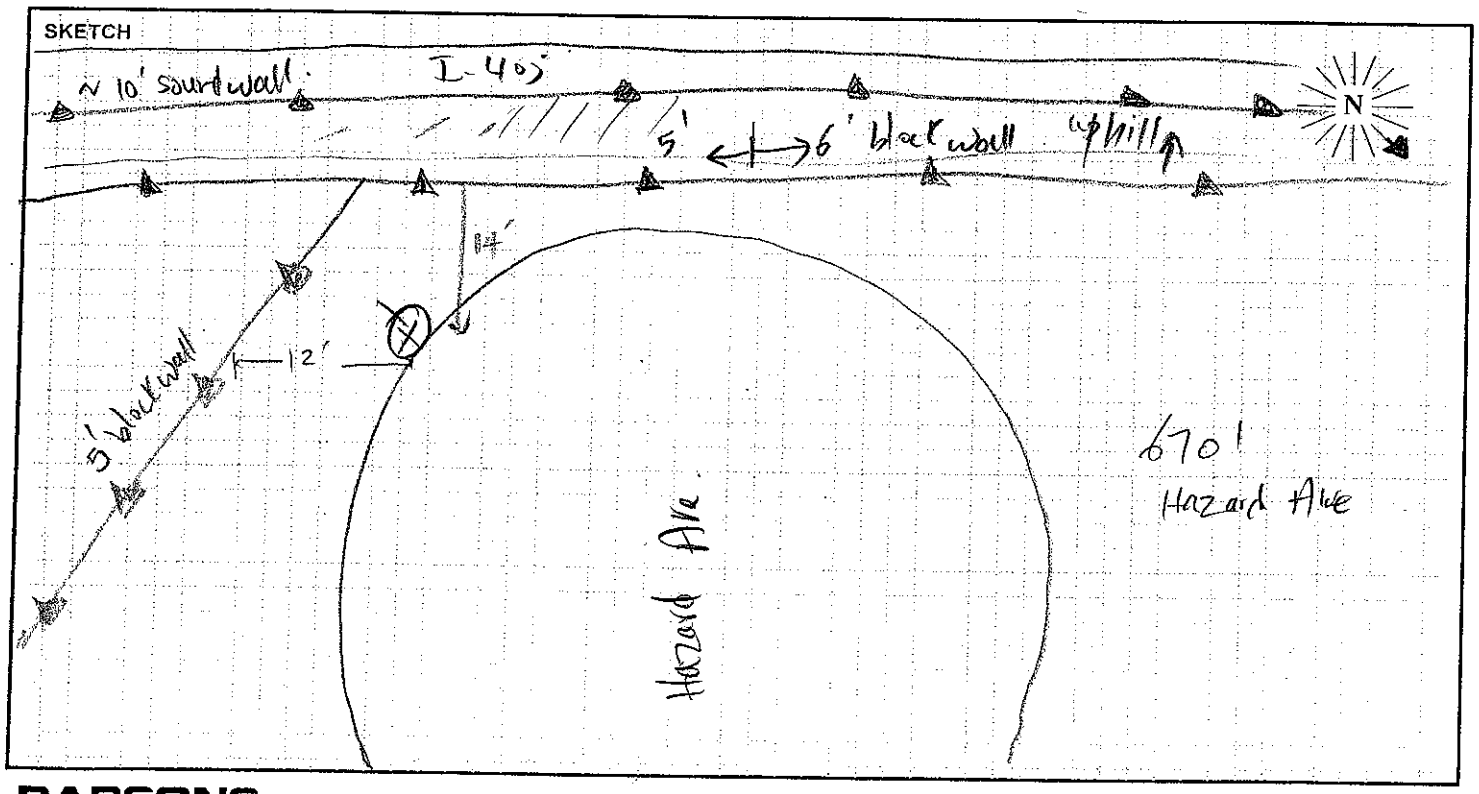
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/21	15:00	15:20	56.9	57.0	58.5	60.0	/	61.5	62.5	65.5	60.1	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/21/10

MEASUREMENT ADDRESS: Buckingham Park

CITY: Westminster

☐ Single-Family ☒ Recreational
☐ Multi-Family ☐ Commercial

SITE NO.: ST31

SOUND LEVEL METER:
☐ LD-870 ☐ LD-820
☐ LD-824 ☐ LD-812
☐ B&K-2250 ☐ BK2238
SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN
☐ NON-POLAR ☒ POLARIZED
☒ 1/2-INCH ☐ FREEFIELD
☐ 1-INCH ☒ RANDOM
SERIAL #: B&K 4188 / 2539490

PRE AMP:
☐ LD-900
☐ LD-828
☒ BK4188
SERIAL #: 4301

NOTES:
SYSTEM PWR: ☒ BAT ☐ AC
(observations at start of measurement)
TEMP: 67 °F R.H.: 64 %
WIND SPEED: 1.4 MPH
TOWARD (DIR): calm
SKIES: sunny
CAMERA
PHOTO NOs. 670 – 674

CALIBRATOR:
☐ LD CA250
☒ B&K 4231
S/N 2507137

Freq, Hz.
☐ 250
☐ 1000
☐

CALIBRATION RECORD:
Input, dB / Reading, dB / Offset, dB / Time
Before 94, 93.8, -30.8, 12:15
After 94, 93.8, -30.9, 8:11

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

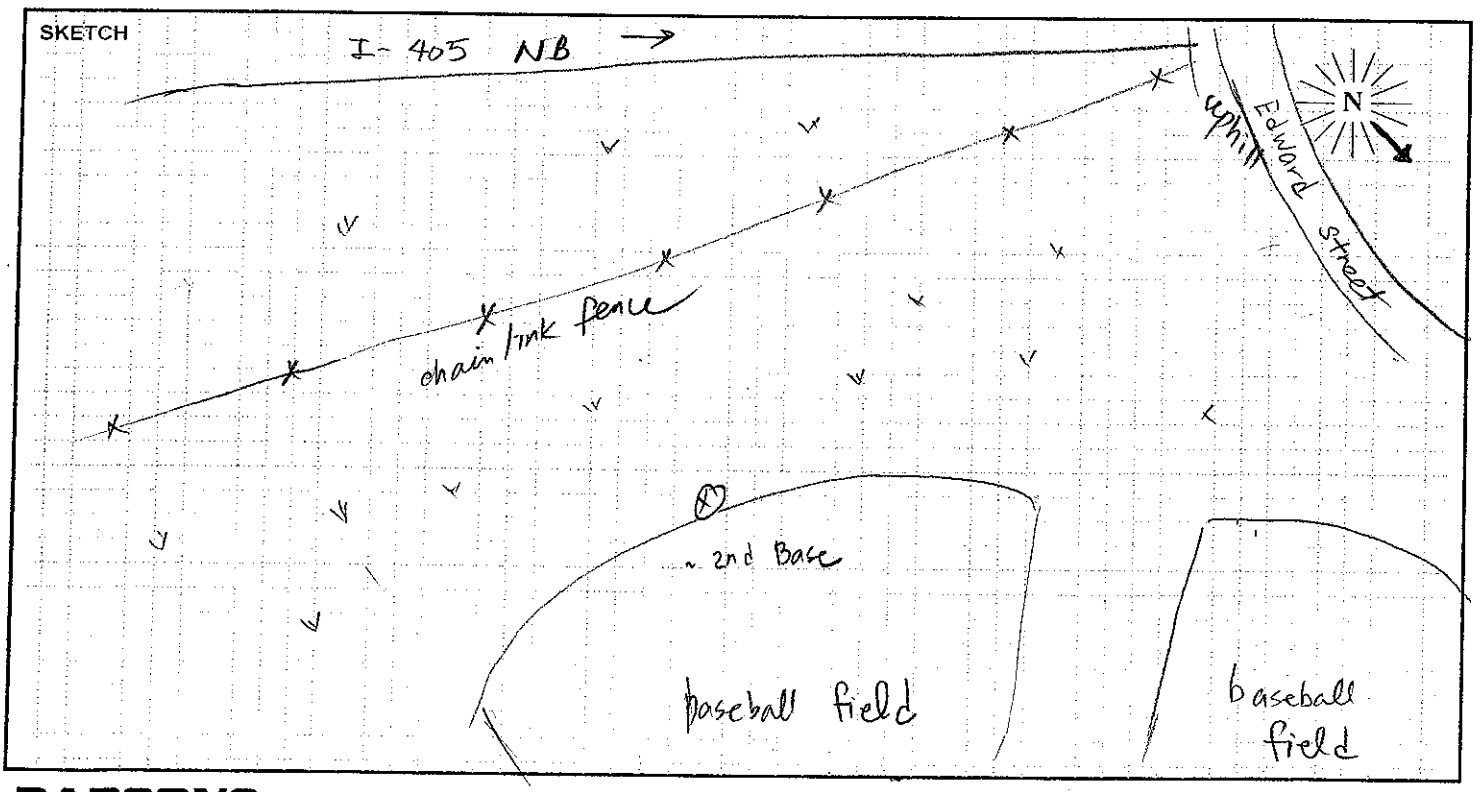
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE:
☐ Long Term
☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/21	16:00	16:20	63.3	63.5	64.5	65.5	/	66.5	69.0	74.6	65.8	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED		ENGINEER: Ogden	DATE: 6/22/10
MEASUREMENT ADDRESS: Hollybrook Apartments	CITY:	☐ Single-Family ☒ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST 32

SOUND LEVEL METER:	MICROPHONE: ☒ WIND SCREEN	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☐ NON-POLAR ☐ POLARIZED	☐ LD-900	SYSTEM PWR: ☐ BAT ☐ AC
☐ LD-824 ☐ LD-812	☒ 1/2-INCH ☒ FREEFIELD	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☐ 1-INCH ☐ RANDOM	☐ _____	TEMP: 77 °F R.H.: 51 %
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	WIND SPEED: 12 MPH

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time (6/16/10)	
☐ LD CA250	☐ 250	Before _____, 47.37, mV/Pa, 10:02	TOWARD (DIR): Calm
☒ B&K 4231	☒ 1000	After _____, 47.28, _____, 1644	SKIES: Clear
S/N 2507137	☐ _____		CAMERA Jason

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

PHOTO NOs. _____

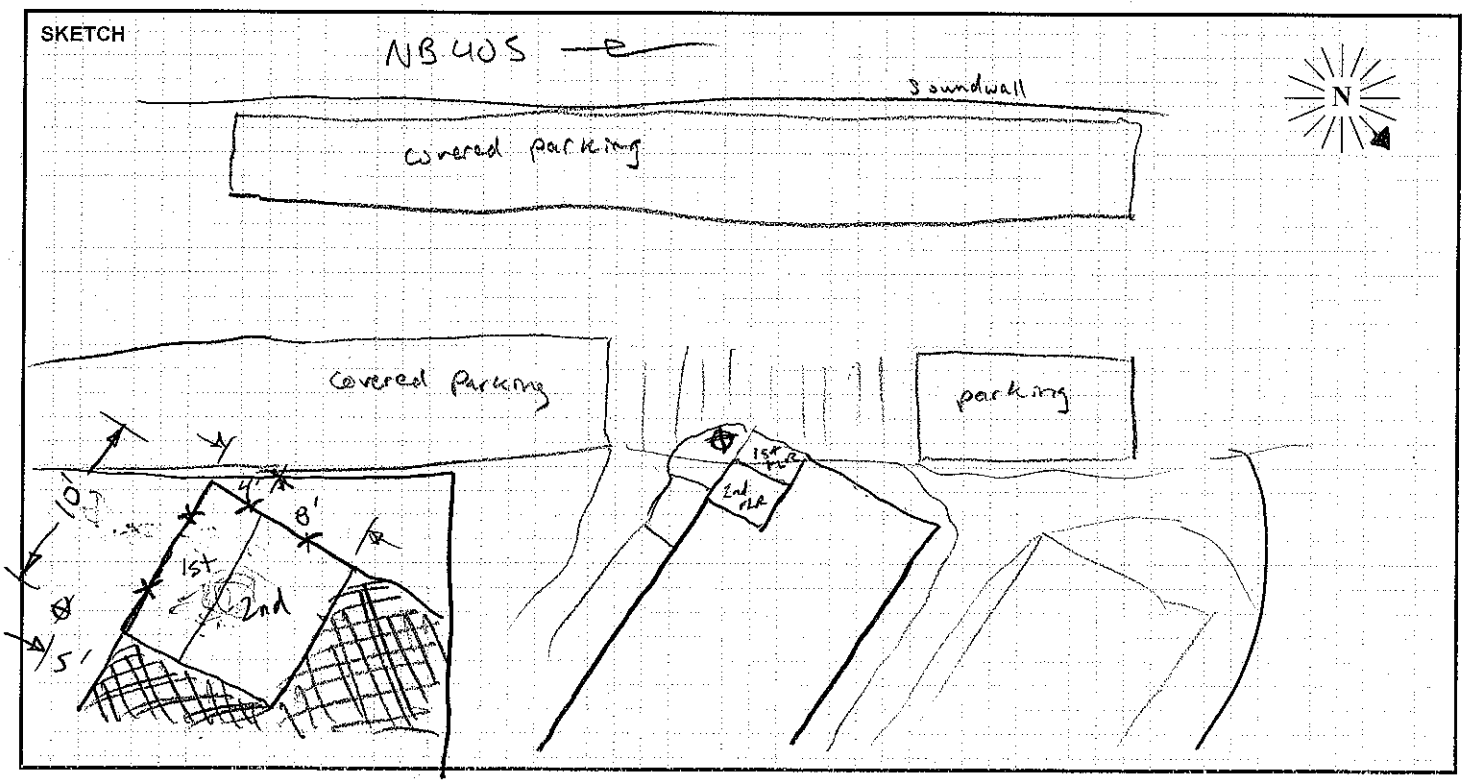
NOTES: meter placed outside of patio due to balcony on 2nd floor. In addition, the patio area is too closed off to accomodate the measurement. ST 32A was added after site investigation for Alternative site

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/22	11:40	12:00	63.0	63.9	65.2	66.8		68.6	74.8	79.9	67.5	Garbage trucks @ meter 4 LT meter 1B
	12:00	12:20	61.0	62.6	65.2	67.1		68.7	70.3	74.2	67.3	Redo w/ ST 32A

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/22/10

MEASUREMENT ADDRESS: Hollybrook Apts.

CITY: Westminster

☐ Single-Family ☐ Recreational
☒ Multi-Family ☐ Commercial

SITE NO.: ST 32A

SOUND LEVEL METER:
☐ LD-870 ☐ LD-820
☐ LD-824 ☐ LD-812
☐ B&K-2250 ☒ BK8238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN
☐ NON-POLAR ☒ POLARIZED
☒ 1/2-INCH ☐ FREEFIELD
☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP:
☐ LD-900
☐ LD-828
☒ BK4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 77 °F R.H.: 51 %

WIND SPEED: 0-7 MPH

TOWARD (DIR): Calm

SKIES: clear

CAMERA

PHOTO NOs. 141-147

CALIBRATOR:
☐ LD CA250
☒ B&K 4231
S/N 2507137

Freq, Hz.
☐ 250
☐ 1000
☐ _____

CALIBRATION RECORD:

Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 8:11

After 94, 93.8, -30.9, 7:51

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

Dist. to Center of Nearest Lane _____

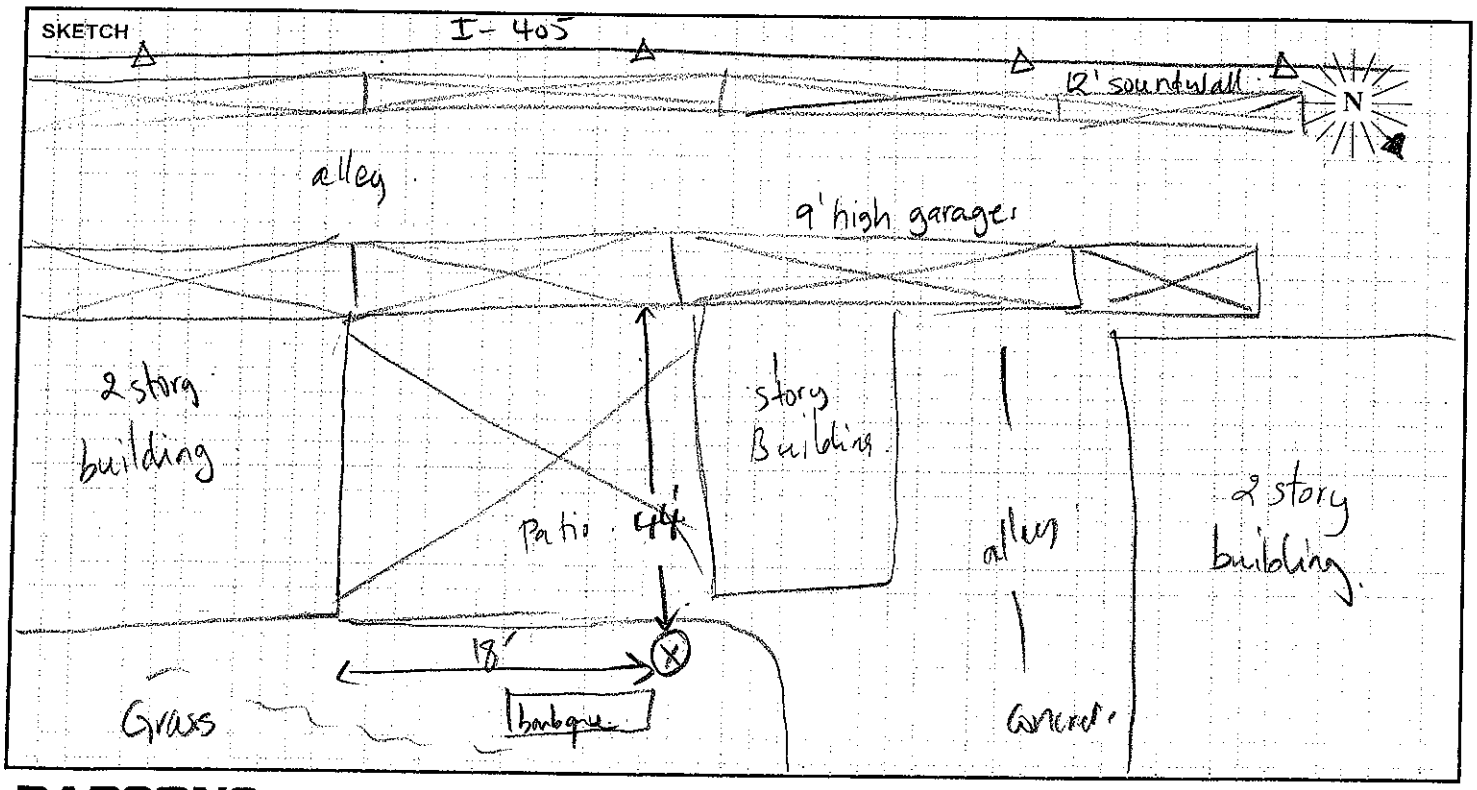
☐ Video
☐ Radar

Counts AT MT HT

MEAS. TYPE:
☐ Long Term
☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/22	12:00	12:20	57.8	58.5	61.0	63.0	/	64.0	66.5	70.4	63.1	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/22/10

MEASUREMENT ADDRESS: Motel 6 (6266 Westminster Blvd)

CITY: Westminster

☐ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST33

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK 2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 76 °F R.H.: 54 %

WIND SPEED: 0.8 MPH

TOWARD (DIR): calm.

SKIES: clear

CAMERA

PHOTO NOs. 133-140

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2501137

Freq, Hz.: ☐ 250 ☐ 1000 ☐ ____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 8:11

After 94, 93.8, -30.9, 7:51

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

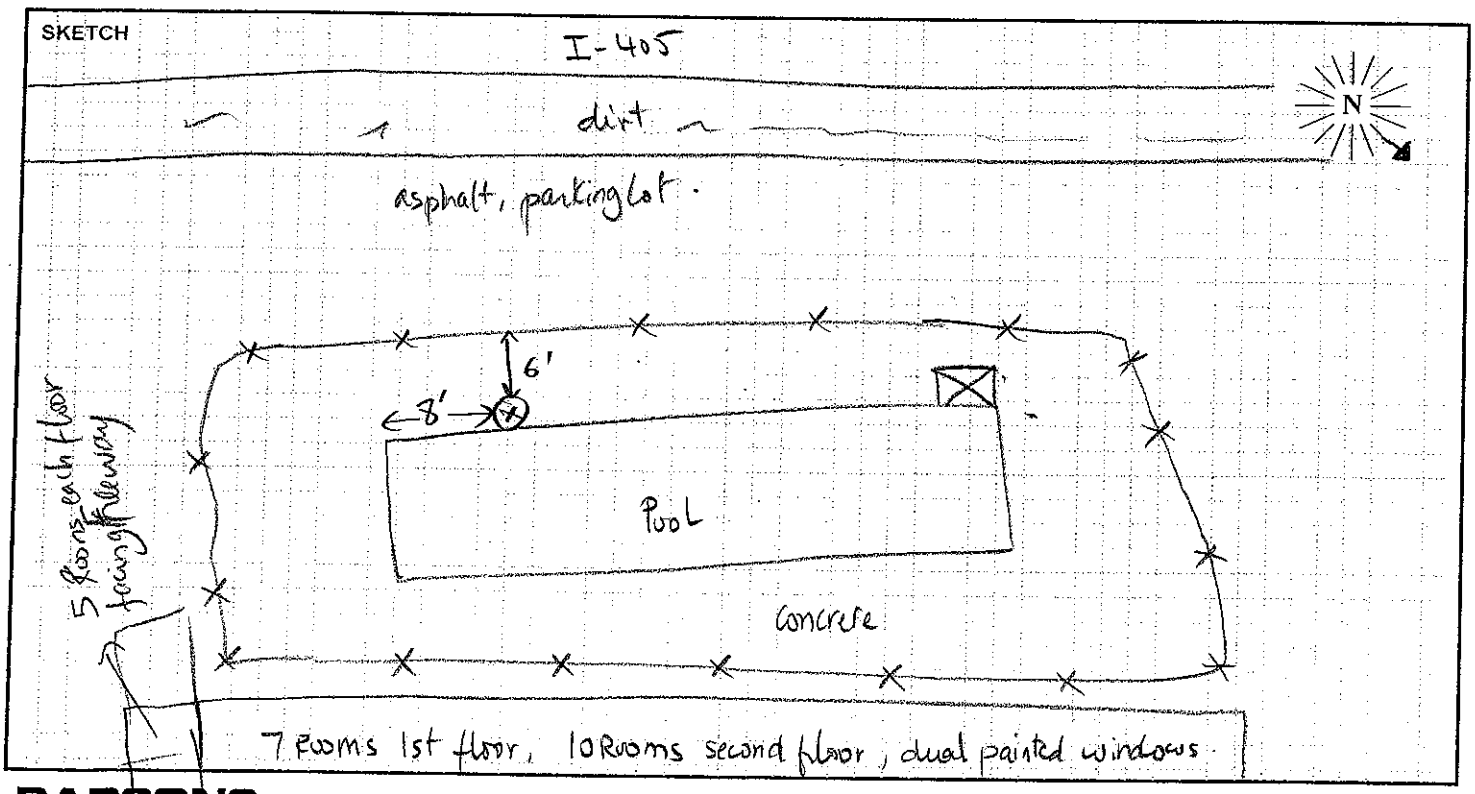
Dist. to Center of Nearest Lane ____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/22	11:20	11:40	68.6	69.0	70.5	72.5	/	74.0	75.5	76.9	72.6	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/22/10

MEASUREMENT ADDRESS: Cascade Park

CITY: Westminster

☐ Single-Family ☒ Recreational
☐ Multi-Family ☐ Commercial

SITE NO.: ST34

SOUND LEVEL METER:
☐ LD-870 ☐ LD-820
☐ LD-824 ☐ LD-812
☐ B&K-2250 ☒ BK 2238
SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN
☐ NON-POLAR ☒ POLARIZED
☒ 1/2-INCH ☐ FREEFIELD
☐ 1-INCH ☒ RANDOM
SERIAL #: 2539490

PRE AMP:
☐ LD-900
☐ LD-828
☒ BK4188
SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 71 °F R.H.: 60 %

WIND SPEED: 1 MPH

TOWARD (DIR): calm.

SKIES: clear.

CAMERA

PHOTO NOs. 125-132

CALIBRATOR:
☒ LD CA250
☒ B&K 4231
S/N 2507137

Freq, Hz.
☐ 250
☒ 1000
☐

CALIBRATION RECORD:
Input, dB / Reading, dB / Offset, dB / Time
Before 94, 93.8, -30.9, 8:11
After 94, 93.8, -30.9, 7:51

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20. - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

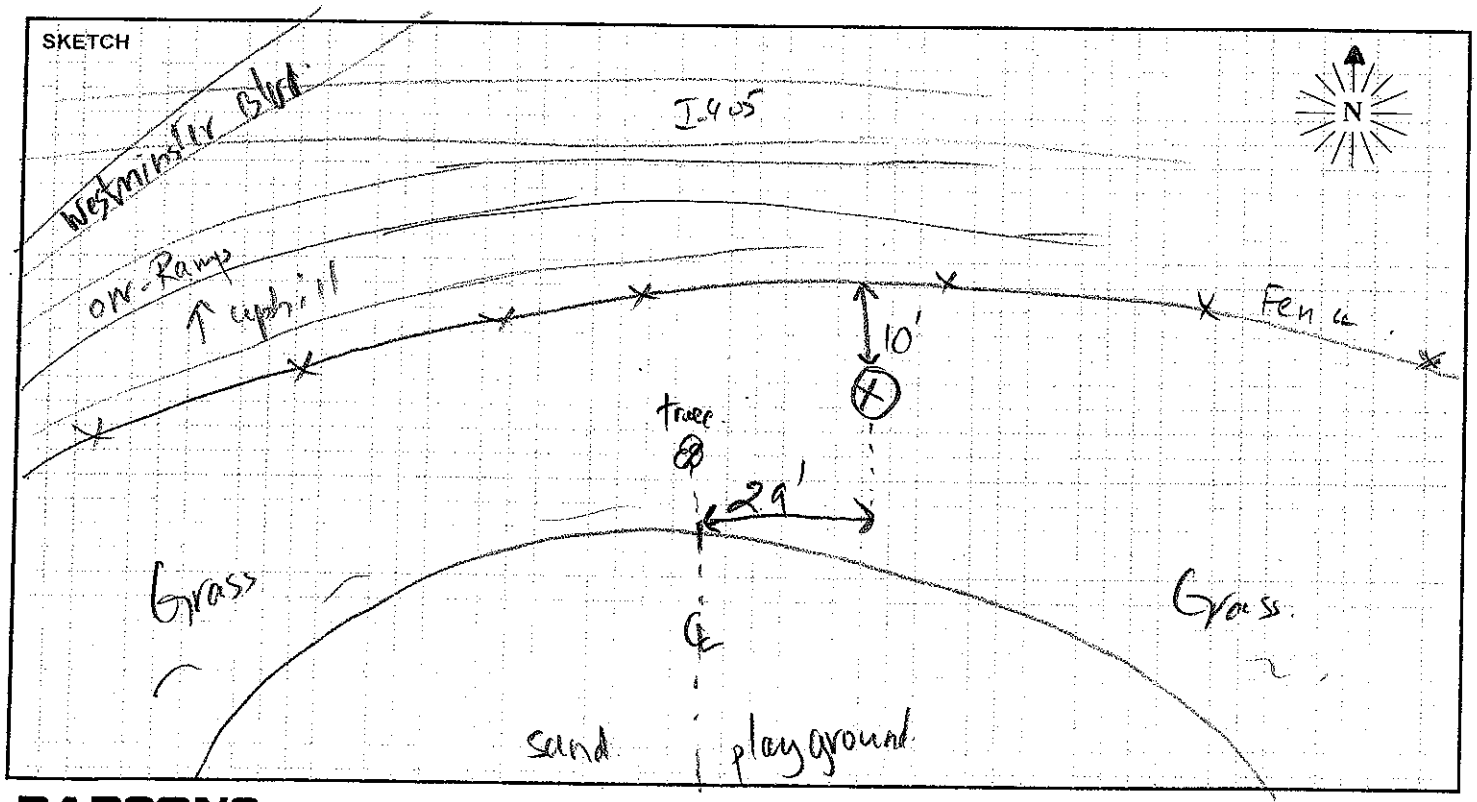
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE:
☐ Long Term
☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/22	10:20	10:40	59.4	60.0	61.5	63.5	/	68.0	72.0	81.2	65.5	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED

ENGINEER: Ibrahim A.

DATE: 06/21/10

MEASUREMENT ADDRESS: Indian Village Park

CITY: Westminster

☐ Single-Family ☐ Multi-Family ☒ Recreational ☐ Commercial

SITE NO.: ST35

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2029

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3202

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 71 °F R.H.: 69 %

WIND SPEED: 3.5 MPH

TOWARD (DIR): Calm

SKIES: Cloudy

CAMERA _____

PHOTO NOs. 646 - 652

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz. ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 112.3, 20.9, 10:27

After 114, 112.7, 20.9, 11:38

METER SETTINGS: ☒ A-WTD ☒ LINEAR ☐ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

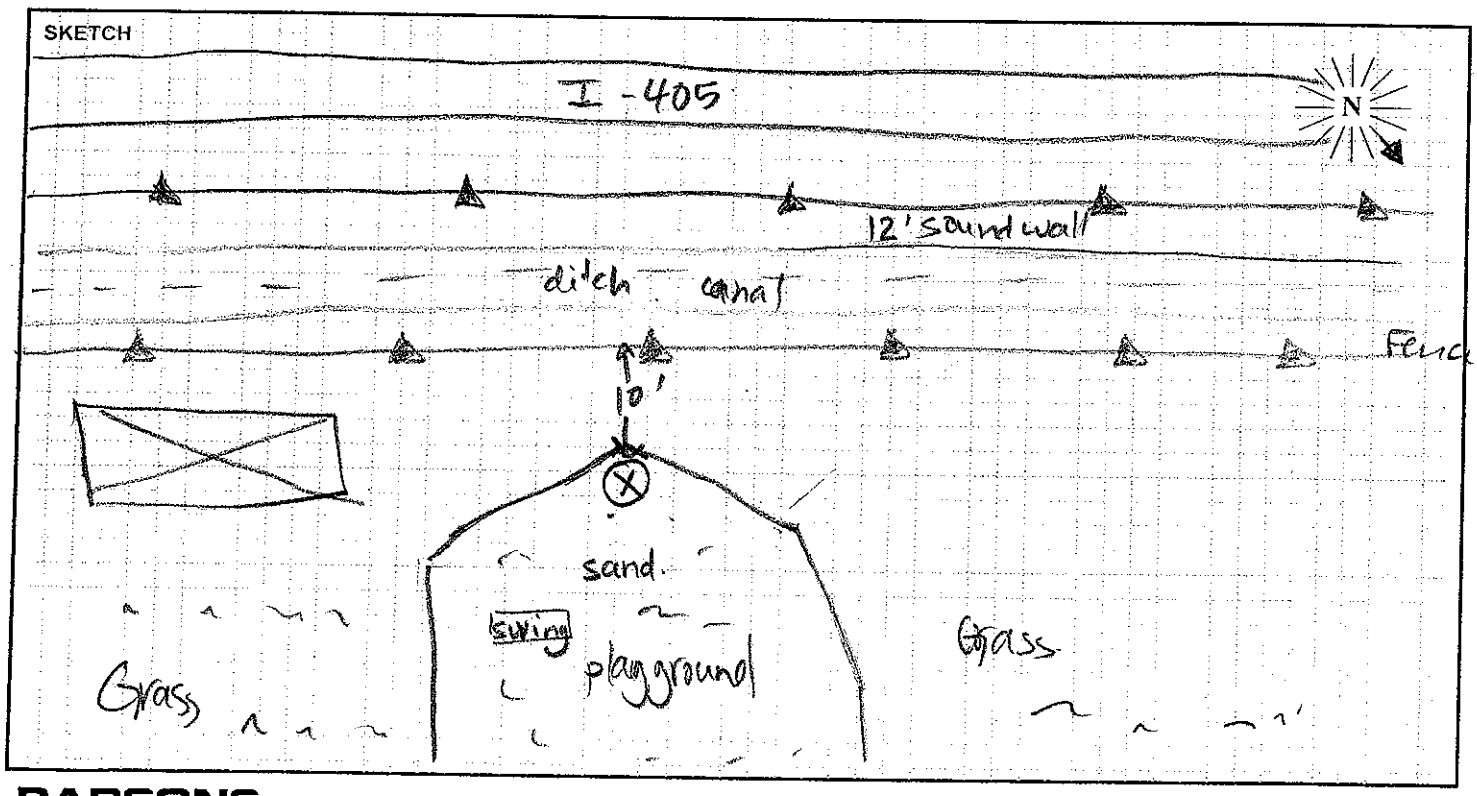
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/21	10:40	11:00	65.3	66.1	67.2	68.8	69.8	70.8	73.8	79.2	69.2	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim. A.

DATE: 06/21/10

MEASUREMENT ADDRESS: 5551 Norma Dr.

CITY: Westminster

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST 35A

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☐ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2029

PRE AMP: ☒ LD-900 ☒ LD-828 ☐ _____

SERIAL #: 3202

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 66 °F R.H.: 70 %

WIND SPEED: 0.6 MPH

TOWARD (DIR): Calm

SKIES: cloudy

CAMERA _____

PHOTO NOs. 7-10

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz. ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 112.5, 20.9, 9:16

After 114, 112.3, 20.9, 10:27

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

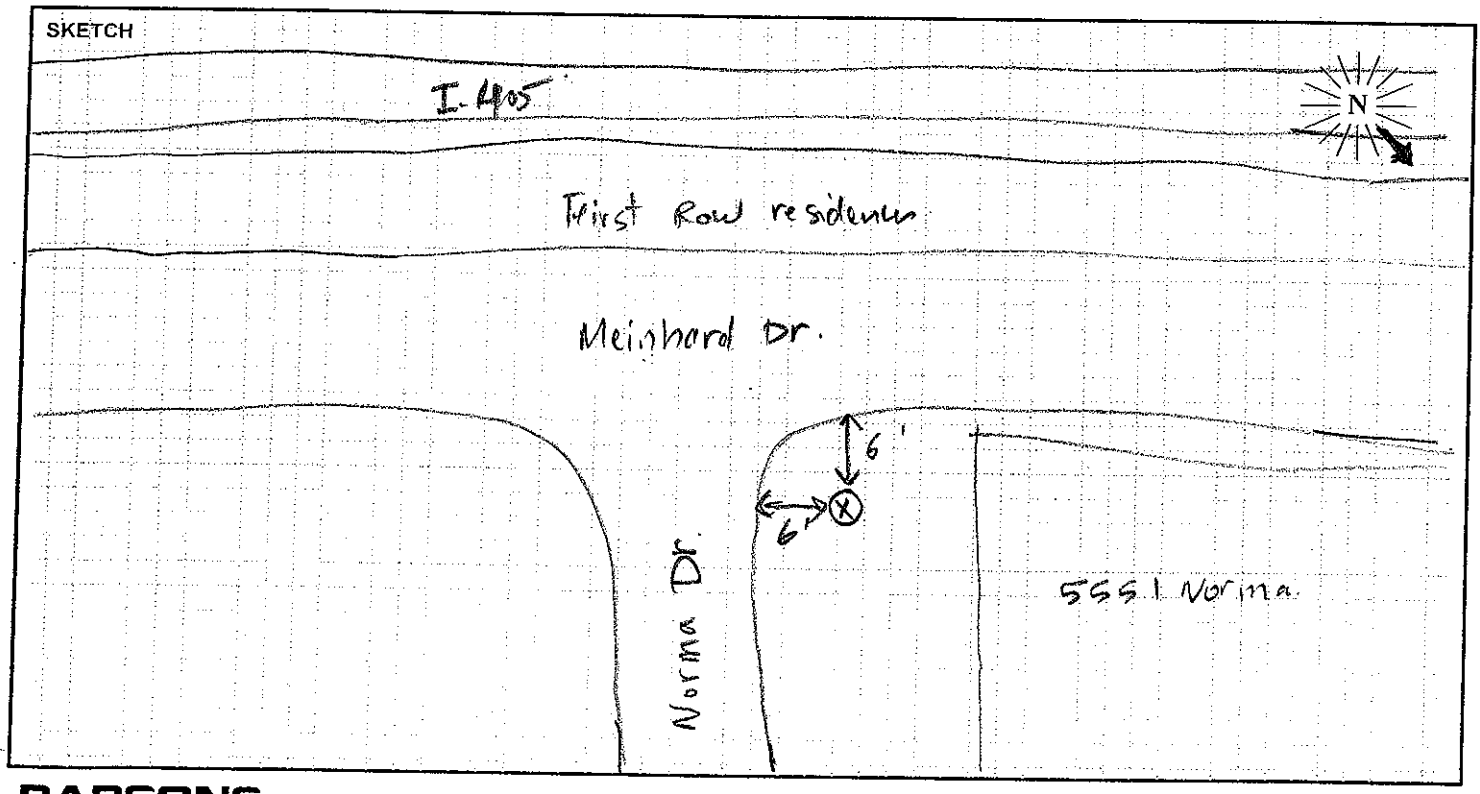
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/21	9:20	9:40	56.4	57.0	58.0	59.5	60.4	61.0	62.1	66.2	59.7	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A

DATE: 06/22/10

MEASUREMENT ADDRESS: 13842 Sherwood St

CITY: Westminster

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST36

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 71 °F R.H.: 60 %

WIND SPEED: 0.7 MPH

TOWARD (DIR): Calm

SKIES: Cloudy

CAMERA

PHOTO NOs. 118 – 124

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☒ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 8:11

After 94, 93.8, -30.9, 7:51

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

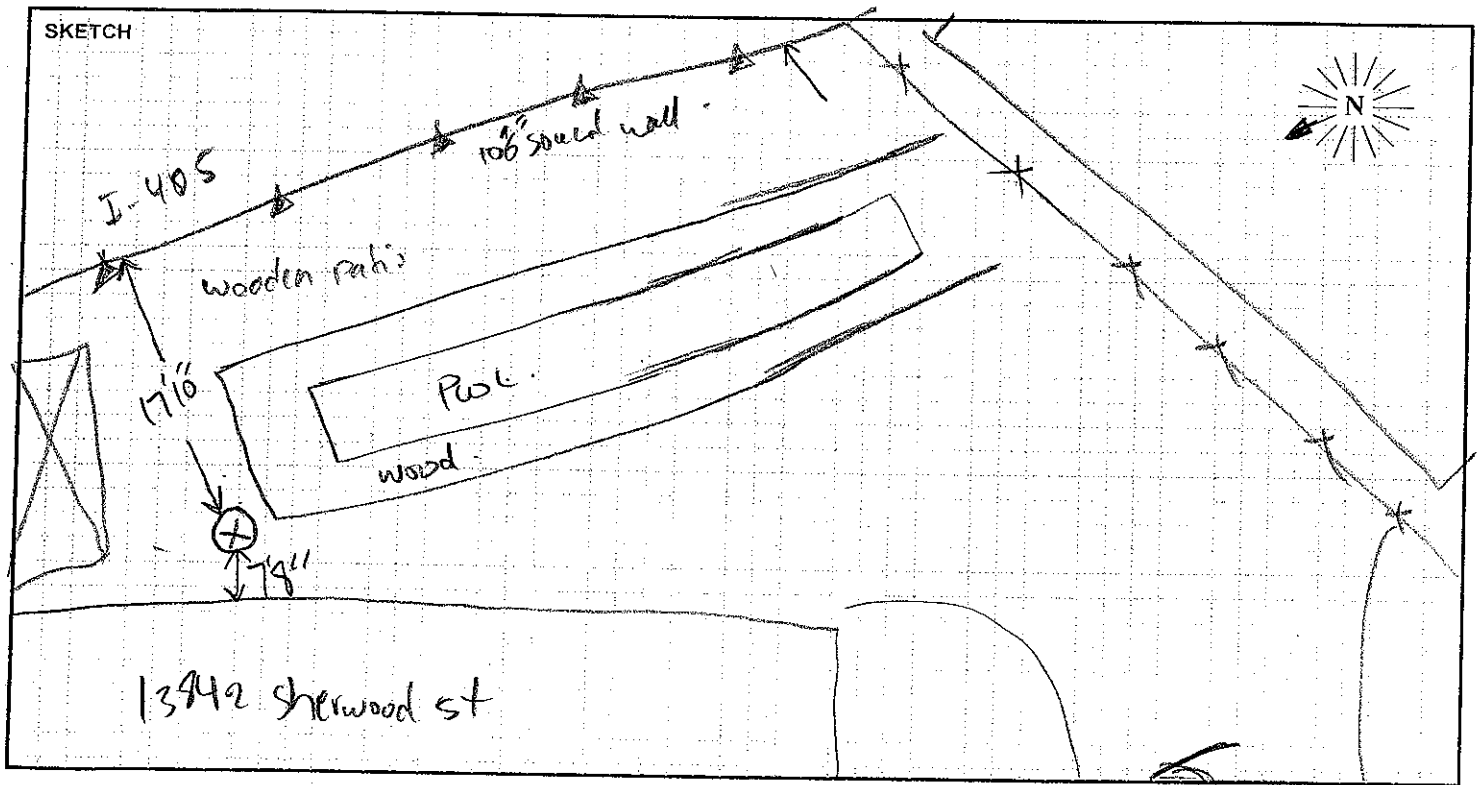
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/22	9:20	9:40	57.8	58.8	59.5	61.5	/	63.9	66.0	75.1	62.1	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/21/10

MEASUREMENT ADDRESS: 434/435 Via Valencia

CITY: Garden Grove

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST 37

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 72.5 °F R.H.: 52 %

WIND SPEED: 0.7 MPH

TOWARD (DIR): Calm.

SKIES: Clear

CAMERA

PHOTO NOs. 675-680.

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz. ☐ 250 ☐ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.8, 12:15

After 94, 93.8, -30.9, 8:11

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

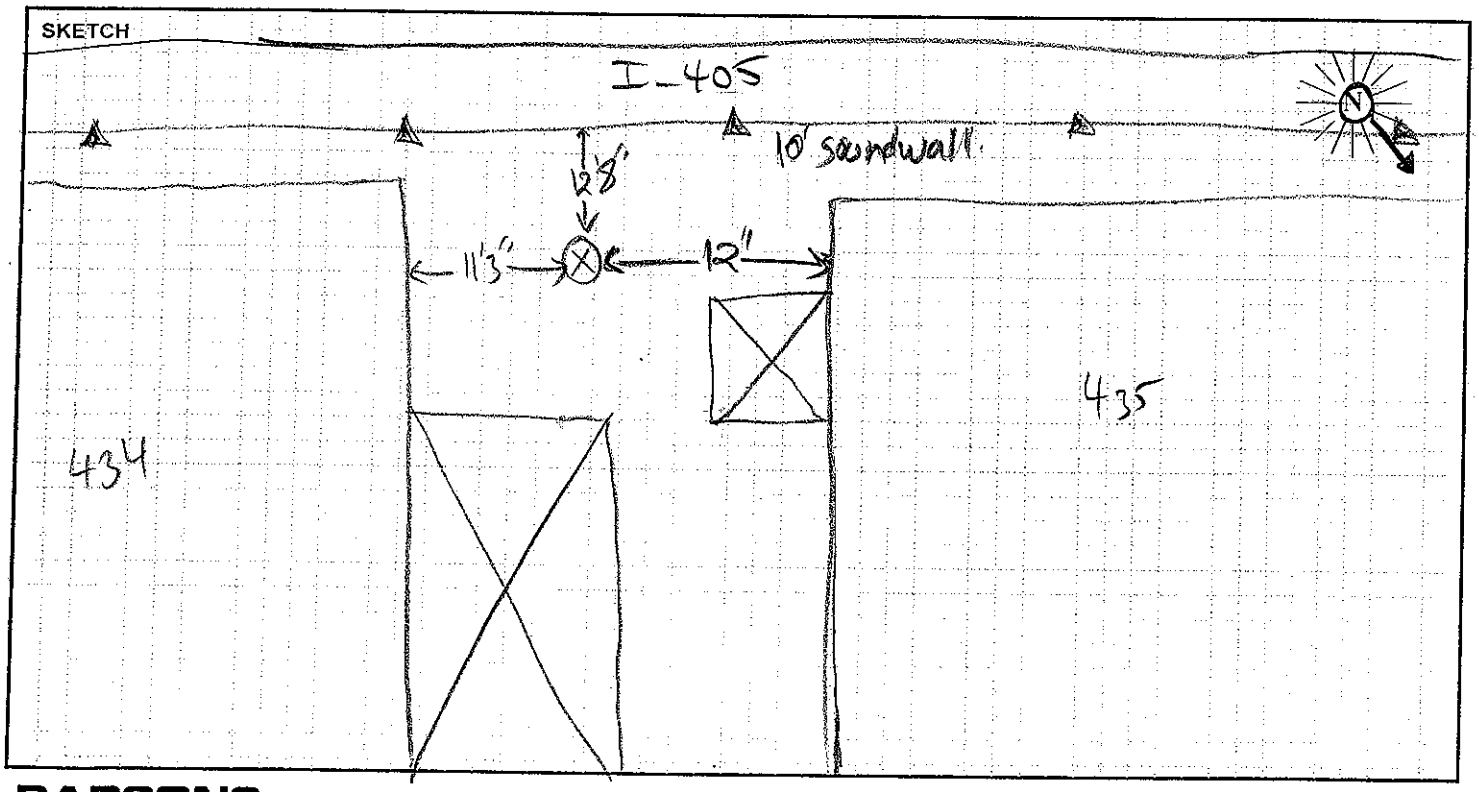
NOTES:

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/21	17:00	17:20	62.6	63.5	65.0	66.0	/	67.0	69.5	76.6	66.4	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I 405 PA-ED

ENGINEER: Ibrahim A.

DATE: 06/24/10

MEASUREMENT ADDRESS: 5842 Anthony Ave.

CITY: Garden Grove

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST37A

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 67 °F R.H.: 66 %

WIND SPEED: 1 MPH

TOWARD (DIR): calm

SKIES: cloudy

CAMERA

PHOTO NOs. 215-222

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☒ 1000 ☐

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.7, 8:45

After 94, 93.8, -30.9, 10:22

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

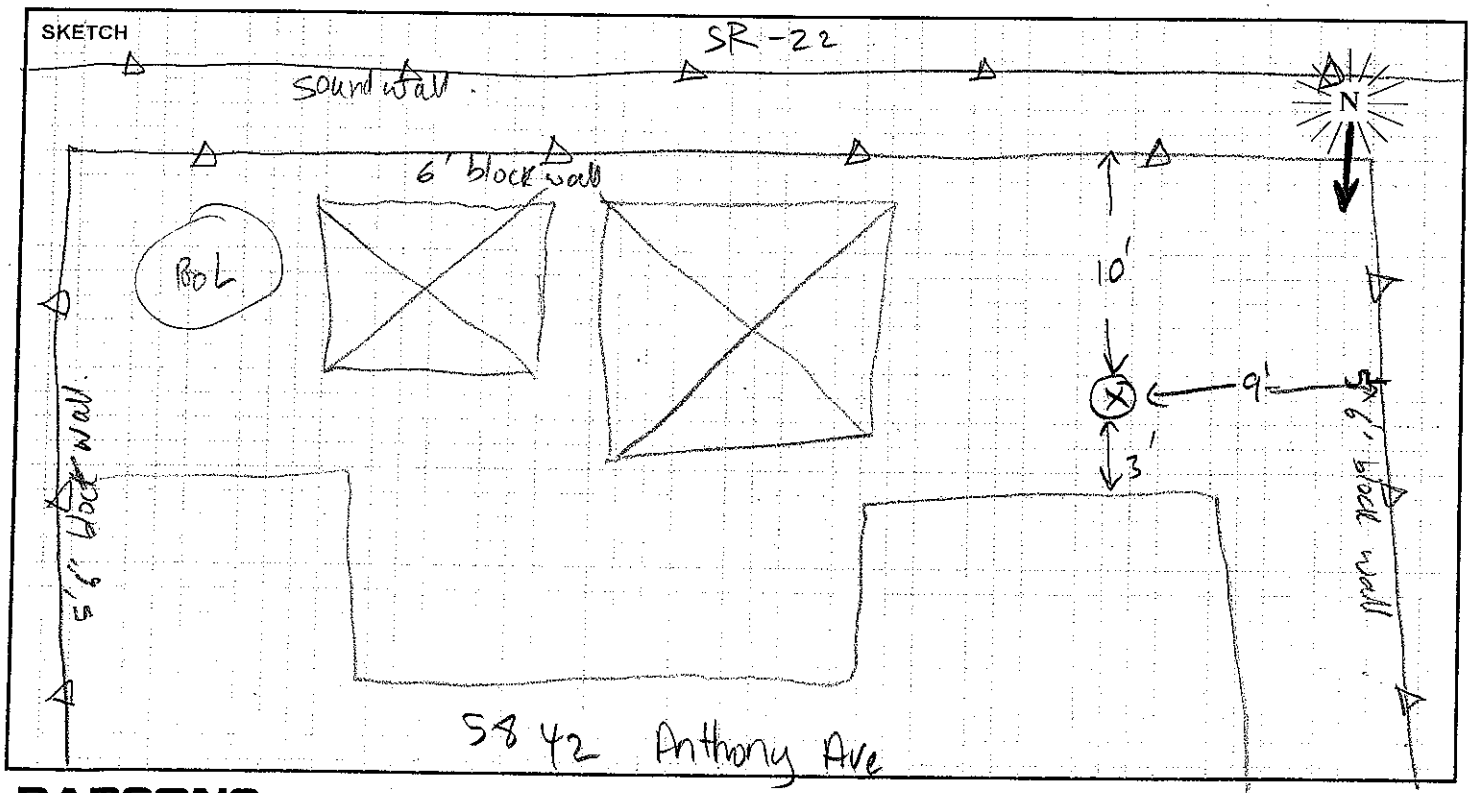
Dist. to Center of Nearest Lane ____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/24	9:00	9:20	55.3	56.0	57.0	59.0	/	60.5	61.5	67.9	59.2	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405- PA-ED

ENGINEER: Ibrahim A.

DATE: 06/24/10

MEASUREMENT ADDRESS: 79 Via del Norte (Los Robles).

CITY: Garden Grove.

☒ Single-Family ☐ Recreational
☒ Multi-Family ☐ Commercial

SITE NO.: ST37B

SOUND LEVEL METER:
☐ LD-870 ☐ LD-820
☐ LD-824 ☐ LD-812
☐ B&K-2250 ☒ BK 2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN
☒ NON-POLAR ☐ POLARIZED
☐ 1/2-INCH ☒ FREEFIELD
☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP:
☐ LD-900
☐ LD-828
☒ BK 4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 75 °F R.H.: 63 %

WIND SPEED: 1.8 MPH

TOWARD (DIR): Calm

SKIES: Clear

CAMERA

PHOTO NOs. 231-238.

CALIBRATOR:
☐ LD CA250
☒ B&K 4231
S/N 2507137

Freq, Hz.
☐ 250
☒ 1000
☐ _____

CALIBRATION RECORD:
Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 8:45

After 94, 93.8, -30.9, 10:02

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

Dist. to Center of Nearest Lane _____

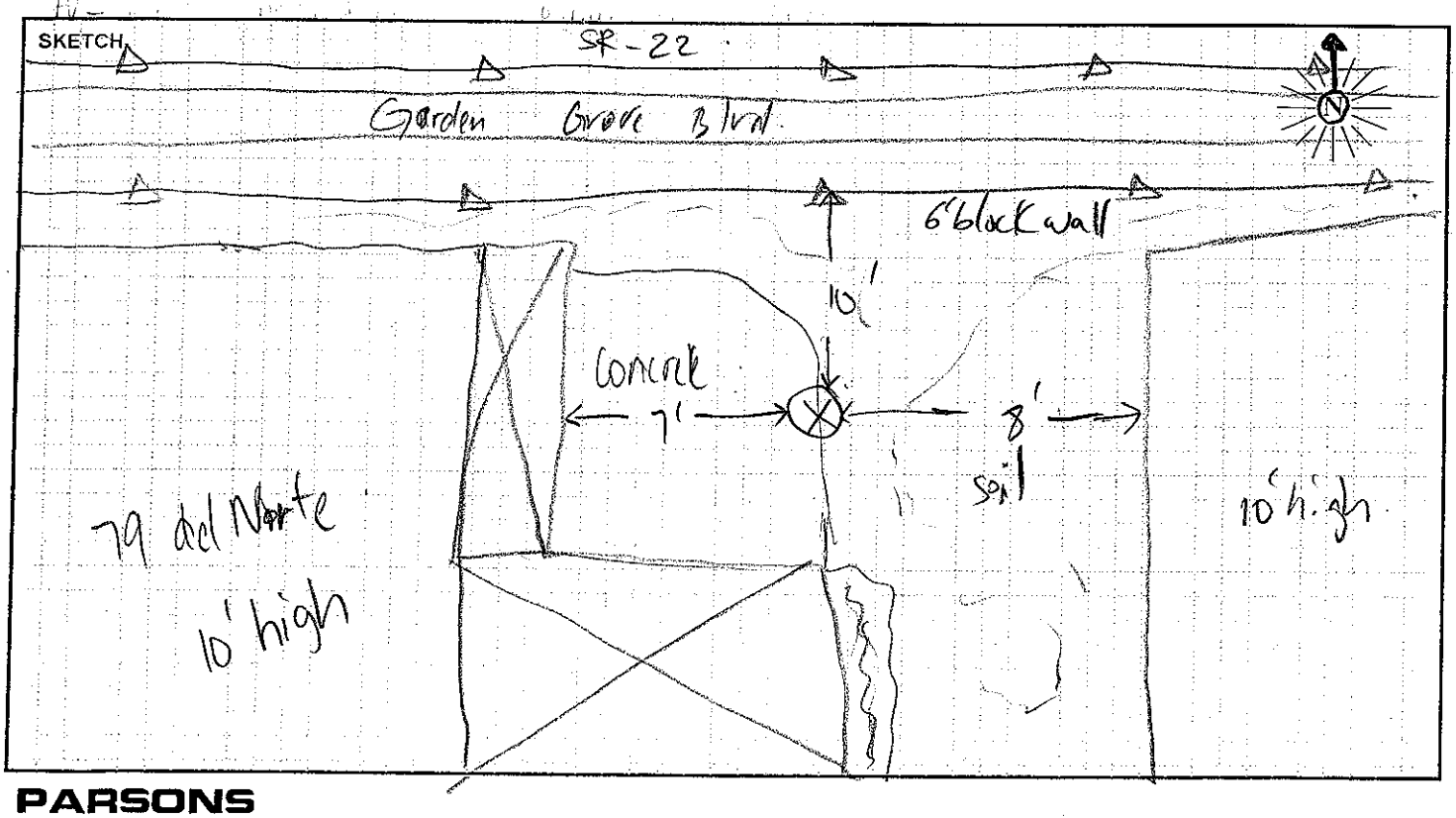
☐ Video
☐ Radar

Counts: AT MT HT

MEAS. TYPE:
☐ Long Term
☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/24	15:40	15:55	53.6	54.0	55.5	58.0	/	61.5	65.0	76.5	59.7	Almost all noise levels coming from Garden Grove Blvd

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/22/10

MEASUREMENT ADDRESS: 5382 Duncannon Ave

CITY: Westminster

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST38

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 66 °F R.H.: 61 %

WIND SPEED: 0.5 MPH

TOWARD (DIR): calm

SKIES: cloudy

CAMERA

PHOTO NOs. 111-117

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☒ 1000 ☐ ____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 8:11

After 94, 93.8, -30.9, 7:51

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

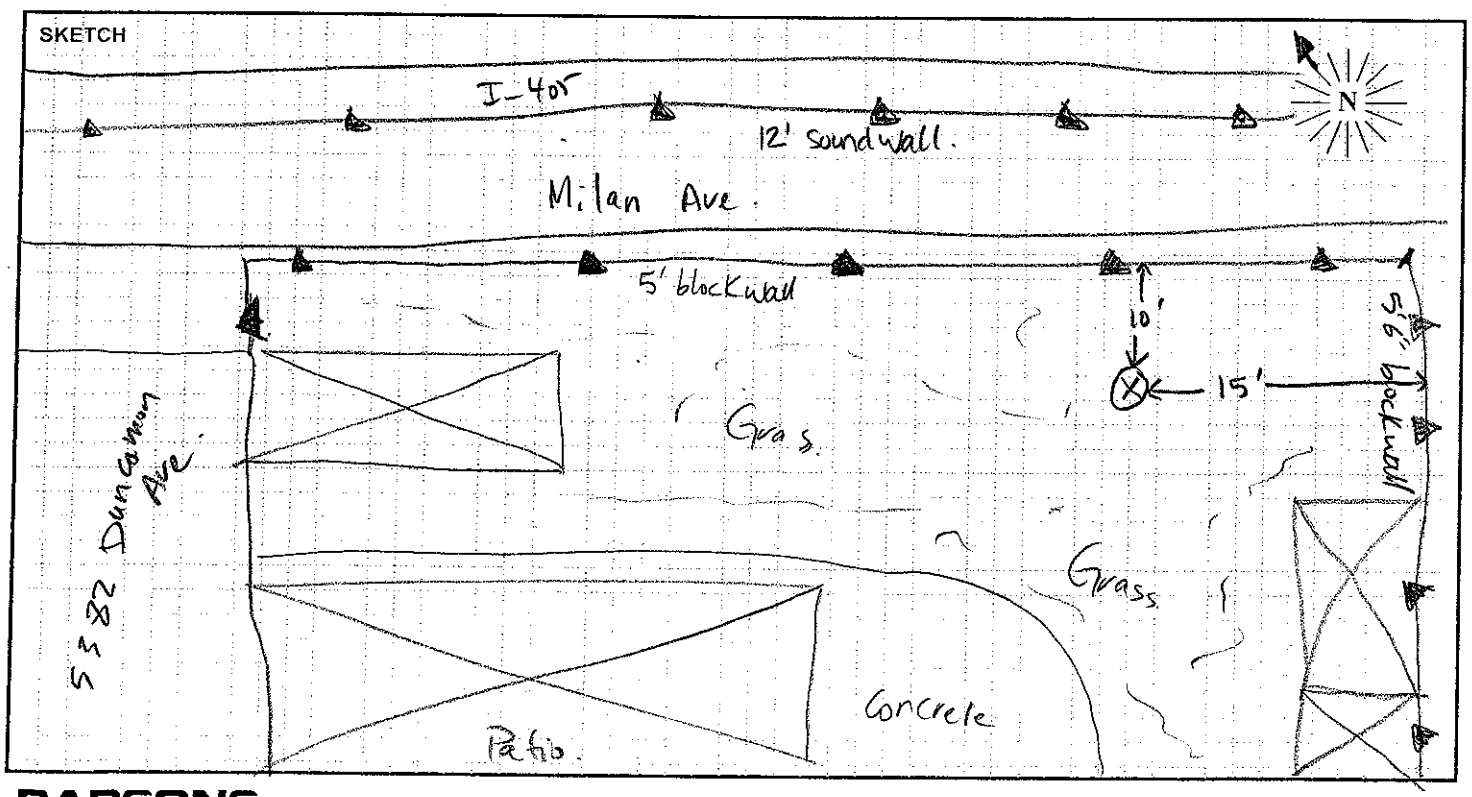
Dist. to Center of Nearest Lane ____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/22	8:20	8:40	59.2	59.5	61.5	63.0	/	64.5	66.0	75.2	63.2	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: **I-405 PA-ED**		ENGINEER: Ogden	DATE: 6/22/10
MEASUREMENT ADDRESS: 13131 Buckingham Cir.	CITY: Westminster	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial	SITE NO.: ST38A

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820	☒ WIND SCREEN	☐ LD-900	SYSTEM PWR: ☐ BAT ☐ AC
☐ LD-824 ☐ LD-812	☐ NON-POLAR ☐ POLARIZED	☐ LD-828	(observations at start of measurement)
☒ B&K-2250 ☐ _____	☒ 1/2-INCH ☒ FREEFIELD	☒ _____	TEMP: 71 °F R.H.: 60 %
	☐ 1-INCH ☐ RANDOM		WIND SPEED: 1-2 MPH
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	TOWARD (DIR): N

CALIBRATOR:	Freq, Hz.	CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time	
☐ LD CA250	☐ 250	6/22 ~~Before~~	Zero, 47.31, mV/Pa, 947
☒ B&K 4231	☒ 1000	6/23 ~~After~~	, 46.93, , 1307
S/N 2507137	☐ _____		

METER SETTINGS:				
☒ A-WTD	☐ LINEAR	☒ SLOW	☐ 1/1 OCT	☒ INTERVALS 20 - MINUTE
☐ C-WTD	☐ IMPULSE	☐ FAST	☐ 1/3 OCT	☒ L_N PERCENTILE VALUES

CAMERA Jason's

PHOTO NOs. 681 - 691

NOTES: Dense trees between Valley View and residences

Dist. to Center of Nearest Lane _____

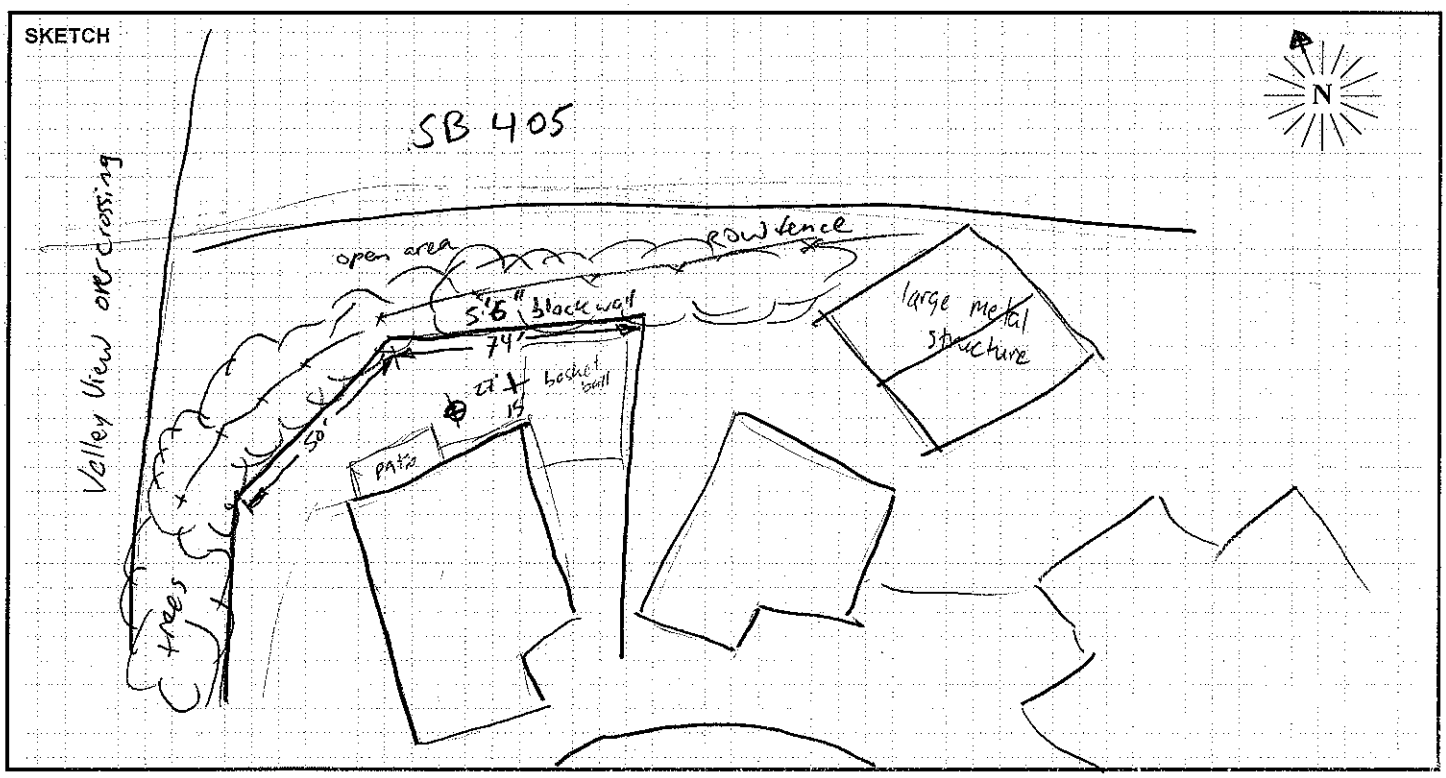
☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/22	9:51	10:00	59.3	60.1	61.7	63.2		64.4	66.1	69.5	63.3	Scrap
6/22	10:00	10:20	56.5	56.8	59.4	62.7		64.2	65.5	66.7	62.7	Use this one

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED

ENGINEER: Ibrahim A / Jason D.

DATE: 06/24/10

MEASUREMENT ADDRESS: 5232 Christal

CITY: Garden Grove

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST39 (Re)

SOUND LEVEL METER: ☒ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☐ _____

SERIAL #: 0128

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☐ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2029

PRE AMP: ☒ LD-900 ☐ LD-828 ☐ _____

SERIAL #: 3202

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: _____ °F R.H.: _____ %

WIND SPEED: _____ MPH

TOWARD (DIR): Calm

SKIES: Clear

CAMERA _____

PHOTO NOs. _____

CALIBRATOR: ☒ LD CA250 ☐ B&K 4231 S/N 2480

Freq, Hz.: ☒ 250 ☐ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 114, 114, 22.1, 13:42

After 114, 113.8, , 15:03

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

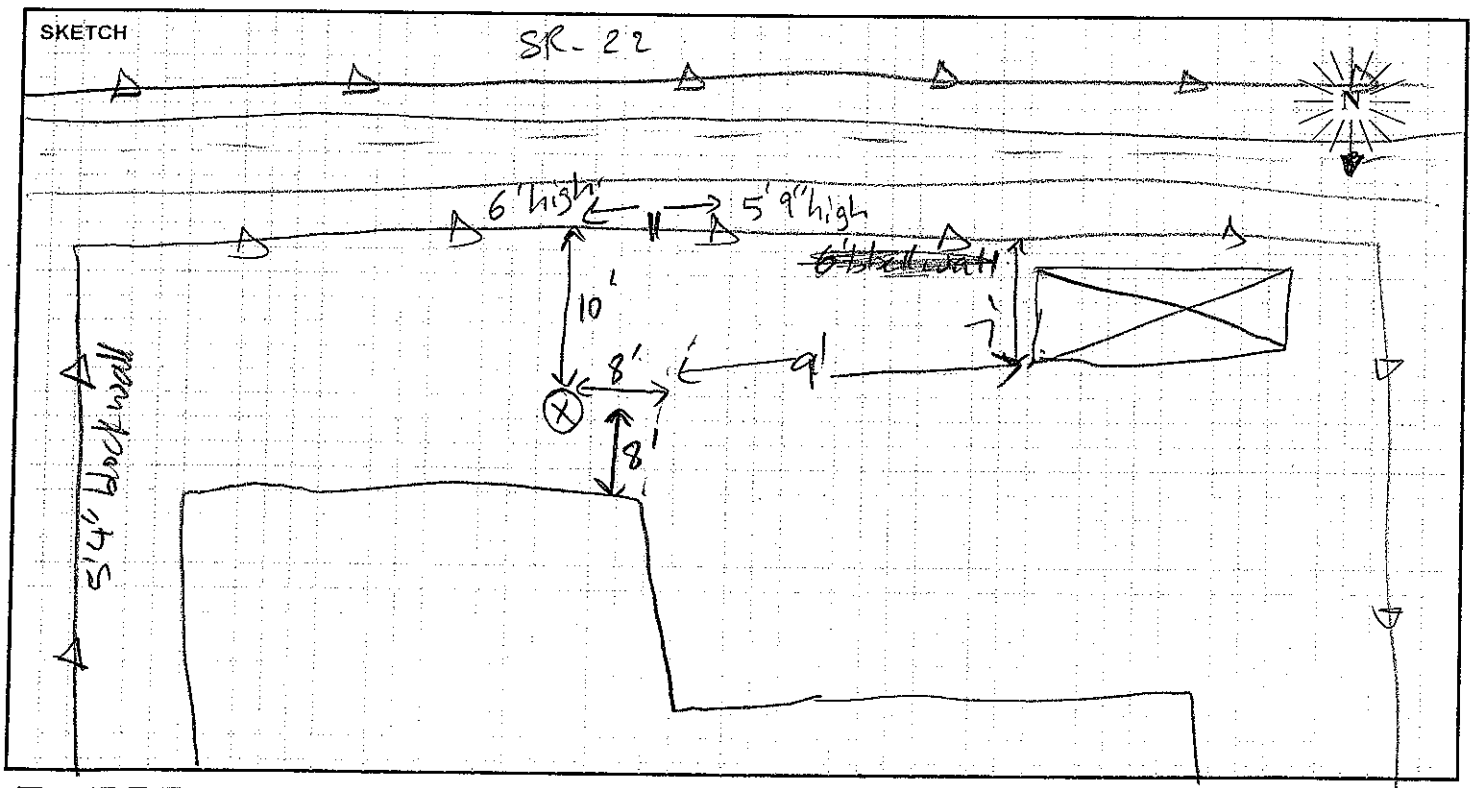
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/24	14:00	14:20	57.3	58.1	59.4	60.9	61.7	62.5	66.5	69.6	61.2	
	14:20	14:40	58.1	58.6	59.9	61.5	62.4	63.2	64.8	68.5	61.7	
	14:40	15:00	58.9	59.2	60.2	61.6	62.3	62.9	64.5	65.1	61.7	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/23/10

MEASUREMENT ADDRESS: 3560 Wisteria st.

CITY: Seal Beach.

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST 40

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK 2238

SERIAL #:

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #:

PRE AMP: ☐ LD-900 ☐ LD-828 ☐ ____

SERIAL #:

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 66 °F R.H.: 72.5 %

WIND SPEED: 0.6 MPH

TOWARD (DIR): Calm

SKIES: cloudy

CAMERA ____

PHOTO NOs. 171-180.

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz. ☐ 250 ☒ 1000 ☐ ____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 7:51

After 94, 93.8, -30.7, 8:45

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

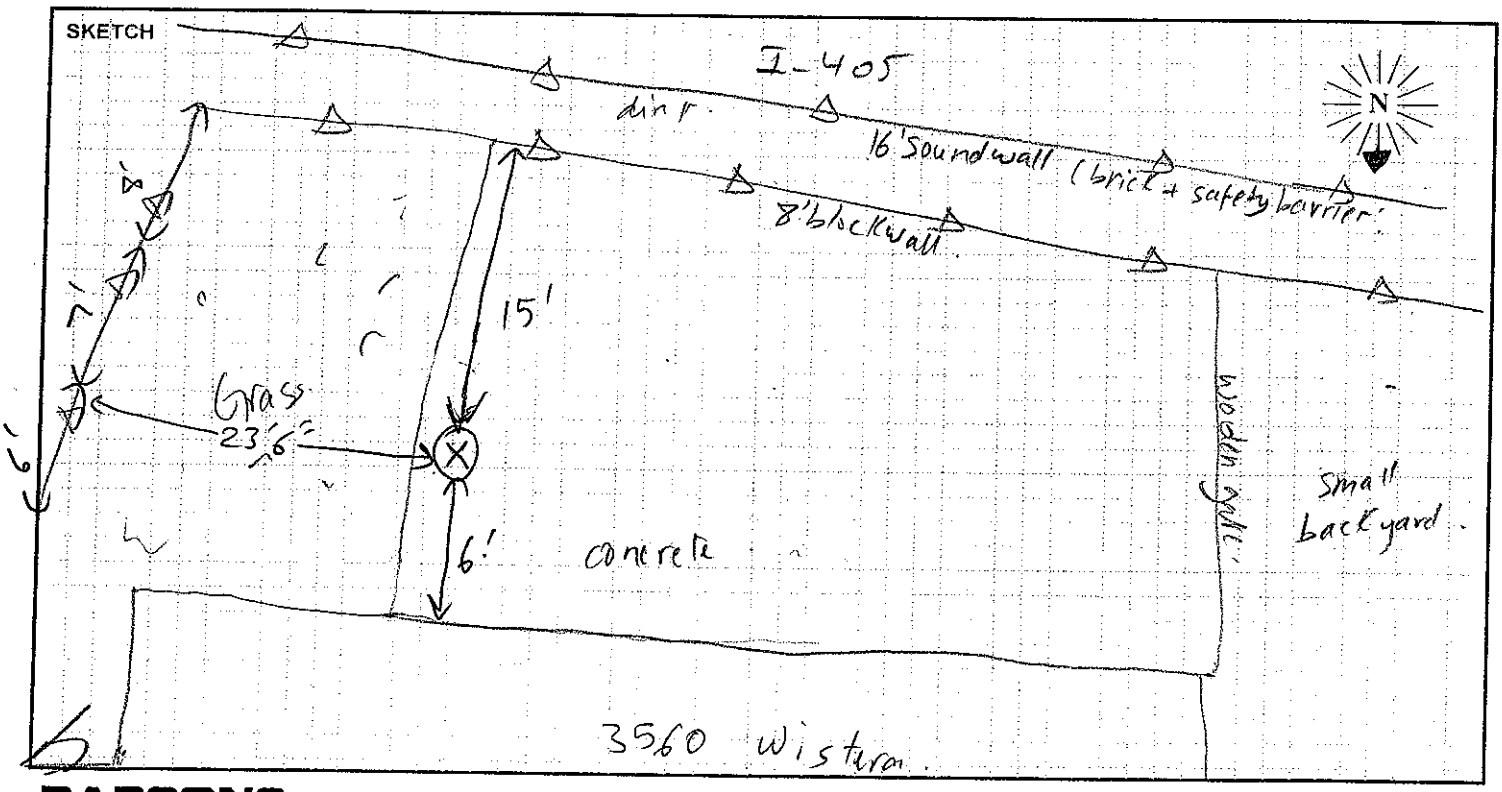
Dist. to Center of Nearest Lane ____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/23	8:40	9:00	56.1	57.0	58.0	59.0	/	60.5	62.0	65.8	59.5	Prop at 8:57

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A

DATE: 06/23/10

MEASUREMENT ADDRESS: Shapell (Almond) Park

CITY: Seal Beach

☐ Single-Family ☒ Recreational
☐ Multi-Family ☐ Commercial

SITE NO.: ST41

SOUND LEVEL METER:
☐ LD-870 ☐ LD-820
☐ LD-824 ☐ LD-812
☐ B&K-2250 ☒ BK 2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN
☐ NON-POLAR ☒ POLARIZED
☒ 1/2-INCH ☐ FREEFIELD
☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP:
☐ LD-900
☐ LD-828
☒ BK 4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 67 °F R.H.: 75 %

WIND SPEED: 1 MPH

TOWARD (DIR): Calm

SKIES: cloudy

CAMERA

PHOTO NOs. 164_170

CALIBRATOR:
☐ LD CA250
☒ B&K 4231
S/N 2507137

Freq, Hz.
☐ 250
☒ 1000
☐

CALIBRATION RECORD:
Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 7:51

After 94, 93.8, -30.9, 8:45

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES:

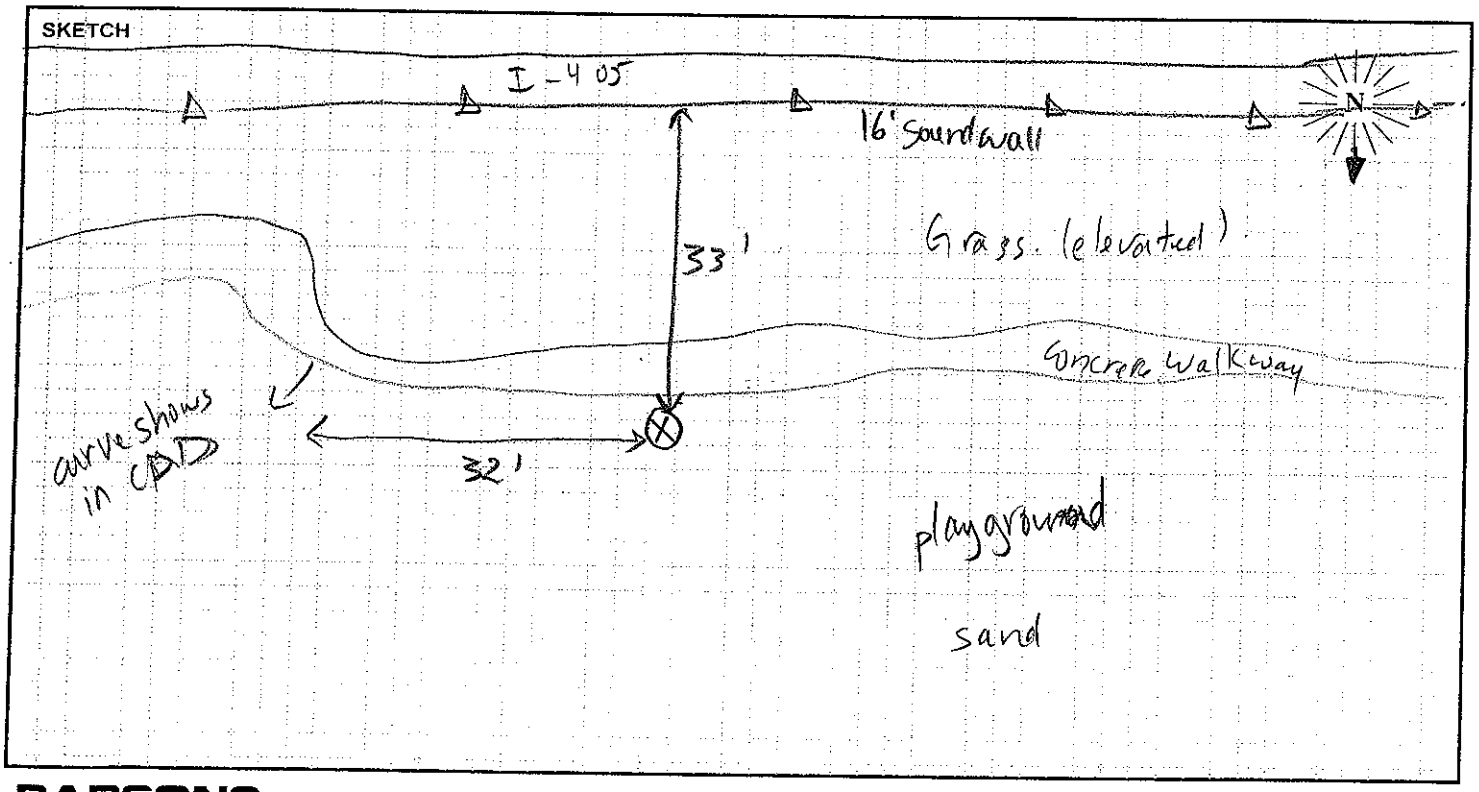
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE:
☐ Long Term
☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/23	8:00	8:20	63.6	65.0	65.5	66.5	/	67.5	68.0	70.6	66.7	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/23/10

MEASUREMENT ADDRESS: 3521 Daisy st.

CITY: Seal Beach.

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST4/A

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK2238.

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490.

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #: 4301

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz. ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 7:51.

After 94, 93.8, -30.9, 8:45

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 73 °F R.H.: 67 %

WIND SPEED: 0.7 MPH

TOWARD (DIR): Calm.

SKIES: cloudy, Some sun

CAMERA _____

PHOTO NOs. 181-186.

NOTES:

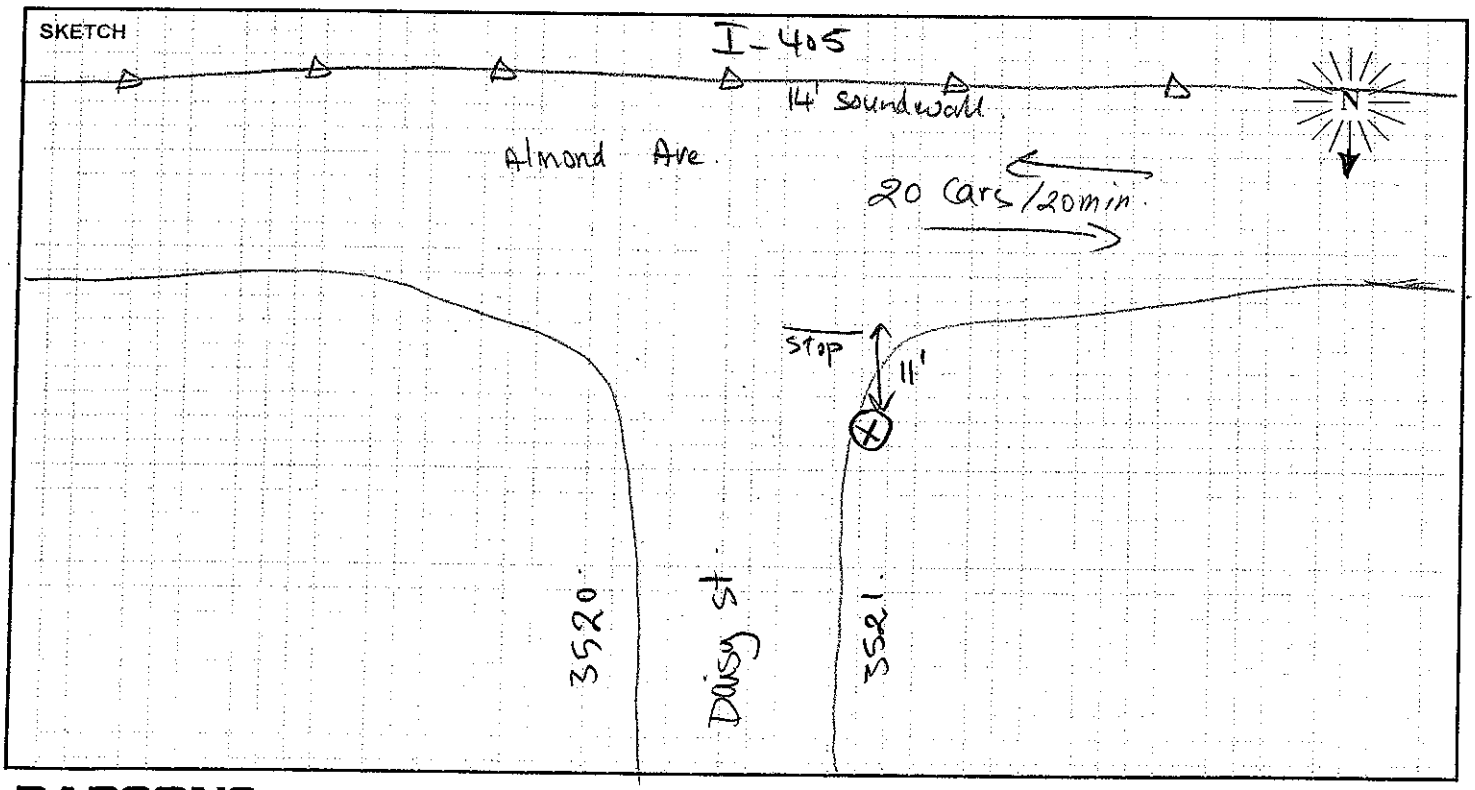
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/23	9:20	9:40	63.8	64.0	65.0	66.0	/	67.5	69.0	72.0	66.4	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: **I-405 PA-ED**

ENGINEER: OGDEN

DATE: 6/23/10

MEASUREMENT ADDRESS: City of Seal Beach Tennis Courts

CITY:

☐ Single-Family ☐ Multi-Family ☒ Recreational ☐ Commercial

SITE NO.: ST42

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☒ B&K-2250 ☐ _____

SERIAL #:

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☒ FREEFIELD ☐ 1-INCH ☐ RANDOM

SERIAL #:

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ _____

SERIAL #:

NOTES:

SYSTEM PWR: ☐ BAT ☐ AC

(observations at start of measurement)

TEMP: 73 °F R.H.: 67 %

WIND SPEED: 0.9 MPH

TOWARD (DIR): Calm

SKIES: cloudy

CAMERA _____

PHOTO NOs. _____

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N _____

Freq, Hz.: ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD:

	Input, dB	Reading, dB	Offset, dB	Time
6/22 ~~Before~~	Sens	47.31	mV/Pa	9 47
6/23 ~~After~~		46.93		1307

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☒ L_N PERCENTILE VALUES

NOTES: Court 16

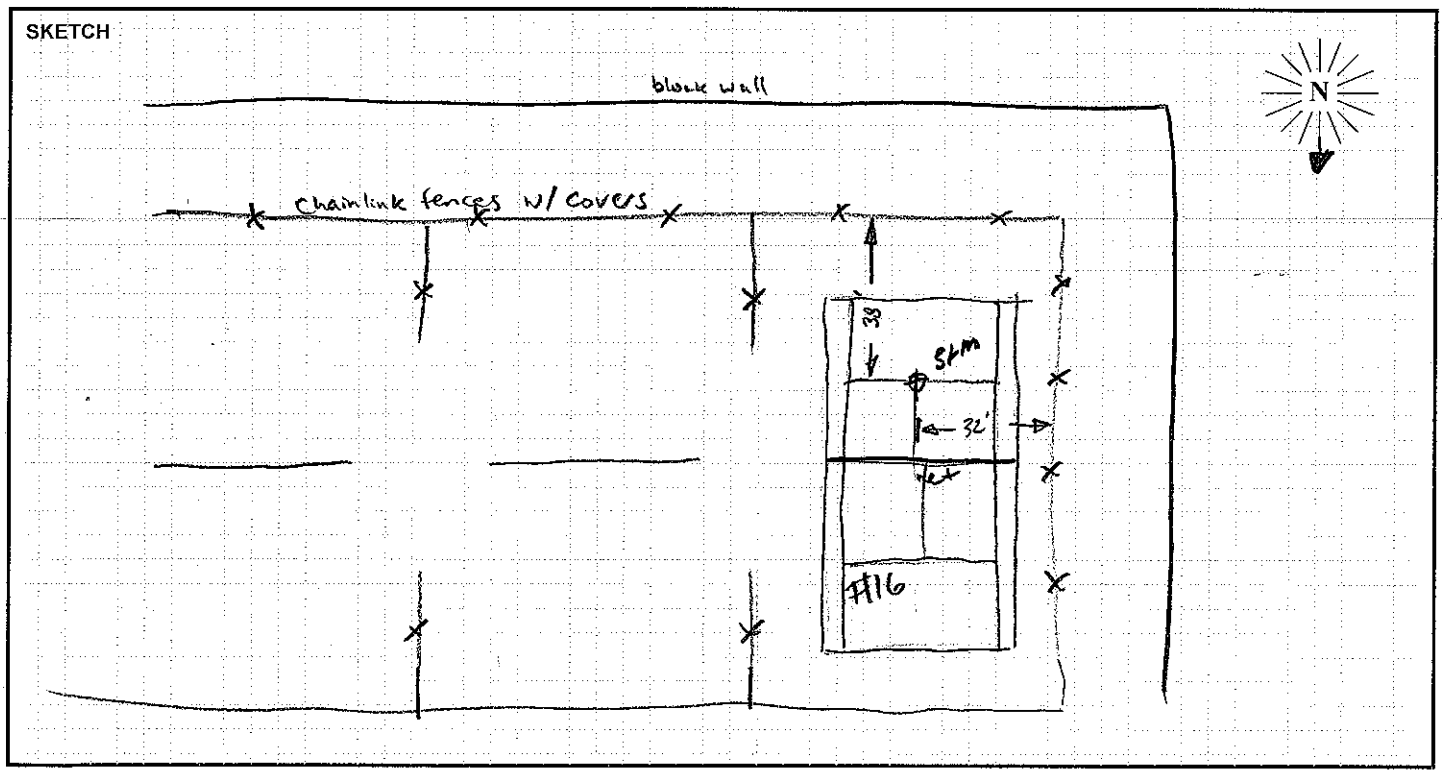
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/23	9:04	9:20	62.1	62.8	63.9	64.9		66.4	67.8	69.3	65.2	
6/23	9:20	9:40	61.2	62.1	63.1	64.2		65.7	67.1	71.5	64.5	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/23/10

MEASUREMENT ADDRESS: 276 H Northwood Rd (Retirement homes)

CITY: Seal beach

☐ Single-Family ☒ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST43

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK 2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #:

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 79 °F R.H.: 61 %

WIND SPEED: 1.5 MPH

TOWARD (DIR): _____

SKIES: clear

CAMERA _____

PHOTO NOs. 187-197.

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 7:51

After 94, 93.8, -30.9, 8:45

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE ☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☐ L_N PERCENTILE VALUES

NOTES: Leisure World.

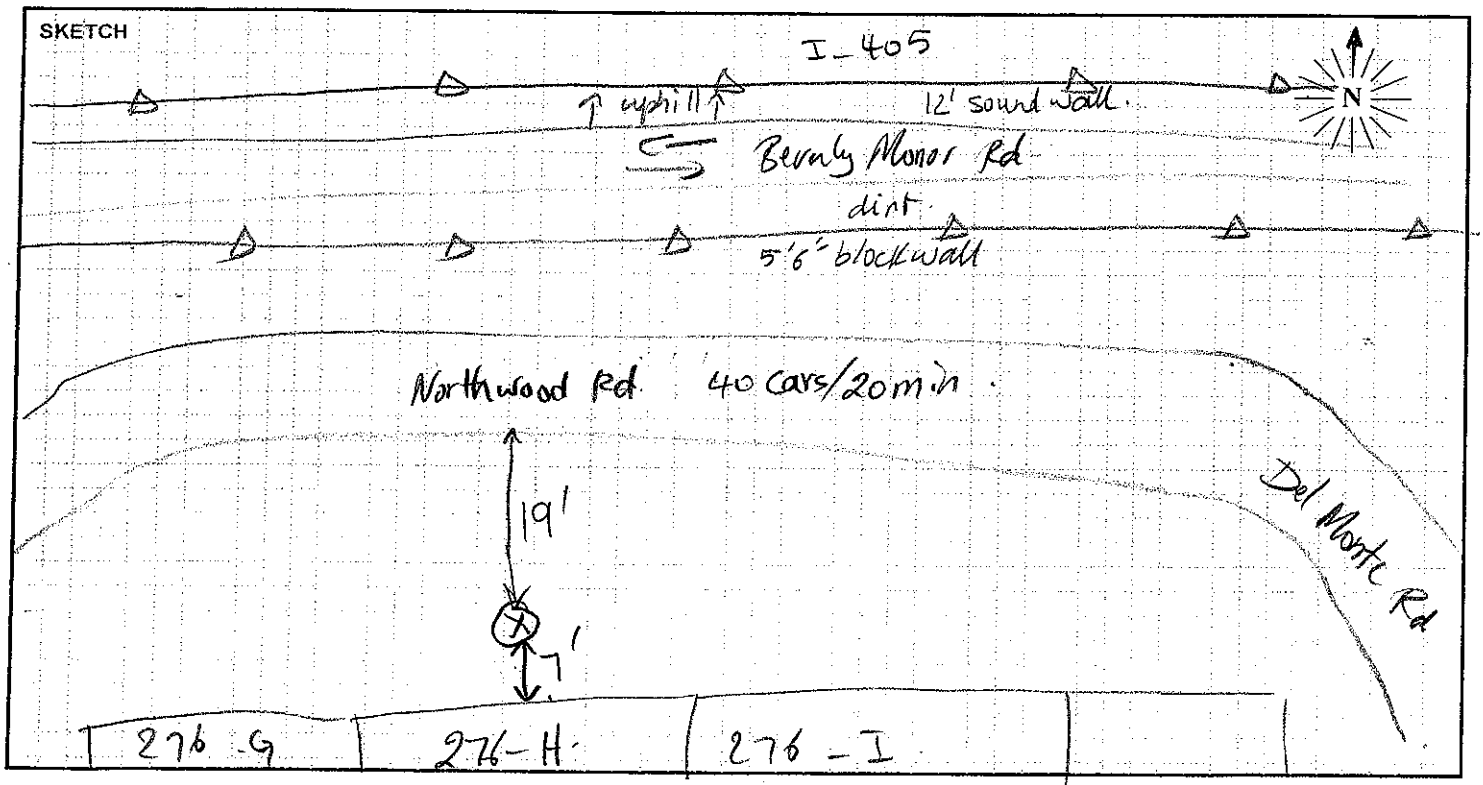
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/23	11:40	12:00	58.2	58.5	59.5	61.0	/	63.0	66.5	68.1	61.5	w/ LT24

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/22/10

MEASUREMENT ADDRESS: 12835 Martha Ann Dr.

CITY: Rossmore

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST44

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 78 °F R.H.: 52 %

WIND SPEED: 0.5 MPH

TOWARD (DIR): Calm

SKIES: Clear

CAMERA

PHOTO NOs. 158-163

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☒ 1000 ☐ ____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 8:11

After 94, 93.8, -30.9, 7:51

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

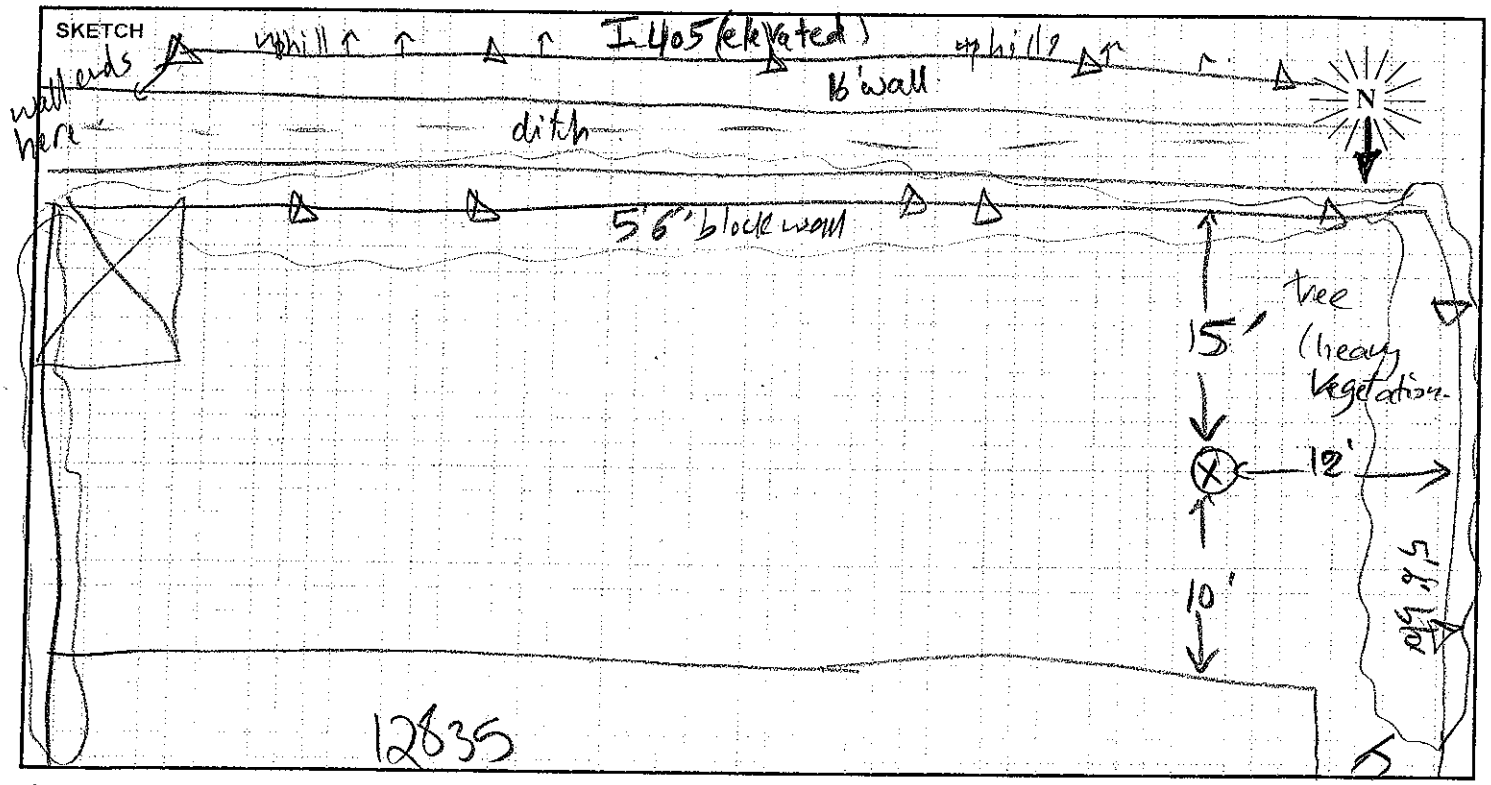
Dist. to Center of Nearest Lane ____ ☐ Video ☐ Radar

Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/22	16:20	16:40	57.1	58.0	59.0	60.0	/	61.5	63.5	65.9	60.4	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: **I-405 PA-ED**	ENGINEER: Ogden	DATE: 6/23/10
MEASUREMENT ADDRESS: 12311 Martha Ann Dr	CITY:	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial — SITE NO.: ST45

SOUND LEVEL METER:	MICROPHONE:	PRE AMP:	NOTES:
☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☒ B&K-2250 ☐ _____	☒ WIND SCREEN ☐ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☒ FREEFIELD ☐ 1-INCH ☐ RANDOM	☐ LD-900 ☐ LD-828 ☒ _____	SYSTEM PWR: ☒ BAT ☐ AC (observations at start of measurement) TEMP: 76 °F R.H.: 58 % WIND SPEED: 0-1 MPH TOWARD (DIR): _____ SKIES: Clear CAMERA: G. Sam PHOTO NOs. _____
SERIAL #: 2676029	SERIAL #: #4189 2663101	SERIAL #: 10729	

CALIBRATOR:
☑ LD CA250
☒ B&K 4231
S/N 2507437

Freq, Hz.
☐ 250
☒ 1000
☐ _____

CALIBRATION RECORD:

	Input, dB	Reading, dB	Offset, dB	Time
6/22 ~~Before~~	94.0	47.37	mV/Pa	947
6/23 ~~After~~		46.93		1307

METER SETTINGS:
☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES:

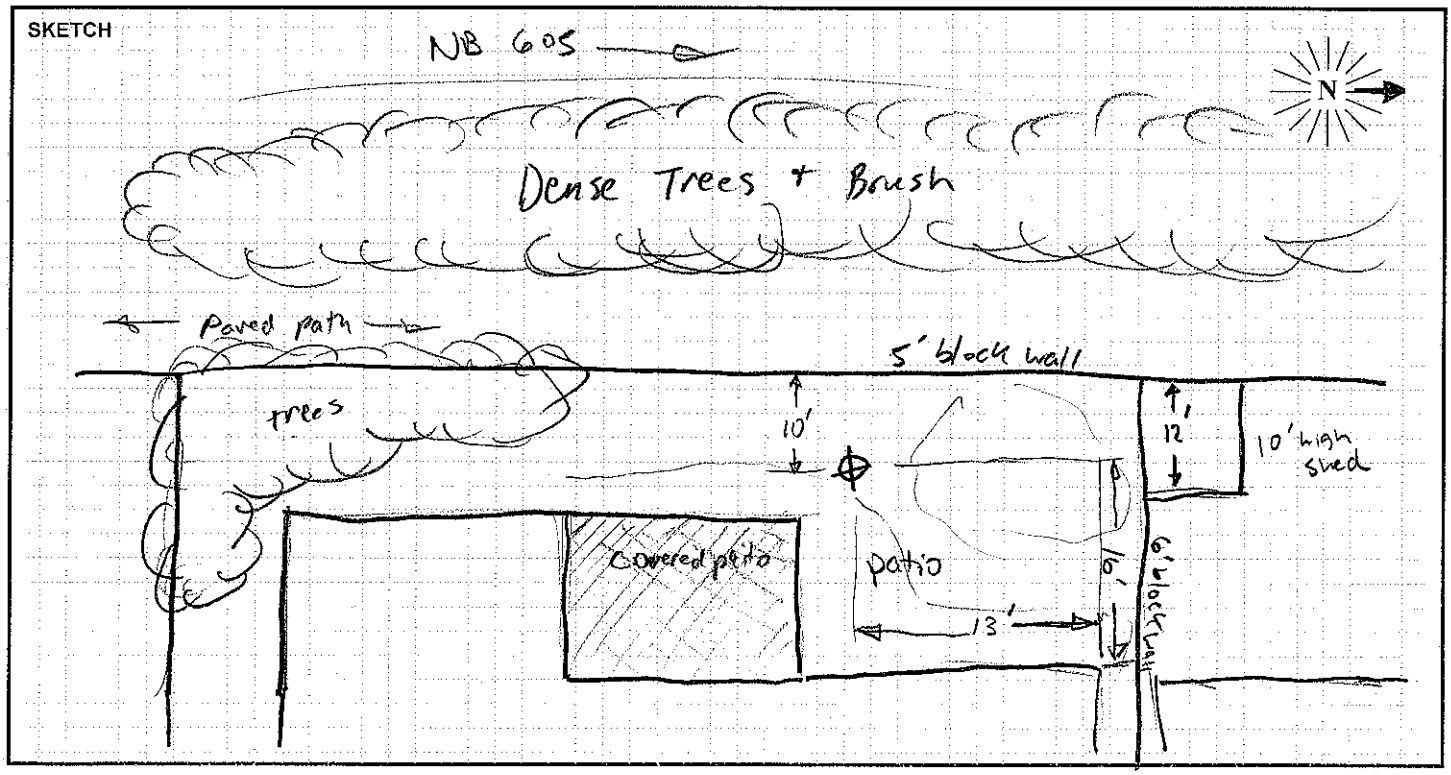
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
6/23	12:40	13:00	55.9	57.2	58.6	60.5	[illegible]	62.4	64.0	66.6	60.8	

SKETCH



FIELD SURVEY FORM

PROJECT: I-405_PA-ED

ENGINEER: Ibrahim A.

DATE: 06/23/10

MEASUREMENT ADDRESS: 11411 Martha Ann. Dr

CITY: Rossmoor

☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial

SITE NO.: ST46

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☐ LD-812 ☐ B&K-2250 ☒ BK2238

SERIAL #: 2540882

MICROPHONE: ☒ WIND SCREEN ☐ NON-POLAR ☒ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☒ RANDOM

SERIAL #: 2539490

PRE AMP: ☐ LD-900 ☐ LD-828 ☒ BK4188

SERIAL #: 4301

NOTES:

SYSTEM PWR: ☒ BAT ☐ AC

(observations at start of measurement)

TEMP: 76 °F R.H.: 58 %

WIND SPEED: 0.6 MPH

TOWARD (DIR): Cdm

SKIES: Clear

CAMERA

PHOTO NOs. 198-206

CALIBRATOR: ☐ LD CA250 ☒ B&K 4231 S/N 2507137

Freq, Hz.: ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time

Before 94, 93.8, -30.9, 7:51

After 94, 93.8, -30.9, 8:45

METER SETTINGS: ☒ A-WTD ☐ C-WTD ☐ LINEAR ☐ IMPULSE ☒ SLOW ☐ FAST ☐ 1/1 OCT ☐ 1/3 OCT ☒ INTERVALS 20 - MINUTE ☐ L_N PERCENTILE VALUES

NOTES:

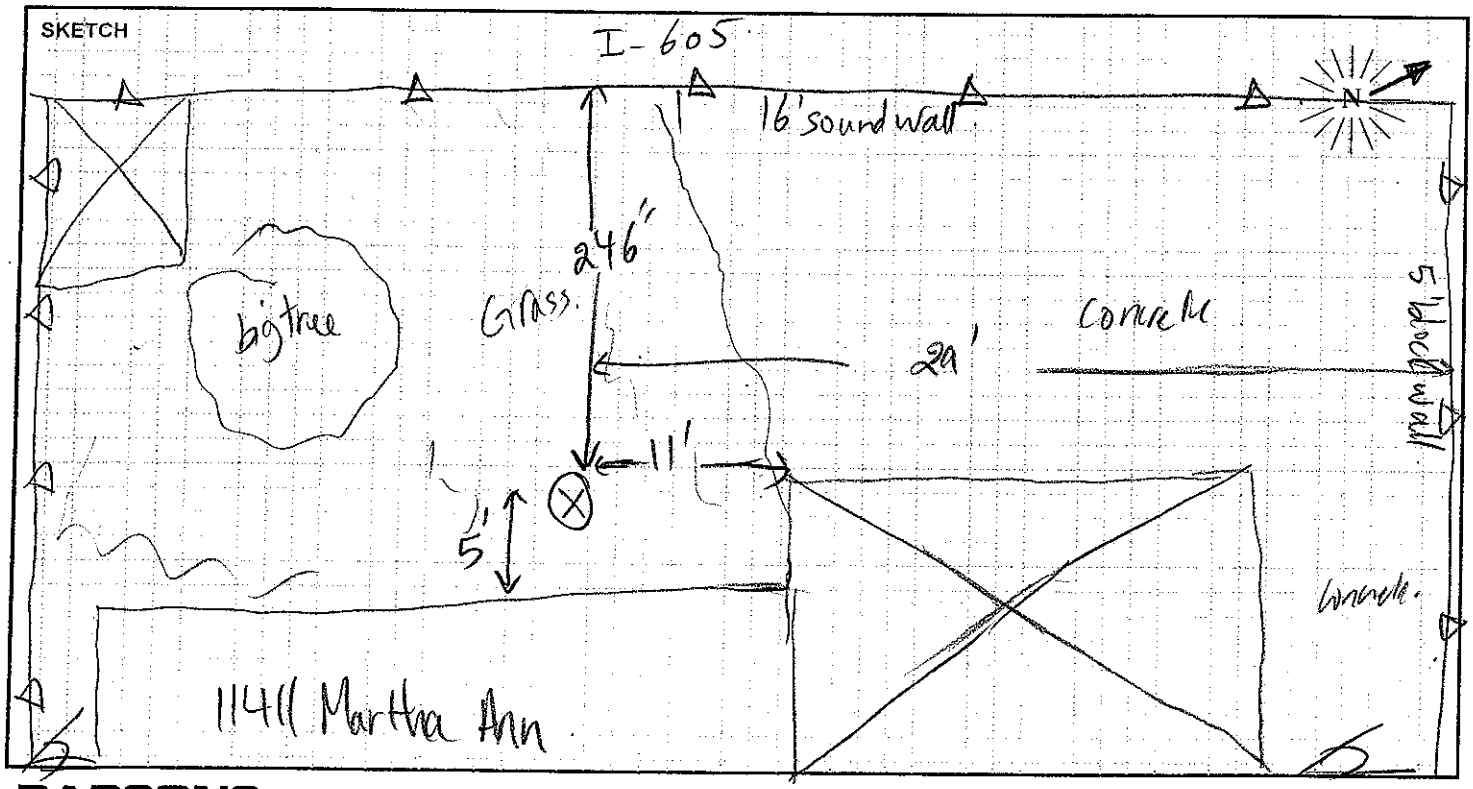
Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar

Counts: AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
06/23	12:40	1:00	57.4	59.5	61.0	63.5	/	65.5	67.0	71.8	63.9	

SKETCH



PARSONS

FIELD SURVEY FORM

PROJECT: I-405 PA-ED	ENGINEER: OGDEN	DATE: 8/31/10
MEASUREMENT ADDRESS: 8832 Savoy Cir.	CITY: Huntington Beach	☒ Single-Family ☐ Multi-Family ☐ Recreational ☐ Commercial
		SITE NO.: CAL 18

SOUND LEVEL METER: ☐ LD-870 ☐ LD-820 ☐ LD-824 ☒ LD-812 ☐ B&K-2250 ☐ _____
SERIAL #: 0638

MICROPHONE: ☒ WIND SCREEN ☒ NON-POLAR ☐ POLARIZED ☒ 1/2-INCH ☐ FREEFIELD ☐ 1-INCH ☐ RANDOM
SERIAL #: 3159

PRE AMP: ☐ LD-900 ☒ LD-828 ☐ _____
SERIAL #: 1901

CALIBRATOR: CAL 200 ☐ LD CA250 ☐ B&K 4231
S/N 3091
Freq, Hz. ☐ 250 ☒ 1000 ☐ _____

CALIBRATION RECORD: Input, dB / Reading, dB / Offset, dB / Time
Before 114 / 114 / 8.7 / 12:07
After 114 / 113.9 / 8.7 / 13:25

METER SETTINGS: ☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS 20 - MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

NOTES:
SYSTEM PWR: ☒ BAT ☐ AC
(observations at start of measurement)
TEMP: 75 °F R.H.: 50 %
WIND SPEED: 3.5 MPH
TOWARD (DIR): North
SKIES: Clear
CAMERA _____
PHOTO NOs. _____

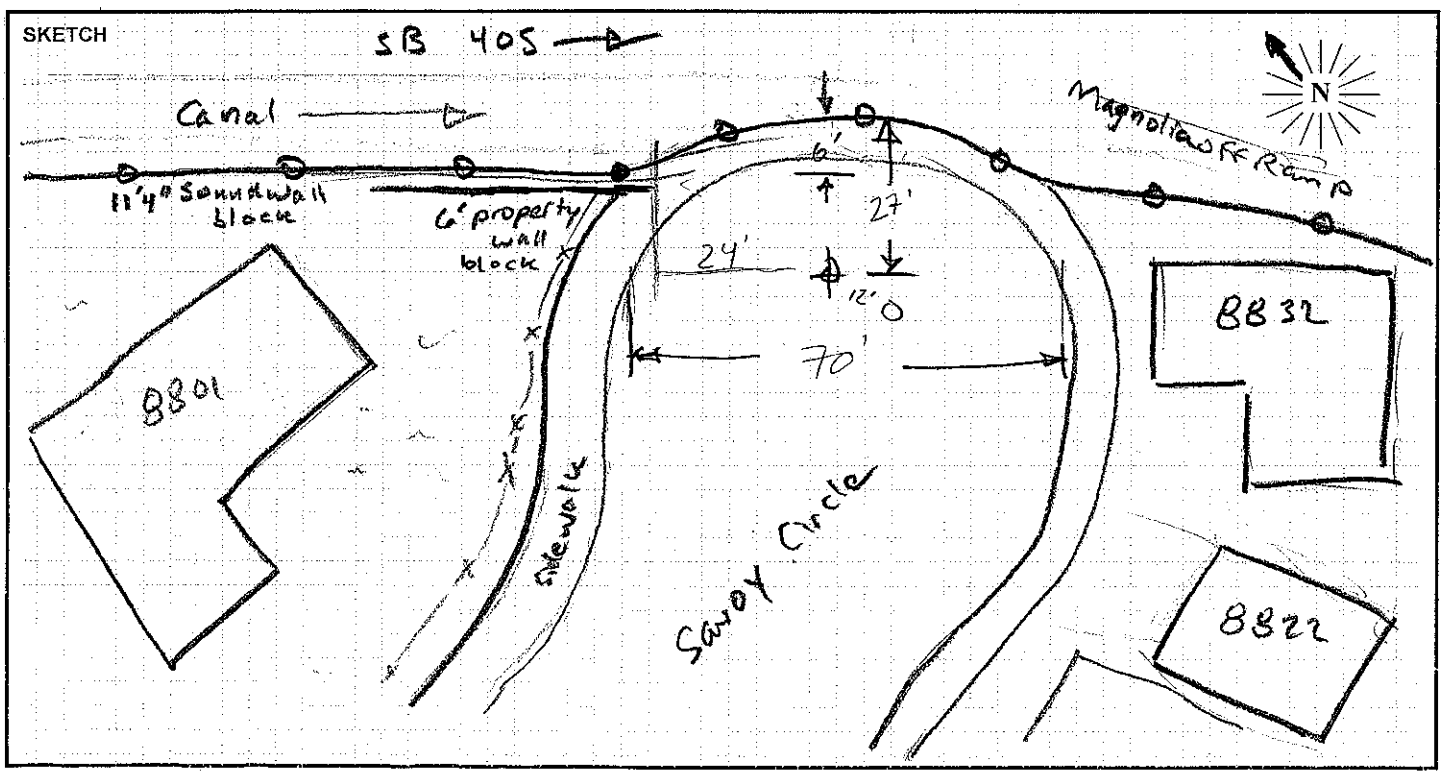
NOTES: Traffic speeds SB / NB
Beach 60 – 65 / 65
Magnolia 60 / 65

Dist. to Center of Nearest Lane _____ ☐ Video ☐ Radar Counts AT MT HT

MEAS. TYPE: ☐ Long Term ☒ Short Term

DATE	START TIME	STOP TIME	L_{MIN}	L_{99}	L_{90}	L_{50}	L_{25}	L_{10}	L_{01}	L_{MAX}	L_{EQ}	NOTES:
8/31	12:47	13:07	57.3	59.6		63.7		65.5	67.5	71.4	63.9	Loud motorcycle

SKETCH



PARSONS

Appendix E Noise Measurement Site Photographs

LONG TERM MEASUREMENT SITE LT1

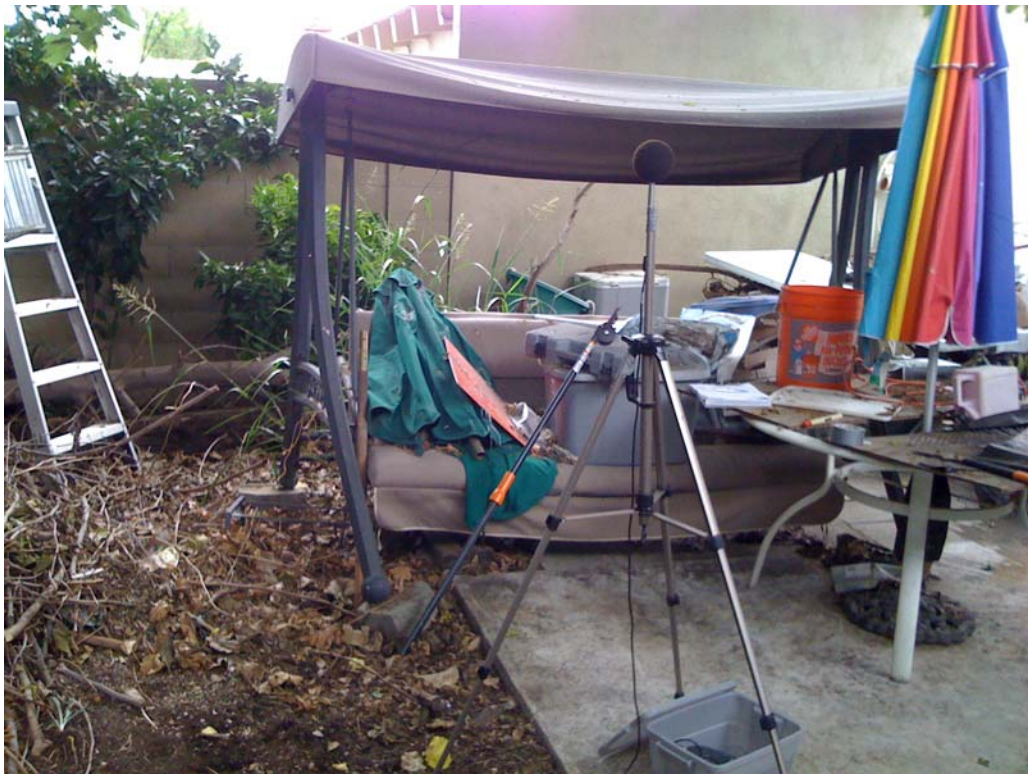
LONG TERM MEASUREMENT SITE LT1A

LONG TERM MEASUREMENT SITE LT1B

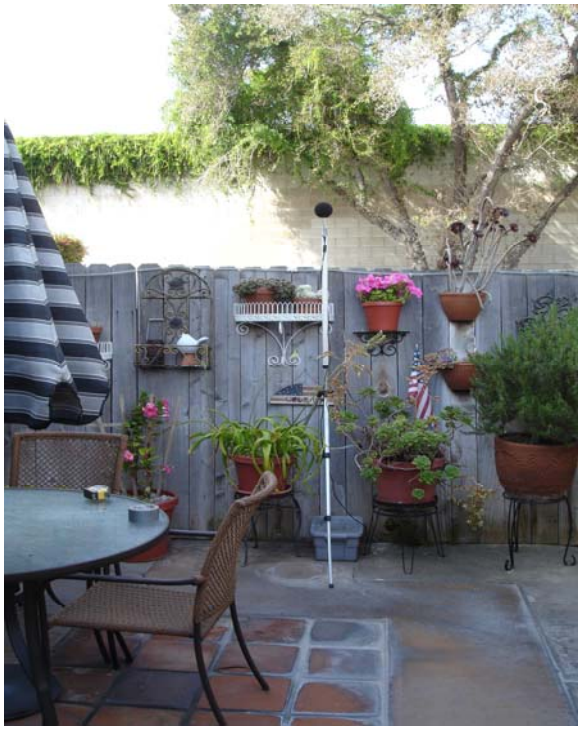
LONG TERM MEASUREMENT SITE LT2

LONG TERM MEASUREMENT SITE LT3

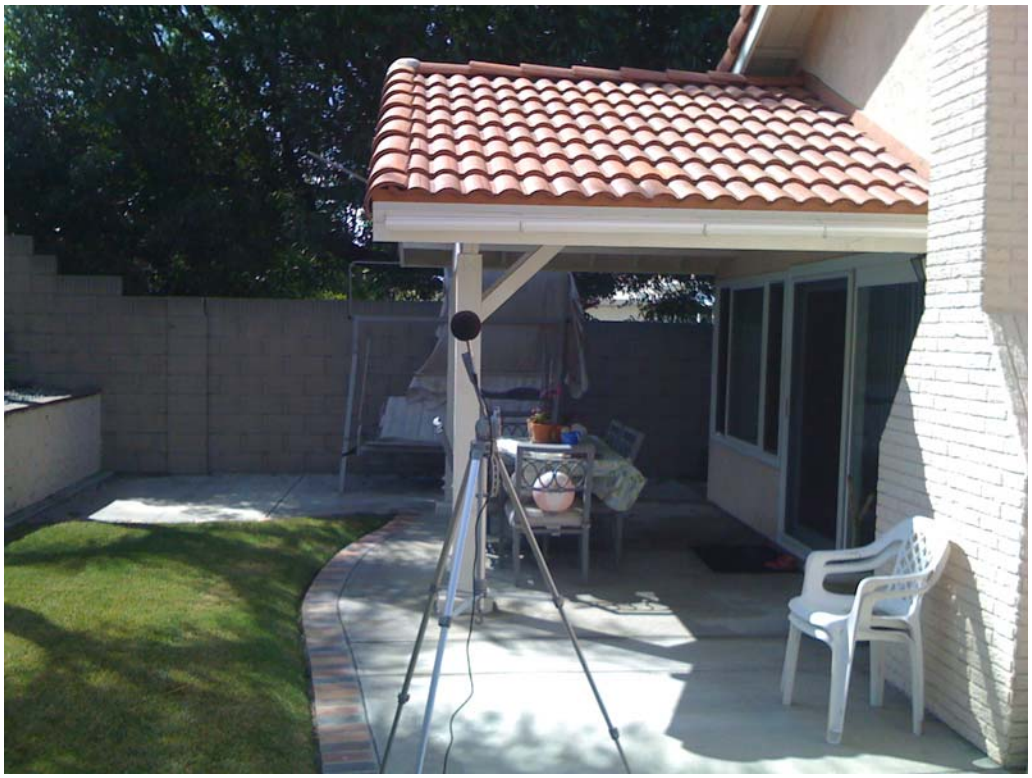
LONG TERM MEASUREMENT SITE LT4



LONG TERM MEASUREMENT SITE LT5



LONG TERM MEASUREMENT SITE LT6



LONG TERM MEASUREMENT SITE LT7

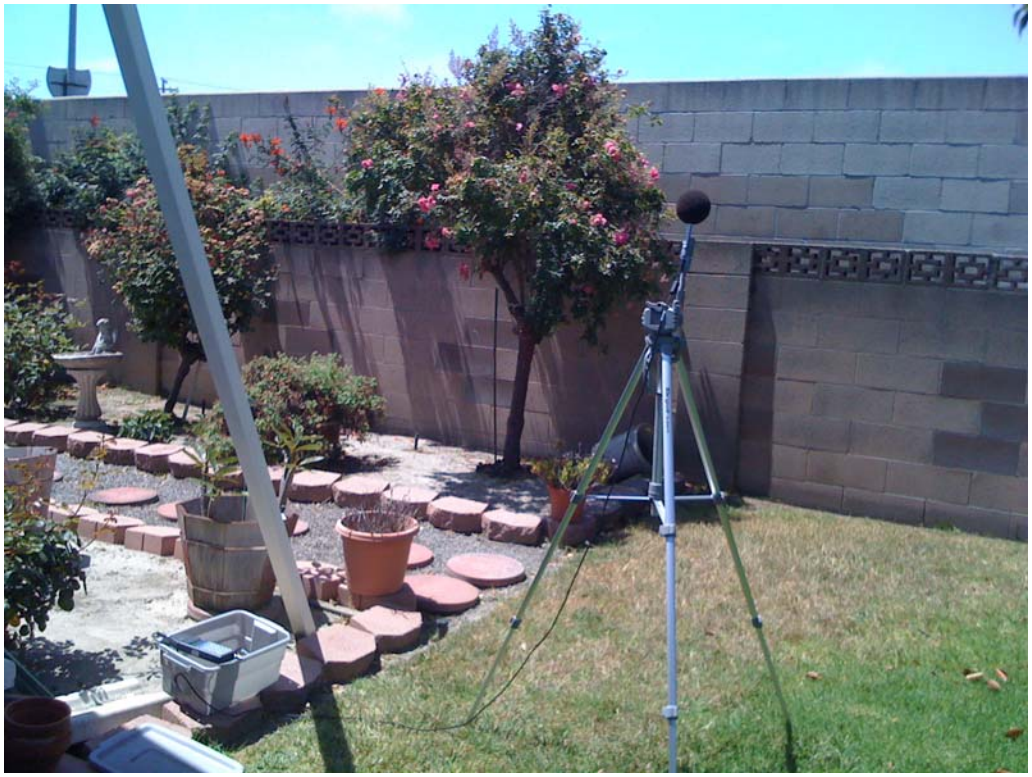
LONG TERM MEASUREMENT SITE LT8

LONG TERM MEASUREMENT SITE LT9

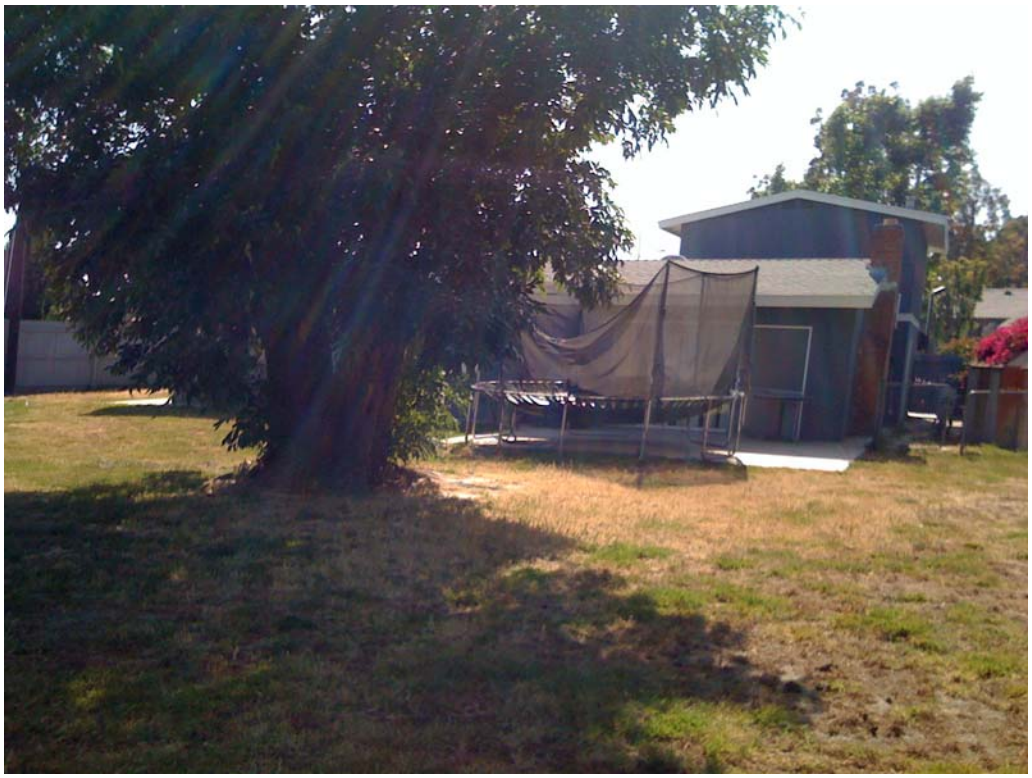
LONG TERM MEASUREMENT SITE LT10

LONG TERM MEASUREMENT SITE LT11

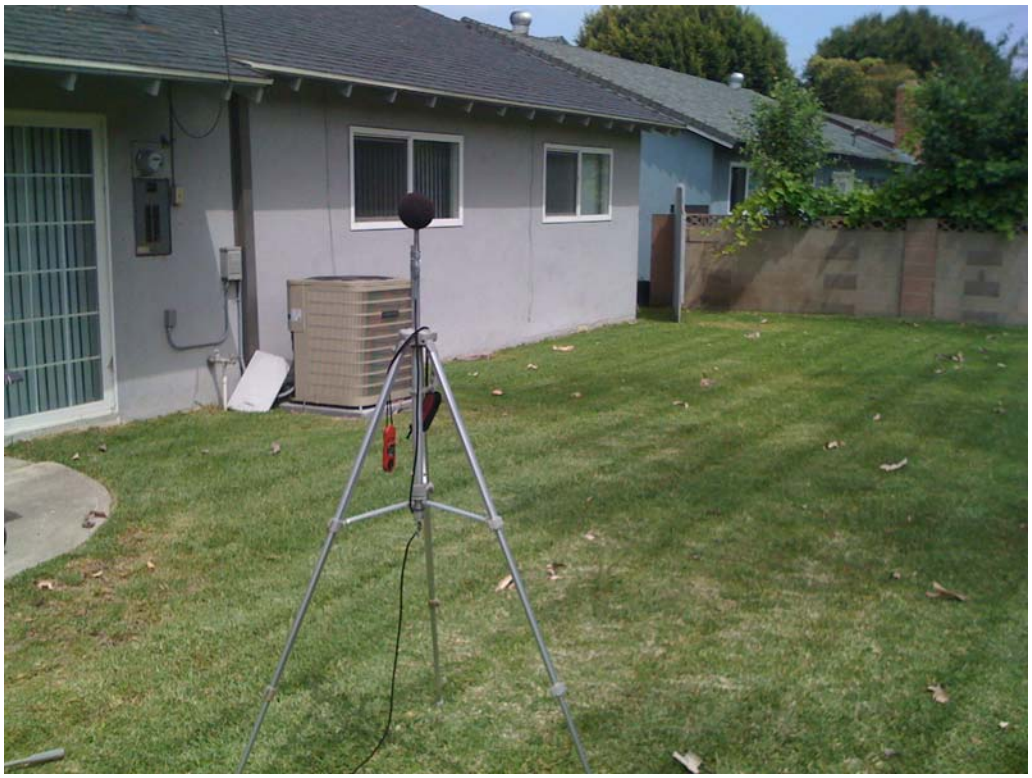
LONG TERM MEASUREMENT SITE LT12



LONG TERM MEASUREMENT SITE LT13



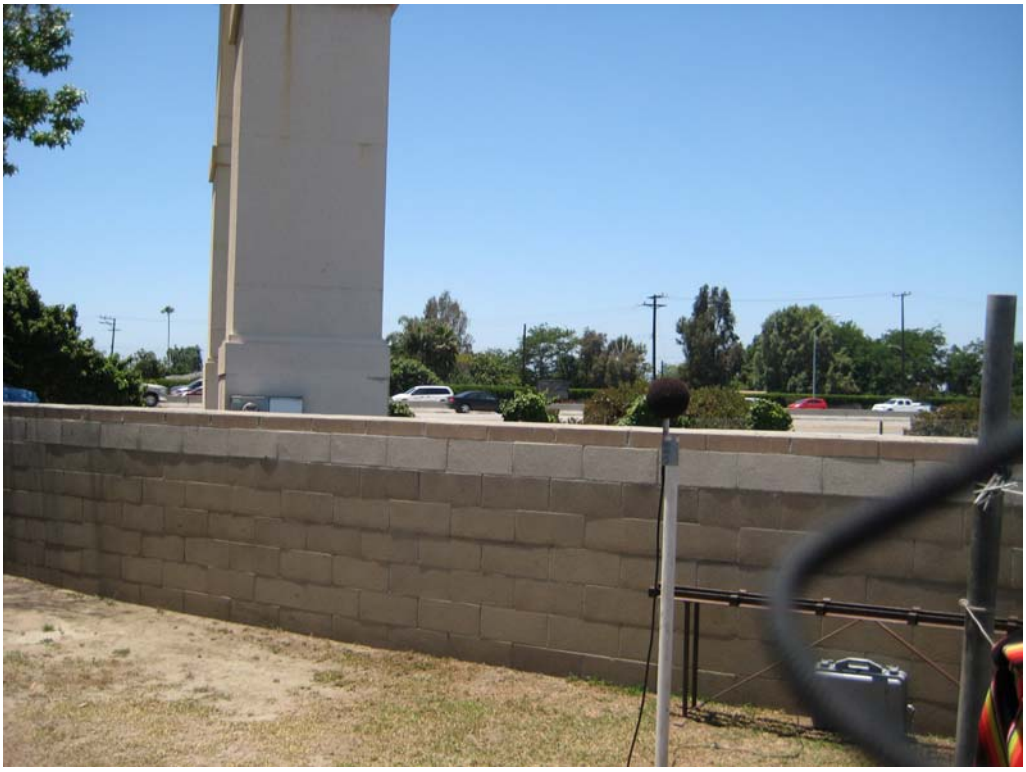
LONG TERM MEASUREMENT SITE LT14



LONG TERM MEASUREMENT SITE LT15

LONG TERM MEASUREMENT SITE LT16

LONG TERM MEASUREMENT SITE LT17



LONG TERM MEASUREMENT SITE LT18

LONG TERM MEASUREMENT SITE LT19

LONG TERM MEASUREMENT SITE LT20

LONG TERM MEASUREMENT SITE LT20A

LONG TERM MEASUREMENT SITE LT20B

LONG TERM MEASUREMENT SITE LT21

LONG TERM MEASUREMENT SITE LT22

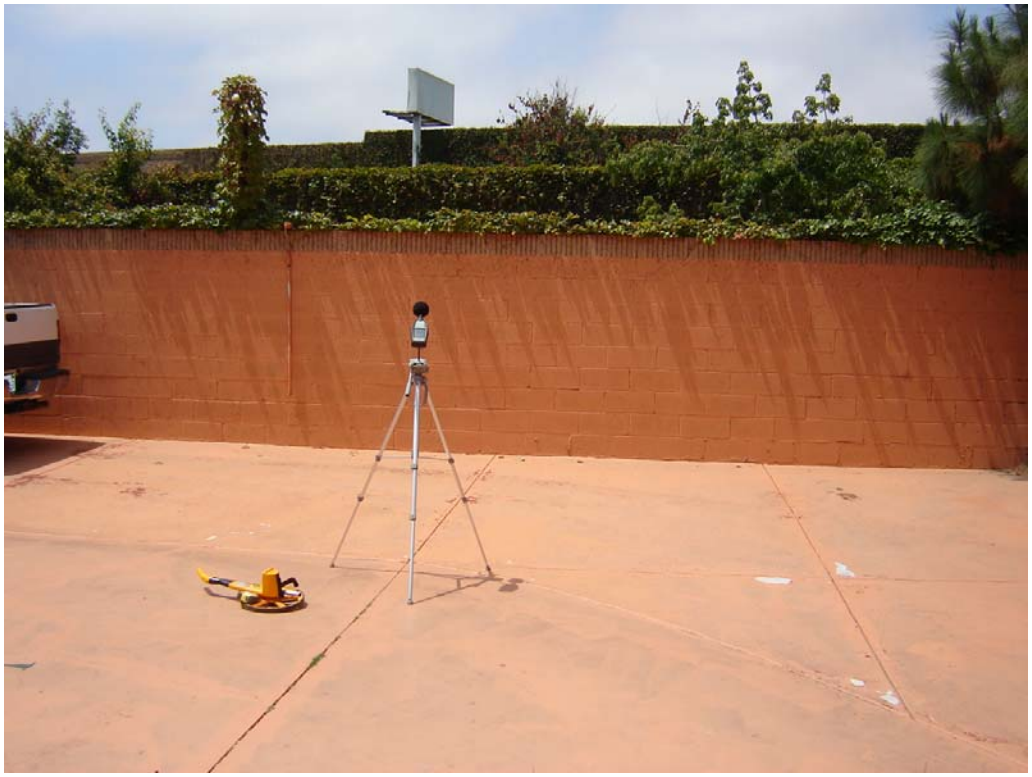
LONG TERM MEASUREMENT SITE LT23

LONG TERM MEASUREMENT SITE LT24

LONG TERM MEASUREMENT SITE LT25

LONG TERM MEASUREMENT SITE LT26

SHORT TERM MEASUREMENT SITE ST1



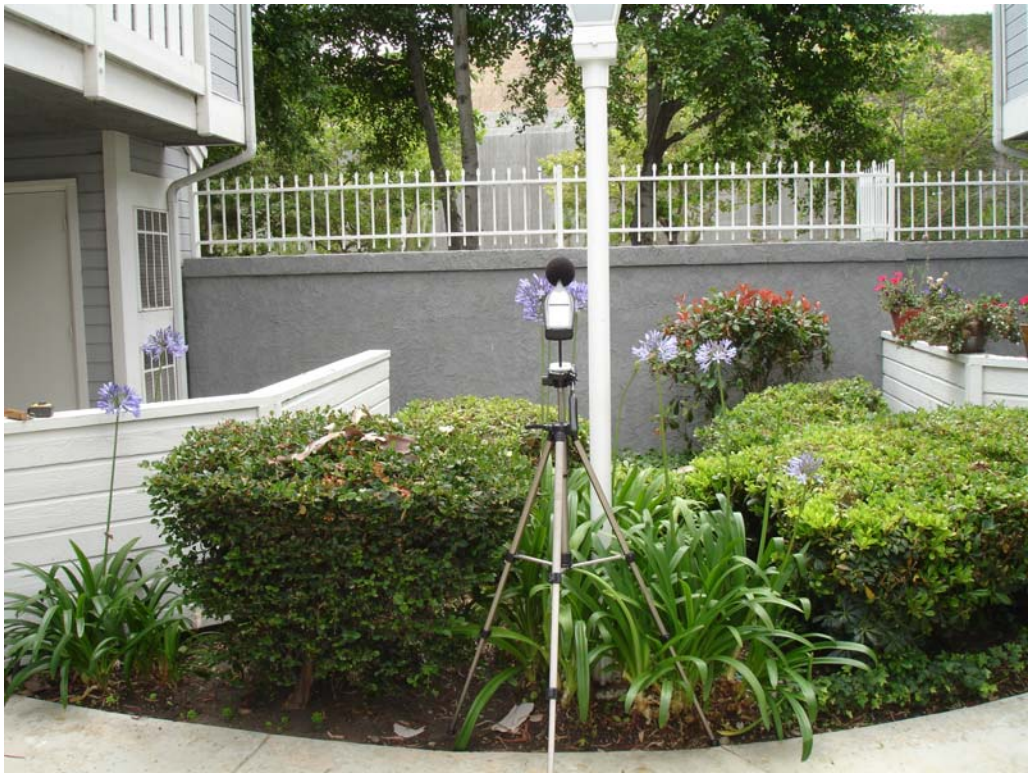
SHORT TERM MEASUREMENT SITE ST1A

SHORT TERM MEASUREMENT SITE ST1B

SHORT TERM MEASUREMENT SITE ST1C

SHORT TERM MEASUREMENT SITE ST2

SHORT TERM MEASUREMENT SITE ST2A



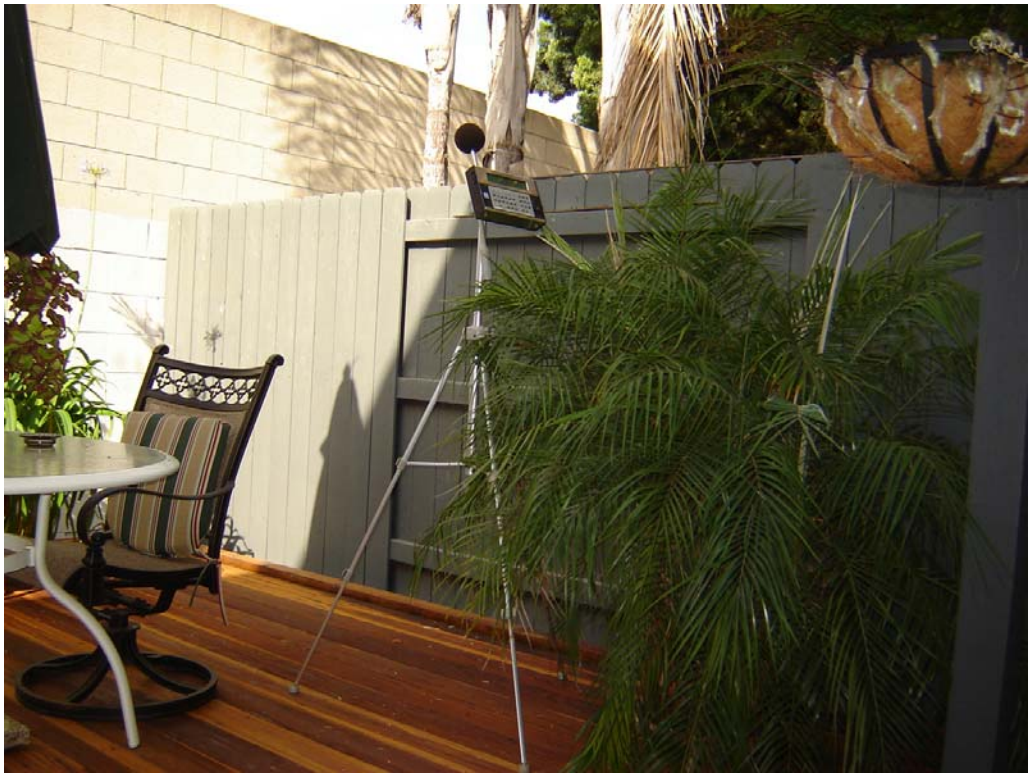
SHORT TERM MEASUREMENT SITE ST3

SHORT TERM MEASUREMENT SITE ST4

SHORT TERM MEASUREMENT SITE ST5

SHORT TERM MEASUREMENT SITE ST6

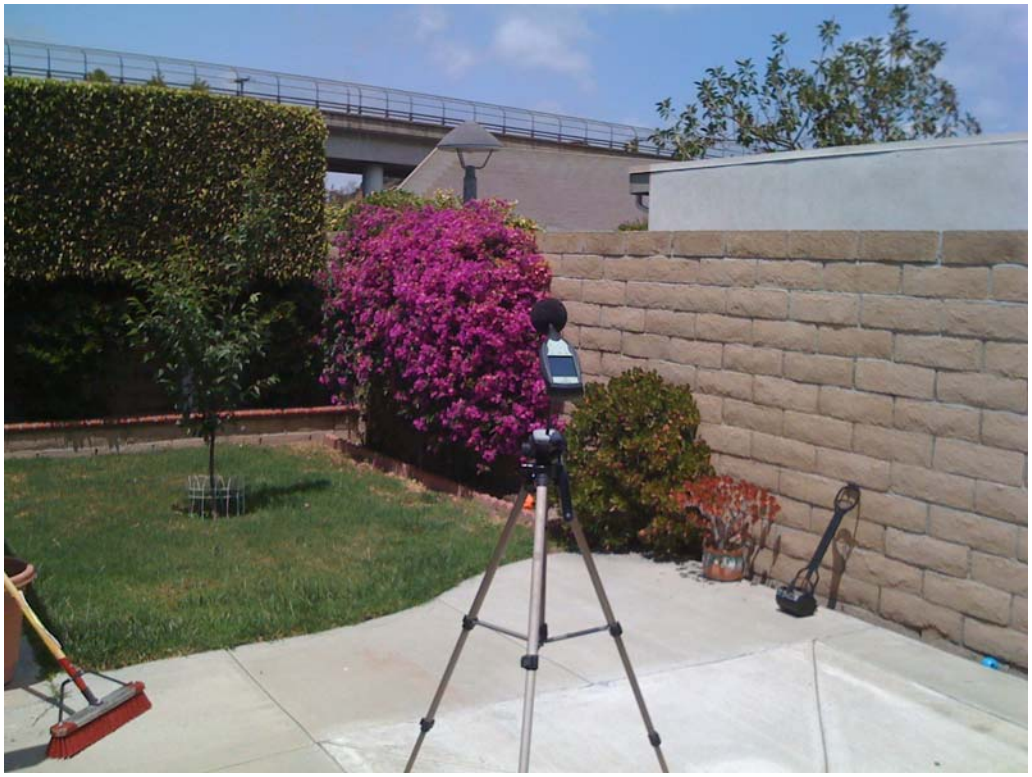
SHORT TERM MEASUREMENT SITE ST7



SHORT TERM MEASUREMENT SITE ST8

SHORT TERM MEASUREMENT SITE ST9

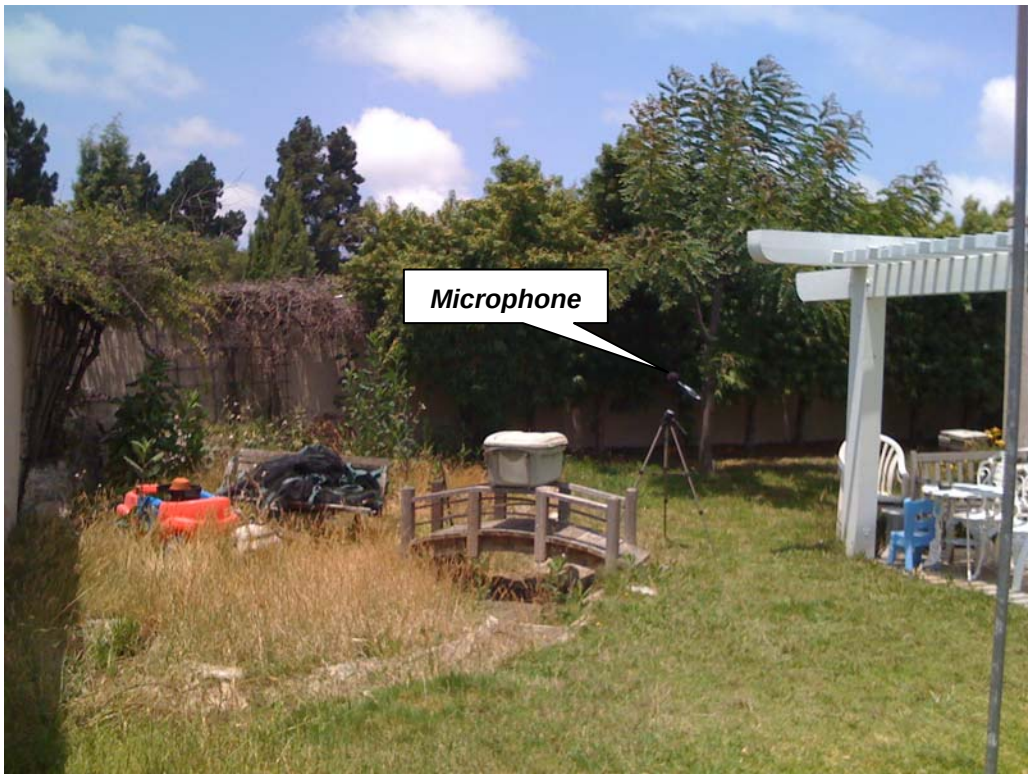
SHORT TERM MEASUREMENT SITE ST10



SHORT TERM MEASUREMENT SITE ST11

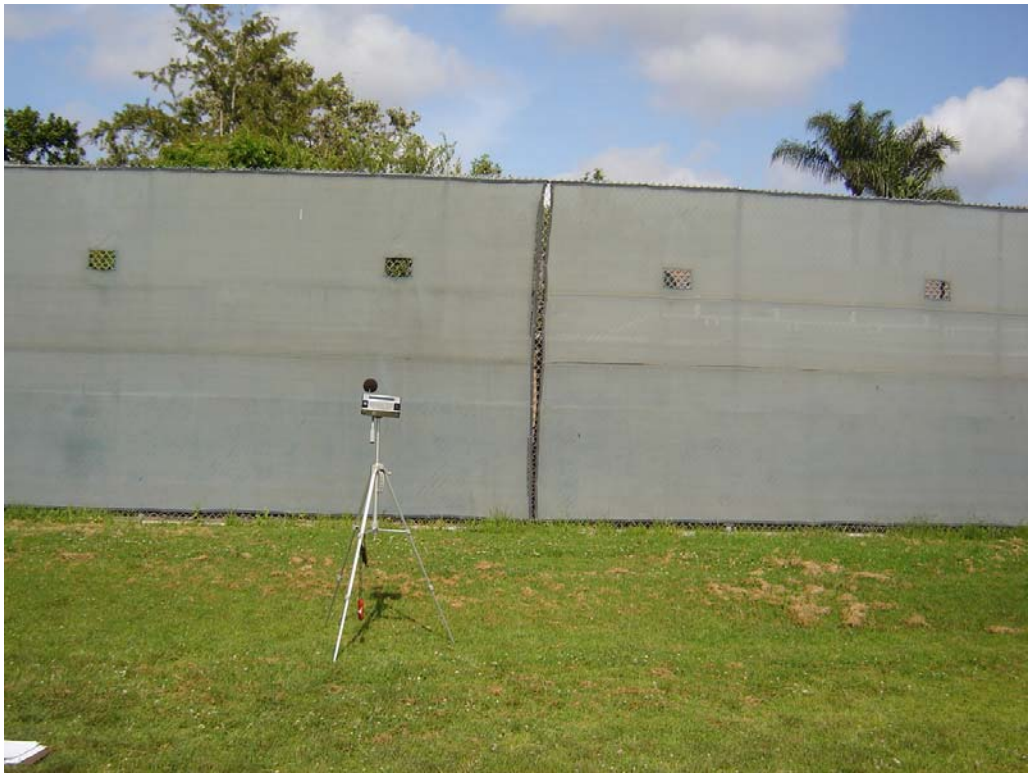
SHORT TERM MEASUREMENT SITE ST12

SHORT TERM MEASUREMENT SITE ST12A



SHORT TERM MEASUREMENT SITE ST13

SHORT TERM MEASUREMENT SITE ST14

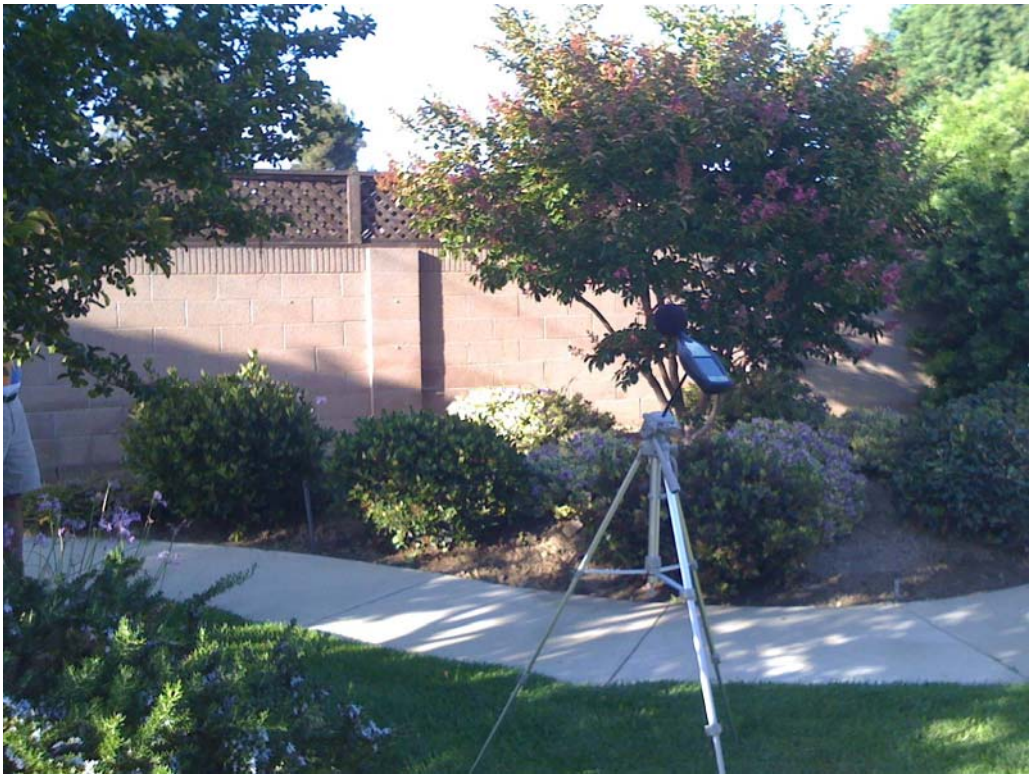


SHORT TERM MEASUREMENT SITE ST15

SHORT TERM MEASUREMENT SITE ST16

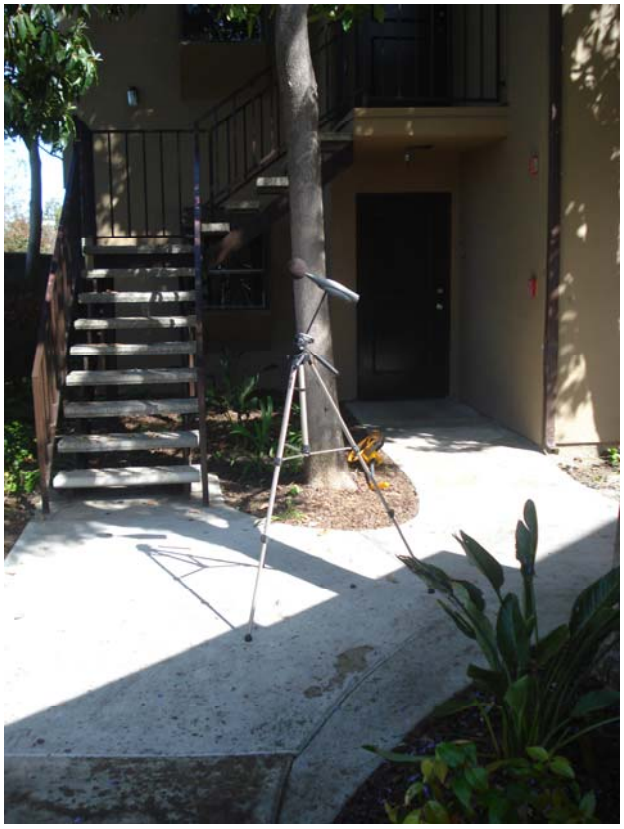
SHORT TERM MEASUREMENT SITE ST17

SHORT TERM MEASUREMENT SITE ST17A



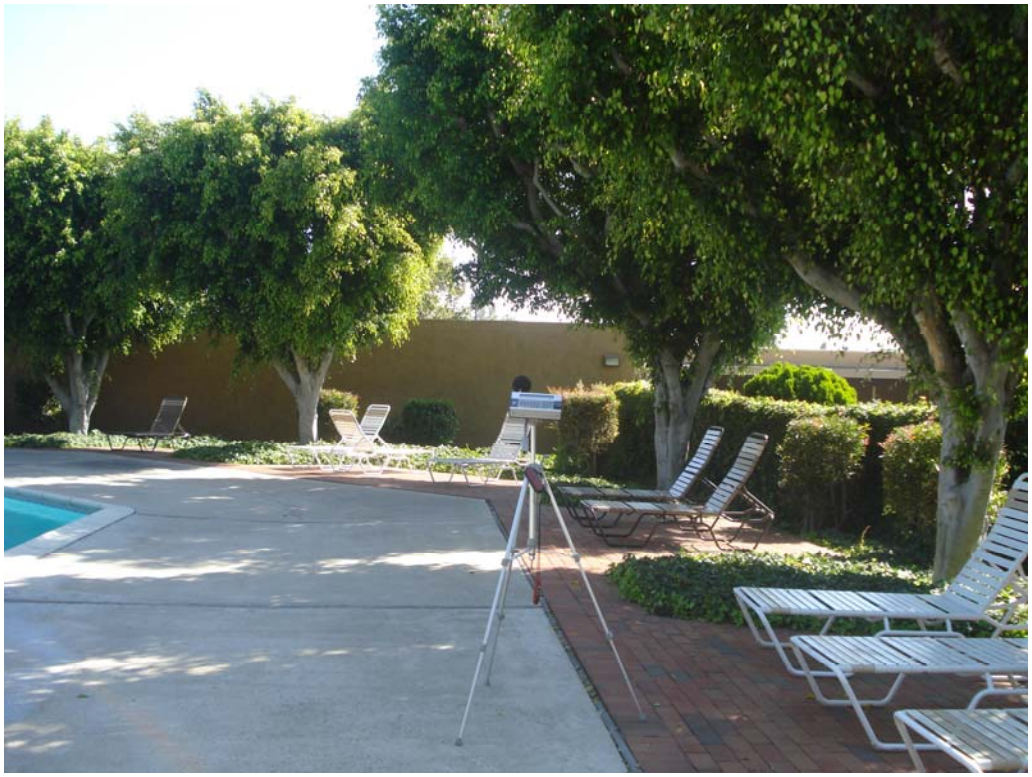
SHORT TERM MEASUREMENT SITE ST18

SHORT TERM MEASUREMENT SITE ST19



SHORT TERM MEASUREMENT SITE ST20

SHORT TERM MEASUREMENT SITE ST21



SHORT TERM MEASUREMENT SITE ST22

SHORT TERM MEASUREMENT SITE ST23

SHORT TERM MEASUREMENT SITE ST24

SHORT TERM MEASUREMENT SITE ST25

SHORT TERM MEASUREMENT SITE ST25A

SHORT TERM MEASUREMENT SITE ST26

SHORT TERM MEASUREMENT SITE ST27

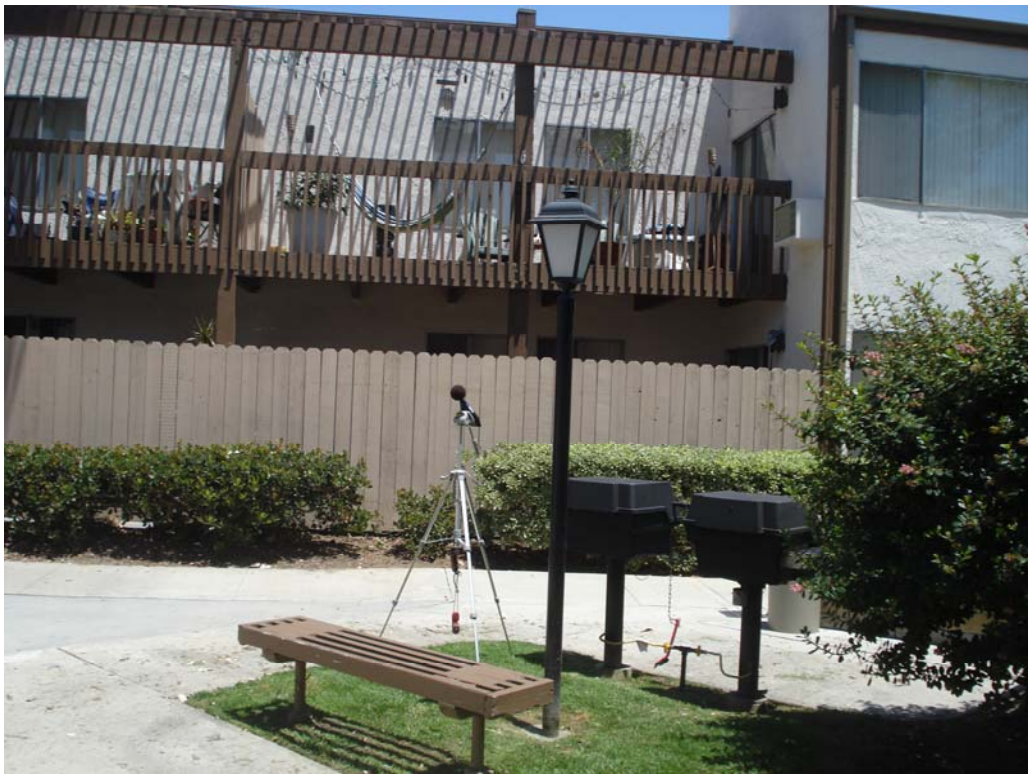
SHORT TERM MEASUREMENT SITE ST28

SHORT TERM MEASUREMENT SITE ST29

SHORT TERM MEASUREMENT SITE ST30

SHORT TERM MEASUREMENT SITE ST31

SHORT TERM MEASUREMENT SITE ST32

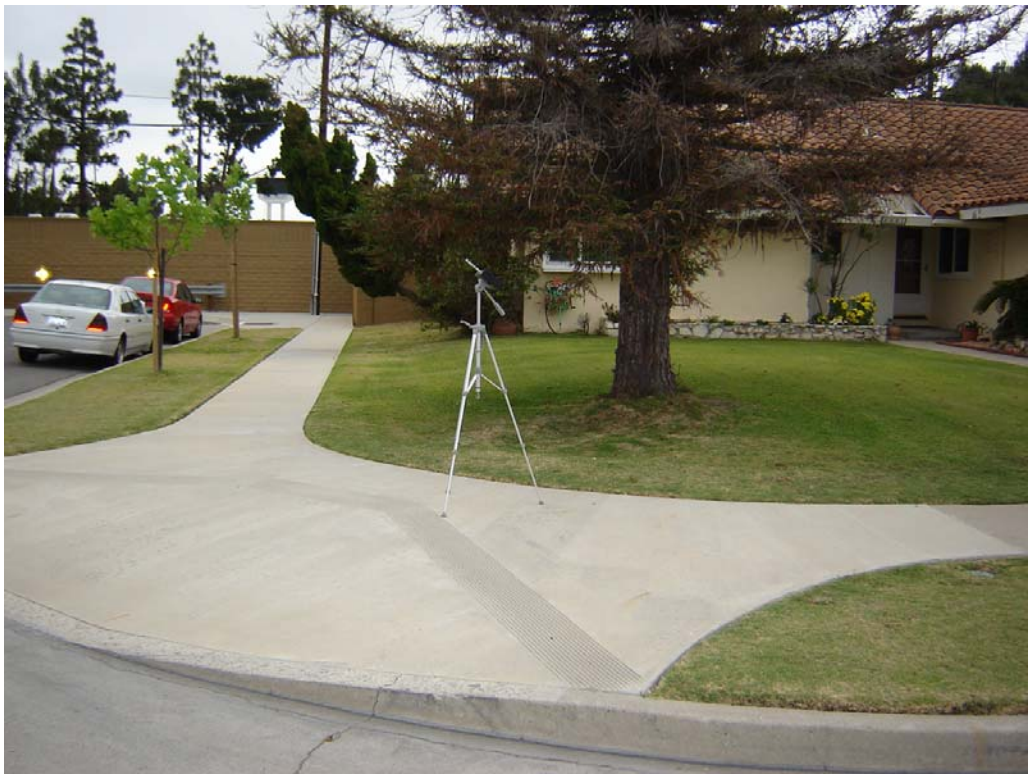


SHORT TERM MEASUREMENT SITE ST32A

SHORT TERM MEASUREMENT SITE ST33

SHORT TERM MEASUREMENT SITE ST34

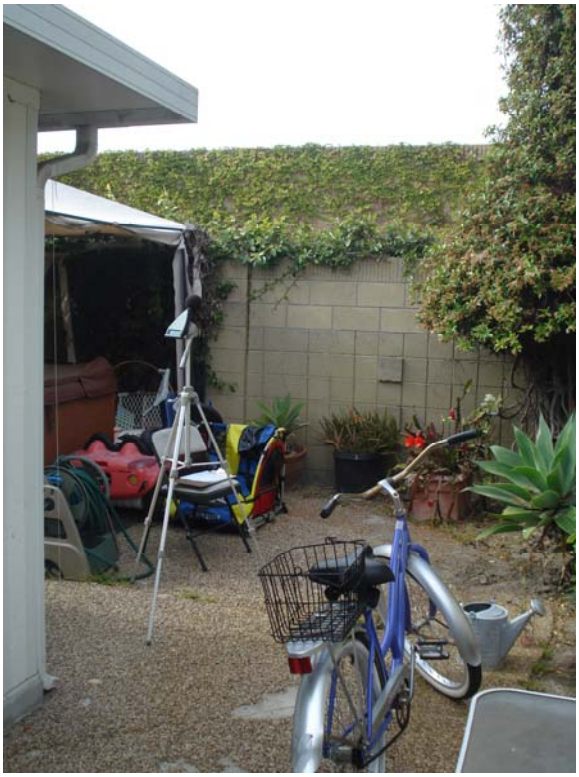
SHORT TERM MEASUREMENT SITE ST35



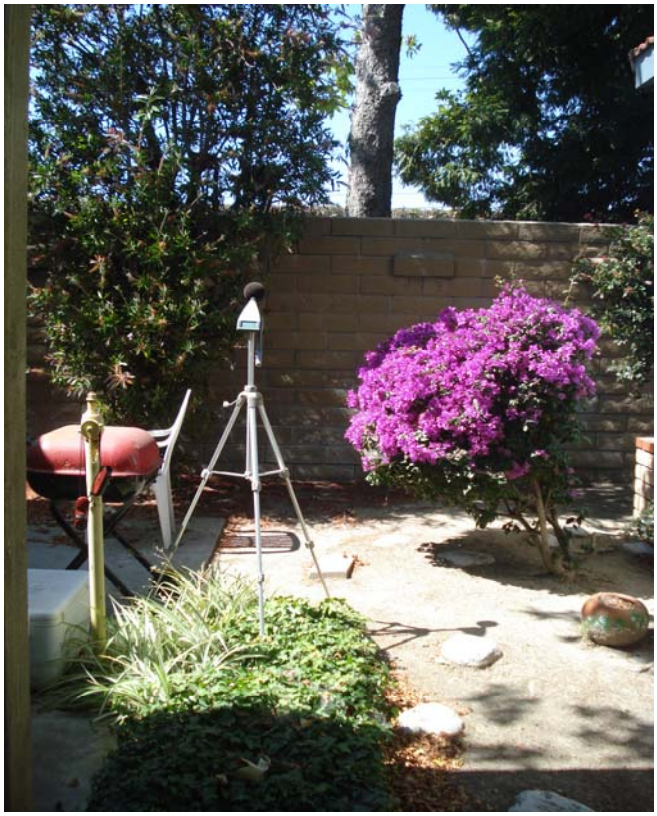
SHORT TERM MEASUREMENT SITE ST35A

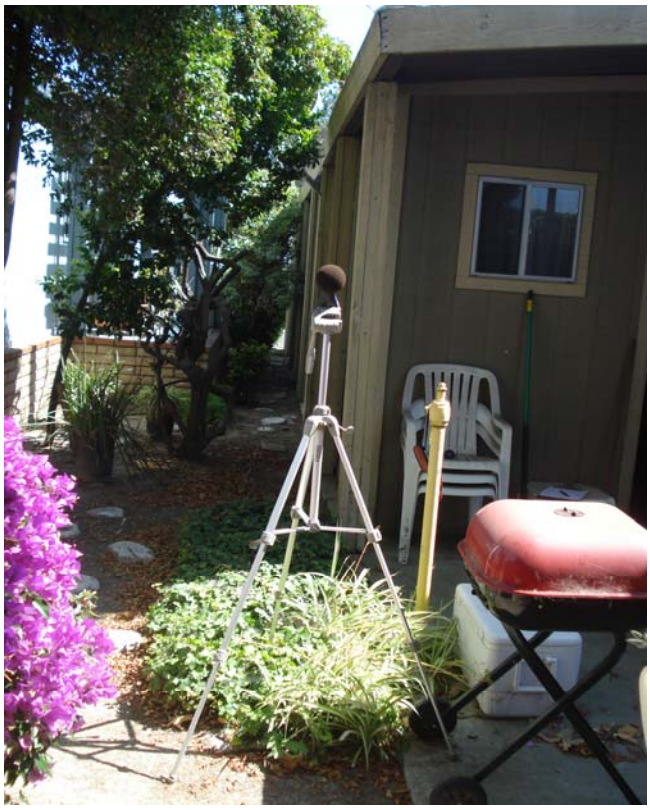
SHORT TERM MEASUREMENT SITE ST36

SHORT TERM MEASUREMENT SITE ST37



SHORT TERM MEASUREMENT SITE ST37A





SHORT TERM MEASUREMENT SITE ST37B

SHORT TERM MEASUREMENT SITE ST38

SHORT TERM MEASUREMENT SITE ST39

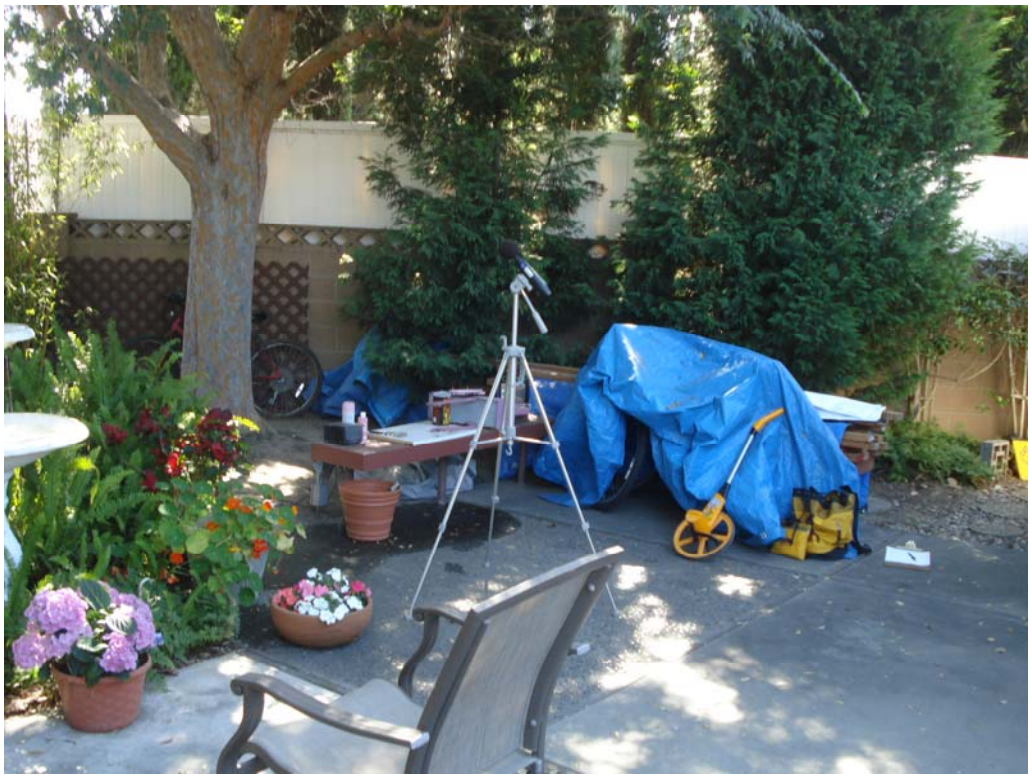
SHORT TERM MEASUREMENT SITE ST40

SHORT TERM MEASUREMENT SITE ST41

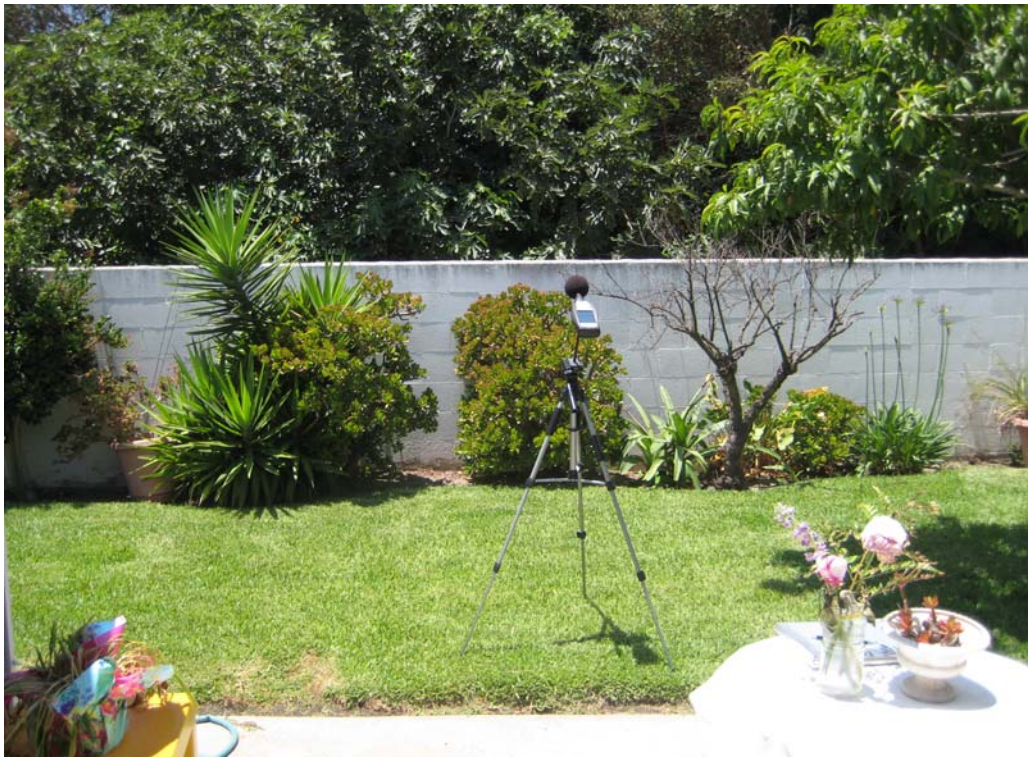
SHORT TERM MEASUREMENT SITE ST41A

SHORT TERM MEASUREMENT SITE ST42

SHORT TERM MEASUREMENT SITE ST43



SHORT TERM MEASUREMENT SITE ST44



SHORT TERM MEASUREMENT SITE ST45

SHORT TERM MEASUREMENT SITE ST46

SHORT TERM MEASUREMENT SITE CAL18

Appendix F Sound Level Meter Calibration Records

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-128396

Instrument Model 812, Serial Number 0638, was calibrated on 07APR2010. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 07APR2010
Calibration due: 07APR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	24MAR2011	2010-127832

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 22 ° Centigrade

Relative Humidity: 26 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.
Tested with in-house PRM828

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2008-109828

Instrument Model 812, Serial Number 0639, was calibrated on 20AUG2008. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 20AUG2008
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	01APR2009	2008-105087

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 24 ° Centigrade

Relative Humidity: 29 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.
Tested with 828-1891

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-128397

Instrument Model 812, Serial Number 0659, was calibrated on 07APR2010. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 07APR2010
Calibration due: 07APR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	24MAR2011	2010-127832

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 22 ° Centigrade

Relative Humidity: 26 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.
Tested with in-house PRM828

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2009-119760

Instrument Model 820, Serial Number 1177, was calibrated on 02JUL2009. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 02JUL2009
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	25MAR2010	2009-116756

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 37 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.
Tested with 828-1629

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2009-118865

Instrument Model 870, Serial Number 0128, was calibrated on 02JUN2009. The instrument meets factory specifications per Procedure D0001.8051, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 02JUN2009
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	900B	1456123	12 Months	08JUL2009	2007-93864
Larson Davis	LDSigGn/2209	0617 / 0104	12 Months	16JAN2010	2009-114793

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 24 ° Centigrade

Relative Humidity: 36 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"As received" data is the same as shipped data.

Signed: _____
Technician: Sean Childs

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2009-117293

Instrument Model 870, Serial Number 0344, was calibrated on 10APR2009. The instrument meets factory specifications per Procedure D0001.8051, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 10APR2009
Calibration due: 10APR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	900B	3454	12 Months	01OCT2009	2008-111298
Larson Davis	LDSigGn/2209	0445 / 0111	12 Months	13NOV2009	2008-112722

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 22 ° Centigrade

Relative Humidity: 34 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

Signed: Eric Olson

Technician: Eric Olson

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

CERTIFICATE OF CALIBRATION
17684-1
FOR BRÜEL & KJÆR INTEGRATING SOUND LEVEL METER

Model **2238**

Serial No. **2540082**
ID No. **N/A**

With Microphone Model **4188**
Serial No. **2539490**

Customer: **Parsons Engineering Science Inc**
Pasadena, CA 91124

P.O. # **Verbal**

was tested and met factory specifications at the points tested according to the Referenced Test Procedure

on **07 SEP 2010** **BY** **HAROLD LYNCH**
Service Manager

As received condition: Within Specification.
Re-calibration due on: **07 SEP 2011**

Certified References*

Mfg.	Type	Serial No.	Date Due
B&K	2636	1423390	05 JAN 2011
B&K	1049	1464545	09 JUN 2011
HP	34401	3146A48348	01 JUL 2011
HP	3458A	2823A07179	30 JUN 2011
B&K	4226	1774068	16 MAR 2011

Performed in Compliance with ANSI, NCSL Z-540-1, 1994
and ISO 17025, ISO 9001:2008 Certification NQA No. 11252
*References are traceable to NIST (National Institute of Standards and Technology).

Note: For calibration data see enclosed pages.
The data represent both "as found" and "as left" condition.

Reference Test Procedure: **ACCT Procedure 2238 Ver. 1.2**

Brüel & Kjær Factory Service Instructions: **2238** Rev. Apr. 1985

Temperature	Relative Humidity	Barometric Pressure
23 °C	**35%**	**984.19** hPa

Note: This calibration report shall not be reproduced, except in full, without written consent by Odin Metrology, Inc..

Signed:

ODIN METROLOGY, INC.

CALIBRATION OF BRÜEL & KJÆR INSTRUMENTS
3533 OLD CONEJO ROAD; SUITE 125 THOUSAND OAKS CA 91320
PHONE: (805) 375-0830 FAX: (805) 375-0405

OB. NR	LOC.

MANUFACTURER'S CERTIFICATE OF CONFORMANCE

We certify that Brüel & Kjær -2250--- Serial No 2676029 has been tested and passed all production tests, confirming compliance with the manufacturer's published specification at the date of the test.

The final test has been performed using calibrated equipment, traceable to National or International Standards or by ratio measurements.

Brüel & Kjær is certified under ISO 9001:2000 assuring that all calibration data for test equipment are retained on file and are available for inspection upon request.

Nærum 13-feb-2009

Torben Bjørn
Vice President
Operations

Please note that this document is not a calibration certificate, for information on our calibration services please contact your nearest Brüel & Kjær Service Center.

BA0238-15

WORLD HEADQUARTERS: DK-2850 Nærum · Denmark
Telephone: +45 45 80 05 00 · Fax: +45 45 80 14 05 · http://www.bksv.com · e-mail: info@bksv.dk

Brüel & Kjær

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-127315

Microphone Model 2560, Serial Number 3155, was calibrated on 08MAR2010. The microphone meets factory specifications per Test Procedure D0001.8167.

Instrument found to be in calibration as received: YES
Date Calibrated: 08MAR2010
Calibration due: 08MAR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900	0575	12 Months	24JUN2010	2009-119575
Larson Davis	CAL250	42630	12 Months	21JUL2010	2009-120364
Larson Davis	PRM915	0102	12 Months	20AUG2010	2009-121224
Larson Davis	PRM902	0206	12 Months	20AUG2010	2009-121219
Larson Davis	2559	3034LF	12 Months	21AUG2010	2009-121293
Larson Davis	2559	2506	12 Months	03SEP2010	16868-1
Larson Davis	PRM902	0529	12 Months	08SEP2010	2009-121767
Larson Davis	PRM902	0528	12 Months	08SEP2010	2009-121766
Larson Davis	MTS1000 / 2201	1000 / 0100	12 Months	09SEP2010	SM090909-3
Hewlett Packard	34401A	3146A62099	12 Months	03NOV2010	4548881
Larson Davis	PRM916	0102	12 Months	17DEC2010	2009-125069

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data is the same as shipped data.

Signed: Abraham Ortega
Technician: Abraham Ortega

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-127316

Microphone Model 2560, Serial Number 3159, was calibrated on 08MAR2010. The microphone meets factory specifications per Test Procedure D0001.8167.

Instrument found to be in calibration as received: YES
Date Calibrated: 08MAR2010
Calibration due: 08MAR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900	0575	12 Months	24JUN2010	2009-119575
Larson Davis	CAL250	42630	12 Months	21JUL2010	2009-120364
Larson Davis	PRM915	0102	12 Months	20AUG2010	2009-121224
Larson Davis	PRM902	0206	12 Months	20AUG2010	2009-121219
Larson Davis	2559	3034LF	12 Months	21AUG2010	2009-121293
Larson Davis	2559	2506	12 Months	03SEP2010	16868-1
Larson Davis	PRM902	0529	12 Months	08SEP2010	2009-121767
Larson Davis	PRM902	0528	12 Months	08SEP2010	2009-121766
Larson Davis	MTS1000 / 2201	1000 / 0100	12 Months	09SEP2010	SM090909-3
Hewlett Packard	34401A	3146A62099	12 Months	03NOV2010	4548881
Larson Davis	PRM916	0102	12 Months	17DEC2010	2009-125069

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data is the same as shipped data.

Signed: Abraham Ortega
Technician: Abraham Ortega

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
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ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-127317

Microphone Model 2560, Serial Number 3378, was calibrated on 08MAR2010. The microphone meets factory specifications per Test Procedure D0001.8167.

Instrument found to be in calibration as received: YES
Date Calibrated: 08MAR2010
Calibration due: 08MAR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900	0575	12 Months	24JUN2010	2009-119575
Larson Davis	CAL250	42630	12 Months	21JUL2010	2009-120364
Larson Davis	PRM915	0102	12 Months	20AUG2010	2009-121224
Larson Davis	PRM902	0206	12 Months	20AUG2010	2009-121219
Larson Davis	2559	3034LF	12 Months	21AUG2010	2009-121293
Larson Davis	2559	2506	12 Months	03SEP2010	16868-1
Larson Davis	PRM902	0529	12 Months	08SEP2010	2009-121767
Larson Davis	PRM902	0528	12 Months	08SEP2010	2009-121766
Larson Davis	MTS1000 / 2201	1000 / 0100	12 Months	09SEP2010	SM090909-3
Hewlett Packard	34401A	3146A62099	12 Months	03NOV2010	4548881
Larson Davis	PRM916	0102	12 Months	17DEC2010	2009-125069

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

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Signed: Abraham Ortega
Technician: Abraham Ortega

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ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2009-117125

Microphone Model 2559, Serial Number 1785, was calibrated on 07APR2009. The microphone meets factory specifications per Test Procedure D0001.8167.

Instrument found to be in calibration as received: YES
Date Calibrated: 07APR2009
Calibration due: 07APR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900	0575	12 Months	24JUN2009	2008-107987
Larson Davis	CAL250	42630	12 Months	22JUL2009	2008-108777
Larson Davis	PRM915	0102	12 Months	27AUG2009	2008-110054
Larson Davis	PRM916	0102	12 Months	27AUG2009	2008-110064
Larson Davis	2559	3034LF	12 Months	27AUG2009	2008-110171
Larson Davis	2559	2504	12 Months	04SEP2009	16047-1
Larson Davis	PRM902	0529	12 Months	08SEP2009	2008-110458
Larson Davis	PRM902	0528	12 Months	08SEP2009	2008-11457
Larson Davis	MTS1000 / 2201	1000 / 0100	12 Months	10SEP2009	2008-SM908
Larson Davis	PRM902	0206	12 Months	09NOV2009	2008-110047
Hewlett Packard	34401A	3146A62099	12 Months	13NOV2009	4140196

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data is the same as shipped data.

Signed: Abraham Ortega
Technician: Abraham Ortega

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Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
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A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-127313

Microphone Model 2559, Serial Number 2029, was calibrated on 08MAR2010. The microphone meets factory specifications per Test Procedure D0001.8167.

Instrument found to be in calibration as received: YES
Date Calibrated: 08MAR2010
Calibration due: 08MAR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900	0575	12 Months	24JUN2010	2009-119575
Larson Davis	CAL250	42630	12 Months	21JUL2010	2009-120364
Larson Davis	PRM915	0102	12 Months	20AUG2010	2009-121224
Larson Davis	PRM902	0206	12 Months	20AUG2010	2009-121219
Larson Davis	2559	3034LF	12 Months	21AUG2010	2009-121293
Larson Davis	2559	2506	12 Months	03SEP2010	16868-1
Larson Davis	PRM902	0529	12 Months	08SEP2010	2009-121767
Larson Davis	PRM902	0528	12 Months	08SEP2010	2009-121766
Larson Davis	MTS1000 / 2201	1000 / 0100	12 Months	09SEP2010	SM090909-3
Hewlett Packard	34401A	3146A62099	12 Months	03NOV2010	4548881
Larson Davis	PRM916	0102	12 Months	17DEC2010	2009-125069

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

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"AS RECEIVED" data is the same as shipped data.

Signed: Abraham Ortega
Technician: Abraham Ortega

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
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PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration

Certificate Number 2009-119812

Microphone Model GRAS 40AQ, Serial Number 16967, was calibrated on 06JUL2009. The microphone meets original equipment manufacturer's published specifications.

Instrument found to be in calibration as received: YES
Date Calibrated: 06JUL2009
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	CAL250	42630	12 Months	22JUL2009	2008-108777
Larson Davis	PRM915	0102	12 Months	27AUG2009	2008-110054
Larson Davis	PRM916	0102	12 Months	27AUG2009	2008-110064
Larson Davis	2559	2504	12 Months	04SEP2009	16047-1
Larson Davis	MTS1000 / 2201	1000 / 0100	12 Months	10SEP2009	2008-SM908
Larson Davis	PRM902	0206	12 Months	09NOV2009	2008-110047
Hewlett Packard	34401A	3146A62099	12 Months	13NOV2009	4140196
Larson Davis	2900	0575	12 Months	24JUN2010	2009-119575

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data is the same as shipped data.

Signed: Abraham Ortega
Technician: Abraham Ortega

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

CERTIFICATE OF CALIBRATION FOR BRÜEL & KJÆR FREE FIELD MICROPHONE

The calibration is performed by comparison with Calibration Service Standard Microphone Cartridge Type **4160** Serial No. **991821**
Calibrated by **TS** (BRÜEL & KJÆR) Date **10 AUG 2010**
Re-calibration due **31 AUG 2011**

a) Estimated uncertainty of comparison: ± **0.05** dB
b) Estimated uncertainty of Calibration Service Standard Microphone Cartridge: ± **0.04** dB
c) Absolute uncertainty: Sq. Root (a_2+b_2) = **0.064** dB
d) Expanded uncertainty w. c.F.: 2 for 95% confidence level: ± **0.13** dB

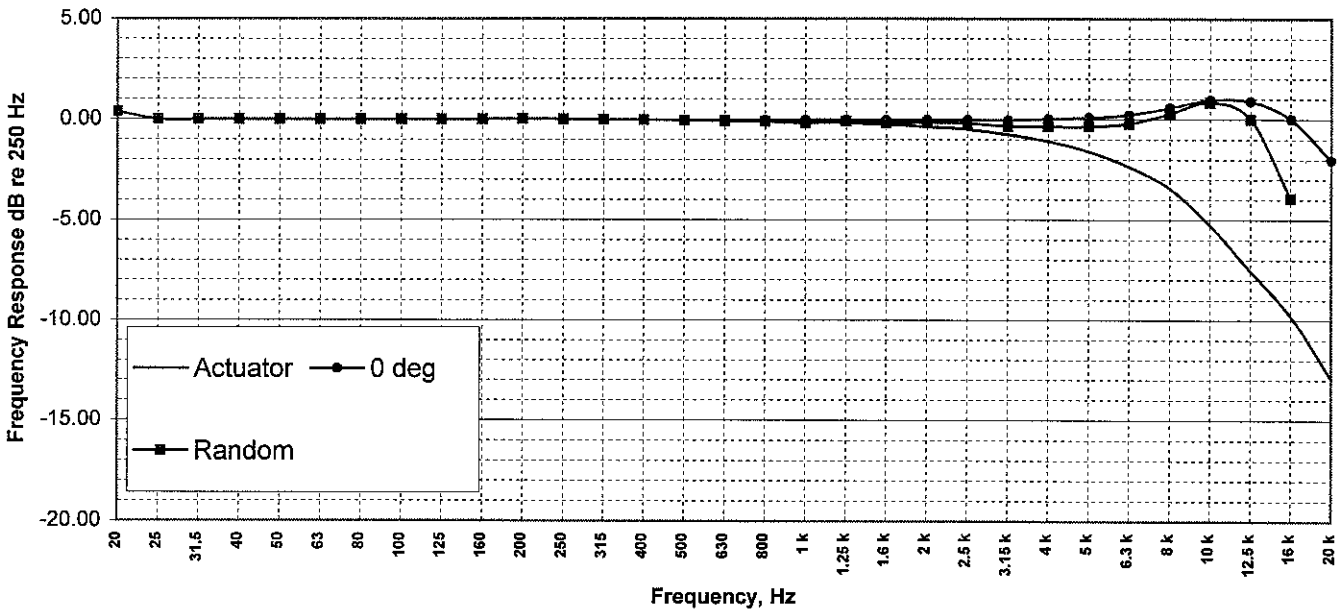
Microphone Cartridge Type	**4188**	
Serial No.	**2539490**	
ID #	**N/A**	
Open Circuit Sensitivity		
at 1013 mbar, 23$_o$ C, 50% R.H.:	**-30.66**	dB re. 1 V/Pa
Or	**29.31**	mV/Pa

This calibration is traceable to:
NIST Test **#822/277993-09, D128**

Open Circuit Correction Factor K_0 =	**4.7**	dB
Open Circuit Sensitivity S_0	**N/A**	dB

with **Sound Level Meter** : NA
Serial No.: **NA**

Microphone Frequency Response Type 4188
S/N 2539490 : Measured 07 Sep 2010



The lower curve is the pressure response recorded with Electrostatic Actuator Type UA**0033**
The Free-Field Frequency Response Curve (0o) (if shown) is obtained by applying the corrections, found on the supplied chart, to the measured actuator response curve.
The Random Incidence Frequency Response Curve (if shown) is obtained by applying the corrections, found on the supplied chart to the measured actuator response curve.

Condition of Test:

Ambient Pressure:	**984.27**	hPa
Temperature:	**23**	°C
Relative Humidity:	**45**	%
Polarization voltage:	**Zero**	V
Frequency:	**250**	Hz
Date of calibration:	**07 SEP 2010**	
Re-calibration due on:	**07 SEP 2011**	

Calibration procedure: Brüel & Kjær 9559 System
Certificate#: **17684-2** PO # **Pending**

ODIN METROLOGY, INC.
CALIBRATION OF BRÜEL & KJÆR INSTRUMENTS
3533 Old Conejo Road, Suite 125
Thousand Oaks, CA 91320
TEL. (805) 375-0830 FAX : (805) 375-0405

For: **Parsons Engineering Science Inc**
Pasadena, CA 91124

Note: The calibration data is both "AS FOUND" and "AS FINAL"
Note: At the time of calibration this microphone was performing **wthin** manufactures specifications.
Calibration performed by:
Torben Ehlert, Quality Assurance Manager

Note: This calibration shall not be reproduced, except in full, without written consent by Odin Metrology, Inc

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2009-119749

Instrument Model 828, Serial Number 1629, was calibrated on 02JUL2009. The instrument meets factory specifications per Procedure D0001.8135.

Instrument found to be in calibration as received: YES
Date Calibrated: 02JUL2009
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	MY41044529	12 Months	15JAN2010	4204375
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	25MAR2010	2009-116756

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 37 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

Signed: Ron Harris

Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-127480

Instrument Model 828, Serial Number 1891, was calibrated on 11MAR2010. The instrument meets factory specifications per Procedure D0001.8135.

Instrument found to be in calibration as received: YES
Date Calibrated: 11MAR2010
Calibration due: 11MAR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	US36015216	12 Months	06MAY2010	4342531
Larson Davis	LDSigGn/2209	0445 / 0111	12 Months	16NOV2010	2009-123995

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 22 ° Centigrade

Relative Humidity: 26 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

Signed: Eric Olson
Technician: Eric Olson

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-127481

Instrument Model 828, Serial Number 1901, was calibrated on 11MAR2010. The instrument meets factory specifications per Procedure D0001.8135.

Instrument found to be in calibration as received: YES
Date Calibrated: 11MAR2010
Calibration due: 11MAR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	US36015216	12 Months	06MAY2010	4342531
Larson Davis	LDSigGn/2209	0445 / 0111	12 Months	16NOV2010	2009-123995

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 22 ° Centigrade

Relative Humidity: 26 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

Signed: Eric Olson
Technician: Eric Olson

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-127479

Instrument Model 828, Serial Number 1938, was calibrated on 11MAR2010. The instrument meets factory specifications per Procedure D0001.8135.

Instrument found to be in calibration as received: YES
Date Calibrated: 11MAR2010
Calibration due: 11MAR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	US36015216	12 Months	06MAY2010	4342531
Larson Davis	LDSigGn/2209	0445 / 0111	12 Months	16NOV2010	2009-123995

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 22 ° Centigrade

Relative Humidity: 26 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

Signed: Eric Olson
Technician: Eric Olson

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-128400

Instrument Model 900B, Serial Number 3202, was calibrated on 07APR2010. The instrument meets factory specifications per Procedure D0001.8201.

Instrument found to be in calibration as received: YES
Date Calibrated: 07APR2010
Calibration due: 07APR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	MY41044529	12 Months	15JAN2011	4629111
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	24MAR2011	2010-127832

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)*

Calibration Environmental Conditions

Temperature: 22 ° Centigrade

Relative Humidity: 26 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

Signed: Ron Harris

Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-128398

Instrument Model 900B, Serial Number 3203, was calibrated on 07APR2010. The instrument meets factory specifications per Procedure D0001.8201.

Instrument found to be in calibration as received: YES
Date Calibrated: 07APR2010
Calibration due: 07APR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	MY41044529	12 Months	15JAN2011	4629111
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	24MAR2011	2010-127832

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)*

Calibration Environmental Conditions

Temperature: 22 ° Centigrade

Relative Humidity: 26 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2009-117379

Instrument Model CAL250, Serial Number 2479, was calibrated on 16APR2009. The instrument meets factory specifications per Procedure D0001.8192.

Instrument found to be in calibration as received: YES
Date Calibrated: 16APR2009
Calibration due: 16APR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	US36033460	12 Months	06JUN2009	3941596
Hewlett Packard	34401A	3146A10352	12 Months	02JUL2009	3964750
Larson Davis	2559	2504	12 Months	04SEP2009	16047-1
Larson Davis	PRM915	0112	12 Months	11SEP2009	2008-110617
Larson Davis	PRM902	0480	12 Months	11SEP2009	2008-110613
Larson Davis	MTS1000/2201	0111	12 Months	11SEP2009	2008-SM908
Schaevitz	P3061-15PSIA	17590	12 Months	19NOV2009	4140192
Larson Davis	2900	0661	12 Months	07APR2010	2009-117163

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as shown on calibration report.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"As Received" data is the same as shipped data.

Signed: Scott Montgomery
Technician: Scott Montgomery

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-127209

Instrument Model CAL250, Serial Number 2480, was calibrated on 03MAR2010. The instrument meets factory specifications per Procedure D0001.8192.

Instrument found to be in calibration as received: YES
Date Calibrated: 03MAR2010
Calibration due: 03MAR2011

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900	0661	12 Months	07APR2010	2009-117163
Hewlett Packard	34401A	US36033460	12 Months	16JUN2010	4382218
Hewlett Packard	34401A	3146A10352	12 Months	13JUL2010	4413817
Larson Davis	2559	2506	12 Months	03SEP2010	16868-1
Larson Davis	PRM915	0112	12 Months	09SEP2010	2009-121809
Larson Davis	PRM902	0480	12 Months	09SEP2010	2009-121820
Larson Davis	MTS1000/2201	0111	12 Months	09SEP2010	SM090909-1
PCB	1502B02FJ15PSIA	1342	12 Months	23NOV2010	3341845067

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as shown on calibration report.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"As Received" data is the same as shipped data.

Signed: Scott Montgomery
Technician: Scott Montgomery

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2009-119877

Instrument Model CAL200, Serial Number 2924, was calibrated on 07JUL2009. The instrument meets factory specifications per Procedure D0001.8190.

Instrument found to be in calibration as received: YES
Date Calibrated: 07JUL2009
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2559	2504	12 Months	04SEP2009	16047-1
Larson Davis	PRM915	0112	12 Months	11SEP2009	2008-110617
Larson Davis	PRM902	0480	12 Months	11SEP2009	2008-110613
Larson Davis	MTS1000/2201	0111	12 Months	11SEP2009	2008-SM908
Schaevitz	P3061-15PSIA	17590	12 Months	19NOV2009	4140192
Larson Davis	2900	0661	12 Months	07APR2010	2009-117163
Hewlett Packard	34401A	US36015216	12 Months	06MAY2010	4342531
Hewlett Packard	34401A	US36033460	12 Months	16JUN2010	4382218

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as shown on calibration report.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"As Received" data is the same as shipped data.

Signed: Scott Montgomery
Technician: Scott Montgomery

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

Brüel & Kjær
North America Inc.

Certificate Number 1-147206244-901
4231A 2.07 Rev

Brüel & Kjær
CERTIFICATE OF CALIBRATION

MEASUREMENT STANDARD
This calibration is performed by comparison with a Measurement Standard Pistonphone:

Type	4220	Serial Number	1048235
Calibrated by	JAS	Due Date	02-Apr-10
Cal Interval	24 mo	Trace Number	1-129404471-501

Type	HP5315A	Serial Number	2536A13949
Calibrated by	COM	Due Date	14-Aug-09
Cal Interval	12 mo	Trace Number	248554

EXPANDED UNCERTAINTY
Reported values represent expanded uncertainties expressed at approximately 95% confidence level using a coverage factor of k=2

Parameter	Expanded Uncertainty
Acoustic output level	0.12 dB
Output Frequency	100 ppm

Calibrator Type 4231
Serial Number 2507137
Submitted by Parsons
100 W. Walnut Street
Pasadena, CA 91124

Asset Number

As Received Data			
With 1.333 cm³ Effective Load Volume			
Nominal	Actual	Nominal	Actual
in dB re 20 μPa		in Hertz	
94.0 ± 0.2	94.0	1000 ± 1	1000
114.0 ± 0.2	114.0		

Final Data			
With 1.333 cm³ Effective Load Volume			
Nominal	Actual	Nominal	Actual
in dB re 20 μPa		in Hertz	
94.0 ± 0.2	94.0	1000 ± 1	1000
114.0 ± 0.2	114.0		

Total Harmonic Distortion*: Less than 1 %

This acoustic calibrator has been calibrated using standards with values traceable to the National Institute of Standards and Technology.

The calibration of this acoustic calibrator was accomplished using a test system which conforms with the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and ISO 10012-1.

This certificate shall not be reproduced, except in full, without the written approval of the Brüel and Kjær Calibration Laboratory-Norcross, GA.

The results of this calibration apply to the acoustic calibrator type and serial number identified above.

*Items marked with an asterisk (*) are not covered by the current A2LA accreditation.

Calibration Performed By Jim Rice
Technician

Date Certificate Issued 15-Sep-08
Approved By
Quality Representative

CONDITIONS OF TEST

Procedure Number	4231	9.05
Ambient Pressure	977	mbar
Temperature	23	° C
Relative Humidity	48	%
Date of Calibration	15-Sep-08	

The Brüel and Kjær North American Service Center is also Certified to ISO 9001:2000 KEMA ® Certificate Number 710009-001

ACCREDITED

Calibration Certificate # 1568.01

Brüel and Kjær Calibration Laboratory
2815 Colonnades Court Building A
Norcross, Georgia 30071-1588
Telephone 800/332-2040
FAX 770/447-4033

Appendix G Predicted Future Noise Levels and Noise Barrier Analysis

Table G-1 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 1

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1.88 W	--	SFR	4	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	0	0
R 1.89 W		SFR	3	69 MOD	68	68	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	0
R 1.90 W	--	SFR	4	68 MOD	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.91 W*		SFR	3	63 MOD	62	62	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.92 W		SFR	5	68 M,LT5,CAL	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.93 W		SFR	4	67 MOD	66	67	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.94 W*		SFR	2	58 M,ST9A,CAL	57	57	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.95 W	S649 Shoulder	SFR	5	67 MOD	68	67	1	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	0	65	2	0
R 1.96 W*		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.97 W		SFR	4	64 M,ST9	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.98 W		SFR	4	64 MOD	65	64	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.99 W		SFR	2	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.100 W*		SFR	2	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.101 W		REC	3	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.102 W		REC	2	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.103 W		REC	1	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and t interior noise criteria has been used for this receiver because there is no outdoor us
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-2 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 2

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*
R 2.1 W	S699 R/W	MFR	3	65 MOD	62	62	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.2 W		MFR	3	63 MOD	60	62	-3	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.2A W		MFR	1	65 MOD	62	62	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.3 W		MFR	6	68 M,LT6,CAL	65	64	-3	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.4 W		MFR	3	62 MOD	59	58	-3	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.4A W		MFR	2	65 MOD	62	61	-3	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.5 W	S705 Shoulder	MFR	3	67 MOD	64	64	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.6 W		MFR	6	67 MOD	64	64	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.7 W		MFR	6	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	0	*0*	63	1	*0*
R 2.8 W		MFR	3	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	63	1	*0*
R 2.8A W		MFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	57	2	*0*	56	3	*0*
R 2.9 W		MFR	4	62 M,ST11	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	3	*0*	60	4	*0*
R 2.10 W	--	MFR	6	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.11 W		MFR	8	57 MOD	58	57	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.12 W	--	SFR	3	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.13 W	S708, S710, & S718 Shoulder & R/W	SFR	2	57 M,ST12,CAL	58	62	1	4	B (67)	NONE	62	0	*0*	61	1	*0*	61	1	*0*	60	2	*0*	60	2	*0*
R 2.14 W,K3		SFR	2	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	69	1	*0*	69	1	*0*
R 2.15 W,K3		REC	2	68 MOD	69	70	1	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	68	2	*0*	67	3	*0*
R 2.16 W,K3		REC	0	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	2	*0*	62	3	*0*
R 2.17 W,K3		SFR	1	66 MOD	66	68	0	2	B (67)	A/E	68	0	*0*	67	1	*0*	66 T	2	*0*	65	3	*0*	64	4	*0*
R 2.18 W,K3		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	67	1	*0*	66	2	*0*	64 T	4	*0*	**63 R**	**5**	*3*	61	7	*3*
R 2.19 W,K3		SFR	4	67 M,LT7,CAL	67	68	0	1	B (67)	A/E	67	1	*0*	66	2	*0*	64 T	4	*0*	**62 R**	**6**	*4*	61	7	*4*
R 2.20 W,K3,C		SFR	4	67 MOD	67	68	0	1	B (67)	A/E	67	1	*0*	66	2	*0*	64 T	4	*0*	**61 R**	**7**	*4*	61	7	*4*
R 2.21 W*		SFR	2	61 MOD	62	62	1	0	B (67)	NONE	62	0	*0*	62	0	*0*	61	1	*0*	60	2	*0*	59	3	*0*
R 2.21A W*		--	--	60 M,ST12A	61	62	1	1	--	--	62	0	--	61	1	--	61	1	--	60	2	--	59	3	--
R 2.22 W,K3		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	67	1	*0*	66	2	*0*	64	4	*0*	**62 T,R**	**6**	*3*	61	7	*3*
R 2.23 W*		SFR	2	61 MOD	62	62	1	0	B (67)	NONE	62	0	*0*	62	0	*0*	61	1	*0*	60	2	*0*	59	3	*0*
R 2.24 W,K3		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	67	1	*0*	66	2	*0*	64	4	*0*	**62 T,R**	**6**	*3*	61	7	*3*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K3 - A calibration factor of +1.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-2 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*
R 2.25 W,K3	S718 Shoulder	SFR	2	66 MOD	67	69	1	2	B (67)	A/E	66	3	*0*	66	3	*0*	65	4	*0*	64 T	5	*2*	**63 R,5**	**6**	*2*
R 2.26 W*		SFR	2	60 MOD	61	60	1	-1	B (67)	NONE	60	0	*0*	60	0	*0*	60	0	*0*	59	1	*0*	58	2	*0*
R 2.27 W,K3		SFR	2	66 MOD	67	66	1	-1	B (67)	A/E	64	2	*0*	63	3	*0*	63	3	*0*	62 T	4	*0*	**61 R**	**5**	*2*
R 2.28 W,K4	--	SFR	3	58 M,ST13,CAL	59	55	1	-4	B (67)	NONE	53	2	*0*	53	2	*0*	52	3	*0*	52	3	*0*	51	4	*0*
R 2.29 W,K4		SFR	3	58 MOD	59	53	1	-6	B (67)	NONE	52	1	*0*	52	1	*0*	52	1	*0*	52	1	*0*	51	2	*0*
R 2.30 W,K4		SFR	1	56 MOD	57	53	1	-4	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.31 W	--	SFR	3	59 MOD	61	56	2	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.32 W		SFR	3	60 MOD	62	57	2	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.33 W		SFR	3	62 MOD	64	55	2	-9	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.33A W		--	--	63 MOD	65	58	2	-7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.34 W,C	S733 Shoulder	SFR	1	66 MOD	68	66	2	-2	B (67)	A/E	63	3	*0*	62	4	*0*	62 T	4	*0*	**61 R**	**5**	*1*	60	6	*1*
R 2.35 W	--	SFR	3	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65 T	1	*0*	63	3	*0*
R 2.36 W*		SFR	2	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	2	*0*	61	3	*0*
R 2.37 W		SFR	2	64 M,LT8	66	67	2	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	66	1	*0*	65	2	*0*
R 2.38 W*		SFR	2	64 MOD	66	66	2	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	66 T	0	*0*	66	0	*0*
R 2.39 W		SFR	2	64 MOD	66	66	2	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	65	1	*0*	64	2	*0*
R 2.40 W	S747 R/W	SFR	2	67 MOD	69	71	2	2	B (67)	A/E	--	--	--	--	--	--	67	4	*0*	66 T	5	*2*	**66 R**	**5**	*2*
R 2.41 W,C,P		SCH	1	63 M,ST15	69	71	6	2	B (67)	A/E	--	--	--	--	--	--	66	5	*1*	65 T	6	*1*	**64 R,5**	**7**	*1*
R 2.42 W,P		SCH	1	58 MOD	64	65	6	1	B (67)	NONE	63	2	*0*	63	2	*0*	62	3	*0*	61	4	*0*	**60 R**	**5**	*1*
R 2.43	--	MOT	1	51 MOD	53	53	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.44		MOT	1	55 MOD	57	58	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
P - Design Year No Build and Build noise levels do not account for the privacy screen that was present at the time of measurement
K3 - A calibration factor of +1.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
K4 - A calibration factor of -3 dB is applied for this receptor and adjacent receptors with similar geographic features.

Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-2 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.45 W	S746 R/W	SFR	1	59 MOD	61	66	2	5	B (67)	A/E	61	5	0	61	5	1	**60 T,R**	**6**	1	60	6	1	59	7	1
R 2.45A W		SFR	1	57 MOD	59	61	2	2	B (67)	NONE	59	2	0	58	3	0	58	3	0	58	3	0	58	3	0
R 2.46 W,C		SCH	1	68 M,ST16	70	74	2	4	B (67)	A/E	69	5	1	68 T	6	1	**67 R,5**	**7**	1	67	7	1	67	7	1
R 2.47 W	--	SFR	2	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 2.48 W		SFR	1	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 2.49 W		SFR	3	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 2.50 W*		SFR	1	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	59	1	0
R 2.51 W		SFR	3	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 2.52 W		SFR	4	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 2.53 W		SFR	4	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	0	0
R 2.54 W*		SFR	1	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	58	2	0
R 2.55 W		SFR	3	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 2.56 W		SFR	3	65 M,LT9,CAL	65	67	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 2.57 W*	S766 R/W	SFR	2	58 MOD	58	59	0	1	B (67)	NONE	59	0	0	59	0	0	59 T	0	0	58	1	0	58	1	0
R 2.58 W		SFR	2	65 MOD	65	68	0	3	B (67)	A/E	68	0	0	67 T	1	0	67	1	0	67	1	0	67	1	0
R 2.59 W		SFR	2	61 MOD	61	67	0	6	B (67)	A/E	65	2	0	65 T	2	0	64	3	0	64	3	0	64	3	0
R 2.60 W	--	MFR	1	60 MOD	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.61 W		MFR	2	60 M,ST17	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.61A W		--	--	66 M,ST17A	64	65	-2	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.62 W		MFR	1	60 MOD	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.63 W	S765 R/W	SFR	1	62 MOD	61	66	-1	5	B (67)	A/E	65	1	0	65	1	0	64	2	0	63 T	3	0	63	3	0
R 2.64 W		SFR	2	64 MOD	63	68	-1	5	B (67)	A/E	67	1	0	67	1	0	66	2	0	65 T	3	0	64	4	0
R 2.65 W		SFR	1	67 M,LT10,CAL	66	69	-1	3	B (67)	A/E	69	0	0	68	1	0	68 T	1	0	67	2	0	67	2	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-2 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.66 W	--	SFR	3	66 MOD	65	66	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.67 W*	--	SFR	1	60 MOD	59	60	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.68 W	--	SFR	2	55 MOD	54	54	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.69 W	--	SFR	3	65 MOD	64	65	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.70 W*	--	SFR	1	58 MOD	57	58	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.71 W	--	SFR	3	64 MOD	63	64	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.72 W*	--	SFR	2	59 MOD	58	59	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.73 W*	--	SFR	2	54 MOD	53	53	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.74 W	--	SFR	3	64 MOD	63	63	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.75 W	--	SFR	3	64 MOD	63	61	-1	-2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.76 W	--	SFR	4	64 MOD	63	58	-1	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.77 W	--	MFR	2	60 MOD	61	58	1	-3	B (67)	NONE	57	1	0	57	1	0	57	1	0	56	2	0	56	2	0
R 2.78 W	--	MFR	4	61 M,ST19	62	59	1	-3	B (67)	NONE	57	2	0	56	3	0	56	3	0	56	3	0	56	3	0
R 2.79 W	--	MFR	4	65 MOD	66	60	1	-6	B (67)	NONE	58	2	0	58	2	0	58	2	0	57	3	0	57	3	0
R 2.80 W	S788, & S792 Shoulder	SFR	3	64 MOD	65	62	1	-3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.81 W	S788, & S792 Shoulder	SFR	3	68 MOD	69	66	1	-3	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	62	4	0	62	4	0
R 2.82 W	S788, & S792 Shoulder	SFR	2	67 MOD	68	67	1	-1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	64	3	0	64	3	0
R 2.83 W	S788, & S792 Shoulder	SFR	3	66 MOD	66	65	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	2	0	63	2	0
R 2.84 W	S788, & S792 Shoulder	SFR	4	66 M,LT11,CAL	66	65	0	-1	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	64	1	0	64	1	0
R 2.85 W	S788, & S792 Shoulder	SFR	4	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	65	1	0	65	1	0
R 2.86 W	--	SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	2	0	62	3	0
R 2.87 W	--	SFR	4	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	2	0	62	2	0
R 2.88 W	--	SFR	4	62 MOD	62	61	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.89 W	--	SFR	3	63 MOD	63	57	0	-6	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.90 W	--	SFR	3	62 MOD	62	58	0	-4	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.91 W	--	SFR	2	63 MOD	63	62	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.92 W	--	SFR	1	61 MOD	61	60	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-3 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 3

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR
R 3.1 W	--	MFR	4	59 MOD	59	59	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.2 W	--	MFR	5	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.3 W	S828 Shoulder	MFR	7	65 M,ST22	65	64	0	-1	B (67)	NONE	--	--	--	--	--	--	64	0	0	63	1	0	63	1	0
R 3.4 W		MFR	2	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	65	1	0	65	1	0	64	2	0
R 3.5 W*		SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	62	3	0	62	3	0	62	3	0
R 3.6 W		SFR	2	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	64	3	0	63	4	0	**62** R	**5**	2
R 3.7 W		SFR	4	65 MOD	65	67	0	2	B (67)	A/E	--	--	--	--	--	--	64	3	0	64	3	0	63	4	0
R 3.8 W		SFR	4	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	66	3	0	65	4	0	65	4	0
R 3.9 W		SFR	2	68 M,LT13,CAL	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	67	2	0	66	3	0	65	4	0
R 3.10 W		SFR	2	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	67	2	0	66	3	0	65	4	0
R 3.11 W*		SFR	5	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	63	2	0	62	3	0	61	4	0
R 3.12 W		SFR	1	69 MOD	69	70	0	1	B (67)	A/E	--	--	--	--	--	--	67	3	0	66	4	0	**65** R	**5**	1
R 3.13 W*		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	--	--	--	65 T	3	0	64	4	0	**63** R	**5**	2
R 3.14 W		SFR	2	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	4	0	66	4	0
R 3.15 W*		SFR	4	62 MOD	62	63	0	1	B (67)	NONE	61	2	0	60	3	0	59	4	0	58	5	3	58	5	3
R 3.16 W,C		SFR	1	70 MOD	70	71	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	4	0	**66** R	**5**	1
R 3.17 W		SFR	2	69 MOD	69	70	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	3	0	66	4	0
R 3.17A W		--	--	68 M,ST23	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	4	--	64	5	--
R 3.18 W		SFR	1	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	3	0	65	4	0
R 3.19 W*		SFR	2	60 MOD	60	61	0	1	B (67)	NONE	60	1	0	59	2	0	58	3	0	58	3	0	57	4	0
R 3.19A W*		SFR	1	63 MOD	63	64	0	1	B (67)	NONE	61	3	0	61	3	0	60	4	0	59	5	1	59	5	1
R 3.20 W		SFR	2	65 MOD	65	67	0	2	B (67)	A/E	64	3	0	63	4	0	**61** T,R	**6**	2	61 D	6	2	61 D	6	2
R 3.21 W*		SFR	2	60 MOD	60	61	0	1	B (67)	NONE	59	2	0	59	2	0	58	3	0	58	3	0	57	4	0
R 3.22 W*	--	MFR	8	55 MOD	56	55	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.22A W	--	MFR	2	54 M,ST20	55	55	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.23 W*	--	MFR	9	51 MOD	52	52	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
D - Sound level is forced to this value due to inaccurate sound levels obtained from the model because of double diffraction issues between the existing wall and design soundwall.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-3 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*
R 3.23A	S807 Shoulder & S811 R/W	REC	--	62 MOD	63	64	1	1	B (67)	NONE	61	3	--	60	4	--	60	4	--	59	5	--	58	6	--
R 3.23B C		REC	7	65 MOD	66	68	1	2	B (67)	A/E	65	3	*0*	64	4	*0*	**62 T,R**	**6**	*7*	62	6	*7*	61	7	*7*
R 3.24 K1,W		SFR	2	64 MOD	65	67	1	2	B (67)	A/E	--	--	--	--	--	--	64	3	*0*	**62 T,R**	**5**	*2*	61	6	*2*
R 3.25 K1,W*		SFR	2	59 MOD	60	62	1	2	B (67)	NONE	--	--	--	--	--	--	60	2	*0*	59	3	*0*	58	4	*0*
R 3.26 K1,W	--	SFR	3	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	62	4	*0*	62	4	*0*	62	4	*0*
R 3.27 K1,W*		SFR	2	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	62	4	*0*	62	4	*0*	62	4	*0*
R 3.28 K1,W		SFR	3	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	63	4	*0*	63	4	*0*	63	4	*0*
R 3.28A K1,W		--	--	64 M,CAL	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	65	1	--	64	2	--	63	3	--
R 3.29 K1,W*		SFR	2	60 MOD	61	62	1	1	B (67)	NONE	--	--	--	--	--	--	61	1	*0*	59	3	*0*	58	4	*0*
R 3.30 K,1W	S819 R/W	SFR	3	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	60	1	*0*	58	3	*0*
R 3.31 K1,W		SFR	2	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 3.32 K1,W	--	SFR	4	64 M,LT12	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	64	2	*0*	63	3	*0*
R 3.33 K1,W		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	62	3	*0*
R 3.34 K1,W*		SFR	2	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 3.35 K1,W		SFR	1	66 M,ST21	65	66	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	*0*	64	2	*0*
R 3.36 K1,W*		SFR	3	58 MOD	59	60	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	59	1	*0*	58	2	*0*
R 3.37 K1,W*		SFR	2	60 MOD	61	62	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	1	*0*	60	2	*0*
R 3.38 K1,W		SFR	2	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	64	2	*0*	63	3	*0*
R 3.39 K1,W*		SFR	3	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	59	0	*0*	57	2	*0*
R 3.40 K1,W		SFR	5	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 3.41 K1,W*		SFR	3	57 MOD	58	59	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	1	*0*	56	3	*0*
R 3.42 K1,W		SFR	3	62 MOD	63	68	1	5	B (67)	A/E	--	--	--	--	--	--	64	4	*1*	64	4	*0*	64	4	*0*
R 3.43 W	--	MFR	8	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.44 W*		MFR	7	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.45 W		MFR	10	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.46 W		MFR	8	56 MOD	56	57	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K1 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-3 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.47 W	S841 Shoulder	SFR	2	62 MOD	63	67	1	4	B (67)	A/E	63	4	0	63	4	0	**61** T,R	**6**	2	61	6	2	60	7	2
R 3.48 C		SFR	1	69 MOD	70	76	1	6	B (67)	A/E	69	7	1	67	9	1	**65** T,R	**11**	1	65	11	1	64	12	1
R 3.49 W		SFR	2	60 MOD	61	64	1	3	B (67)	NONE	62	2	0	62	2	0	61	3	0	61	3	0	60	4	0
R 3.50 W		SFR	1	70 M,LT14	71	75	1	4	B (67)	A/E	70	5	1	68	7	1	67 T	8	1	67	8	1	**67** R,5	**8**	1
R 3.51 W*		SFR	2	62 MOD	63	65	1	2	B (67)	NONE	62	3	0	62	3	0	60	5	1	59	6	2	59	6	2
R 3.52 W		REC	1	68 MOD	69	70	1	1	B (67)	A/E	67	3	0	66	4	0	66 T	4	0	66	4	0	**65** R	**5**	1
R 3.53 W	--	MFR	6	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 3.53A W*		REC	5	54 MOD	56	57	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	55	2	0	55	2	0
R 3.54 W		MFR	4	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 3.54A W		MFR	3	62 M,ST24	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	2	0	63	2	0
R 3.55 W		MFR	4	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 3.55A W		MFR	4	63 MOD	65	65	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	65	0	0	64	1	0
R 3.56 W,C	S857 Shoulder	MFR	7	67 MOD	69	70	2	1	B (67)	A/E	67	3	0	66	4	0	**65** T,R	**5**	7	65	5	7	65	5	7
R 3.57 W	--	SFR	2	61 MOD	62	65	1	3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.58 W		SFR	3	60 MOD	61	63	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.59 W		SFR	4	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.60 W		SFR	2	61 M,ST25A,CAL	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.60A W		SFR	--	63 M,ST25	62	63	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.61 W*		SFR	7	59 MOD	60	60	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.62 W*		SFR	4	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.63 W,C	S868 R/W	SFR	1	65 MOD	66	66	1	0	B (67)	A/E	64	2	0	64	2	0	63 T	3	0	62	4	0	**60** R	**6**	1
R 3.64 W	--	SFR	3	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	63	0	0	62	1	0	61	2	0
R 3.65 W		SFR	2	59 MOD	60	62	1	2	B (67)	NONE	--	--	--	--	--	--	61	1	0	61	1	0	59	3	0
R 3.66 W		MFR	5	60 M,ST26	58	59	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.66A W		MFR	8	56 MOD	54	54	-2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.66B W		MFR	4	56 MOD	54	54	-2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-3 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*
R 3.67 W	--	MH	4	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	59	1	*0*	59	1	*0*	58	2	*0*
R 3.68 W*		REC	1	52 MOD	54	55	2	1	B (67)	NONE	--	--	--	--	--	--	55	0	*0*	55	0	*0*	54	1	*0*
R 3.69 W		MH	4	62 MOD	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	63	2	*0*	63	2	*0*	61	4	*0*
R 3.70 W		MH	4	64 MOD	66	67	2	1	B (67)	A/E	--	--	--	--	--	--	66 T	1	*0*	65	2	*0*	64	3	*0*
R 3.71 W*		MH	7	65 MOD	67	68	2	1	B (67)	A/E	--	--	--	--	--	--	67	1	*0*	66 T	2	*0*	65	3	*0*
R 3.72 W		MH	2	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 3.72A W		MH	2	63 M,ST27	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	*0*
R 3.73 W		MH	5	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	*0*
R 3.74 W*		MH	11	64 MOD	66	66	2	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	*0*
R 3.74A W		MH	2	65 MOD	67	68	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	*0*
R 3.75 W		MH	4	65 MOD	67	68	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	2	*0*
R 3.76 W*	S896 R/W	MH	2	63 MOD	65	67	2	2	B (67)	A/E	66	1	*0*	66	1	*0*	66	1	*0*	66 T	1	*0*	66	1	*0*
R 3.77 W		MH	3	62 MOD	64	67	2	3	B (67)	A/E	67	0	*0*	67 T	0	*0*	66	1	*0*	66	1	*0*	66	1	*0*
R 3.78 W*	S902 Shoulder	SFR	2	63 MOD	63	64	0	1	B (67)	NONE	--	--	--	64	0	*0*	63	1	*0*	62	2	*0*	61	3	*0*
R 3.79 W		REC	1	62 MOD	62	64	0	2	B (67)	NONE	--	--	--	63	1	*0*	62	2	*0*	59	5	*1*	58	6	*1*
R 3.80 W		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	62	2	*0*	61	3	*0*	60	4	*0*	60	4	*0*
R 3.81 W		SFR	2	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	67	1	*0*	66	2	*0*	65	3	*0*	65	3	*0*
R 3.81A W		SFR	3	66 M,LT15,CAL	66	66	0	0	B (67)	A/E	--	--	--	65	1	*0*	65	1	*0*	64	2	*0*	63	3	*0*
R 3.82 W		SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	64	1	*0*	64	1	*0*	63	2	*0*	63	2	*0*
R 3.83 W	S910 & S916 Shoulder	SFR	5	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	64	0	*0*	63	1	*0*	62	2	*0*	62	2	*0*
R 3.84 W		SFR	3	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	63	2	*0*	63	2	*0*	62	3	*0*	62	3	*0*
R 3.85 W		SFR	2	66 MOD	66	66	0	0	B (67)	A/E	63	3	*0*	62 T	4	*0*	62	4	*0*	**61 R**	**5**	*2*	61	5	*2*
R 3.86 W		SFR	3	66 MOD	66	66	0	0	B (67)	A/E	64	2	*0*	62 T	4	*0*	61	5	*3*	**61 R,5**	**5**	*3*	60	6	*3*
R 3.86A W,C		SFR	2	65 MOD	65	66	0	1	B (67)	A/E	63	3	*0*	62	4	*0*	61 T	5	*2*	**60 R,5**	**6**	*2*	59	7	*2*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-3 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.87 W,C	S909 & S911 Shoulder	REC	3	65 MOD	65	67	0	2	B (67)	A/E	63	4	0	62 T	5	3	61	6	3	**61 R,5**	**6**	3	61	6	3
R 3.88 W		REC	1	66 MOD	66	68	0	2	B (67)	A/E	64 T	4	0	63	5	1	63	5	1	**63 R,5**	**5**	1	62	6	1
R 3.89 W		REC	2	65 M,ST28	65	67	0	2	B (67)	A/E	64	3	0	63 T	4	0	63	4	0	**62 R**	**5**	2	62	5	2
R 3.90 W*	S141 Shoulder	SFR	1	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	62	2	0	63	1	0	60	4	0	60	4	0
R 3.91 W		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	63	1	0	64	0	0	62	2	0	61	3	0
R 3.92 W		SFR	4	65 MOD	64	65	-1	1	B (67)	NONE	--	--	--	64	1	0	64	1	0	63	2	0	62	3	0
R 3.93 W		SFR	4	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	65	1	0	66	0	0	64	2	0	63	3	0
R 3.93A W		SFR	3	67 M,LT16,CAL	66	66	-1	0	B (67)	A/E	--	--	--	65	1	0	66	0	0	64	2	0	63	3	0
R 3.94 W,*	S141 Shoulder	SFR	1	65 MOD	64	63	-1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	1	0	62	1	0
R 3.95 W		SFR	3	68 MOD	67	68	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	3	0	64	4	0
R 3.96 W		SFR	5	69 MOD	68	68	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 3.97 W,*		SFR	1	64 MOD	63	63	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	1	0	62	1	0
R 3.98 W		SFR	12	66 MOD	65	66	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	0	0	64	2	0
R 3.99 K2,W,C	S935 R/W	SFR	1	66 MOD	64	66	-2	2	B (67)	A/E	64	2	0	63 T	3	0	62	4	0	**61 R**	**5**	1	61	5	1
R 3.99A K2,W		SFR	2	65 M,ST29,CAL	63	64	-2	1	B (67)	NONE	63	1	0	61	3	0	60	4	0	60	4	0	59	5	2
R 3.100 K2,W		SFR	2	64 MOD	62	64	-2	2	B (67)	NONE	62	2	0	60	4	2	60	4	2	59	5	2	58	6	2
R 3.100A K2,W		SFR	1	64 MOD	62	63	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.101 K2,W		SFR	2	62 MOD	60	61	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K2 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-4 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 4

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 1 W,C	S995 R/W	SFR	2	69 MOD	70	71	1	1	B (67)	A/E	--	--	--	--	--	--	69	2	*0*	67 T	4	*0*	**66 R**	**5**	***2***
R 4. 2 W	--	SFR	3	69 MOD	70	70	1	0	B (67)	A/E	--	--	--	--	--	--	68	2	*0*	67	3	*0*	66	4	*0*
R 4. 3 W		SCH	3	68 MOD	69	70	1	1	B (67)	A/E	--	--	--	--	--	--	68	2	*0*	67	3	*0*	66	4	*0*
R 4. 4 W,*		SFR	2	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	65	1	*0*	64	2	*0*	63	3	*0*
R 4. 5 W,*		SFR	1	66 MOD	67	67	1	0	B (67)	A/E	--	--	--	--	--	--	67	0	*0*	65	2	*0*	64	3	*0*
R 4. 6 W	--	SFR	2	68 M,LT19,CAL	69	69	1	0	B (67)	A/E	--	--	--	--	--	--	68	1	*0*	67	2	*0*	66	3	*0*
R 4. 7 W		SFR	2	67 MOD	68	68	1	0	B (67)	A/E	--	--	--	--	--	--	67	1	*0*	66	2	*0*	65	3	*0*
R 4. 8 W,*	S1009 R/W/ Shoulder	SFR	2	65 MOD	66	66	1	0	B (67)	A/E	66	0	*0*	65	1	*0*	64	2	*0*	64	2	*0*	63	3	*0*
R 4. 9 *		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	64	1	*0*	64	1	*0*	63	2	*0*	63	2	*0*	63	2	*0*
R 4. 10		REC	3	73 MOD	74	74	1	0	B (67)	A/E	70	4	*0*	69	5	*3*	**68 R,T**	**6**	***3***	66	8	*3*	65	9	*3*
R 4. 11 C		REC	2	73 MOD	74	74	1	0	B (67)	A/E	67 T	7	*2*	66	8	*2*	**65 R,5**	**9**	***2***	63	11	*2*	62	12	*2*
R 4. 12		REC	1	70 MOD	71	68	1	-3	B (67)	A/E	64	4	*0*	63 T	5	*1*	**62 R,5**	**6**	***1***	62	6	*1*	61	7	*1*
R 4. 13 W		SFR	5	62 MOD	63	62	1	-1	B (67)	NONE	58 T	4	*0*	58	4	*0*	**57 R**	**5**	***5***	57	5	*5*	56	6	*5*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-4 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 14A W	S182 Shoulder	SFR	1	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	65	2	0	65	2	0	64	3	0
R 4. 14 W		SFR	3	67 MOD	68	68	1	0	B (67)	A/E	--	--	--	--	--	--	67	1	0	66	2	0	65	3	0
R 4. 15 W		SFR	3	64 M,LT17,CAL	65	68	1	3	B (67)	A/E	--	--	--	--	--	--	67	1	0	66	2	0	65	3	0
R 4. 16 W,*		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	63	2	0	62	3	0	61	4	0
R 4. 17 W		SFR	4	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	66	1	0	65	2	0	64	3	0
R 4. 18 W		SFR	4	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	64	1	0	63	2	0	62	3	0
R 4. 19 W		SFR	1	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	63	1	0	62	2	0	62	2	0
R 4. 20 W,*		SFR	2	61 MOD	63	63	2	0	B (67)	NONE	--	--	--	--	--	--	62	1	0	61	2	0	61	2	0
R 4. 21 W		SFR	1	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	63	1	0	62	2	0	62	2	0
R 4. 22 W		--	--	61 M,ST30	63	63	2	0	B (67)	NONE	--	--	--	--	--	--	63	0	0	62	1	0	62	1	0
R 4. 23 W	S972 & S978 Shoulder	SFR	2	61 MOD	63	62	2	-1	B (67)	NONE	--	--	--	--	--	--	59	3	0	59	3	0	58	4	0
R 4. 24		SCH	3	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	62 T	4	0	**61 R**	**5**	**3**	60	6	3
R 4. 25A C		REC	2	69 MOD	69	70	0	1	B (67)	A/E	65	5	2	64	6	2	**63 R,T**	**7**	**2**	62	8	2	61	9	2
R 4. 25B		REC	2	65 MOD	65	68	0	3	B (67)	A/E	64	4	0	63	5	2	**62 R,T**	**6**	**2**	61	7	2	60	8	2
R 4. 25		REC	2	67 M,ST31	67	67	0	0	B (67)	A/E	63	4	0	63	4	0	**62 R,T**	**5**	**2**	61	6	2	60	7	2
R 4. 26		REC	2	65 MOD	65	63	0	-2	B (67)	NONE	62	1	0	61	2	0	61	2	0	61	2	0	60	3	0
R 4. 27 W	--	MFR	1	69 MOD	70	71	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	70	1	0
R 4. 28 W		MFR	3	64 M,ST32A	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 4. 29 W		MFR	1	68 M,ST32	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	0
R 4. 29A W		MFR	1	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	63	1	0
R 4. 30 W		MFR	1	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	63	2	0
R 4. 31 W		MFR	7	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	61	2	0
R 4. 31A W		MFR	1	66 MOD	67	67	1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	63	4	0
R 4. 32 C	S998 R/W	SFR	2	71 M,LT18,CAL	72	72	1	0	B (67)	A/E	70	2	0	69	3	0	68 T	4	0	68	4	0	**67 R**	**5**	**2**
R 4. 33A	S1006 R/W	MOT	--	75 MOD	78	79	3	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 33A Int		MOT	6	50 MOD	53	54	3	1	E (52)	A/E	46	8	6	**45 R**	**9**	**6**	43	11	6	42	12	6	41	13	6
R 4. 33 C		MOT	1	73 M,ST33	76	77	3	1	B (67)	A/E	70	7	1	**69 R,T**	**8**	**1**	68	9	1	67	10	1	66	11	1

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-4 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 34	--	SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 34A		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 35 W	--	SFR	3	64 M,ST36	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	64	2	0	63	3	0
R 4. 36 W,*		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	63	2	0
R 4. 37 W,*	--	SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	64	1	0
R 4. 38 W		SFR	2	66 MOD	67	68	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	0	66	2	0
R 4. 39 W		SFR	3	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 40 W,*		SFR	2	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	63	2	0
R 4. 41 W		SFR	7	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 42 W		SFR	7	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 42A W,*		SFR	1	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	60	1	0	58	3	0
R 4. 43 W		SFR	5	67 M,LT21,CAL	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 44 W		SFR	4	66 MOD	67	68	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	0	66	2	0
R 4. 45 W,*		SFR	2	59 MOD	60	61	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	59	2	0	58	3	0
R 4. 46 W		SFR	8	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 46A W,*		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	63	2	0
R 4. 47A W,*		SFR	2	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	0	65	2	0
R 4. 47 W		SFR	4	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-4 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 48 W,*	--	SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63 T	1	0	61	3	0
R 4. 49 W		SFR	2	65 MOD	67	68	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 50 W		SFR	2	65 M,ST38	67	68	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	0	0	66	2	0
R 4. 50A W		SFR	2	63	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	64	2	0	63	3	0
R 4. 51 W,*		SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	61	3	0
R 4. 52 W		SFR	2	64 MOD	66	68	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	64	4	0
R 4. 53 W,*		SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	61	3	0
R 4. 54 W		SFR	2	66 MOD	68	69	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	66	3	0
R 4. 55 W,*		SFR	2	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	63	3	0
R 4. 56 W		SFR	2	66 MOD	68	68	2	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 57 W,*		SFR	4	60 MOD	62	63	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	1	0	61	2	0
R 4. 58 W		SFR	2	66 MOD	68	68	2	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	0	66	2	0
R 4. 59 W,*	S1079 & S1083 R/W	SFR	3	61 MOD	64	66	3	2	B (67)	A/E	66	0	0	66	0	0	66	0	0	65	1	0	64	2	0
R 4. 60 W,C		SFR	1	64 MOD	67	73	3	6	B (67)	A/E	70	3	0	69	4	0	69 T	4	0	**68 R**	**5**	**1**	66	7	1
R 4. 60A W,*		SFR	1	62 MOD	65	67	3	2	B (67)	A/E	66	1	0	66	1	0	65	2	0	64	3	0	63	4	0
R 4. 61 W		SFR	2	65 M,ST38A	68	72	3	4	B (67)	A/E	69	3	0	68	4	0	**67 R,T**	**5**	**2**	65	7	2	65	7	2
R 4. 62 W		SFR	2	62 MOD	65	69	3	4	B (67)	A/E	66	3	0	65	4	0	**64 R,T**	**5**	**2**	63	6	2	62	7	2
R 4. 62A W	R/W	SFR	1	59 MOD	62	64	3	2	B (67)	NONE	63	1	0	62	2	0	62	2	0	61	3	0	61	3	0
R 4. 62B W		SFR	2	58 MOD	61	63	3	2	B (67)	NONE	62	1	0	62	1	0	61	2	0	61	2	0	60	3	0
R 4. 63 W		SFR	2	57 MOD	60	62	3	2	B (67)	NONE	62	0	0	61	1	0	61	1	0	60	2	0	60	2	0

Notes:

1 - $L_{eq(h)}$ are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-4 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR
R 4. 64A	--	SFR	3	59 MOD	59	57	0	-2	B (67)	NONE	56	1	0	56	1	0	55	2	0	55	2	0	55	2	0
R 4. 64B		--	--	66 MOD	66	62	0	-4	B (67)	NONE	59	3	--	59	3	--	59	3	--	58	4	--	58	4	--
R 4. 64C	S1016 & S1020 Shoulder S1024 R/W	SCH	1	71 MOD	71	69	0	-2	B (67)	A/E	67	2	0	65	4	0	64	5	1	**63 R,T**	**6**	**1**	62	7	1
R 4. 64D		SCH	1	68 MOD	68	67	0	-1	B (67)	A/E	65	2	0	64	3	0	63	4	0	62 T	5	1	**62 R,5**	**5**	**1**
R 4. 64 W		REC	3	72 MOD	72	72	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	69 T	3	0	**67 R**	**5**	**3**
R 4. 65 W,C		REC	3	69 M,ST35	69	73	0	4	B (67)	A/E	--	--	--	--	--	--	--	--	--	69 T	4	0	**68 R**	**5**	**3**
R 4. 66 W,C	S1026 & S1028 R/W	SFR	1	71 MOD	71	72	0	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	68	4	0	**67 R**	**5**	**1**
R 4. 67 W	--	SFR	3	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 68 W		SFR	5	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	2	0	67	3	0
R 4. 69 W		SFR	5	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 70 W		SFR	7	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 71 W,*		SFR	3	59 MOD	61	62	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	60	2	0	59	3	0
R 4. 72 W		SFR	10	68 M,LT20,CAL	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 73 W		SFR	8	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 74 W		SFR	8	69 MOD	69	70	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 75 W,*		SFR	2	60 MOD	62	63	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	1	0	60	3	0
R 4. 76 W,*		--	--	60 M,ST35A	62	63	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	1	0	60	3	0
R 4. 77 W,*		SFR	1	62 MOD	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	62	3	0
R 4. 78 W		SFR	3	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 79 W,*	--	MH	2	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	0	65	2	0
R 4. 80 W		MH	6	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 80A W		MH	7	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 81 W		MH	5	67 M,ST37	67	68	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	0	66	2	0
R 4. 82 W,*		MH	3	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 83 W		MH	3	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	66	3	0
R 4. 83A W,*	R/W	MH	2	66 MOD	66	67	0	1	B (67)	A/E	66	1	0	66	1	0	66	1	0	64	3	0	63	4	0
R 4. 83B W,*		MH	2	64 MOD	64	65	0	1	B (67)	NONE	64	1	0	64	1	0	64	1	0	63	2	0	62	3	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
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C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
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* - Non first row residences.

Table G-4 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 84 W	--	MH	7	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 85 W		MH	7	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 86 W,*		MH	5	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 87 W		MH	12	60 M,LT20B,CAL	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 88 W,*		MH	7	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 88A W		MH	3	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 89 W		MH	4	62 MOD	64	63	2	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 90 W		MH	6	59 MOD	61	60	2	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 91 W		MH	9	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 92 W	--	MH	7	61 M,ST37A	63	63	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 93 W		MH	3	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
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4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
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C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-4 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 94 W	--	SFR	4	61 MOD	62	62	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 95 W		SFR	5	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 96 W,*		SFR	2	59 MOD	60	60	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 97 W		SFR	7	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 98 W		SFR	4	62 M,ST37A	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 99 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 100 W,*		SFR	2	58 MOD	59	60	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 101 W		SFR	9	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 102 W		SFR	4	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 103 W		SFR	6	63 M,LT20A,CAL	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 104 W		SFR	7	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 105 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 106 W		SFR	7	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 107 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 108 W		SFR	6	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 109 W		SFR	3	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 110 W		SFR	1	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
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T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-5 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 5

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 1 W	--	SFR	5	62 MOD	61	62	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 2 W		SFR	5	62 MOD	61	61	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 3 W		SFR	4	62 M,ST39,CAL	61	61	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 4 W		SFR	4	61 MOD	60	61	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 5 W	--	SFR	3	60 MOD	61	62	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 6 W,*		SFR	1	58 MOD	59	60	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 7 W,*		SFR	2	55 MOD	56	57	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 8 W		SFR	3	61 M,ST40	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 9 W		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 10 W		SFR	3	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-5 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	10 feet			12 feet			14 feet			16 feet			18 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 11 W,K7	--	SFR	2	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 12 W,K7,*		SFR	4	59 MOD	60	60	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 13 W,K7		SFR	2	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 14 W,K7,*		SFR	4	57 MOD	58	59	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 15 W,K7		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 16 W,K7,*		SFR	4	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 17 W,K7		SFR	2	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 18 W,K7,*		SFR	4	57 MOD	58	59	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 19 W,K7		SFR	2	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 20 W,K7,*		SFR	4	60 MOD	59	60	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 21 W,K7		SFR	2	65 MOD	64	64	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 22 W,K7,*		SFR	4	59 MOD	58	59	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 23 W,K7		REC	4	68 M,ST41	67	68	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 24 W,K7		SFR	12	61 MOD	60	61	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 25 W,K7		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 18 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K7 - A calibration factor of +1.8 dB is applied for these receivers.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-5 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	10 feet			12 feet			14 feet			16 feet			18 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 26 W,K7	--	SFR	2	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 27 W,K7,*		SFR	4	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 28 W,K7		SFR	2	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 29 W,K7,*		SFR	4	58 MOD	58	58	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 30 W,K7		SFR	2	69 MOD	69	68	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 31 W,K7,*		SFR	4	59 MOD	59	59	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 32 W,K7		SFR	4	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 33 W,K7		SFR	2	68 M,ST41A	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 34 W,K7,*		SFR	4	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 35 W,K7		SFR	8	69 MOD	68	68	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 36 W,K7,*		SFR	4	60 MOD	59	59	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 37 W,K7		SFR	4	68 M,LT22,CAL	67	68	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 37A W,K7,*		SFR	4	60 MOD	59	60	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 38 W,K7		REC	2	68 MOD	67	68	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 18 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K7 - A calibration factor of +1.8 dB is applied for these receivers.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-5 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 39 W,K8	S1162	REC	1	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	64	2	0	62 T	4	0	62	4	0	64 7	2	0
R 5. 40 W,K8,C	Shoulder	REC	1	66 M,ST42	67	68	1	1	B (67)	A/E	--	--	--	66	2	0	**63** R,T	**5**	1	63	5	1	64 7	4	0
R 5. 41 W	--	MFR	3	64 MOD	63	63	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 42 W		MFR	4	63 MOD	62	63	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.

3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.

4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

7 - These noise levels are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

W - Reciever protected by existing private property wall or soundwall.

C - Critical design receiver.

* - Non first row residences.

K8 - An adjustment factor of -1 dB is applied for these receivers to account for the transmission loss from an intervening tarp-covered fence.

Table G-6 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 6

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 1 W,*	S431 Shoulder	MFR	2	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	60	1	0	59	2	0	58	3	0
R 6. 2 W		MFR	2	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	65	1	0	64	2	0	63	3	0
R 6. 3 W		MFR	2	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	68	1	0	68	1	0	67	2	0
R 6. 4 W		MFR	2	64 M,LT24	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	63	1	0
R 6. 5 W		MFR	2	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 6. 6 W		MFR	2	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 7 W,*		MFR	2	60 MOD	60	60	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	59	1	0
R 6. 8 W		MFR	4	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 9 W		MFR	2	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 10 W		MFR	4	68 MOD	68	67	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 11 W		MFR	4	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 12 W	S445 Shoulder	MFR	3	62 MOD	62	62	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	61	1	0
R 6. 13 W		MFR	4	64 M,ST43	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 6. 14 W		MFR	3	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	63	0	0
R 6. 15 W		MFR	4	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	0	0
R 6. 16 W,*		MFR	6	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	62	1	0
R 6. 17 W		MFR	6	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	62	1	0
R 6. 18 W		REL	1	62 MOD	62	62	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	62	0	0
R 6. 19 W	--	LIB	--	65 MOD	65	65	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 19 W,Int		LIB	1	45 MOD	45	45	0	0	E (52)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-6 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 6 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 20 W	--	SFR	4	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	59	0	0	58	1	0	56	3	0
R 6. 21 W,*		SFR	1	58 MOD	58	58	0	0	B (67)	NONE	--	--	--	--	--	--	58	0	0	57	1	0	57	1	0
R 6. 22 W		SFR	5	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	60	1	0	59	2	0	59	2	0
R 6. 23 W		SFR	4	63 MOD	63	64	0	1	B (67)	NONE	--	--	--	--	--	--	63	1	0	62	2	0	62	2	0
R 6. 24 W	--	SFR	3	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	66	1	0	66	1	0	65	2	0
R 6. 25 W,*		SFR	13	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	60	1	0	59	2	0	59	2	0
R 6. 26 W	S434 Shoulder	SFR	3	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	2	0
R 6. 27 W		SFR	2	67 M,LT23	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 28 W		SFR	2	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	0	0
R 6. 29 W		SFR	2	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 30 W,*	--	SFR	1	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	60	1	0
R 6. 31 W		SFR	3	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 32 W		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	0	0
R 6. 33 W		SFR	3	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 6. 34 W,*		SFR	2	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	61	2	0
R 6. 34A W		SFR	2	66 MOD	66	67	0	1	B (67)	A/E	67	0	0	66 T	1	0	65	2	0	64	3	0	64	3	0
R 6. 35	S1226 R/W	SFR	1	64 MOD	68	70	4	2	B (67)	A/E	69	1	0	67 T	3	0	66	4	0	66	4	0	66	4	0
R 6. 35A		SFR	1	64 MOD	68	70	4	2	B (67)	A/E	70	0	0	68 T	2	0	67	3	0	66	4	0	**65 R**	**5**	***1***
R 6. 36		SFR	1	65 MOD	69	70	4	1	B (67)	A/E	70	0	0	68 T	2	0	67	3	0	66	4	0	**65 R**	**5**	***1***
R 6. 36A C		SFR	2	66 MOD	70	71	4	1	B (67)	A/E	70	1	0	68 T	3	0	67	4	0	67	4	0	**66 R**	**5**	***2***
R 6. 37	--	SFR	2	63 M,ST44	67	68	4	1	B (67)	A/E	68	0	0	67	1	0	67 T	1	0	67	1	0	66	2	0

Notes:

1 - $L_{eq(h)}$ are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.

3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.

4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

7 - Existing soundwall is at a height of 16 feet.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

C - Critical design receiver.

Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.

W - Reciever protected by existing private property wall or soundwall.

* - Non first row residences.

Table G-6 – Predicted Future Noise Levels and Barrier Analysis – Alternative 1 – Segment 6 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 1 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 38 W	--	SFR	2	68 MOD	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 39 W		SFR	2	68 MOD	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 40 W,*		SFR	2	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 41 W		SFR	3	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 42 W		SFR	5	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 43 W		SFR	4	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 44 W,*		SFR	2	63 MOD	63	64	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 45 W	S464	SFR	1	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 46 W	R/W	SFR	1	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 47 W	--	SFR	2	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 48 W,*		SFR	2	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 49 W		SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 50 W		SFR	3	64 M,LT25	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 51 W		SFR	4	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 52 W		SFR	3	68 MOD,F	64	64	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 53 W,*		SFR	2	66 MOD,F	62	62	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 54 W		SFR	4	67 MOD,F	63	63	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 55 W		SFR	3	67 MOD,F	63	63	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 56 W		SFR	3	66 MOD,F	62	62	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 57 W		SFR	3	64 MOD,F	60	60	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 58 W		SFR	3	63 M,ST45,F	59	59	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 59 W		SFR	3	65 MOD,F	61	61	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 60 W,*		SFR	5	64 MOD,F	60	60	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 61 W		SFR	2	65 MOD,F	61	61	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
F - At these receivers, the existing noise measurements were conducted before the construction of a soundwall that is part of the WCC project but is included in all future alternatives; therefore, there is a 4 dB reduction in future traffic noise levels.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-7 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 1

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1.88 W	--	SFR	4	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	0	0
R 1.89 W		SFR	3	69 MOD	68	68	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	0
R 1.90 W	--	SFR	4	68 MOD	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.91 W*		SFR	3	63 MOD	62	62	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.92 W		SFR	5	68 M,LT5,CAL	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.93 W		SFR	4	67 MOD	66	67	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.94 W*		SFR	2	58 M,ST9A,CAL	57	57	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.95 W	S649 Shoulder	SFR	5	67 MOD	68	67	1	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	0	65	2	0
R 1.96 W*		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.97 W		SFR	4	64 M,ST9	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.98 W		SFR	4	64 MOD	65	64	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.99 W		SFR	2	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.100 W*		SFR	2	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.101 W		REC	3	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.102 W		REC	2	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.103 W		REC	1	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-8 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 2

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.1 W	S699 R/W	MFR	3	65 MOD	62	62	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.2 W		MFR	3	63 MOD	60	62	-3	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.2A W		MFR	1	65 MOD	62	63	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.3 W		MFR	6	68 M,LT6,CAL	65	64	-3	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.4 W		MFR	3	62 MOD	59	58	-3	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.4A W		MFR	2	65 MOD	62	61	-3	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.5 W	S705 Shoulder	MFR	3	67 MOD	64	64	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.6 W		MFR	6	67 MOD	64	64	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.7 W		MFR	6	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	0	*0*	63	1	*0*
R 2.8 W		MFR	3	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.8A W		MFR	2	58 MOD	59	60	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	57	3	*0*	56	4	*0*
R 2.9 W		MFR	4	62 M,ST11	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	3	*0*	60	4	*0*
R 2.10 W	--	MFR	6	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.11 W		MFR	8	57 MOD	58	58	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.12 W	--	SFR	3	62 MOD	63	65	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.13 W	S708, S710, & S718 Shoulder & R/W	SFR	2	57 M,ST12,CAL	58	63	1	5	B (67)	NONE	62	1	*0*	62	1	*0*	62	1	*0*	61	2	*0*	60	3	*0*
R 2.14 W,K3		SFR	2	67 MOD	68	71	1	3	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	69	2	*0*	68	3	*0*
R 2.15 W,K3		REC	2	68 MOD	69	71	1	2	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	69	2	*0*	68	3	*0*
R 2.16 W,K3		REC	0	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	2	*0*	63	2	*0*
R 2.17 W,K3		SFR	1	66 MOD	66	68	0	2	B (67)	A/E	68	0	*0*	67	1	*0*	67 T	1	*0*	65	3	*0*	64	4	*0*
R 2.18 W,K3		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	68	0	*0*	66	2	*0*	64 T	4	*0*	**63 R**	**5**	*3*	62	6	*3*
R 2.19 W,K3		SFR	4	67 M,LT7,CAL	67	68	0	1	B (67)	A/E	68	0	*0*	66	2	*0*	64 T	4	*0*	**62 R**	**6**	*4*	61	7	*4*
R 2.20 W,K3		SFR	4	67 MOD	67	68	0	1	B (67)	A/E	68	0	*0*	67	1	*0*	64 T	4	*4*	**62 R**	**6**	*4*	61	7	*4*
R 2.21 W*		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	63	0	*0*	63	0	*0*	60	3	*0*	60	3	*0*	59	4	*0*
R 2.21A W*		--	--	60 M,ST12A	61	62	1	1	--	--	63	-1	*0*	63	-1	*0*	60	2	*0*	60	2	*0*	59	3	*0*
R 2.22 W,K3		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	68	0	*0*	67	1	*0*	64	4	*0*	**62 T,R**	**6**	*3*	61	7	*3*
R 2.23 W*		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	63	0	*0*	63	0	*0*	62	1	*0*	60	3	*0*	59	4	*0*
R 2.24 W,K3,C		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	68	0	*0*	67	1	*0*	64	4	*0*	62 T	6	*3*	**62 R,5**	**6**	*3*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K3 - A calibration factor of +1.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-8 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.25 W,K3	S718 Shoulder	SFR	2	66 MOD	67	69	1	2	B (67)	A/E	67	2	0	67	2	0	66	3	0	65 T	4	0	**64** R	**5**	2
R 2.26 W*		SFR	2	60 MOD	61	62	1	1	B (67)	NONE	62	0	0	62	0	0	61	1	0	59	3	0	59	3	0
R 2.27 W,K3		SFR	2	66 MOD	67	67	1	0	B (67)	A/E	65	2	0	64	3	0	64	3	0	63 T	4	0	**62** R	**5**	2
R 2.28 W,K4		SFR	3	58 M,ST13,CAL	59	58	1	-1	B (67)	NONE	54	4	0	54	4	0	**53** R	**5**	3	53	5	3	52	6	3
R 2.29 W,K4		SFR	3	58 MOD	59	56	1	-3	B (67)	NONE	53	3	0	53	3	0	53	3	0	52	4	0	52	4	0
R 2.30 W,K4		SFR	1	56 MOD	57	54	1	-3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.31 W	--	SFR	3	59 MOD	61	56	2	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.32 W		SFR	3	60 MOD	62	57	2	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.33 W		SFR	3	62 MOD	64	59	2	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.33A W		--	--	63 MOD	65	62	2	-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.34 W,C	S733 Shoulder	SFR	1	66 MOD	68	68	2	0	B (67)	A/E	64	4	0	63	5	1	**63** T,R	**5**	1	62	6	1	61	7	1
R 2.35 W	--	SFR	3	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65 T	1	0	64	2	0
R 2.36 W*		SFR	2	62 MOD	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	2	0	62	3	0
R 2.37 W		SFR	2	64 M,LT8	66	68	2	2	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	67	1	0	66	2	0
R 2.38 W*		SFR	2	64 MOD	66	67	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67 T	0	0	66	1	0
R 2.39 W		SFR	2	64 MOD	66	67	2	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	66	1	0	65	2	0
R 2.40 W	S745 R/W	SFR	2	67 MOD	69	72	2	3	B (67)	A/E	--	--	--	--	--	--	68	4	0	**67** T,R	**5**	2	66	6	2
R 2.41 W,C,P		SCH	1	63 M,ST15	69	72	6	3	B (67)	A/E	--	--	--	--	--	--	67	5	1	**66** T,R	**6**	1	65	7	1
R 2.42 W,P		SCH	1	58 MOD	64	66	6	2	B (67)	A/E	63	3	0	63	3	0	62	4	0	**61** T,R	**5**	1	61	5	1
R 2.43	--	MOT	1	51 MOD	53	53	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.44		MOT	1	55 MOD	57	58	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
P - Design Year No Build and Build noise levels do not account for the privacy screen that was present at the time of measurement
K3 - A calibration factor of +1.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
K4 - A calibration factor of -3 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-8 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.45 W	S746 R/W	SFR	1	59 MOD	61	65	2	4	B (67)	NONE	62	3	*0*	61	4	*0*	61	4	*0*	60	5	*1*	60	5	*1*
R 2.45A W		SFR	1	57 MOD	59	61	2	2	B (67)	NONE	60	1	*0*	59	2	*0*	59	2	*0*	59	2	*0*	59	2	*0*
R 2.46 W,C		SCH	1	68 M,ST16	70	75	2	5	B (67)	A/E	69	6	*1*	68	7	*1*	**68** T,R	**7**	*1*	68	7	*1*	67	8	*1*
R 2.47 W	--	SFR	2	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	*0*
R 2.48 W		SFR	1	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	*0*
R 2.49 W		SFR	3	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	*0*
R 2.50 W*		SFR	1	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	60	0	*0*
R 2.51 W		SFR	3	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	*0*
R 2.52 W		SFR	4	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	*0*
R 2.53 W		SFR	4	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	*0*
R 2.54 W*		SFR	1	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	58	2	*0*
R 2.55 W		SFR	3	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	*0*
R 2.56 W		SFR	3	65 M,LT9,CAL	65	67	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	0	*0*
R 2.57 W*	S766 R/W	SFR	2	58 MOD	58	60	0	2	B (67)	NONE	59	1	*0*	59	1	*0*	59 T	1	*0*	59	1	*0*	59	1	*0*
R 2.58 W		SFR	2	65 MOD	65	69	0	4	B (67)	A/E	68	1	*0*	68 T	1	*0*	68	1	*0*	68	1	*0*	68	1	*0*
R 2.59 W		SFR	2	61 MOD	61	67	0	6	B (67)	A/E	65	2	*0*	65 T	2	*0*	64	3	*0*	64	3	*0*	64	3	*0*
R 2.60 W	--	MFR	1	60 MOD	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.61 W		MFR	2	60 M,ST17	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.61A W		--	--	66 M,ST17A	64	66	-2	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.62 W		MFR	1	60 MOD	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.63 W	S765 R/W	SFR	1	62 MOD	61	67	-1	6	B (67)	A/E	66	1	*0*	65	2	*0*	65	2	*0*	64 T	3	*0*	63	4	*0*
R 2.64 W		SFR	2	64 MOD	63	69	-1	6	B (67)	A/E	68	1	*0*	67	2	*0*	66	3	*0*	65 T	4	*0*	65	4	*0*
R 2.65 W		SFR	1	67 M,LT10,CAL	66	70	-1	4	B (67)	A/E	69	1	*0*	69	1	*0*	68 T	2	*0*	68	2	*0*	68	2	*0*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-8 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.66 W	--	SFR	3	66 MOD	65	66	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.67 W*	--	SFR	1	60 MOD	59	61	-1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.68 W	--	SFR	2	55 MOD	54	54	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.69 W	--	SFR	3	65 MOD	64	66	-1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.70 W*	--	SFR	1	58 MOD	57	58	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.71 W	--	SFR	3	64 MOD	63	64	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.72 W*	--	SFR	2	59 MOD	58	59	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.73 W*	--	SFR	2	54 MOD	53	54	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 2.74 W	--	SFR	3	64 MOD	63	63	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.75 W	--	SFR	3	64 MOD	63	61	-1	-2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.76 W	--	SFR	4	64 MOD	63	58	-1	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.77 W	--	MFR	2	60 MOD	61	61	1	0	B (67)	NONE	59	2	*0*	58	3	*0*	58	3	*0*	58	3	*0*	58	3	*0*
R 2.78 W	--	MFR	4	61 M,ST19	62	61	1	-1	B (67)	NONE	58	3	*0*	58	3	*0*	57	4	*0*	57	4	*0*	57	4	*0*
R 2.79 W	--	MFR	4	65 MOD	66	62	1	-4	B (67)	NONE	59	3	*0*	59	3	*0*	58	4	*0*	58	4	*0*	58	4	*0*
R 2.80 W	S786, S788, & S792 Shoulder	SFR	3	64 MOD	65	64	1	-1	B (67)	NONE	61	3	*0*	61	3	*0*	61	3	*0*	60	4	*0*	60	4	*0*
R 2.81 W,C	S786, S788, & S792 Shoulder	SFR	3	68 MOD	69	67	1	-2	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	63	4	*0*	**62** R	**5**	*3*
R 2.82 W	S786, S788, & S792 Shoulder	SFR	2	67 MOD	68	68	1	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	65	3	*0*	64	4	*0*
R 2.83 W	S786, S788, & S792 Shoulder	SFR	3	66 MOD	66	65	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 2.84 W	S786, S788, & S792 Shoulder	SFR	4	66 M,LT11,CAL	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	65	1	*0*	64	2	*0*
R 2.85 W	S786, S788, & S792 Shoulder	SFR	4	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	66	1	*0*	65	2	*0*
R 2.86 W	--	SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 2.87 W	--	SFR	4	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.88 W	--	SFR	4	62 MOD	62	62	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.89 W	--	SFR	3	63 MOD	63	60	0	-3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.90 W	--	SFR	3	62 MOD	62	59	0	-3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.91 W	--	SFR	2	63 MOD	63	62	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.92 W	--	SFR	1	61 MOD	61	61	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-9 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 3

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.1 W	--	MFR	4	59 MOD	59	59	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.2 W	--	MFR	5	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.3 W	--	MFR	7	65 M,ST22	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	65	0	*0*	64	1	*0*	63 T	2	*0*
R 3.4 W	--	MFR	2	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	67	1	*0*	66 T	2	*0*	65	3	*0*
R 3.5 W*	--	SFR	3	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	66	0	*0*	65	1	*0*	63 T	3	*0*
R 3.6 W	--	SFR	2	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	68	1	*0*	66 T	3	*0*	66	3	*0*
R 3.7 W	--	SFR	4	65 MOD	65	69	0	4	B (67)	A/E	--	--	--	--	--	--	67	2	*0*	67 T	2	*0*	65	4	*0*
R 3.8 W	--	SFR	4	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	69	1	*0*	68 T	2	*0*	67	3	*0*
R 3.9 W	--	SFR	2	68 M,LT13,CAL	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	69 T	1	*0*	68	2	*0*	67	3	*0*
R 3.10 W	--	SFR	2	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	69 T	1	*0*	68	2	*0*	67	3	*0*
R 3.11 W*	--	SFR	5	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	65	0	*0*	64	1	*0*	64	1	*0*
R 3.12 W	--	SFR	1	69 MOD	69	71	0	2	B (67)	A/E	--	--	--	--	--	--	69 T	2	*0*	68	3	*0*	67	4	*0*
R 3.13 W*	S834 Shoulder	SFR	3	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	66 T	3	*0*	65	4	*0*	**64 R**	**5**	*2*
R 3.14 W	S834 Shoulder	SFR	2	68 MOD	68	71	0	3	B (67)	A/E	--	--	--	--	--	--	68	3	*0*	67	4	*0*	**66 R**	**5**	*2*
R 3.15 W*	S834 Shoulder	SFR	4	62 MOD	62	64	0	2	B (67)	NONE	62	2	*0*	61	3	*0*	60	4	*0*	59	5	*3*	59	5	*3*
R 3.16 W,C	S834 Shoulder	SFR	1	70 MOD	70	72	0	2	B (67)	A/E	--	--	--	--	--	--	69	3	*0*	68	4	*0*	**67 R**	**5**	*1*
R 3.17 W	S834 Shoulder	SFR	2	69 MOD	69	71	0	2	B (67)	A/E	--	--	--	--	--	--	69	2	*0*	68	3	*0*	67	4	*0*
R 3.17A W	S834 Shoulder	--	--	68 M,ST23	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	67	3	--	66	4	--	65	5	--
R 3.18 W	S834 Shoulder	SFR	1	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	68	2	*0*	67	3	*0*	66	4	*0*
R 3.19 W*	S834 Shoulder	SFR	2	60 MOD	60	62	0	2	B (67)	NONE	60	2	*0*	60	2	*0*	59	3	*0*	59	3	*0*	58	4	*0*
R 3.19A W*	S834 Shoulder	SFR	1	63 MOD	63	65	0	2	B (67)	NONE	62	3	*0*	62	3	*0*	61	4	*0*	60	5	*1*	60	5	*1*
R 3.20 W	S834 Shoulder	SFR	2	65 MOD	65	67	0	2	B (67)	A/E	64	3	*0*	63	4	*0*	63 T	4	*0*	63	4	*0*	**62 R**	**5**	*2*
R 3.21 W*	S834 Shoulder	SFR	2	60 MOD	60	62	0	2	B (67)	NONE	60	2	*0*	60	2	*0*	59	3	*0*	59	3	*0*	58	4	*0*
R 3.22 W*	--	MFR	8	55 MOD	56	56	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.22A W	--	MFR	2	54 M,ST20	55	56	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.23 W*	--	MFR	9	51 MOD	52	52	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-9 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.23A	S807 Shoulder & S811 R/W	REC	--	62 MOD	63	64	1	1	B (67)	NONE	61	3	--	61	3	--	60	4	--	59	5	--	59	5	--
R 3.23B C		REC	7	65 MOD	66	69	1	3	B (67)	A/E	65	4	*0*	65	4	*0*	**63** T,R	**6**	*7*	62	7	*7*	62	7	*7*
R 3.24 K1,W		SFR	2	64 MOD	65	67	1	2	B (67)	A/E	--	--	--	--	--	--	65 T	2	*0*	63	4	*0*	**62** R	**5**	*2*
R 3.25 K1,W*		SFR	2	59 MOD	60	63	1	3	B (67)	NONE	--	--	--	--	--	--	60	3	*0*	59	4	*0*	59	4	*0*
R 3.26 K1,W	S827 Shoulder	SFR	3	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	63	3	*0*	63	3	*0*	63	3	*0*
R 3.27 K1,W*		SFR	2	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	62	4	*0*	62	4	*0*	62	4	*0*
R 3.28 K1,W		SFR	3	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	63	3	*0*	63	3	*0*	63	3	*0*
R 3.28A K1,W		--	--	64 M,CAL	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	64	1	--	63	2	--	62	3	--
R 3.29 K1,W*		SFR	2	60 MOD	61	60	1	-1	B (67)	NONE	--	--	--	--	--	--	59	1	*0*	58	2	*0*	57	3	*0*
R 3.30 K,1W	S827 Shoulder	SFR	3	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	3	*0*	58	3	*0*
R 3.31 K1,W		SFR	2	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	0	*0*	62	1	*0*
R 3.32 K1,W		SFR	4	64 M,LT12	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 3.33 K1,W		SFR	2	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 3.34 K1,W*		SFR	2	63 MOD	64	62	1	-2	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	1	*0*	61	1	*0*
R 3.35 K1,W		SFR	1	66 M,ST21	65	65	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 3.36 K1,W*		SFR	3	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	1	*0*	57	2	*0*
R 3.37 K1,W*		SFR	2	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	0	*0*	60	1	*0*
R 3.38 K1,W		SFR	2	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 3.39 K1,W*		SFR	3	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	1	*0*	56	3	*0*
R 3.40 K1,W		SFR	5	62 MOD	63	65	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 3.41 K1,W*		SFR	3	57 MOD	58	59	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	1	*0*	56	3	*0*
R 3.42 K1,W		SFR	3	62 MOD	63	68	1	5	B (67)	A/E	--	--	--	--	--	--	64	4	*0*	65	3	*0*	64	4	*0*
R 3.43 W	--	MFR	8	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.44 W*		MFR	7	59 MOD	59	61	0	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.45 W		MFR	10	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.46 W		MFR	8	56 MOD	56	57	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K1 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-9 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.47 W	S841 Shoulder	SFR	2	62 MOD	63	68	1	5	B (67)	A/E	64	4	0	63	5	1	**62 T,R**	**6**	2	62	6	2	61	7	2
R 3.48 C		SFR	1	69 MOD	70	76	1	6	B (67)	A/E	69	7	1	68	8	1	**66 T,R**	**10**	1	66	10	1	65	11	1
R 3.49 W		SFR	2	60 MOD	61	63	1	2	B (67)	NONE	61	2	0	61	2	0	60	3	0	59	4	0	59	4	0
R 3.50 W		SFR	1	70 M,LT14	71	76	1	5	B (67)	A/E	70	6	1	69	7	1	68 T	8	1	**67 R,5**	**9**	1	66	10	1
R 3.51 W*		SFR	2	62 MOD	63	65	1	2	B (67)	NONE	63	2	0	62	3	0	61	4	0	60	5	2	59	6	2
R 3.52 W		REC	1	68 MOD	69	71	1	2	B (67)	A/E	68	3	0	67	4	0	67 T	4	0	**66 R**	**5**	1	66	5	1
R 3.53 W	--	MFR	6	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	2	0	64	3	0
R 3.53A W*		REC	5	54 MOD	56	58	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	55	3	0	55	3	0
R 3.54 W		MFR	4	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	65	1	0
R 3.54A W		MFR	3	62 M,ST24	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	63	2	0
R 3.55 W		MFR	4	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	0	0	65	1	0
R 3.55A W		MFR	4	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 3.56 W,C	S857 Shoulder	MFR	7	67 MOD	69	71	2	2	B (67)	A/E	68	3	0	67	4	0	**66 T,R**	**5**	7	65	6	7	65	6	7
R 3.57 W	--	SFR	2	61 MOD	62	65	1	3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.58 W		SFR	3	60 MOD	61	63	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.59 W		SFR	4	61 MOD	62	64	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.60 W		SFR	2	61 M,ST25A,CAL	62	64	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.60A W		SFR	--	63 M,ST25	62	64	-1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.61 W*		SFR	7	59 MOD	60	61	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.62 W*		SFR	4	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.63 W,C	S868 R/W	SFR	1	65 MOD	66	67	1	1	B (67)	A/E	65	2	0	64	3	0	63	4	0	63 T	4	0	**60 R**	**7**	1
R 3.64 W	--	SFR	3	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	63	0	0	63	0	0	62	1	0
R 3.65 W		SFR	2	59 MOD	60	62	1	2	B (67)	NONE	--	--	--	--	--	--	62	0	0	62	0	0	60	2	0
R 3.66 W		MFR	5	60 M,ST26	58	60	-2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.66A W		MFR	8	56 MOD	54	55	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.66B W		MFR	4	56 MOD	54	55	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-9 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.67 W	--	MH	4	58 MOD	60	61	2	1	B (67)	NONE	--	--	--	--	--	--	60	1	0	60	1	0	59	2	0
R 3.68 W*		REC	1	52 MOD	54	56	2	2	B (67)	NONE	--	--	--	--	--	--	55	1	0	55	1	0	54	2	0
R 3.69 W		MH	4	62 MOD	64	66	2	2	B (67)	A/E	--	--	--	--	--	--	64	2	0	64	2	0	62	4	0
R 3.70 W		MH	4	64 MOD	66	68	2	2	B (67)	A/E	--	--	--	--	--	--	67 T	1	0	66	2	0	65	3	0
R 3.71 W*		MH	7	65 MOD	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	68	1	0	67 T	2	0	66	3	0
R 3.72 W		MH	2	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 3.72A W		MH	2	63 M,ST27	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 3.73 W		MH	5	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 3.74 W*		MH	11	64 MOD	66	67	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 3.74A W		MH	2	65 MOD	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	68	1	0
R 3.75 W		MH	4	65 MOD	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	2	0
R 3.76 W*	S896 R/W	MH	2	63 MOD	65	67	2	2	B (67)	A/E	67	0	0	67	0	0	67	0	0	67 T	0	0	67	0	0
R 3.77 W		MH	3	62 MOD	64	68	2	4	B (67)	A/E	68	0	0	68 T	0	0	67	1	0	67	1	0	67	1	0
R 3.78 W*	S902 Shoulder	SFR	2	63 MOD	63	65	0	2	B (67)	NONE	--	--	--	65	0	0	64	1	0	63	2	0	63	2	0
R 3.79 W		REC	1	62 MOD	62	65	0	3	B (67)	NONE	--	--	--	65	0	0	63	2	0	61	4	0	60	5	1
R 3.80 W		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	63	1	0	62	2	0	61	3	0	60	4	0
R 3.81 W		SFR	2	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	67	1	0	66	2	0	66	2	0	65	3	0
R 3.81A W		SFR	3	66 M,LT15,CAL	66	66	0	0	B (67)	A/E	--	--	--	66	0	0	65	1	0	64	2	0	64	2	0
R 3.82 W		SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	65	0	0	64	1	0	63	2	0	63	2	0
R 3.83 W		SFR	5	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	64	1	0	63	2	0	63	2	0	62	3	0
R 3.84 W	S910 & S916 Shoulder	SFR	3	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	64	1	0	63	2	0	62	3	0	62	3	0
R 3.85 W		SFR	2	66 MOD	66	67	0	1	B (67)	A/E	64	3	0	63 T	4	0	**62 R**	**5**	2	62	5	2	61	6	2
R 3.86 W,C		SFR	3	66 MOD	66	67	0	1	B (67)	A/E	65	2	0	63 T	4	0	**62 R**	**5**	3	61	6	3	60	7	3
R 3.86A W		SFR	2	65 MOD	65	67	0	2	B (67)	A/E	64	3	0	62	5	2	**62 T,R**	**5**	2	60	7	2	60	7	2

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-9 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.87 W	S907 Shoulder	REC	3	65 MOD	65	67	0	2	B (67)	A/E	63	4	*0*	62 T	5	*3*	**62 R,5**	**5**	*3*	61	6	*3*	61	6	*3*
R 3.88 W,C		REC	1	66 MOD	66	68	0	2	B (67)	A/E	63 T	5	*1*	63	5	*1*	**63 R,5**	**5**	*1*	62	6	*1*	62	6	*1*
R 3.89 W		REC	2	65 M, ST28	65	67	0	2	B (67)	A/E	63	4	*0*	63 T	4	*0*	**62 R**	**5**	*2*	62	5	*2*	62	5	*2*
R 3.90 W*	S141 Shoulder	SFR	1	64 MOD	64	63	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.91 W		SFR	3	64 MOD	64	63	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.92 W		SFR	4	65 MOD	64	63	-1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.93 W		SFR	4	67 MOD	66	64	-1	-2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.93A W		SFR	3	67 M,LT16,Cal	66	65	-1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.94 W,*	S141 Shoulder	SFR	1	65 MOD	64	64	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	63	1	*0*
R 3.95 W		SFR	3	68 MOD	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	64	3	*0*	63	4	*0*
R 3.96 W		SFR	5	69 MOD	68	69	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	3	*0*	65	4	*0*
R 3.97 W,*		SFR	1	64 MOD	63	64	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	2	*0*	61	3	*0*
R 3.98 W		SFR	12	66 MOD	65	67	-1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	*0*	65	2	*0*
R 3.99 K2,W,C	S935 R/W	SFR	1	66 MOD	64	66	-2	2	B (67)	A/E	64	2	*0*	63 T	3	*0*	62	4	*0*	62	4	*0*	**61 R**	**5**	*1*
R 3.99A K2,W		SFR	2	65 M,ST29,Cal	63	64	-2	1	B (67)	NONE	63	1	*0*	62	2	*0*	61	3	*0*	60	4	*0*	60	4	*0*
R 3.100 K2,W		SFR	2	64 MOD	62	64	-2	2	B (67)	NONE	62	2	*0*	61	3	*0*	59	5	*2*	59	5	*2*	58	6	*2*
R 3.100A K2,W		SFR	1	64 MOD	62	63	-2	1	B (67)	NONE	61	2	*0*	60	3	*0*	59	4	*0*	57	6	*1*	57	6	*1*
R 3.101 K2,W		SFR	2	62 MOD	60	61	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K2 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-10 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 4

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 1 W,C	S995 R/W	SFR	2	69 MOD	70	72	1	2	B (67)	A/E	--	--	--	--	--	--	70	2	*0*	68 T	4	*0*	**67 R**	**5**	***2***
R 4. 2 W	--	SFR	3	69 MOD	70	71	1	1	B (67)	A/E	--	--	--	--	--	--	69	2	*0*	68	3	*0*	67	4	*0*
R 4. 3 W		SCH	3	68 MOD	69	70	1	1	B (67)	A/E	--	--	--	--	--	--	69	1	*0*	68	2	*0*	67	3	*0*
R 4. 4 W,*		SFR	2	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	66	0	*0*	64	2	*0*	63	3	*0*
R 4. 5 W,*		SFR	1	66 MOD	67	68	1	1	B (67)	A/E	--	--	--	--	--	--	67	1	*0*	66	2	*0*	65	3	*0*
R 4. 6 W	--	SFR	2	68 M,LT19,CAL	69	70	1	1	B (67)	A/E	--	--	--	--	--	--	69	1	*0*	68	2	*0*	67	3	*0*
R 4. 7 W	S1005 & S1009 R/W	SFR	2	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	68	1	*0*	67	2	*0*	66	3	*0*
R 4. 8 W,*		SFR	2	65 MOD	66	67	1	1	B (67)	A/E	66	1	*0*	66	1	*0*	65	2	*0*	64	3	*0*	64	3	*0*
R 4. 9 *		SFR	2	63 MOD	64	66	1	2	B (67)	A/E	65	1	*0*	65	1	*0*	64	2	*0*	63	3	*0*	63	3	*0*
R 4. 10		REC	3	73 MOD	74	75	1	1	B (67)	A/E	71	4	*0*	69	6	*3*	**68 R,T**	**7**	***3***	67	8	*3*	66	9	*3*
R 4. 11 C		REC	2	73 MOD	74	75	1	1	B (67)	A/E	67 T	8	*2*	66	9	*2*	**65 R,5**	**10**	***2***	64	11	*2*	63	12	*2*
R 4. 12		REC	1	70 MOD	71	68	1	-3	B (67)	A/E	64	4	*0*	64 T	4	*0*	**63 R**	**5**	***1***	62	6	*1*	62	6	*1*
R 4. 13 W		SFR	5	62 MOD	63	62	1	-1	B (67)	NONE	58 T	4	*0*	58	4	*0*	**57 R**	**5**	***5***	57	5	*5*	57	5	*5*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-10 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 14A W	S182 Shoulder	SFR	1	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	66	1	0	65	2	0	65	2	0
R 4. 14 W		SFR	3	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	67	2	0	66	3	0	65	4	0
R 4. 15 W		SFR	3	64 M,LT17,CAL	65	68	1	3	B (67)	A/E	--	--	--	--	--	--	67	1	0	66	2	0	65	3	0
R 4. 16 W,*		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	64	1	0	63	2	0	62	3	0
R 4. 17 W		SFR	4	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	66	1	0	65	2	0	65	2	0
R 4. 18 W		SFR	4	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	64	1	0	64	1	0	63	2	0
R 4. 19 W		SFR	1	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	63	1	0	63	1	0	62	2	0
R 4. 20 W,*		SFR	2	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	63	1	0	62	2	0	61	3	0
R 4. 21 W		SFR	1	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	63	1	0	63	1	0	62	2	0
R 4. 22 W	S972 & S978 Shoulder	--	--	61 M,ST30	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	63	1	0	62	2	0	62	2	0
R 4. 23 W		SFR	2	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	-- T	--	--	60	4	0	60	4	0	**59 R,5**	**5**	***2***
R 4. 24		SCH	3	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	-- T	--	--	62	4	0	62	4	0	**61 R**	**5**	***3***
R 4. 25A C		REC	2	69 MOD	69	71	0	2	B (67)	A/E	66	5	2	65	6	2	**63 R,T**	**8**	***2***	63	8	2	62	9	2
R 4. 25B		REC	2	65 MOD	65	69	0	4	B (67)	A/E	64	5	2	64	5	2	**62 R,T**	**7**	***2***	61	8	2	61	8	2
R 4. 25		REC	2	67 M,ST31	67	68	0	1	B (67)	A/E	64	4	0	62	6	2	**62 R,T**	**6**	***2***	61	7	2	61	7	2
R 4. 26		REC	2	65 MOD	65	65	0	0	B (67)	NONE	62	3	0	62	3	0	62	3	0	61	4	0	60	5	2
R 4. 27 W	--	MFR	1	69 MOD	70	72	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	71	1	0
R 4. 28 W		MFR	3	64 M,ST32A	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 4. 29 W		MFR	1	68 M,ST32	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	68	1	0
R 4. 29A W		MFR	1	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 4. 30 W		MFR	1	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 4. 31 W		MFR	7	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	62	1	0
R 4. 31A W		MFR	1	66 MOD	67	68	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	64	4	0
R 4. 32 C	S998 R/W	SFR	2	71 M,LT18,CAL	72	73	1	1	B (67)	A/E	71	2	0	70	3	0	69 T	4	0	**68 R**	**5**	***2***	66	7	2
R 4. 33A	S1006 R/W	MOT	--	75 MOD	78	80	3	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 33A Int		MOT	6	50 MOD	53	55	3	2	E (52)	A/E	47	8	6	**46 R,5**	**9**	***6***	45	10	6	44	11	6	43	12	6
R 4. 33 C		MOT	1	73 M,ST33	76	78	3	2	B (67)	A/E	71	7	1	**70 R,T**	**8**	***1***	68	10	1	67	11	1	66	12	1

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-10 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 34	--	SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 34A		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 35 W	--	SFR	3	64 M,ST36	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 4. 36 W,*		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	63	2	0
R 4. 37 W,*	--	SFR	2	63 MOD	64	66	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	65	1	0
R 4. 38 W		SFR	2	66 MOD	67	69	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 39 W		SFR	3	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 40 W,*		SFR	2	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 4. 41 W		SFR	7	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 42 W		SFR	7	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 42A W,*		SFR	1	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	60	1	0	58	3	0
R 4. 43 W		SFR	5	67 M,LT21,CAL	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 44 W		SFR	4	66 MOD	67	69	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 45 W,*		SFR	2	59 MOD	60	62	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	60	2	0	58	4	0
R 4. 46 W		SFR	8	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 46A W,*		SFR	2	63 MOD	64	66	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 4. 47A W,*		SFR	2	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	0	0	65	2	0
R 4. 47 W		SFR	4	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0

Notes:

1 - $L_{eq(h)}$ are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-10 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 48 W,*	--	SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63 T	1	0	61	3	0
R 4. 49 W	--	SFR	2	65 MOD	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	66	3	0
R 4. 50 W	--	SFR	2	65 M,ST38	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 50A W	--	SFR	2	63	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	63	3	0
R 4. 51 W,*	--	SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	61	3	0
R 4. 52 W	--	SFR	2	64 MOD	66	68	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 53 W,*	--	SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	62	2	0
R 4. 54 W	--	SFR	2	66 MOD	68	70	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	2	0	66	4	0
R 4. 55 W,*	--	SFR	2	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	63	3	0
R 4. 56 W	--	SFR	2	66 MOD	68	69	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	65	4	0
R 4. 57 W,*	--	SFR	4	60 MOD	62	63	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	0	0	61	2	0
R 4. 58 W	--	SFR	2	66 MOD	68	68	2	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	0	66	2	0
R 4. 59 W,*	S1083 R/W	SFR	3	61 MOD	64	67	3	3	B (67)	A/E	67	0	0	66	1	0	66 T	1	0	66	1	0	65	2	0
R 4. 60 W	S1083 R/W	SFR	1	64 MOD	67	74	3	7	B (67)	A/E	70	4	0	70 T	4	0	**69 R**	**5**	***1***	68	6	1	67	7	1
R 4. 60A W,*	S1083 R/W	SFR	1	62 MOD	65	67	3	2	B (67)	A/E	67	0	0	66 T	1	0	66 T	1	0	64	3	0	63	4	0
R 4. 61 W	S1083 R/W	SFR	2	65 M,ST38A	68	72	3	4	B (67)	A/E	70	2	0	69	3	0	68 T	4	0	**67 R**	**5**	***2***	66	6	2
R 4. 62 W,C	S1083 R/W	SFR	2	62 MOD	65	70	3	5	B (67)	A/E	67	3	0	65	5	2	**64 R,T**	**6**	***2***	63	7	2	62	8	2
R 4. 62A W	R/W	SFR	1	59 MOD	62	65	3	3	B (67)	NONE	64	1	0	63	2	0	62	3	0	62	3	0	61	4	0
R 4. 62B W	R/W	SFR	2	58 MOD	61	64	3	3	B (67)	NONE	63	1	0	62	2	0	62	2	0	61	3	0	61	3	0
R 4. 63 W	R/W	SFR	2	57 MOD	60	62	3	2	B (67)	NONE	61	1	0	61	1	0	60	2	0	60	2	0	59	3	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-10 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 64A	Shoulder	SFR	3	59 MOD	59	58	0	-1	B (67)	NONE	57	1	0	56	2	0	56	2	0	56	2	0	56	2	0
R 4. 64B		--	--	66 MOD	66	63	0	-3	B (67)	NONE	59	4	--	59	4	--	58	5	--	58	5	--	58	5	--
R 4. 64C	S1016 & S1020 Shoulder	SCH	1	71 MOD	71	70	0	-1	B (67)	A/E	67	3	0	66	4	0	65	5	1	**64 R,T**	**6**	**1**	63	7	1
R 4. 64D		SCH	1	68 MOD	68	68	0	0	B (67)	A/E	66	2	0	65	3	0	64	4	0	**63 R,T**	**5**	**1**	62	6	1
R 4. 64 W	S1022 & S1024 R/W	REC	3	72 MOD	72	73	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	69 T	4	0	**68 R**	**5**	**3**
R 4. 65 W,C		REC	3	69 M,ST35	69	74	0	5	B (67)	A/E	--	--	--	--	--	--	--	--	--	70 T	4	0	**69 R**	**5**	**3**
R 4. 66 W,C	S1026 & S1028 R/W	SFR	1	71 MOD	71	72	0	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	68	4	0	**67 R**	**5**	**1**
R 4. 67 W	--	SFR	3	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 68 W		SFR	5	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 69 W		SFR	5	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 70 W		SFR	7	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 71 W,*		SFR	3	59 MOD	61	63	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	2	0	59	4	0
R 4. 72 W		SFR	10	68 M,LT20,CAL	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	2	0	67	3	0
R 4. 73 W		SFR	8	67 MOD	67	70	0	3	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 74 W		SFR	8	69 MOD	69	71	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	2	0	68	3	0
R 4. 75 W,*		SFR	2	60 MOD	62	64	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	2	0	60	4	0
R 4. 76 W,*		--	--	60 M,ST35A	62	64	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	2	0	61	3	0
R 4. 77 W,*		SFR	1	62 MOD	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	65	0	0	63	2	0
R 4. 78 W		SFR	3	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 79 W,*	--	MH	2	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 80 W		MH	6	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 80A W		MH	7	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	66	3	0
R 4. 81 W		MH	5	67 M,ST37	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 82 W,*		MH	3	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 83 W		MH	3	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	66	3	0
R 4. 83A W,*	R/W	MH	2	66 MOD	66	67	0	1	B (67)	A/E	67	0	0	66	1	0	66	1	0	65	2	0	63	4	0
R 4. 83B W,*		MH	2	64 MOD	64	66	0	2	B (67)	A/E	65	1	0	65	1	0	65	1	0	64	2	0	62	4	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-10 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR	Leq(h)	I.L	NBR
R 4. 84 W	--	MH	7	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 85 W		MH	7	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 86 W,*		MH	5	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 87 W		MH	12	60 M,LT20B,CAL	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 88 W,*		MH	7	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 88A W		MH	3	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 89 W		MH	4	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 90 W		MH	6	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 91 W		MH	9	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 92 W	--	MH	7	61 M,ST37A	63	63	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 93 W		MH	3	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-10 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 94 W	--	SFR	4	61 MOD	62	62	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 95 W		SFR	5	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 96 W,*		SFR	2	59 MOD	60	60	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 97 W		SFR	4	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 98 W		SFR	7	62 M,ST37A	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 99 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 100 W,*		SFR	2	58 MOD	59	60	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 101 W		SFR	9	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 102 W		SFR	4	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 103 W		SFR	6	63 M,LT20A,CAL	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 104 W		SFR	7	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 105 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 106 W		SFR	7	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 107 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 108 W		SFR	6	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 109 W		SFR	3	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 110 W		SFR	1	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 -
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-11 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 5

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 1 W	--	SFR	5	62 MOD	61	62	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 2 W		SFR	5	62 MOD	61	61	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 3 W		SFR	4	62 M,ST39,CAL	61	61	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 4 W		SFR	4	61 MOD	60	61	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 5 W	--	SFR	3	60 MOD	61	62	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 6 W,*		SFR	1	58 MOD	59	61	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 7 W,*		SFR	2	55 MOD	56	58	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 8 W		SFR	3	61 M,ST40	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 9 W		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 10 W		SFR	3	60 MOD	61	62	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-11 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	10 feet			12 feet			14 feet			16 feet			18 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 11 W,K7	--	SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 12 W,K7,*		SFR	4	59 MOD	60	61	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 13 W,K7		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 14 W,K7,*		SFR	4	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 15 W,K7		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 16 W,K7,*		SFR	4	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 17 W,K7		SFR	2	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 18 W,K7,*		SFR	4	57 MOD	58	59	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 19 W,K7	S1116 Shoulder	SFR	2	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	--	--	--	66 7	0	*0*
R 5. 20 W,K7,*		SFR	4	60 MOD	59	60	-1	1	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	60 7	0	*0*
R 5. 21 W,K7		SFR	2	65 MOD	64	65	-1	1	B (67)	NONE	--	--	--	-- T	--	--	--	--	--	--	--	--	65 7	0	*0*
R 5. 22 W,K7,*		SFR	4	59 MOD	58	59	-1	1	B (67)	NONE	--	--	--	-- T	--	--	--	--	--	--	--	--	59 7	0	*0*
R 5. 23 W,K7	--	REC	4	68 M,ST41	67	68	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 24 W,K7		SFR	12	61 MOD	60	61	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 25 W,K7		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 18 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K7 - A calibration factor of +1.8 dB is applied for these receivers.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-11 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	10 feet			12 feet			14 feet			16 feet			18 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 26 W,K7	S1142	SFR	2	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	65 7	0	0
R 5. 27 W,K7,*		SFR	4	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	59 7	0	0
R 5. 28 W,K7		SFR	2	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	--	--	--	66 7	0	0
R 5. 29 W,K7,*		SFR	4	58 MOD	58	58	0	0	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	58 7	0	0
R 5. 30 W,K7		SFR	2	69 MOD	69	68	0	-1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	--	--	--	68 7	0	0
R 5. 31 W,K7,*		SFR	4	59 MOD	59	59	0	0	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	59 7	0	0
R 5. 32 W,K7		SFR	4	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	-- T	--	--	--	--	--	--	--	--	68 7	0	0
R 5. 33 W,K7		SFR	2	68 M,ST41A	68	68	0	0	B (67)	A/E	--	--	--	-- T	--	--	--	--	--	--	--	--	68 7	0	0
R 5. 34 W,K7,*		SFR	4	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	-- T	--	--	--	--	--	--	--	--	60 7	0	0
R 5. 35 W,K7		SFR	8	68 MOD	68	67	0	-1	B (67)	A/E	--	--	--	-- T	--	--	--	--	--	--	--	--	67 7	0	0
R 5. 36 W,K7,*		SFR	4	59 MOD	59	59	0	0	B (67)	NONE	--	--	--	-- T	--	--	--	--	--	--	--	--	59 7	0	0
R 5. 37 W,K7		SFR	4	68 M,LT22,CAL	68	67	0	-1	B (67)	A/E	--	--	--	-- T	--	--	--	--	--	--	--	--	67 7	0	0
R 5. 37A W,K7,*		SFR	4	60 MOD	60	59	0	-1	B (67)	NONE	--	--	--	-- T	--	--	--	--	--	--	--	--	59 7	0	0
R 5. 38 W,K7		REC	2	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	-- T	--	--	--	--	--	--	--	--	68 7	0	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 18 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K7 - A calibration factor of +1.8 dB is applied for these receivers.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-11 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA1,6						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 39 W,K8	S1162 Shoulder	REC	1	65 MOD	66	67	1	1	B (67)	A/E	67	0	--	64	3	*0*	**62 R,T**	**5**	*1*	65	2	*0*	64 7	3	*0*
R 5. 40 W,K8,C		REC	1	66 M,ST42	67	68	1	1	B (67)	A/E	68	0	--	67	1	*0*	64 T	4	*0*	66	2	*0*	65 7	3	*0*
R 5. 41 W	--	MFR	3	63 MOD	63	64	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 42 W		MFR	4	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.

3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.

4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

7 - These noise levels are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

W - Reciever protected by existing private property wall or soundwall.

C - Critical design receiver.

* - Non first row residences.

K8 - An adjustment factor of -1 dB is applied for these receivers to account for the transmission loss from an intervening tarp-covered fence.

Table G-12 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 6

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 1 W,*	S431 Shoulder	MFR	2	60 MOD	60	60	0	0	B (67)	NONE	--	--	--	--	--	--	60	0	0	59	1	0	58	2	0
R 6. 2 W		MFR	2	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	65	1	0	64	2	0	63	3	0
R 6. 3 W		MFR	2	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	68	1	0	68	1	0	67	2	0
R 6. 4 W		MFR	2	64 M,LT24	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	63	1	0
R 6. 5 W		MFR	2	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 6. 6 W		MFR	2	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 7 W,*		MFR	2	60 MOD	60	60	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	59	1	0
R 6. 8 W		MFR	4	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 9 W		MFR	2	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	0	0
R 6. 10 W		MFR	4	68 MOD	68	67	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 11 W		MFR	4	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 12 W	S445 Shoulder	MFR	3	62 MOD	62	62	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	61	1	0
R 6. 13 W		MFR	4	64 M,ST43	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 6. 14 W		MFR	3	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	63	0	0
R 6. 15 W		MFR	4	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	0	0
R 6. 16 W,*		MFR	6	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	62	1	0
R 6. 17 W		MFR	6	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	62	1	0
R 6. 18 W		REL	1	62 MOD	62	62	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	62	0	0
R 6. 19 W	--	LIB	--	65 MOD	65	65	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 19 W,Int		LIB	1	45 MOD	45	45	0	0	E (52)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-12 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 6 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 20 W	--	SFR	4	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 21 W,*		SFR	1	58 MOD	58	58	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 22 W		SFR	5	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 23 W		SFR	4	63 MOD	63	64	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 24 W	--	SFR	3	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	66	1	0	66	1	0	65	2	0
R 6. 25 W,*		SFR	13	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	60	1	0	60	1	0	59	2	0
R 6. 26 W	S434 Shoulder	SFR	3	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	2	0
R 6. 27 W		SFR	2	67 M,LT23	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	0	0
R 6. 28 W		SFR	2	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	0	0
R 6. 29 W		SFR	2	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 30 W,*	--	SFR	1	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	60	1	0
R 6. 31 W		SFR	3	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 32 W		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	0	0
R 6. 33 W		SFR	3	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 6. 34 W,*		SFR	2	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	61	2	0
R 6. 34A W		SFR	2	66 MOD	66	67	0	1	B (67)	A/E	67	0	0	65 T	2	0	65	2	0	64	3	0	64	3	0
R 6. 35	S1226 R/W	SFR	1	64 MOD	68	70	4	2	B (67)	A/E	69	1	0	67 T	3	0	67	3	0	66	4	0	66	4	0
R 6. 35A		SFR	1	64 MOD	68	70	4	2	B (67)	A/E	70	0	0	68 T	2	0	67	3	0	66	4	0	**65 R**	**5**	***1***
R 6. 36		SFR	1	65 MOD	69	70	4	1	B (67)	A/E	70	0	0	68 T	2	0	67	3	0	66	4	0	66	4	0
R 6. 36A C		SFR	2	66 MOD	70	71	4	1	B (67)	A/E	70	1	0	68 T	3	0	67	4	0	67	4	0	**66 R**	**5**	***2***
R 6. 37	--	SFR	2	63 M,ST44	67	68	4	1	B (67)	A/E	68	0	0	67	1	0	67 T	1	0	67	1	0	66	2	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.

3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.

4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

7 - Existing soundwall is at a height of 16 feet.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

C - Critical design receiver.

Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.

W - Reciever protected by existing private property wall or soundwall.

* - Non first row residences.

Table G-12 – Predicted Future Noise Levels and Barrier Analysis – Alternative 2 – Segment 6 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 2 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 38 W	--	SFR	2	68 MOD	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 39 W		SFR	2	68 MOD	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 40 W,*		SFR	2	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 41 W		SFR	3	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 42 W		SFR	5	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 43 W		SFR	4	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 44 W,*		SFR	2	63 MOD	63	64	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 45 W	S464 R/W	SFR	1	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 46 W		SFR	1	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 47 W	--	SFR	2	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 48 W,*		SFR	2	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 49 W		SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 50 W		SFR	3	64 M,LT25	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 51 W		SFR	4	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 52 W		SFR	3	68 MOD,F	64	64	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 53 W,*		SFR	2	66 MOD,F	62	62	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 54 W		SFR	4	67 MOD,F	63	63	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 55 W		SFR	3	67 MOD,F	63	63	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 56 W		SFR	3	66 MOD,F	62	62	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 57 W		SFR	3	64 MOD,F	60	60	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 58 W		SFR	3	63 M,ST45,F	59	59	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 59 W		SFR	3	65 MOD,F	61	61	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 60 W,*		SFR	5	64 MOD,F	60	60	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 61 W		SFR	2	65 MOD,F	61	61	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
F - At these receivers, the existing noise measurements were conducted before the construction of a soundwall that is part of the WCC project but is included in all future alternatives; therefore, there is a 4 dB reduction in future traffic noise levels.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-13 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 1

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1. 1 W	--	SFR	2	63 MOD	62		-1		B (67)	NONE	There are no project-related changes in this area that would affect traffic noise levels.														
R 1. 2 W		SFR	2	64 MOD	63		-1		B (67)	NONE															
R 1. 3 W		SFR	3	66 MOD	65		-1		B (67)	NONE															
R 1. 4 W		SFR	4	69 MOD	68		-1		B (67)	NONE															
R 1. 5 W		SFR	3	69 MOD	68		-1		B (67)	NONE															
R 1. 6 W		SFR	2	68 MOD	67		-1		B (67)	NONE															
R 1. 7 W		SFR	--	68 M,ST1,CAL	67		-1		B (67)	NONE															
R 1. 8 W		SFR	2	69 MOD	68		-1		B (67)	NONE															

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-13 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 1 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1. 9 W	--	REC	2	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 9A W	--	REC	2	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 10 W	--	REC	--	56 MOD	58	59	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 11 W	--	SFR	3	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 12 W	--	SFR	6	59 M,LT1,CAL	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 13 W	--	SFR	3	62 MOD	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 14 W	--	SFR	2	56 M,ST1A	59	60	3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 15 W	--	SFR	3	55 MOD	58	59	3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 16 W	--	SFR	5	60 M,LT1A,CAL	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 17 W,*	--	SFR	6	57 MOD	59	59	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 18 W	--	SFR	6	61 MOD	63	63	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 19 W,*	--	SFR	7	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 20 W,*	--	SFR	--	57 MOD	59	59	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 21 W	--	SFR	6	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 22 W	--	SFR	4	61 MOD	63	63	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 23 W,*	--	SFR	3	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 24 W	--	SFR	3	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 25 W	--	SFR	1	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-13 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 1 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1. 26 W	--	SFR	1	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 27 W		SFR	2	55 MOD	57	57	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 28 W,*		SFR	2	58 MOD	58	58	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 29 W		SFR	3	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 30 W		SFR	3	59 M,LT1B,CAL	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 31 W		SFR	4	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 32 W,*		SFR	3	57 MOD	57	57	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 33 W		SFR	5	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 34 W,*		SFR	--	56 M,ST1B	56	56	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 35 W,*		SFR	3	57 MOD	57	57	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 36 W		SFR	3	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 37 W		SFR	3	57 MOD	59	59	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 38 W		SFR	--	57 M,ST2	59	59	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 39 W		SFR	3	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 40 W,*		SFR	1	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-13 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 1 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1. 41 W,K5	--	SFR	2	61 MOD	63	61	2	-2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 42 W,K5		SFR	5	60 MOD	62	61	2	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 43 W,K5		SFR	4	59 M,ST2A	61	60	2	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 44 W,K5		SFR	3	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 45 W,K5		SFR	4	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 46 W,K5,*		SFR	2	57 MOD	59	59	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 47 W		SFR	3	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 48 W		SFR	5	59 MOD	61	62	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 49 W		SFR	3	61 M,LT2,CAL	63	63	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 50 W		SFR	3	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 51 W		SFR	3	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 52 W,*		SFR	2	56 MOD	58	59	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 53 W		SFR	3	57 MOD	59	59	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K5 - A calibration factor of -2 dB is applied for this receptor and adjacent receptors with similar geographic features. This factor is based on the simultaneous measurement results of ST2A and LT2.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-13 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 1 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1. 54	S583 Shoulder & R/W	REC	5	65 MOD	63	63	-2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	1	0	62	1	0
R 1. 55		REC	4	68 M,ST5	66	67	-2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	0	65	2	0
R 1. 56 W		REC	4	66 MOD	64	67	-2	3	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	0	0	66	1	0
R 1. 57 K6		SFR	2	57 MOD	56	56	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	55	1	0	55	1	0
R 1. 58 W,K6		SFR	3	61 MOD	60	59	-1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	1	0	57	2	0
R 1. 59 W,K6		SFR	4	60 MOD	59	59	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	59	0	0	58	1	0
R 1. 60 W,K6		SFR	5	60 MOD	59	59	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	59	0	0	59	0	0
R 1. 61 W,K6		SFR	4	60 MOD	59	59	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	59	0	0	59	0	0
R 1. 62 W,K6		SFR	4	62 M,LT4,CAL	61	61	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	0	0	60	1	0
R 1. 63 W	--	SFR	6	60 MOD	59	59	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 64 W		SFR	5	59 MOD	60	61	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 65 W		SFR	3	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 66 W		SFR	3	60 M,ST6	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 67 W		SFR	3	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K6 - A calibration factor of -4 dB is applied for this receptor and adjacent receptors with similar geographic features.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-13 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 1 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1. 68	--	SFR	4	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 69 W		SFR	6	61 M,ST3	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 70 W	S502 Shoulder and R/W	SFR	4	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	0	*0*	64	0	*0*
R 1. 71 W		SFR	4	65 M,LT3,CAL	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	0	*0*	66	1	*0*
R 1. 72 W		SFR	4	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	0	*0*	65	1	*0*
R 1. 73 W		SFR	3	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	0	*0*	64	0	*0*
R 1. 73A W		SFR	2	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	0	*0*	63	0	*0*
R 1. 74 W,*	--	MFR	1	61 M,ST4	60	61	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1. 74A W		MFR	2	65 MOD	64	65	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-13 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 1 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 1.75 C	S614A Shoulder	MOT	1	72 M,ST10	72	72	0	0	B (67)	A/E	66	6	*1*	65	7	*1*	**63** T,R	**9**	*1*	62	10	*1*	61	11	*1*
R 1.75 C	S614B Private Property	MOT	1	72 M,ST10	72	72	0	0	B (67)	A/E	**64** T,R	**8**	*1*	62	10	*1*	60	12	*1*	58	14	*1*	58	14	*1*
R 1.76	--	MOT	1	59 M,ST7	64	65	5	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.77 W	--	MFR	3	60 MOD	59	60	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.78 W		MFR	3	62 MOD	61	62	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.79 W		MFR	2	65 MOD	64	65	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.80 W		MFR	3	68 MOD	67	68	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	*0*	65	3	*0*
R 1.81 W		MFR	3	70 M,ST8	69	69	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	*0*	67	2	*0*
R 1.82 W		MFR	2	68 MOD	67	68	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	*0*	66	2	*0*
R 1.83 W		MFR	2	68 MOD	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	0	*0*	65	2	*0*
R 1.84 W		MFR	3	68 MOD	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	*0*	66	1	*0*
R 1.85 W	S629 R/W	MFR	3	68 MOD	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	*0*
R 1.86 W		MFR	2	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	*0*
R 1.87 W		MFR	2	66 MOD	65	65	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	65	0	*0*
R 1.88 W		SFR	4	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	*0*
R 1.89 W		SFR	3	69 MOD	68	67	-1	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	*0*
R 1.90 W	S639 R/W	SFR	4	68 MOD	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.91 W*		SFR	3	63 MOD	62	62	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.92 W		SFR	5	68 M,LT5,CAL	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.93 W		SFR	4	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.94 W*		SFR	2	58 M,ST9A,CAL	57	58	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 1.95 W	S649 Shoulder	SFR	5	67 MOD	68	67	1	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	*0*	65	2	*0*
R 1.96 W*		SFR	2	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.97 W		SFR	4	64 M,ST9	65	64	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.98 W		SFR	4	64 MOD	65	64	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.99 W		SFR	2	63 MOD	64	63	1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.100 W*		SFR	2	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.101 W		REC	3	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.102 W		REC	2	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 1.103 W		REC	1	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and t
interior noise criteria has been used for this receiver because there is no outdoor us
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-14 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 2

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.1 W	S699 R/W	MFR	3	65 MOD	62	63	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.2 W		MFR	3	63 MOD	60	63	-3	3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.2A W		MFR	1	65 MOD	62	63	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.3 W		MFR	6	68 M,LT6,CAL	65	65	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.4 W		MFR	3	62 MOD	59	58	-3	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.4A W		MFR	2	65 MOD	62	61	-3	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.5 W	S705 Shoulder	MFR	3	67 MOD	64	64	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	63	1	*0*
R 2.6 W		MFR	6	67 MOD	64	64	-3	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.7 W		MFR	6	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	0	*0*	63	1	*0*
R 2.8 W		MFR	3	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.8A W		MFR	1	58 MOD	59	60	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	57	3	*0*	56	4	*0*
R 2.9 W		MFR	4	62 M,ST11	63	65	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	4	*0*	60	5	*4*
R 2.10 W	--	MFR	6	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.11 W		MFR	8	57 MOD	58	58	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.12 W	--	SFR	3	62 MOD	63	64	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.13 W	S708, S710, & S718 Shoulder & R/W	SFR	2	57 M,ST12,CAL	58	62	1	4	B (67)	NONE	62	0	*0*	62	0	*0*	61	1	*0*	61	1	*0*	60	2	*0*
R 2.14 W,K3		SFR	2	67 MOD	68	71	1	3	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	68	3	*0*	68	3	*0*
R 2.15 W,K3		REC	2	68 MOD	69	71	1	2	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	69	2	*0*	68	3	*0*
R 2.16 W,K3		REC	--	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	2	*0*	63	2	*0*
R 2.17 W,K3		SFR	1	66 MOD	66	68	0	2	B (67)	A/E	68	0	*0*	67	1	*0*	67 T	1	*0*	65	3	*0*	64	4	*0*
R 2.18 W,K3		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	68	0	*0*	67	1	*0*	64 T	4	*0*	**63 R**	**5**	*3*	62	6	*3*
R 2.19 W,K3		SFR	4	67 M,LT7,CAL	67	68	0	1	B (67)	A/E	68	0	*0*	66	2	*0*	64 T	4	*0*	**62 R**	**6**	*4*	62	6	*4*
R 2.20 W,K3		SFR	4	67 MOD	67	68	0	1	B (67)	A/E	68	0	*0*	67	1	*0*	64 T	4	*4*	**62 R**	**6**	*4*	61	7	*4*
R 2.21 W*		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	63	0	*0*	63	0	*0*	62	1	*0*	60	3	*0*	59	4	*0*
R 2.21A W*		--	--	60 M,ST12A	61	62	1	1	--	--	63	-1	--	63	-1	--	62	0	--	60	2	--	59	3	--
R 2.22 W,K3		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	68	0	*0*	67	1	*0*	64	4	*0*	**63 T,R**	**5**	*3*	61	7	*3*
R 2.23 W*		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	63	0	*0*	63	0	*0*	60	3	*0*	60	3	*0*	59	4	*0*
R 2.24 W,K3,C		SFR	3	67 MOD	67	68	0	1	B (67)	A/E	68	0	*0*	67	1	*0*	64	4	*0*	**62 T,R**	**6**	*3*	61	7	*3*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K3 - A calibration factor of +1.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-14 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.25 W,K3	S718 Shoulder	SFR	2	66 MOD	67	69	1	2	B (67)	A/E	67	2	0	67	2	0	66	3	0	64 T	5	2	**64 R,5**	**5**	2
R 2.26 W*		SFR	2	60 MOD	61	62	1	1	B (67)	NONE	62	0	0	62	0	0	61	1	0	59	3	0	58	4	0
R 2.27 W,K3		SFR	2	66 MOD	67	67	1	0	B (67)	A/E	65	2	0	64	3	0	64	3	0	63 T	4	0	**62 R**	**5**	2
R 2.28 W,K4	--	SFR	3	58 M,ST13,CAL	59	56	1	-3	B (67)	NONE	54	2	0	54	2	0	53	3	0	53	3	0	52	4	0
R 2.29 W,K4		SFR	3	58 MOD	59	54	1	-5	B (67)	NONE	53	1	0	53	1	0	53	1	0	52	2	0	52	2	0
R 2.30 W,K4		SFR	1	56 MOD	57	54	1	-3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.31 W	--	SFR	3	59 MOD	61	56	2	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.32 W		SFR	3	60 MOD	62	57	2	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.33 W		SFR	3	62 MOD	64	59	2	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.33A W		--	--	63 MOD	65	60	2	-5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.34 W,C	S733 Shoulder	SFR	1	66 MOD	68	67	2	-1	B (67)	A/E	64	3	0	63	4	0	**62 T,R**	**5**	1	62	5	1	61	6	1
R 2.35 W	--	SFR	3	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65 T	1	0	64	2	0
R 2.36 W*		SFR	2	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	62	2	0
R 2.37 W		SFR	2	64 M,LT8	66	67	2	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	66	1	0	66	1	0
R 2.38 W*		SFR	2	64 MOD	66	66	2	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	66 T	0	0	66	0	0
R 2.39 W		SFR	2	64 MOD	66	67	2	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	66	1	0	65	2	0
R 2.40 W	S745 R/W	SFR	2	67 MOD	69	71	2	2	B (67)	A/E	--	--	--	--	--	--	68	3	0	67 T	4	0	**66 R**	**5**	2
R 2.41 W,C,P		SCH	1	63 M,ST15	69	71	6	2	B (67)	A/E	--	--	--	--	--	--	67	4	0	65 T	6	1	**65 R,5**	**6**	1
R 2.42 W,P		SCH	1	58 MOD	64	65	6	1	B (67)	NONE	63	2	0	63	2	0	62	3	0	61	4	0	61	4	0
R 2.43	--	MOT	1	51 MOD	53	53	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.44		MOT	1	55 MOD	57	58	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
P - Design Year No Build and Build levels do not account for the temporary privacy screen that was present at the time of measurement
K3 - A calibration factor of +1.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
K4 - A calibration factor of -3 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-14 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.45 W	S746 R/W	SFR	1	59 MOD	61	66	2	5	B (67)	A/E	62	4	0	61	5	1	**61 T,R**	**5**	1	60	6	1	60	6	1
R 2.45A W		SFR	1	57 MOD	59	61	2	2	B (67)	NONE	59	2	0	59 T	2	0	59	2	0	59	2	0	59	2	0
R 2.46 W,C		SCH	1	68 M,ST16	70	75	2	5	B (67)	A/E	69	6	1	69 T	6	1	**68 R,5**	**7**	1	68	7	1	67	8	1
R 2.47 W	--	SFR	2	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 2.48 W		SFR	1	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 2.49 W		SFR	3	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	0	0
R 2.50 W*		SFR	1	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	60	0	0
R 2.51 W		SFR	3	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	0
R 2.52 W		SFR	4	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	0
R 2.53 W		SFR	4	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	0
R 2.54 W*		SFR	1	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	59	1	0
R 2.55 W		SFR	3	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	1	0
R 2.56 W		SFR	3	65 M,LT9,CAL	65	67	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	0	0
R 2.57 W*	S766 R/W	SFR	2	58 MOD	58	59	0	1	B (67)	A/E	59	0	0	59	0	0	59 T	0	0	59	0	0	58	1	0
R 2.58 W		SFR	2	65 MOD	65	69	0	4	B (67)	A/E	69	0	0	68 T	1	0	68	1	0	68	1	0	68	1	0
R 2.59 W		SFR	2	61 MOD	61	67	0	6	B (67)	A/E	65	2	0	65 T	2	0	64	3	0	64	3	0	64	3	0
R 2.60 W	--	MFR	1	60 MOD	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.61 W		MFR	1	60 M,ST17	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.61A W		--	--	66 M,ST17A	64	67	-2	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.62 W		MFR	1	60 MOD	57	58	-3	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.63 W	S765 R/W	SFR	1	62 MOD	61	67	-1	6	B (67)	A/E	66	1	0	65	2	0	65	2	0	64 T	3	0	63	4	0
R 2.64 W		SFR	2	64 MOD	63	69	-1	6	B (67)	A/E	67	2	0	67	2	0	66	3	0	65 T	4	0	65	4	0
R 2.65 W		SFR	1	67 M,LT10,CAL	66	69	-1	3	B (67)	A/E	69	0	0	68	1	0	68 T	1	0	68	1	0	68	1	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-14 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 2 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 2.66 W	--	SFR	3	66 MOD	65	66	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 2.67 W*	--	SFR	1	60 MOD	59	61	-1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 2.68 W	--	SFR	2	55 MOD	54	54	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 2.69 W	--	SFR	3	65 MOD	64	66	-1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 2.70 W*	--	SFR	1	58 MOD	57	58	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 2.71 W	--	SFR	3	64 MOD	63	64	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 2.72 W*	--	SFR	2	59 MOD	58	59	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 2.73 W*	--	SFR	2	54 MOD	53	54	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 2.74 W	--	SFR	3	64 MOD	63	63	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.75 W	--	SFR	3	64 MOD	63	61	-1	-2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.76 W	--	SFR	4	64 MOD	63	58	-1	-5	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.77 W	--	MFR	2	60 MOD	61	61	1	0	B (67)	NONE	59	2	*0*	58	3	*0*	58	3	*0*	58	3	*0*	58	3	*0*
R 2.78 W	--	MFR	4	61 M,ST19	62	61	1	-1	B (67)	NONE	58	3	*0*	57	4	*0*	57	4	*0*	57	4	*0*	57	4	*0*
R 2.79 W	--	MFR	4	65 MOD	66	62	1	-4	B (67)	NONE	59	3	*0*	59	3	*0*	58	4	*0*	58	4	*0*	58	4	*0*
R 2.80 W	S786, S788, & S792 Shoulder	SFR	3	64 MOD	65	64	1	-1	B (67)	NONE	61	3	*0*	61	3	*0*	61	3	*0*	60	4	*0*	60	4	*0*
R 2.81 W,C	S786, S788, & S792 Shoulder	SFR	3	68 MOD	69	67	1	-2	B (67)	A/E	--	--	--	--	--	--	-- [T]	--	--	63	4	*0*	**62** [R]	**5**	*3*
R 2.82 W	S786, S788, & S792 Shoulder	SFR	2	67 MOD	68	68	1	0	B (67)	A/E	--	--	--	--	--	--	-- [T]	--	--	65	3	*0*	64	4	*0*
R 2.83 W	S786, S788, & S792 Shoulder	SFR	3	66 MOD	66	65	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 2.84 W	S786, S788, & S792 Shoulder	SFR	4	66 M,LT11,CAL	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	-- [T]	--	--	65	1	*0*	64	2	*0*
R 2.85 W	S786, S788, & S792 Shoulder	SFR	4	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	-- [T]	--	--	66	1	*0*	65	2	*0*
R 2.86 W	--	SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 2.87 W	--	SFR	4	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 2.88 W	--	SFR	4	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.89 W	--	SFR	3	63 MOD	63	60	0	-3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.90 W	--	SFR	3	62 MOD	62	59	0	-3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.91 W	--	SFR	2	63 MOD	63	62	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 2.92 W	--	SFR	1	61 MOD	61	61	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-15 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 3

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.1 W	--	MFR	4	59 MOD	59	59	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.2 W	--	MFR	5	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.3 W	--	MFR	7	65 M,ST22	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	65	0	0	64	1	0	63 T	2	0
R 3.4 W	--	MFR	2	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	67	1	0	66 T	2	0	65	3	0
R 3.5 W*	--	SFR	3	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	66	0	0	65	1	0	63 T	3	0
R 3.6 W	--	SFR	2	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	68	1	0	66 T	3	0	66	3	0
R 3.7 W	--	SFR	4	65 MOD	65	69	0	4	B (67)	A/E	--	--	--	--	--	--	67	2	0	67 T	2	0	65	4	0
R 3.8 W	--	SFR	4	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	69	1	0	68 T	2	0	67	3	0
R 3.9 W	--	SFR	2	68 M,LT13,CAL	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	69 T	1	0	68	2	0	67	3	0
R 3.10 W	--	SFR	2	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	69 T	1	0	68	2	0	67	3	0
R 3.11 W*	--	SFR	5	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	65	0	0	64	1	0	64	1	0
R 3.12 W	--	SFR	1	69 MOD	69	71	0	2	B (67)	A/E	--	--	--	--	--	--	69 T	2	0	68	3	0	67	4	0
R 3.13 W*	S834 Shoulder	SFR	3	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	66 T	3	0	65	4	0	**64 R**	**5**	2
R 3.14 W	S834 Shoulder	SFR	2	68 MOD	68	71	0	3	B (67)	A/E	--	--	--	--	--	--	68	3	0	67	4	0	**66 R**	**5**	2
R 3.15 W*	S834 Shoulder	SFR	4	62 MOD	62	64	0	2	B (67)	NONE	62	2	0	61	3	0	60	4	0	59	5	3	59	5	3
R 3.16 W,C	S834 Shoulder	SFR	1	70 MOD	70	72	0	2	B (67)	A/E	--	--	--	--	--	--	69	3	0	68	4	0	**67 R**	**5**	1
R 3.17 W	S834 Shoulder	SFR	2	69 MOD	69	71	0	2	B (67)	A/E	--	--	--	--	--	--	69	2	0	68	3	0	67	4	0
R 3.17A W	S834 Shoulder	--	--	68 M,ST23	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	67	3	--	66	4	--	65	5	--
R 3.18 W	S834 Shoulder	SFR	1	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	68	2	0	67	3	0	66	4	0
R 3.19 W*	S834 Shoulder	SFR	2	60 MOD	60	62	0	2	B (67)	NONE	60	2	0	60	2	0	59	3	0	59	3	0	58	4	0
R 3.19A W*	S834 Shoulder	SFR	1	63 MOD	63	65	0	2	B (67)	NONE	62	3	0	62	3	0	61	4	0	60	5	1	60	5	1
R 3.20 W	S834 Shoulder	SFR	2	65 MOD	65	67	0	2	B (67)	A/E	64	3	0	63	4	0	63 T	4	0	63	4	0	**62 R**	**5**	2
R 3.21 W*	S834 Shoulder	SFR	2	60 MOD	60	62	0	2	B (67)	NONE	60	2	0	60	2	0	59	3	0	59	3	0	58	4	0
R 3.22 W*	--	MFR	8	55 MOD	56	56	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.22A W	--	MFR	2	54 M,ST20	55	56	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.23 W*	--	MFR	9	51 MOD	52	52	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-15 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.23A	S807 Shoulder & S811 R/W	REC	--	62 MOD	63	64	1	1	B (67)	NONE	61	3	--	61	3	--	60	4	--	59	5	--	59	5	--
R 3.23B C		REC	7	65 MOD	66	69	1	3	B (67)	A/E	65	4	*0*	65	4	*0*	**63** T,R	**6**	*7*	62	7	*7*	62	7	*7*
R 3.24 K1,W		SFR	2	64 MOD	65	67	1	2	B (67)	A/E	--	--	--	--	--	--	65 T	2	*0*	63	4	*0*	**62** R	**5**	*2*
R 3.25 K1,W*		SFR	2	59 MOD	60	63	1	3	B (67)	NONE	--	--	--	--	--	--	60	3	*0*	59	4	*0*	59	4	*0*
R 3.26 K1,W	S827 Shoulder	SFR	3	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	63	3	*0*	63	3	*0*	63	3	*0*
R 3.27 K1,W*		SFR	2	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	62	4	*0*	62	4	*0*	62	4	*0*
R 3.28 K1,W		SFR	3	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	63	3	*0*	63	3	*0*	63	3	*0*
R 3.28A K1,W		--	--	64 M,CAL	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	64	1	--	63	2	--	62	3	--
R 3.29 K1,W*		SFR	2	60 MOD	61	60	1	-1	B (67)	NONE	--	--	--	--	--	--	59	1	*0*	58	2	*0*	57	3	*0*
R 3.30 K,1W	S827 Shoulder	SFR	3	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	3	*0*	58	3	*0*
R 3.31 K1,W		SFR	2	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	0	*0*	62	1	*0*
R 3.32 K1,W		SFR	4	64 M,LT12	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 3.33 K1,W		SFR	2	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	*0*	62	2	*0*
R 3.34 K1,W*		SFR	2	63 MOD	64	62	1	-2	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	1	*0*	61	1	*0*
R 3.35 K1,W		SFR	1	66 M,ST21	65	65	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 3.36 K1,W*		SFR	3	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	1	*0*	57	2	*0*
R 3.37 K1,W*		SFR	2	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	0	*0*	60	1	*0*
R 3.38 K1,W		SFR	2	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 3.39 K1,W*		SFR	3	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	1	*0*	56	3	*0*
R 3.40 K1,W		SFR	5	62 MOD	63	65	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	*0*	63	2	*0*
R 3.41 K1,W*		SFR	3	57 MOD	58	59	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	58	1	*0*	56	3	*0*
R 3.42 K1,W		SFR	3	62 MOD	63	68	1	5	B (67)	A/E	--	--	--	--	--	--	64	4	*0*	65	3	*0*	64	4	*0*
R 3.43 W	--	MFR	8	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.44 W*		MFR	7	59 MOD	59	61	0	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.45 W		MFR	10	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.46 W		MFR	8	56 MOD	56	57	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K1 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-15 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.47 W	S841 Shoulder	SFR	2	62 MOD	63	68	1	5	B (67)	A/E	64	4	0	63	5	1	**62 T,R**	**6**	2	62	6	2	61	7	2
R 3.48 C		SFR	1	69 MOD	70	76	1	6	B (67)	A/E	69	7	1	68	8	1	**66 T,R**	**10**	1	66	10	1	65	11	1
R 3.49 W		SFR	2	60 MOD	61	63	1	2	B (67)	NONE	61	2	0	61	2	0	60	3	0	59	4	0	59	4	0
R 3.50 W		SFR	1	70 M,LT14	71	76	1	5	B (67)	A/E	70	6	1	69	7	1	68 T	8	1	**67 R,5**	**9**	1	66	10	1
R 3.51 W*		SFR	2	62 MOD	63	65	1	2	B (67)	NONE	63	2	0	62	3	0	61	4	0	60	5	2	59	6	2
R 3.52 W		REC	1	68 MOD	69	71	1	2	B (67)	A/E	68	3	0	67	4	0	67 T	4	0	**66 R**	**5**	1	66	5	1
R 3.53 W	--	MFR	6	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	2	0	64	3	0
R 3.53A W*		REC	5	54 MOD	56	58	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	55	3	0	55	3	0
R 3.54 W		MFR	4	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	65	1	0
R 3.54A W		MFR	3	62 M,ST24	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	63	2	0
R 3.55 W		MFR	4	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	0	0	65	1	0
R 3.55A W		MFR	4	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 3.56 W,C	S857 Shoulder	MFR	7	67 MOD	69	71	2	2	B (67)	A/E	68	3	0	67	4	0	**66 T,R**	**5**	7	65	6	7	65	6	7
R 3.57 W	--	SFR	2	61 MOD	62	65	1	3	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.58 W		SFR	3	60 MOD	61	63	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.59 W		SFR	4	61 MOD	62	64	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.60 W		SFR	2	61 M,ST25A,CAL	62	64	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.60A W		SFR	--	63 M,ST25	62	64	-1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.61 W*		SFR	7	59 MOD	60	61	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.62 W*		SFR	4	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.63 W,C	S868 R/W	SFR	1	65 MOD	66	67	1	1	B (67)	A/E	65	2	0	64	3	0	63	4	0	63 T	4	0	**60 R**	**7**	1
R 3.64 W	--	SFR	3	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	63	0	0	63	0	0	62	1	0
R 3.65 W		SFR	2	59 MOD	60	62	1	2	B (67)	NONE	--	--	--	--	--	--	62	0	0	62	0	0	60	2	0
R 3.66 W		MFR	5	60 M,ST26	58	60	-2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.66A W		MFR	8	56 MOD	54	55	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.66B W		MFR	4	56 MOD	54	55	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-15 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.67 W	--	MH	4	58 MOD	60	61	2	1	B (67)	NONE	--	--	--	--	--	--	60	1	0	60	1	0	59	2	0
R 3.68 W*		REC	1	52 MOD	54	56	2	2	B (67)	NONE	--	--	--	--	--	--	55	1	0	55	1	0	54	2	0
R 3.69 W		MH	4	62 MOD	64	66	2	2	B (67)	A/E	--	--	--	--	--	--	64	2	0	64	2	0	62	4	0
R 3.70 W		MH	4	64 MOD	66	68	2	2	B (67)	A/E	--	--	--	--	--	--	67 T	1	0	66	2	0	65	3	0
R 3.71 W*		MH	7	65 MOD	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	68	1	0	67 T	2	0	66	3	0
R 3.72 W		MH	2	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 3.72A W		MH	2	63 M,ST27	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 3.73 W		MH	5	63 MOD	65	67	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 3.74 W*		MH	11	64 MOD	66	67	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 3.74A W		MH	2	65 MOD	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	68	1	0
R 3.75 W		MH	4	65 MOD	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	2	0
R 3.76 W*	S896 R/W	MH	2	63 MOD	65	67	2	2	B (67)	A/E	67	0	0	67	0	0	67	0	0	67 T	0	0	67	0	0
R 3.77 W		MH	3	62 MOD	64	68	2	4	B (67)	A/E	68	0	0	68 T	0	0	67	1	0	67	1	0	67	1	0
R 3.78 W*	S902 Shoulder	SFR	2	63 MOD	63	65	0	2	B (67)	NONE	--	--	--	65	0	0	64	1	0	63	2	0	63	2	0
R 3.79 W		REC	1	62 MOD	62	65	0	3	B (67)	NONE	--	--	--	65	0	0	63	2	0	61	4	0	60	5	1
R 3.80 W		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	63	1	0	62	2	0	61	3	0	60	4	0
R 3.81 W		SFR	2	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	67	1	0	66	2	0	66	2	0	65	3	0
R 3.81A W		SFR	3	66 M,LT15,CAL	66	66	0	0	B (67)	A/E	--	--	--	66	0	0	65	1	0	64	2	0	64	2	0
R 3.82 W		SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	65	0	0	64	1	0	63	2	0	63	2	0
R 3.83 W		SFR	5	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	64	1	0	63	2	0	63	2	0	62	3	0
R 3.84 W	S910 & S916 Shoulder	SFR	3	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	64	1	0	63	2	0	62	3	0	62	3	0
R 3.85 W		SFR	2	66 MOD	66	67	0	1	B (67)	A/E	64	3	0	63 T	4	0	**62 R**	**5**	2	62	5	2	61	6	2
R 3.86 W,C		SFR	3	66 MOD	66	67	0	1	B (67)	A/E	65	2	0	63 T	4	0	**62 R**	**5**	3	61	6	3	60	7	3
R 3.86A W		SFR	2	65 MOD	65	67	0	2	B (67)	A/E	64	3	0	62	5	2	**62 T,R**	**5**	2	60	7	2	60	7	2

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
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5 - Barrier height needed to meet requirements at adjacent receptor(s).
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T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-15 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 3 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 3.87 W	S907 Shoulder	REC	3	65 MOD	65	67	0	2	B (67)	A/E	64	3	0	62 T	5	3	**62 R,5**	**5**	3	61	6	3	61	6	3
R 3.88 W,C		REC	1	66 MOD	66	68	0	2	B (67)	A/E	63 T	5	1	63	5	1	**62 R,5**	**6**	1	62	6	1	62	6	1
R 3.89 W		REC	2	65 M,ST28	65	67	0	2	B (67)	A/E	63	4	0	63 T	4	0	**62 R**	**5**	2	62	5	2	62	5	2
R 3.90 W*	S141 Shoulder	SFR	1	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.91 W		SFR	3	64 MOD	64	63	0	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.92 W		SFR	4	65 MOD	64	63	-1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.93 W		SFR	4	67 MOD	66	64	-1	-2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.93A W		SFR	3	67 M,LT16,CAL	66	65	-1	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 3.94 W,*	S141 Shoulder	SFR	1	65 MOD	64	64	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	62	2	0
R 3.95 W		SFR	3	68 MOD	67	67	-1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	64	3	0	63	4	0
R 3.96 W		SFR	5	69 MOD	68	69	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	3	0	65	4	0
R 3.97 W,*		SFR	1	64 MOD	63	64	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	2	0	61	3	0
R 3.98 W		SFR	12	66 MOD	65	67	-1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	1	0	65	2	0
R 3.99 K2,W,C	S935 R/W	SFR	1	66 MOD	64	66	-2	2	B (67)	A/E	64	2	0	63 T	3	0	62	4	0	62	4	0	**61 R**	**5**	1
R 3.99A K2,W		SFR	2	65 M,ST29,CAL	63	64	-2	1	B (67)	NONE	63	1	0	62	2	0	61	3	0	60	4	0	60	4	0
R 3.100 K2,W		SFR	2	64 MOD	62	63	-2	1	B (67)	NONE	62	1	0	60	3	0	59	4	0	59	4	0	58	5	2
R 3.100A K2,W		SFR	1	64 MOD	62	63	-2	1	B (67)	NONE	61	2	0	59	4	0	58	5	1	57	6	1	57	6	1
R 3.101 K2,W		SFR	2	62 MOD	60	61	-2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - $L_{eq(h)}$ are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T- Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K2 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar geographic features.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-16 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 4

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*
R 4. 1 W,C	S995 R/W	SFR	2	69 MOD	70	72	1	2	B (67)	A/E	--	--	--	--	--	--	69	3	*0*	67 T	5	*2*	**66 R**	**6**	***2***
R 4. 2 W	--	SFR	3	69 MOD	70	71	1	1	B (67)	A/E	--	--	--	--	--	--	69	2	*0*	68	3	*0*	67	4	*0*
R 4. 3 W		SCH	3	68 MOD	69	70	1	1	B (67)	A/E	--	--	--	--	--	--	69	1	*0*	67	3	*0*	66	4	*0*
R 4. 4 W,*		SFR	2	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	66	0	*0*	64	2	*0*	63	3	*0*
R 4. 5 W,*		SFR	1	66 MOD	67	68	1	1	B (67)	A/E	--	--	--	--	--	--	67	1	*0*	66	2	*0*	65	3	*0*
R 4. 6 W	--	SFR	2	68 M,LT19,CAL	69	70	1	1	B (67)	A/E	--	--	--	--	--	--	69	1	*0*	68	2	*0*	67	3	*0*
R 4. 7 W	S1005 & S1009 R/W	SFR	2	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	68	1	*0*	67	2	*0*	66	3	*0*
R 4. 8 W,*		SFR	2	65 MOD	66	67	1	1	B (67)	A/E	66	1	*0*	66	1	*0*	65	2	*0*	64	3	*0*	64	3	*0*
R 4. 9 *		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	65	0	*0*	64	1	*0*	64	1	*0*	63	2	*0*	63	2	*0*
R 4. 10		REC	3	73 MOD	74	75	1	1	B (67)	A/E	71	4	*0*	69	6	*3*	**68 R,T**	**7**	***3***	67	8	*3*	66	9	*3*
R 4. 11 C		REC	2	73 MOD	74	75	1	1	B (67)	A/E	67 T	8	*2*	**66 R,5**	**9**	***2***	65	10	*2*	64	11	*2*	63	12	*2*
R 4. 12		REC	1	70 MOD	71	68	1	-3	B (67)	A/E	64	4	*0*	**63 R,T**	**5**	***1***	63	5	*1*	62	6	*1*	62	6	*1*
R 4. 13 W		SFR	5	62 MOD	63	62	1	-1	B (67)	NONE	58 T	4	*0*	**57 R**	**5**	***5***	57	5	*5*	57	5	*5*	56	6	*5*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-16 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L	*NBR*	Leq(h)	I.L	*NBR*	Leq(h)	I.L	*NBR*	Leq(h)	I.L	*NBR*	Leq(h)	I.L	*NBR*
R 4. 14A W	S182 Shoulder	SFR	1	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	66	1	*0*	65	2	*0*	65	2	*0*
R 4. 14 W		SFR	3	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	67	2	*0*	66	3	*0*	65	4	*0*
R 4. 15 W		SFR	3	64 M,LT17,CAL	65	68	1	3	B (67)	A/E	--	--	--	--	--	--	67	1	*0*	66	2	*0*	65	3	*0*
R 4. 16 W,*		SFR	2	63 MOD	64	66	1	2	B (67)	A/E	--	--	--	--	--	--	63	3	*0*	63	3	*0*	62	4	*0*
R 4. 17 W		SFR	4	65 MOD	66	67	1	1	B (67)	A/E	--	--	--	--	--	--	66	1	*0*	65	2	*0*	64	3	*0*
R 4. 18 W		SFR	4	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	64	1	*0*	64	1	*0*	63	2	*0*
R 4. 19 W		SFR	1	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	63	1	*0*	63	1	*0*	62	2	*0*
R 4. 20 W,*		SFR	2	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	63	1	*0*	62	2	*0*	61	3	*0*
R 4. 21 W		SFR	1	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	63	1	*0*	63	1	*0*	62	2	*0*
R 4. 22 W		--	--	61 M,ST30	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	63	1	*0*	62	2	*0*	62	2	*0*
R 4. 23 W	S972 & S978 Shoulder	SFR	2	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	-- T	--	--	60	4	*0*	60	4	*0*	**59 R**	**5**	***2***
R 4. 24		SCH	3	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	-- T	--	--	62	4	*0*	61	5	*3*	**61 R**	**5**	***3***
R 4. 25A C		REC	2	69 MOD	69	70	0	1	B (67)	A/E	65	5	*2*	65	5	*2*	**63 R,T**	**7**	***2***	62	8	*2*	62	8	*2*
R 4. 25B		REC	2	65 MOD	65	68	0	3	B (67)	A/E	64	4	*0*	64	4	*0*	**62 R,T**	**6**	***2***	61	7	*2*	61	7	*2*
R 4. 25		REC	2	67 M,ST31	67	67	0	0	B (67)	A/E	64	3	*0*	62	5	*2*	**62 R,T**	**5**	***2***	61	6	*2*	61	6	*2*
R 4. 26		REC	2	65 MOD	65	64	0	-1	B (67)	NONE	62	2	*0*	62	2	*0*	62	2	*0*	61	3	*0*	61	3	*0*
R 4. 27 W	--	MFR	1	69 MOD	70	71	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	71	0	*0*
R 4. 28 W		MFR	3	64 M,ST32A	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	*0*
R 4. 29 W		MFR	1	68 M,ST32	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	69	0	*0*
R 4. 29A W		MFR	1	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	0	*0*
R 4. 30 W		MFR	1	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	*0*
R 4. 31 W		MFR	7	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	62	1	*0*
R 4. 31A W		MFR	1	66 MOD	67	68	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	-- T	--	--	64	4	*0*
R 4. 32 C	S998 R/W	SFR	2	71 M,LT18,CAL	72	73	1	1	B (67)	A/E	71	2	*0*	70	3	*0*	69 T	4	*0*	**68 R**	**5**	***2***	66	7	*2*
R 4. 33A	S1006 R/W	MOT	--	75 MOD	78	80	3	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 33A Int		MOT	6	50 MOD	53	55	3	2	E (52)	A/E	47	8	*6*	**46 R,5**	**9**	***6***	45	10	*6*	44	11	*6*	42	13	*6*
R 4. 33 C		MOT	1	73 M,ST33	76	78	3	2	B (67)	A/E	72	6	*1*	**70 R,T**	**8**	***1***	69	9	*1*	68	10	*1*	66	12	*1*

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-16 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 34	--	SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 34A		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 35 W	--	SFR	3	64 M,ST36	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 4. 36 W,*		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	64	1	0	63	2	0
R 4. 37 W,*	--	SFR	2	63 MOD	64	66	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 4. 38 W		SFR	2	66 MOD	67	69	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 39 W		SFR	3	67 MOD	68	69	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 40 W,*		SFR	2	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 4. 41 W		SFR	7	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 42 W		SFR	7	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 42A W,*		SFR	1	60 MOD	61	62	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	60	2	0	58	4	0
R 4. 43 W		SFR	5	67 M,LT21,CAL	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 44 W		SFR	4	66 MOD	67	69	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 45 W,*		SFR	2	59 MOD	60	62	1	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	60	2	0	58	4	0
R 4. 46 W		SFR	8	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 46A W,*		SFR	2	63 MOD	64	66	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	64	2	0
R 4. 47A W,*		SFR	2	65 MOD	66	68	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	0	65	3	0
R 4. 47 W		SFR	4	67 MOD	68	70	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-16 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 48 W,*	--	SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63 T	1	0	61	3	0
R 4. 49 W		SFR	2	65 MOD	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	66	3	0
R 4. 50 W		SFR	2	65 M,ST38	67	69	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 50A W		SFR	2	63	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	63	3	0
R 4. 51 W,*		SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	62	2	0
R 4. 52 W		SFR	2	64 MOD	66	68	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 53 W,*		SFR	5	61 MOD	63	64	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	62	2	0
R 4. 54 W		SFR	2	66 MOD	68	70	2	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	2	0	66	4	0
R 4. 55 W,*		SFR	2	63 MOD	65	66	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	65	1	0	63	3	0
R 4. 56 W		SFR	2	66 MOD	68	69	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	65	4	0
R 4. 57 W,*		SFR	4	60 MOD	62	64	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	63	1	0	61	3	0
R 4. 58 W		SFR	2	66 MOD	68	69	2	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	66	3	0
R 4. 59 W,*	S1083 R/W	SFR	3	61 MOD	64	67	3	3	B (67)	A/E	67	0	0	66	1	0	66 T	1	0	65	2	0	65	2	0
R 4. 60 W		SFR	1	64 MOD	67	74	3	7	B (67)	A/E	70	4	0	70 T	4	0	70	4	0	69 R	**5**	**1**	67	7	1
R 4. 60A W,*		SFR	1	62 MOD	65	67	3	2	B (67)	A/E	67	0	0	67 T	0	0	66 T	1	0	65	2	0	63	4	0
R 4. 61 W		SFR	2	65 M,ST38A	68	72	3	4	B (67)	A/E	70	2	0	70	2	0	68 T	4	0	67 R	**5**	**2**	67	5	2
R 4. 62 W,C		SFR	2	62 MOD	65	70	3	5	B (67)	A/E	67	3	0	65	5	2	64 R,T	**6**	**2**	63	7	2	62	8	2
R 4. 62A W	R/W	SFR	1	59 MOD	62	65	3	3	B (67)	NONE	64	1	0	63	2	0	62 T	3	0	62	3	0	61	4	0
R 4. 62B W		SFR	2	58 MOD	61	64	3	3	B (67)	NONE	63	1	0	62	2	0	62	2	0	61	3	0	61	3	0
R 4. 63 W		SFR	2	57 MOD	60	62	3	2	B (67)	NONE	61	1	0	61	1	0	60	2	0	60	2	0	59	3	0

Notes:

1 - $L_{eq(h)}$ are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-16 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
											8 feet			10 feet			12 feet			14 feet			16 feet		
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 64A	--	SFR	3	59 MOD	59	58	0	-1	B (67)	NONE	57	1	0	56	2	0	56	2	0	56	2	0	56	2	0
R 4. 64B		--	--	66 MOD	66	62	0	-4	B (67)	NONE	59	3	--	59	3	--	58	4	--	58	4	--	58	4	--
R 4. 64C	S1016 & S1020 Shoulder S1022 & S1024 R/W	SCH	1	71 MOD	71	70	0	-1	B (67)	A/E	67	3	0	66	4	0	65	5	1	64 R,T	**6**	**1**	63	7	1
R 4. 64D		SCH	1	68 MOD	68	68	0	0	B (67)	A/E	66	2	0	65	3	0	64	4	0	63 R,T	**5**	**1**	62	6	1
R 4. 64 W		REC	3	72 MOD	72	73	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	69 T	4	0	68 R	**5**	**3**
R 4. 65 W,C		REC	3	69 M,ST35	69	74	0	5	B (67)	A/E	--	--	--	--	--	--	--	--	--	69 T	5	3	68 R,5	**6**	**3**
R 4. 66 W,C	S1026 & S1028 R/W	SFR	1	71 MOD	71	73	0	2	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	69	4	0	**68 R**	**5**	**1**
R 4. 67 W	--	SFR	3	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 68 W		SFR	5	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 69 W		SFR	5	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 70 W		SFR	7	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 71 W,*		SFR	3	59 MOD	61	63	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	61	2	0	59	4	0
R 4. 72 W		SFR	10	68 M,LT20,CAL	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 73 W		SFR	8	67 MOD	67	70	0	3	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	67	3	0
R 4. 74 W		SFR	8	69 MOD	69	71	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	2	0	68	3	0
R 4. 75 W,*		SFR	2	60 MOD	62	64	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	2	0	60	4	0
R 4. 76 W,*		--	--	60 M,ST35A	62	64	2	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	62	2	0	61	3	0
R 4. 77 W,*		SFR	1	62 MOD	64	65	2	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	65	0	0	63	2	0
R 4. 78 W		SFR	3	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 79 W,*	--	MH	2	66 MOD	66	68	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	66	2	0	65	3	0
R 4. 80 W		MH	6	68 MOD	68	70	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	69	1	0	68	2	0
R 4. 80A W		MH	7	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	2	0	66	3	0
R 4. 81 W		MH	5	67 M,ST37	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	67	2	0
R 4. 82 W,*		MH	3	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	67	1	0	65	3	0
R 4. 83 W		MH	3	67 MOD	67	69	0	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	68	1	0	66	3	0
R 4. 83A W,*	R/W	MH	2	66 MOD	66	67	0	1	B (67)	A/E	68	-1	0	67	0	0	66	1	0	65	2	0	63	4	0
R 4. 83B W,*		MH	2	64 MOD	64	66	0	2	B (67)	A/E	66	0	0	65	1	0	65	1	0	64	2	0	62	4	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-16 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 84 W	--	MH	7	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 85 W		MH	7	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 86 W,*		MH	5	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 87 W		MH	12	60 M,LT20B,CAL	62	61	2	-1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 88 W,*		MH	7	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 88A W		MH	3	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 89 W		MH	4	62 MOD	64	64	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 90 W		MH	6	59 MOD	61	61	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 91 W		MH	9	58 MOD	60	60	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 92 W	--	MH	7	61 M,ST37A	63	63	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 93 W		MH	3	60 MOD	62	62	2	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-16 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 4 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 4. 94 W	--	SFR	4	61 MOD	62	62	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 95 W		SFR	5	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 96 W,*		SFR	2	59 MOD	60	60	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 97 W		SFR	4	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 98 W		SFR	7	62 M,ST37A	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 99 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 100 W,*		SFR	2	58 MOD	59	60	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 101 W		SFR	9	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 102 W		SFR	4	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 103 W		SFR	6	63 M,LT20A,CAL	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 104 W		SFR	7	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 105 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 106 W		SFR	7	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 107 W,*		SFR	2	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 108 W		SFR	6	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 109 W		SFR	3	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 4. 110 W		SFR	1	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-17 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 5

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 1 W	--	SFR	5	62 MOD	61	62	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 2 W		SFR	5	62 MOD	61	61	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 3 W		SFR	4	62 M,ST39,CAL	61	61	-1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 4 W		SFR	4	61 MOD	60	61	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 5 W	--	SFR	3	60 MOD	61	62	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 6 W,*		SFR	1	58 MOD	59	60	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 7 W,*		SFR	2	55 MOD	56	57	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 8 W		SFR	3	61 M,ST40	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 9 W		SFR	2	61 MOD	62	63	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 10 W		SFR	3	60 MOD	61	62	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
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4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-17 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	10 feet			12 feet			14 feet			16 feet			18 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 11 W,K7	--	SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 12 W,K7,*		SFR	4	59 MOD	60	61	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 13 W,K7		SFR	2	63 MOD	64	65	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 14 W,K7,*		SFR	4	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 15 W,K7		SFR	2	63 MOD	64	66	1	2	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 16 W,K7,*		SFR	4	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 17 W,K7		SFR	2	64 MOD	65	66	1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 18 W,K7,*		SFR	4	57 MOD	58	59	1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 19 W,K7	S1116 Shoulder	SFR	2	67 MOD	66	66	-1	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	--	--	--	66 7	0	*0*
R 5. 20 W,K7,*		SFR	4	60 MOD	59	60	-1	1	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	60 7	0	*0*
R 5. 21 W,K7		SFR	2	65 MOD	64	65	-1	1	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	65 7	0	*0*
R 5. 22 W,K7,*		SFR	4	59 MOD	58	59	-1	1	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	59 7	0	*0*
R 5. 23 W,K7	--	REC	4	68 M,ST41	67	68	-1	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 24 W,K7		SFR	12	61 MOD	60	61	-1	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 25 W,K7		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
K7 - A calibration factor of +1.8 dB is applied for these receivers.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-17 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	10 feet			12 feet			14 feet			16 feet			18 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 5. 26 W,K7	S1132 Shoulder	SFR	2	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	65 7	0	0
R 5. 27 W,K7,*		SFR	4	58 MOD	58	59	0	1	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	59 7	0	0
R 5. 28 W,K7		SFR	2	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	--	--	--	66 7	0	0
R 5. 29 W,K7,*		SFR	4	58 MOD	58	58	0	0	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	58 7	0	0
R 5. 30 W,K7		SFR	2	69 MOD	69	68	0	-1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	--	--	--	68 7	0	0
R 5. 31 W,K7,*		SFR	4	59 MOD	59	59	0	0	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	59 7	0	0
R 5. 32 W,K7		SFR	4	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	--	--	--	68 7	0	0
R 5. 33 W,K7		SFR	2	68 M,ST41A	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	-- T	--	--	--	--	--	68 7	0	0
R 5. 34 W,K7,*		SFR	4	59 MOD	59	60	0	1	B (67)	NONE	--	--	--	--	--	--	-- T	--	--	--	--	--	60 7	0	0
R 5. 35 W,K7	--	SFR	8	68 MOD	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 36 W,K7,*		SFR	4	59 MOD	59	59	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 37 W,K7		SFR	4	68 M,LT22,CAL	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 37A W,K7,*		SFR	4	60 MOD	60	60	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 5. 38 W,K7		REC	2	67 MOD	67	68	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.

3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.

4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

C - Critical design receiver.

K7 - A calibration factor of +1.8 dB is applied for these receivers.

W - Reciever protected by existing private property wall or soundwall.

* - Non first row residences.

Table G-17 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 5 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*	Leq(h)	I.L.	*NBR*
R 5. 39 W,K8	S1162	REC	1	65 MOD	66	67	1	1	B (67)	A/E	66	1	--	64	3	*0*	**61** R,T	**6**	*1*	61	6	*1*	64 7	3	*0*
R 5. 40 W,K8,C	Shoulder	REC	1	66 M,ST42	67	68	1	1	B (67)	A/E	67	1	--	66	2	*0*	**63** R,T	**5**	*1*	63	5	*1*	64 7	4	*0*
R 5. 41 W	--	MFR	3	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 5. 42 W		MFR	4	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution.

3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.

4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

7 - These noise levels are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

W - Reciever protected by existing private property wall or soundwall.

C - Critical design receiver.

* - Non first row residences.

K8 - An adjustment factor of -1 dB is applied for these receivers to account for the transmission loss from an intervening tarp-covered fence.

Table G-18 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 6

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 1 W,*	S431 Shoulder	MFR	2	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	60	1	0	59	2	0	58	3	0
R 6. 2 W		MFR	2	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	65	1	0	64	2	0	63	3	0
R 6. 3 W		MFR	2	68 MOD	68	69	0	1	B (67)	A/E	--	--	--	--	--	--	68	1	0	68	1	0	67	2	0
R 6. 4 W		MFR	2	64 M,LT24	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	63	1	0
R 6. 5 W		MFR	2	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 6. 6 W		MFR	2	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 7 W,*		MFR	2	60 MOD	60	60	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	59	1	0
R 6. 8 W		MFR	4	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 9 W		MFR	2	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 10 W		MFR	4	68 MOD	68	67	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 11 W		MFR	4	66 MOD	66	66	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 12 W	S445 Shoulder	MFR	3	62 MOD	62	62	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 13 W		MFR	4	64 M,ST43	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 14 W		MFR	3	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 15 W		MFR	4	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 16 W,*		MFR	6	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 17 W		MFR	6	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 18 W		REL	1	62 MOD	62	62	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 19 W	--	LIB	--	65 MOD	65	65	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 19 W,Int		LIB	1	45 MOD	45	45	0	0	E (52)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-18 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 6 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 20 W	--	SFR	4	58 MOD	58	60	0	2	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 21 W,*		SFR	1	58 MOD	58	58	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 22 W		SFR	5	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 23 W		SFR	4	63 MOD	63	64	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 24 W	--	SFR	3	66 MOD	66	67	0	1	B (67)	A/E	--	--	--	--	--	--	66	1	0	65	2	0	65	2	0
R 6. 25 W,*		SFR	13	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	60	1	0	59	2	0	59	2	0
R 6. 26 W	S434 Shoulder	SFR	3	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	2	0
R 6. 27 W		SFR	2	67 M,LT23	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 28 W		SFR	2	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	67	0	0
R 6. 29 W		SFR	2	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	66	1	0
R 6. 30 W,*	--	SFR	1	60 MOD	60	61	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	60	1	0
R 6. 31 W		SFR	3	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	65	1	0
R 6. 32 W		SFR	3	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	0	0
R 6. 33 W		SFR	3	64 MOD	64	65	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	64	1	0
R 6. 34 W,*		SFR	2	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	61	2	0
R 6. 34A W		SFR	2	66 MOD	66	67	0	1	B (67)	A/E	67	0	0	65 T	2	0	65	2	0	64	3	0	64	3	0
R 6. 35	S1226 R/W	SFR	1	64 MOD	68	70	4	2	B (67)	A/E	69	1	0	67 T	3	0	67	3	0	66	4	0	66	4	0
R 6. 35A		SFR	1	64 MOD	68	70	4	2	B (67)	A/E	70	0	0	68 T	2	0	67	3	0	66	4	0	**65 R**	**5**	***1***
R 6. 36		SFR	1	65 MOD	69	70	4	1	B (67)	A/E	70	0	0	68 T	2	0	67	3	0	66	4	0	66	4	0
R 6. 36A C		SFR	2	66 MOD	70	71	4	1	B (67)	A/E	70	1	0	68 T	3	0	67	4	0	67	4	0	**66 R**	**5**	***2***
R 6. 37 W	--	SFR	2	63 M,ST44	67	68	4	1	B (67)	A/E	68	0	0	67	1	0	67 T	1	0	67	1	0	66	2	0

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.

3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.

4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

7 - Existing soundwall is at a height of 16 feet.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

C - Critical design receiver.

Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.

W - Reciever protected by existing private property wall or soundwall.

* - Non first row residences.

Table G-18 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 6 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 38 W	--	SFR	2	68 MOD	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 39 W		SFR	2	68 MOD	68	68	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 40 W,*		SFR	2	62 MOD	62	63	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 41 W		SFR	3	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 42 W		SFR	5	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 43 W		SFR	4	65 MOD	65	66	0	1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 44 W,*		SFR	2	63 MOD	63	64	0	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 45 W	S464	SFR	1	67 MOD	67	67	0	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 46 W	R/W	SFR	1	67 MOD	67	66	0	-1	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- 7	--	--
R 6. 47 W	--	SFR	2	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 48 W,*		SFR	2	64 MOD	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 49 W		SFR	3	65 MOD	65	65	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 50 W		SFR	3	64 M,LT25	64	64	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 51 W		SFR	4	63 MOD	63	63	0	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 52 W		SFR	3	68 MOD,F	64	64	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 53 W,*		SFR	2	66 MOD,F	62	62	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 54 W		SFR	4	67 MOD,F	63	63	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 55 W		SFR	3	67 MOD,F	63	63	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 56 W		SFR	3	66 MOD,F	62	62	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 57 W		SFR	3	64 MOD,F	60	61	-4	1	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 58 W		SFR	3	63 M,ST45,F	59	59	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 59 W		SFR	3	65 MOD,F	61	61	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 60 W,*		SFR	5	64 MOD,F	60	60	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 61 W		SFR	2	65 MOD,F	61	61	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
F - At these receivers, the existing noise measurements were conducted before the construction of a soundwall that is part of the WCC project but is included in all future alternatives; therefore, there is a 4 dB reduction in future traffic noise levels.
C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Table G-18 – Predicted Future Noise Levels and Barrier Analysis – Alternative 3 – Segment 6 (Cont'd)

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	I-405 PA-ED Alternative 3 Future Worst Hour Noise Levels - Leq(h), dBA[1,6]						Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefitted Receivers (NBR)														
					Design Year No Build Noise Level Leq(h), dBA[1]	Design Year Build Noise Level Leq(h), dBA[1]	Design Year No Build Noise Level Minus Existing Conditions Leq(h), dBA	Design Year Build Noise Level Minus No Build Conditions Leq(h), dBA	Activity Category (NAC)	Impact Type[4]	8 feet			10 feet			12 feet			14 feet			16 feet		
											Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR	Leq(h)	I.L.	NBR
R 6. 62 W	--	SFR	5	62 MOD,F	58	58	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 63 W		SFR	3	63 MOD,F	59	59	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 64 W		SFR	3	64 MOD,F	60	60	-4	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 65 W		SFR	3	61 MOD	62	62	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 66 W,*		SFR	4	58 MOD	59	59	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 67 W		SFR	3	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 68 W		SFR	4	62 MOD	63	63	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 69 W		SFR	3	63 MOD	64	64	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 70 W		SFR	3	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 71 W		SFR	4	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 72 W		SFR	3	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R 6. 73 W	--	SFR	5	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 6. 74 W		SFR	5	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 6. 75 W		SFR	5	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 6. 76 W,*		SFR	2	59 MOD	60	60	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 6. 77 W		SFR	6	65 M,LT26,CAL	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 6. 78 W,*		SFR	1	60 MOD	61	61	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 6. 79 W		SFR	7	65 MOD	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 6. 80 W		SFR	7	65 M,ST46	66	66	1	0	B (67)	A/E	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--
R 6. 81 W		SFR	6	64 MOD	65	65	1	0	B (67)	NONE	--	--	--	--	--	--	--	--	--	--	--	--	-- [7]	--	--

Notes:

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.
2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - school; REC - recreational/park; REL - religious institution; LIB - library.
3 - M - Measured noise level; STxx or LTxx - measurement site number; CAL - noise model calibration site; MOD - Estimated from No-Build Alternative and measurement sites.
4 - S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
5 - Barrier height needed to meet requirements at adjacent receptor(s).
6 - Traffic noise from the freeway only; other local noise sources are not included.
7 - Existing soundwall is at a height of 16 feet.
R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.
T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.
F - At these receivers, the existing noise measurements were conducted before the construction of a soundwall that is part of the WCC project but is included in all future alternatives; therefore, there is a 4 dB reduction in future traffic noise levels.

C - Critical design receiver.
Int - The modeled exterior noise levels have been reduced based on window types and the interior noise criteria has been used for this receiver because there is no outdoor use.
W - Reciever protected by existing private property wall or soundwall.
* - Non first row residences.

Appendix H Barrier Locations and Elevations

Table H-1 – Barrier Locations and Elevations – Alternative 1 – Segment 1

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S649 [3]	R1.95 to R1.103	Shoulder / Southbound	641+50	12	41.3
			642+00	12	41.5
			643+00	12	43.6
			644+00	12	44.5
			645+00	12	45.9
			646+00	12	47.7
			647+00	12	49.5
			648+00	12	51.3
			649+00	12	53.1
			650+00	12 [6]	55.2
			651+00	12 [6]	56.5
			652+00	12 [6]	58.0
			653+00	12 [6]	59.2
			654+00	12 [6]	59.7
			655+00	12 [6]	60.9
			655+50	12 [6]	61.9
			655+85	12 [6]	62.7
		Approximate Length: 1,430 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Ellis Avenue.

Table H-2 – Barrier Locations and Elevations – Alternative 1 – Segment 2

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S699 [3]	R2.1 to R2.4A	R/W / Southbound	695+43	16	44.9
			696+00	16	44.9
			697+00	16	45.2
			698+00	16	45.4
			699+00	16	46.2
			700+00	16	47.0
			700+37	16	47.5
			701+00	16	48.0
			701+10	16	48.0
		Approximate Length: 570 ft			
S705 [3]	R2.5 to R2.9	Shoulder / Southbound	701+10	12	44.0
			702+00	12	44.9
			703+00	12	45.5
			704+00 [6]	12	45.9
			705+00 [6]	12	46.3
			706+00 [6]	12	45.7
			706+50 [6]	12	45.1
			707+00 [6]	12	44.4
			707+50 [6]	12	44.0
			708+00 [6]	12	43.7
			708+11 [6]	12	43.8
		Approximate Length: 705 ft			
S708	R2.13	Shoulder / Northbound	706+00	12	42.3
			707+00	12	41.9
			708+00	12	41.4
			708+42	12	41.3
		Approximate Length: 240 ft			
S710 [3]	R2.14 to R2.16	Shoulder / Northbound	708+42	12	41.3
			709+00	12	41.3
			710+00	12	41.1
			711+00	12	40.8
			712+00	12	40.6
			712+15	12	40.7
		Approximate Length: 375 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-2 – Barrier Locations and Elevations – Alternative 1 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S718	R2.17 to R2.29	Shoulder & R/W/ Northbound	712+15	12	40.7
			712+49	12	38.8
			713+19	12	39.3
			713+19	14	41.3
			713+82	14	41.3
			714+41	14	41.2
			715+08	14	41.4
			715+69	14	41.4
			716+30	14	41.4
			716+92	14	41.4
			717+54	14	41.5
			718+12 [7]	14	41.6
			718+73 [7]	14	41.7
			719+32 [7]	14	41.7
			719+94 [7]	14	41.8
			720+00 [7]	14	42.5
			720+50 [7]	14	42.6
			721+00 [7]	14	42.3
			721+50 [7]	14	41.8
			722+00 [7]	14	41.4
			722+50 [7]	14	41.4
			723+00 [7]	14	41.5
			723+50 [7]	14	41.7
			723+50 [7]	16	43.7
			724+00 [7]	16	44.0
			724+50 [7]	16	44.9
			725+00 [7]	16	45.8
			725+50 [7]	16	47.3
			726+00 [7]	16	49.1
			726+50 [7]	16	51.5
		Approximate Length: 1,405 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-2 – Barrier Locations and Elevations – Alternative 1 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S733	R2.34	Shoulder / Southbound	730+50 [8]	12	47.6
			731+00 [8]	12	46.1
			731+40 [8]	12	46.9
			731+50 [8]	12	45.4
			732+00 [8]	12	44.6
			732+50 [8]	12	43.6
			732+50 [8]	14	45.6
			733+00 [8]	14	45.4
			733+50 [8]	14	45.3
			734+00 [8]	14	45.5
		Approximate Length: 330 ft			
S746	R2.45, R45A & R2.46	R/W / Northbound	745+00	12	45.0
			745+50	12	45.0
			746+00	12	43.0
			746+50	12	42.0
			747+00	12	40.6
		Approximate Length: 195 ft			
S747	R2.40 to R2.42	R/W / Southbound	741+60	12	42.5
			743+33	12	41.3
			743+33	14	43.3
			744+21	14	43.3
			744+21	16	45.3
			745+09	16	45.2
			745+13	16	45.2
			745+80	16	45.0
			746+00	16	46.0
			746+50	16	47.0
			747+00	16	47.0
			747+50	16	47.0
			748+00	16	47.0
			748+50	16	47.0
			749+00	16	46.8
		Approximate Length: 750 ft			
S765	R2.63 to R2.65	R/W / Southbound	763+98	16	46.0
			764+14	16	46.0
			764+14	14	44.0
			765+58	14	43.0
			765+78	14	42.0
			766+00	14	42.0
			766+07	14	42.8
		Approximate Length: 215 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-2 – Barrier Locations and Elevations – Alternative 1 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S766	R2.57 to R2.59	R/W / Northbound	766+14	14	46.4
			766+46	14	46.5
			766+62	14	47.0
			767+06	14	47.0
			767+56	14	47.0
		Approximate Length: 145 ft			
S788	R2.80 to R2.82	Shoulder/ Northbound	787+00 [9]	12	41.4
			787+50 [9]	12	41.6
			788+00 [9]	12	41.6
			788+50 [9]	12	41.5
			788+90 [9]	12	41.6
		Approximate Length: 190 ft			
S792 [3]	R2.80 to R2.87	Shoulder/ Northbound	788+90 [9]	12	41.6
			789+00 [9]	12	41.7
			789+50 [9]	12	42.2
			790+00 [9]	12	42.5
			790+50 [9]	12	42.7
			791+00 [9]	12	42.8
			791+50 [9]	12	43.0
			792+00 [9]	12	43.1
			792+50 [9]	12	43.3
			793+00 [9]	12	43.4
			793+50 [9]	12	43.6
			794+00 [9]	12	43.7
			794+50 [9]	12	43.9
			795+00 [9]	12	44.0
			795+50 [9]	12	44.2
			796+00 [9]	12	44.3
			796+50 [9]	12	44.3
			797+00 [9]	12	44.2
			797+25 [9]	12	44.1
		Approximate Length: 835 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-3 – Barrier Locations and Elevations – Alternative 1 – Segment 3

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S807	R3.23A, R3.23B, R3.24 & R3.25	Shoulder / Southbound	804+00 [6]	12	56.9
			806+00 [6]	12	49.6
			807+00 [6]	12	46.4
			807+00 [6]	14	48.4
			808+00 [6]	14	47.0
			809+00 [6]	14	47.7
			809+50 [6]	14	47.9
			810+00 [6]	14	48.1
		Approximate Length: 580 ft			
S811 [5]	R3.24 & R3.25	R/W / Southbound	809+37 [6]	14	44.9
			810+17 [6]	14	45.0
			811+13 [6]	14	45.0
			811+18 [6]	14	45.0
			812+05 [6]	14	45.1
			812+08 [6]	14	45.1
		Approximate Length: 285 ft			
S819 [5]	R3.30 & R3.31	R/W Southbound	819+00	12	43.6
			820+75	12	42.6
		Approximate Length: 175 ft			
S828	R3.3 to R3.21	Shoulder / Northbound	814+75 [7]	12	49.1
			815+00 [7]	12	49.3
			815+50 [7]	12	49.5
			816+00 [7]	12	49.7
			816+50 [7]	12	49.9
			816+50 [7]	14	51.9
			817+00 [7]	14	52.1
			817+50 [7]	14	52.0
			817+50 [7]	16	54.0
			818+00 [7]	16	53.9
			818+50 [7]	16	53.8
			819+00 [7]	16	53.6
			819+50 [7]	16	53.2
			820+00 [7]	16	52.5
			820+50 [7]	16	52.5
			821+00 [7]	16	52.3
			821+50 [7]	16	52.2
			822+00 [7]	16	52.0
			822+50 [7]	16	51.9
			823+00 [7]	16	51.7
			823+50 [7]	16	51.6
			824+00 [7]	16	51.4
			824+50 [7]	16	51.3
			825+00 [7]	16	51.2
			825+50 [7]	16	51.2
			826+00 [7]	16	51.1

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the northbound on ramp at Magnolia Street.

8 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

9 - Stations correspond to that of the southbound off ramp at Beach Boulevard.

10 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-3 – Barrier Locations and Elevations – Alternative 1 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S828 (Con't)			826+50	16	51.0
			827+00	16	50.9
			827+25	16	50.8
			827+50	16	50.8
			828+00	16	50.4
			830+00	16	48.8
			832+00	16	48.2
			834+00	16	47.7
			836+00	16	47.4
			836+00	14	45.4
			838+00	14	45.1
			838+00	12	43.1
			839+00	12	43.1
			840+00	12	43.0
			840+50	12	42.9
			841+00	12	42.8
		Approximate Length: 2,625 ft			
S841	R3.47 to R3.52	Shoulder / Southbound	837+50	12	43.2
			838+00	12	43.1
			838+50	12	43.2
			839+00	12	43.2
			839+50	12	43.2
			840+00	12	43.2
			840+00	14	45.2
			840+50	14	45.1
			841+00	14	45.0
			841+00	16	47.0
			842+00	16	46.7
			842+25	16	46.7
			842+37	16	46.7
			842+50	16	46.6
			842+75	16	46.6
			843+00	16	46.6
		Approximate Length: 550 ft			
S857	R3.56	Shoulder / Southbound	856+00 [8]	12	43.2
			856+25 [8]	12	43.3
			856+50 [8]	12	43.4
			857+00 [8]	12	43.6
			857+50 [8]	12	44.2
			858+00 [8]	12	44.7
			858+25 [8]	12	45.0
		Approximate Length: 225 ft			
S868	R3.63	R/W / Northbound	866+65 [9]	16	45.4
			867+24 [9]	16	45.9
			868+31 [9]	16	46.5
			869+59 [9]	16	46.5
			870+45 [9]	16	46.5
		Approximate Length: 325 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the northbound on ramp at Magnolia Street.

8 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

9 - Stations correspond to that of the southbound off ramp at Beach Boulevard.

10 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-3 – Barrier Locations and Elevations – Alternative 1 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S896	R3.76 & R3.77	R/W /	894+76	10	36.9
			895+61	10	38.5
			895+86	10	39.0
		Approximate Length: 110 ft			
S902 [3]	R3.78 to R3.82	Shoulder / Northbound	896+85	8	40.5
			897+00	8	40.7
			898+00	8	41.0
			900+00	8	45.4
			902+00	8	50.6
			904+00	8	56.7
			906+00	8	61.3
		Approximate Length: 915 ft			
S909	R3.87 to R3.89	Shoulder / Southbound	906+00	14	68.4
			907+00	14	69.8
			908+00	14	71.1
			909+00	14	71.9
			910+00	14	72.6
			910+34	14	72.6
		Approximate Length: 435 ft			
S910 [4]	R3.83 to R3.86A	Shoulder / Northbound	906+00	10	63.3
			908+00	10	67.0
			908+00	12	69.0
			910+00	12	70.5
			910+00	14	72.5
			912+00	14	72.3
			912+50	14	71.8
		Approximate Length: 650 ft			
S911 [4]	R3.87 to R3.89	Shoulder / Northbound	910+34	14	72.6
			910+50	14	72.5
			911+00	14	72.4
			911+00	12	70.4
			911+50	12	70.3
			911+50	10	68.3
			912+00	10	68.2
			912+25	10	68.0
		Approximate Length: 190 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the northbound on ramp at Magnolia Street.

8 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

9 - Stations correspond to that of the southbound off ramp at Beach Boulevard.

10 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-3 – Barrier Locations and Elevations – Alternative 1 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S916	R3.85 to R3.86A	Shoulder / Northbound	912+50	14	71.8
			914+00	14	70.3
			915+00	14	68.8
			916+00	14	67.2
			917+00	14	64.5
			918+00	14	61.8
		Approximate Length: 550 ft			
S141 [3]	R3.90 to R3.98	Shoulder / Southbound	912+25	8	66.0
			912+50	8	65.7
			913+00	8	65.3
			913+50	8	64.8
			914+00	8	64.3
			915+00	8	62.6
			916+00	8	60.9
			918+00	8	55.7
			920+00	8	50.0
			920+50	8	48.4
			921+00	8	47.9
			922+00	8	45.7
			923+00	8	44.3
			924+00	8	42.8
			924+00	10	44.8
			925+00	10	43.5
			925+50	10	42.9
			926+00	10	42.2
			926+93	10	41.7
		Approximate Length: 1,470 ft			
S935	R3.99 to R3.100A	R/W / Southbound	932+90 [10]	14	43.2
			933+11 [10]	14	42.5
			934+23 [10]	14	42.0
			934+65 [10]	14	42.4
			935+00 [10]	14	42.5
			935+00 [10]	12	40.5
			936+20 [10]	12	39.6
			936+20 [10]	10	37.6
			936+75 [10]	10	37.0
		Approximate Length: 335 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the northbound on ramp at Magnolia Street.

8 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

9 - Stations correspond to that of the southbound off ramp at Beach Boulevard.

10 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-4 – Barrier Locations and Elevations – Alternative 1 – Segment 4

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S182 [3]	R4.14A to R4.22	Shoulder / Northbound	952+90	10	42.4
			954+00	10	42.6
			956+00	10	44.0
			958+00	10	46.7
			960+00	10	50.4
			962+00	10	55.4
			964+00	10	60.8
			966+00	10	64.6
			968+00	10	67.7
			969+00	10	68.3
			970+00	10	68.8
			971+00	10	68.5
		Approximate Length: 1,810 ft			
S972 [4]	R4.23 to R4.24	Shoulder / Northbound	971+00	12	70.5
			972+00	12	70.1
			972+00	14	72.1
			974+00	14	69.3
			974+10	14	69.1
		Approximate Length: 310 ft			
S978	R4.24 to R4.25	Shoulder / Northbound	974+10	14	69.1
			976+00	14	65.2
			978+00	14	60.0
			978+00	12	58.0
			980+00	12	52.4
			982+00	12	48.4
			983+00	12	47.1
			983+50	12	46.5
			984+00	12	45.8
		Approximate Length: 990 ft			
S995 [5]	R4.1	R/W Line / Southbound	993+63	16	45.9
			994+07	16	45.9
			994+65	16	46.0
			994+65	12	42.0
			995+59	12	42.3
		Approximate Length: 200 ft			
S998	R4.32	R/W Line / Northbound	997+11	16	45.9
			998+00	16	47.7
			998+50	16	47.8
		Approximate Length: 140 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-4 – Barrier Locations and Elevations – Alternative 1 – Segment 4 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1006	R4.33A and R4.33	R/W Line / Northbound	1004+70 [7]	10	41.9
			1005+00 [7]	10	41.9
			1006+00 [7]	10	42.1
			1007+00 [7]	10	42.1
			1008+00 [7]	10	42.4
		Approximate Length: 330 ft			
S1009	R4.8 to R4.13	R/W Line Transition to Retaining Wall / Southbound	1005+65 [6]	12	43.2
			1006+00 [6]	12	42.8
			1006+50 [6]	12	42.6
			1007+00 [6]	12	42.7
			1007+50 [6]	12	42.9
			1008+00 [6]	12	42.8
			1008+50 [6]	12	43.8
			1009+00 [6]	12	45.0
			1009+50 [6]	12	46.4
			1010+00 [6]	12	47.9
			1010+50 [6]	12	49.5
			1011+00 [6]	12	51.2
			1011+50 [6]	12	52.8
			1012+00 [6]	12	54.4
			1012+50 [6]	12	55.3
			1013+00 [6]	12	56.2
			1013+50 [6]	12	56.3
			1014+00 [6]	12	56.4
		Approximate Length: 850 ft			
S1016	R4.64C and R4.64D	Ramp Shoulder / Northbound	1013+00 [8]	14	49.7
			1014+00 [8]	14	46.4
			1015+00 [8]	14	44.5
			1016+00 [8]	14	43.9
			1017+00 [8]	14	43.4
			1017+00 [8]	16	45.4
			1018+00 [8]	16	45.3
			1018+45 [8]	16	45.6
		Approximate Length: 540 ft			
S1020 [4]	R4.64 and R4.65	Ramp Shoulder Transition to R/W Line / Northbound	1018+45 [8]	16	45.6
			1019+00 [8]	16	45.9
			1020+00 [8]	16	46.9
			1021+00 [8]	16	48.5
			1022+00 [8]	16	49.5
			1023+65 [8]	16	49.7
			1024+00	16	47.1
		Approximate Length: 550 ft			
S1024	R4.65	Inside R/W / Northbound	1024+00	16	47.1
			1024+50	16	47.3
			1025+00	16	47.5
			1026+00	16	47.5
		Approximate Length: 200 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-4 – Barrier Locations and Elevations – Alternative 1 – Segment 4 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1026	R4.66	Inside R/W / Northbound	1026+50	16	48.6
			1027+00	16	48.8
			1027+98	16	46.1
		Approximate Length: 150 ft			
S1028 [5]	R4.66	R/W Line / Northbound	1027+98	16	46.1
			1028+70	16	46.4
		Approximate Length: 75 ft			
S1079 [5]	R4.60	R/W Line / Northbound	1078+93	14	38.0
			1080+22	14	38.0
		Approximate Length: 130 ft			
S1083	R4.59 to R4.62	R/W Line / Southbound	1080+22	14	39.7
			1080+60	14	40.3
			1080+60	12	38.3
			1080+78	12	37.4
			1081+22	12	37.8
			1081+97 [9]	12	36.8
			1082+85 [9]	12	37.7
			1083+08 [9]	12	38.2
			1083+33 [9]	12	38.1
			1084+06 [9]	12	37.2
			1084+14 [9]	12	37.3
			1084+30 [9]	12	37.2
		Approximate Length: 555 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-5 – Barrier Locations and Elevations – Alternative 1 – Segment 5

Barrier No.	Receivers Protected (Receiver No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1162	R5.39 and R5.40	Shoulder / Northbound	1157+00	12	30.0
			1158+00	12	31.3
			1159+00	12	31.4
			1160+00	12	31.4
			1161+00	12	31.5
			1162+00	12	31.5
			1163+00	12	31.5
			1164+00	12	31.5
		Approximate Length: 700 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

Table H-6 – Barrier Locations and Elevations – Alternative 1 – Segment 6

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S431 [3]	R6.1 to R6.11	Shoulder / Southbound	1203+30	10	24.3
			1204+00	10	24.2
			1206+00	10	24.4
			1207+70	10	24.6
			1207+70	14	28.6
			1208+00	14	28.6
			1210+00	14	29.1
			1212+00	14	29.5
			1214+00	14	30.0
			1216+00	14	30.2
			1218+00	14	30.2
			1220+00	14	31.1
			1220+30 [7]	14	31.4
		Approximate Length: 1,700 ft			
S434 [3]	R6.26 to R6.29	Shoulder / Northbound	1217+50 [6]	14	27.3
			1218+00 [6]	14	27.1
			1218+50 [6]	14	27.2
			1219+00 [6]	14	27.5
			1220+00 [6]	14	28.1
			1221+00 [6]	14	28.4
			1222+00 [6]	14	28.3
			1223+00 [6]	14	28.3
			1224+00 [6]	14	28.7
			1225+00 [6]	14	29.2
			1226+00 [6]	14	30.5
		Approximate Length: 840 ft			
S445 [3]	R6.12 to R6.17	Shoulder / Southbound	1220+30 [7]	14	31.4
			1221+00 [7]	14	32.2
			1222+00 [7]	14	33.3
			1223+00 [7]	14	34.4
			1224+00 [7]	14	35.3
			1225+00 [7]	14	36.2
			1226+00 [7]	14	36.9
			1227+00 [7]	14	37.0
			1228+00 [7]	14	36.2
			1229+00 [7]	14	34.9
			1230+00 [7]	14	33.8
		Approximate Length: 975 ft			
S1226	R6.35 to R6.36A	R/W / Northbound	1223+89	16	27.8
			1223+93	16	26.8
			1223+96	16	26.8
			1224+78	16	26.8
			1226+02	16	26.7
			1227+13	16	26.6
			1228+13	16	26.8
		Approximate Length: 440 ft			
S464 [3]	R6.45 and R6.46	R/W / Northbound	1244+01	16	27.1
			1244+39	16	26.0
			1245+43	16	27.0
		Approximate Length: 140 ft			

Notes:

1 - Stations correspond to that of I-405 mainline.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - This soundwall is a replace-in-kind soundwall.
4 - This soundwall is a replacement soundwall which has been raised higher than the soundwall it replaces.
5 - This soundwall raises the height of an existing soundwall.
6 - Stations correspond to that of the northbound SR-22 on ramp from Old Ranch Pkwy.
7 - Stations correspond to that of the eastbound SR-22 to southbound I-405 connector.

Table H-7 – Barrier Locations and Elevations – Alternative 2 – Segment 1

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S649 [3]	R1.95 to R1.103	Shoulder / Southbound	641+50	12	41.3
			642+00	12	41.5
			643+00	12	43.6
			644+00	12	44.5
			645+00	12	45.9
			646+00	12	47.7
			647+00	12	49.5
			648+00	12	51.3
			649+00	12	53.1
			650+00	12 [6]	55.2
			651+00	12 [6]	56.5
			652+00	12 [6]	58.0
			653+00	12 [6]	59.2
			654+00	12 [6]	59.7
			655+00	12 [6]	60.9
			655+50	12 [6]	61.9
			655+85	12 [6]	62.7
		Approximate Length: 1,430 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Ellis Avenue.

Table H-8 – Barrier Locations and Elevations – Alternative 2 – Segment 2

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S699 [3]	R2.1 to R2.4A	R/W / Southbound	695+43	16	44.9
			696+00	16	44.9
			697+00	16	45.2
			698+00	16	45.4
			699+00	16	46.2
			700+00	16	47.0
			700+37	16	47.5
			701+00	16	48.0
			701+10	16	48.0
		Approximate Length: 570 ft			
S705 [3]	R2.5 to R2.9	Shoulder / Southbound	701+10	12	44.0
			702+00	12	44.9
			703+00	12	45.5
			704+00 [6]	12	45.9
			705+00 [6]	12	46.3
			706+00 [6]	12	45.7
			706+50 [6]	12	45.1
			707+00 [6]	12	44.4
			707+50 [6]	12	44.0
			708+00 [6]	12	43.7
			708+11 [6]	12	43.8
		Approximate Length: 705 ft			
S708	R2.13	Shoulder / Northbound	706+00	12	42.2
			707+00	12	41.8
			708+00	12	41.3
			708+42	12	41.1
		Approximate Length: 240 ft			
S710 [3]	R2.14 to R2.16	Shoulder / Northbound	708+42	12	41.1
			709+00	12	41.1
			710+00	12	40.9
			711+00	12	40.8
			712+00	12	40.4
			712+15	12	40.7
		Approximate Length: 375 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound on ramp at Warner Avenue.

10 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-8 – Barrier Locations and Elevations – Alternative 2 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S718	R2.17 to R2.29	Shoulder & R/W/ Northbound	712+15	12	40.7
			712+49	12	38.8
			713+19	12	39.3
			713+19	14	41.3
			713+82	14	41.3
			714+41	14	41.2
			715+08	14	41.4
			715+69	14	41.4
			716+30	14	41.4
			716+92	14	41.4
			717+54	14	41.5
			718+12 [7]	14	41.6
			718+73 [7]	14	41.7
			719+32 [7]	14	41.7
			719+94 [7]	14	41.8
			720+00 [7]	14	42.4
			720+50 [7]	14	42.5
			721+00 [7]	14	42.2
			721+50 [7]	14	41.7
			722+00 [7]	14	41.3
			722+00 [7]	16	43.3
			722+50 [7]	16	43.4
			723+00 [7]	16	43.5
			723+50 [7]	16	43.7
			724+00 [7]	16	44.0
			724+50 [7]	16	44.8
			725+00 [7]	16	45.8
			725+50 [7]	16	47.2
			726+00 [7]	16	49.1
			726+50 [7]	16	51.4
			726+50 [7]	14	49.4
			727+00 [7]	14	42.0
			727+00 [7]	12	40.0
			727+50 [7]	12	40.8
			728+00 [7]	12	41.8
			728+50 [7]	12	43.2
			729+00 [7]	12	45.1
			729+50 [7]	12	47.4
		Approximate Length: 1,898 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound on ramp at Warner Avenue.

10 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-8 – Barrier Locations and Elevations – Alternative 2 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S733	R2.34	Shoulder / Southbound	730+50 [8]	12	47.1
			731+00 [8]	12	46.0
			731+40 [8]	12	45.4
			731+50 [8]	12	45.3
			732+00 [8]	12	44.5
			732+50 [8]	12	43.7
			733+00 [8]	12	43.4
			733+50 [8]	12	43.3
			734+00 [8]	12	43.5
		Approximate Length: 330 ft			
S745	R2.40 to R2.42	R/W / Southbound	741+60	12	42.5
			743+33	12	41.3
			743+33	14	43.3
			744+21	14	43.3
			745+09	14	43.2
			745+13	14	43.2
			745+80	14	43.0
			746+00	14	44.0
			746+50	14	45.0
			747+00	14	45.0
			747+50	14	45.0
			748+00	14	45.0
			748+50	14	45.0
			749+00	14	44.8
		Approximate Length: 750 ft			
S746	R2.45, R45A & R2.46	R/W / Northbound	745+00	12	45.0
			745+50	12	45.0
			746+00	12	43.0
			746+50	12	42.0
			747+00	12	40.6
		Approximate Length: 195 ft			
S765	R2.63 to R2.65	R/W / Southbound	763+98	16	46.0
			764+14	16	46.0
			764+14	14	44.0
			765+58	14	43.0
			765+78	14	42.0
			766+00	14	42.0
			766+07	14	42.8
		Approximate Length: 215 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound on ramp at Warner Avenue.

10 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-8 – Barrier Locations and Elevations – Alternative 2 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S766	R2.57 to R2.59	R/W / Northbound	766+14	14	46.4
			766+46	14	46.5
			766+62	14	47.0
			767+06	14	47.0
			767+56	14	47.0
		Approximate Length: 145 ft			
S786	R2.80 & R2.81	Shoulder/ Northbound	783+00 [9]	16	66.5
			783+50 [9]	16	67.1
			784+00 [9]	16	67.7
			784+50 [9]	16	68.4
			785+00 [9]	16	69.0
			785+50 [9]	16	69.6
			786+00 [9]	16	70.2
			786+00 [9]	14	68.2
			786+50 [9]	14	68.3
			787+00 [9]	14	68.1
		Approximate Length: 395 ft			
S788	R2.80 to R2.82	Shoulder/ Northbound	787+00 [10]	16	45.4
			787+50 [10]	16	45.6
			788+00 [10]	16	45.6
			788+50 [10]	16	45.5
			788+50 [10]	14	43.5
			788+90 [10]	14	43.6
		Approximate Length: 190 ft			
S792 [3]	R2.80 to R2.87	Shoulder/ Northbound	788+90 [10]	12	41.6
			789+00 [10]	12	41.7
			789+50 [10]	12	42.2
			790+00 [10]	12	42.5
			790+50 [10]	12	42.7
			791+00 [10]	12	42.8
			791+50 [10]	12	43.0
			792+00 [10]	12	43.1
			792+50 [10]	12	43.3
			793+00 [10]	12	43.4
			793+50 [10]	12	43.6
			794+00 [10]	12	43.7
			794+50 [10]	12	43.9
			795+00 [10]	12	44.0
			795+50 [10]	12	44.2
			796+00 [10]	12	44.3
			796+50 [10]	12	44.3
			797+00 [10]	12	44.2
			797+25 [10]	12	44.1
		Approximate Length: 835 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound on ramp at Warner Avenue.

10 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-9 – Barrier Locations and Elevations – Alternative 2 – Segment 3

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S807	R3.23A, R3.23B, R3.24 & R3.25	Shoulder / Southbound	804+00 [6]	12	56.8
			806+00 [6]	12	50.0
			807+00 [6]	12	47.0
			808+00 [6]	12	44.9
			808+00 [6]	14	46.9
			809+00 [6]	14	47.5
			809+50 [6]	14	47.6
			810+00 [6]	14	47.8
		Approximate Length: 575 ft			
S811 [5]	R3.24 & R3.25	R/W / Southbound	809+37 [6]	16	46.9
			810+17 [6]	16	47.0
			811+13 [6]	16	47.0
			811+18 [6]	16	47.0
			812+05 [6]	16	47.1
			812+08 [6]	16	47.1
			812+08 [6]	10	41.1
			813+13 [6]	10	41.2
			814+00 [6]	10	42.0
		Approximate Length: 480 ft			
S827 [3]	R3.26 to R3.42	R/W on Retaining Wall/ Southbound	814+00	10	45.0
			814+50	10	44.8
			815+00	10	44.7
			815+50	10	44.5
			816+00	10	44.3
			816+50	10	44.3
			817+00	10	44.2
			817+50	10	44.2
			818+00	10	44.1
			819+00	10	43.9
			819+50	10	43.7
			819+50	12	45.7
			820+00	12	45.6
			821+00	12	45.4
			822+00	12	45.1
			823+00	12	44.9
			824+00	12	44.7
			825+00	12	44.6
			826+00	12	44.5
			827+00	12	44.5
			828+00	12	44.5
			829+00	12	44.5
			830+00	12	44.4
			831+00	12	44.2
			832+00	12	44.0
			833+00	12	43.9
			834+00	12	43.7
			834+50	12	43.6
			835+00	12	43.5
			835+50	12	43.3
			836+00	12	43.2
			836+50	12	43.2
			837+00	12	43.2
			837+50	12	43.1
			838+00	12	43.1
		Approximate Length: 2,390 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

8 - Stations correspond to that of the northbound off ramp at Beach Boulevard.

9 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-9 – Barrier Locations and Elevations – Alternative 2 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S834	R3.13 to R3.21	Shoulder / Northbound	827+50	16	50.8
			828+00	16	50.6
			830+00	16	48.8
			832+00	16	48.2
			834+00	16	47.7
			836+00	16	47.4
			838+00	16	47.1
			839+00	16	47.1
			840+00	16	47.0
			840+50	16	46.9
			841+00	16	46.8
		Approximate Length: 1,350 ft			
S841	R3.47 to R3.52	Shoulder / Southbound	837+50	12	43.1
			838+00	12	43.1
			838+50	12	43.1
			839+00	12	43.1
			839+50	12	43.1
			840+00	12	43.1
			840+00	14	45.1
			841+00	14	44.9
			842+00	14	44.6
			842+25	14	44.6
			842+37	14	44.6
			842+50	14	44.5
			842+75	14	44.5
		Approximate Length: 525 ft			
S857	R3.56	Shoulder / Southbound	856+00 [7]	12	42.4
			856+25 [7]	12	42.7
			856+50 [7]	12	42.9
			857+00 [7]	12	43.1
			857+50 [7]	12	43.3
			858+00 [7]	12	43.5
			858+25 [7]	12	43.8
		Approximate Length: 225 ft			
S868	R3.63	R/W / Northbound	866+65 [8]	16	45.4
			867+24 [8]	16	45.9
			868+31 [8]	16	46.5
			869+59 [8]	16	46.5
			870+45 [8]	16	46.5
		Approximate Length: 325 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

8 - Stations correspond to that of the northbound off ramp at Beach Boulevard.

9 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-9 – Barrier Locations and Elevations – Alternative 2 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S896	R3.76 & R3.77	R/W / Northbound	894+76	10	36.9
			895+11	10	36.9
			895+25	10	37.5
			895+43	10	38.0
			895+61	10	38.5
			895+75	10	39.0
			895+86	10	39.0
		Approximate Length: 110 ft			
S900 [3]	R3.78 to R3.81A	Shoulder / Northbound	896+85	8	38.5
			897+00	8	39.8
			898+00	8	41.0
			900+00	8	45.0
			902+00	8	50.4
			904+00	8	56.3
		Approximate Length: 710 ft			
S907	R3.87 to R3.89	Shoulder / Southbound	904+00	10	59.6
			905+00	10	61.8
			906+00	10	64.0
			906+00	12	66.0
			908+00	12	68.9
			910+00	12	70.6
			910+50	12	70.5
		Approximate Length: 650 ft			
S908 [4]	R3.82 to R3.86A	Shoulder / Northbound	904+00	10	58.5
			906+00	10	63.2
			906+00	12	65.2
			908+00	12	68.9
			908+00	14	70.9
			910+00	14	72.4
			910+00	16	74.4
			910+00	16	74.2
			912+50	16	73.8
		Approximate Length: 850 ft			
S916	R3.85 to R3.86A	Shoulder / Northbound	912+50	16	73.8
			914+00	16	72.3
			916+00	16	69.1
			918+00	16	64.0
			920+00	16	58.3
		Approximate Length: 750 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

8 - Stations correspond to that of the northbound off ramp at Beach Boulevard.

9 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-9 – Barrier Locations and Elevations – Alternative 2 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S141 [3]	R3.90 to R3.98	Shoulder / Southbound	910+34	8	66.6
			912+00	8	66.1
			914+00	8	64.3
			916+00	8	60.9
			918+00	8	55.9
			920+00	8	50.1
			922+00	8	45.7
			923+00	8	43.5
			923+25	8	42.9
			923+50	8	42.3
			924+00	8	41.2
			925+00	8	40.5
			925+50	8	40.1
		Approximate Length: 1,525 ft			
S935	R3.99 to R3.100A	R/W / Southbound	932+90 [9]	16	45.2
			933+11 [9]	16	44.5
			934+23 [9]	16	44.0
			934+65 [9]	16	44.4
			935+00 [9]	16	44.5
			935+00 [9]	14	42.5
			936+20 [9]	14	41.6
			936+20 [9]	12	39.6
			936+75 [9]	12	39.0
			936+75 [9]	10	37.0
			937+30 [9]	10	37.0
		Approximate Length: 395 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

8 - Stations correspond to that of the northbound off ramp at Beach Boulevard.

9 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-10 – Barrier Locations and Elevations – Alternative 2 – Segment 4

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S182 [3]	R4.14A to R4.21	Shoulder on Retaining Wall / Northbound	952+90	10	42.3
			954+00	10	42.9
			956+00	10	43.9
			958+00	10	46.5
			960+00	10	50.1
			962+00	10	55.3
			964+00	10	60.5
			966+00	10	64.6
			968+00	10	67.5
			969+00	10	68.1
			970+00	10	68.6
		Approximate Length: 1,710 ft			
S972 [4]	R4.22 to R4.24	Shoulder on Retaining Wall / Northbound	970+00	12	70.6
			971+00	12	70.1
			971+00	14	72.1
			972+00	14	71.5
			972+00	16	73.5
			974+10	16	71.1
		Approximate Length: 410 ft			
S978	R4.24 to R4.25	Shoulder on Retaining Wall and Shoulder / Northbound	974+10	16	71.1
			976+00	16	67.5
			978+00	16	62.1
			978+00	14	60.1
			980+00	14	54.6
			980+00	12	52.6
			982+00	12	48.3
			983+00	12	47.1
			983+50	12	46.4
			984+00	12	45.8
		Approximate Length: 990 ft			
S995 [5]	R4.1	R/W Line / Southbound	993+63	16	45.9
			994+07	16	45.9
			994+65	16	46.0
			994+65	14	44.0
			995+59	14	44.3
		Approximate Length: 200 ft			
S998	R4.32	R/W Line / Northbound	997+11	14	43.9
			998+00	14	45.7
			998+50	14	45.8
		Approximate Length: 140 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-10 – Barrier Locations and Elevations – Alternative 2 – Segment 4 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1005 [4]	R4.7 to R4.10	R/W Line / Southbound	1004+00 [6]	12	43.6
			1005+00 [6]	12	43.2
			1005+75 [6]	12	43.3
		Approximate Length: 175 ft			
S1009	R4.8 to R4.13	R/W Line Transition to Retaining Wall / Southbound	1005+75 [6]	12	43.3
			1006+00 [6]	12	42.8
			1007+00 [6]	12	42.7
			1007+45 [6]	12	42.9
			1008+00 [6]	12	42.8
			1008+50 [6]	12	43.8
			1009+00 [6]	12	45.0
			1009+50 [6]	12	46.5
			1010+00 [6]	12	47.9
			1010+50 [6]	12	49.6
			1011+00 [6]	12	51.2
			1011+50 [6]	12	52.8
			1012+00 [6]	12	54.4
			1012+50 [6]	12	55.3
			1013+00 [6]	12	56.2
			1013+50 [6]	12	56.3
			1014+00 [6]	12	56.4
		Approximate Length: 840 ft			
S1006	R4.33A and R4.33	R/W Line / Northbound	1004+70 [7]	10	41.9
			1005+00 [7]	10	41.9
			1006+00 [7]	10	42.1
			1007+00 [7]	10	42.1
			1008+00 [7]	10	42.4
		Approximate Length: 330 ft			
S1016	R4.64C and R4.64D	Ramp Shoulder / Northbound	1013+00 [8]	12	47.9
			1014+00 [8]	12	44.6
			1015+00 [8]	12	42.5
			1016+00 [8]	12	41.9
			1016+00 [8]	14	43.9
			1017+00 [8]	14	43.4
			1017+65 [8]	14	43.0
			1018+00 [8]	14	43.2
			1018+70 [8]	14	43.5
		Approximate Length: 560 ft			
S1020 [4]	R4.64	Ramp Shoulder Transition to R/W Line / Northbound	1018+70 [8]	14	43.5
			1019+00 [8]	14	43.6
			1019+00 [8]	16	45.6
			1020+00 [8]	16	46.0
			1021+00 [8]	16	47.0
			1022+00 [8]	16	47.3
		Approximate Length: 325 ft			
S1022 [5]	R4.65	R/W Line / Northbound	1022+00 [8]	16	47.3
			1024+00	16	47.1
		Approximate Length: 200 ft			
S1024	R4.65	Inside R/W / Northbound	1024+00	16	47.1
			1024+50	16	47.3
			1025+00	16	47.5
			1026+00	16	47.5
		Approximate Length: 200 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-10 – Barrier Locations and Elevations – Alternative 2 – Segment 4 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1026	R4.66	Inside R/W / Northbound	1026+50	16	48.6
			1027+00	16	48.8
			1027+98	16	46.1
		Approximate Length: 150 ft			
S1028 [5]	R4.66	R/W Line / Northbound	1027+98	16	46.1
			1028+70	16	46.4
			1030+00	16	45.9
		Approximate Length: 200 ft			
S1083	R4.59 to R4.62	R/W Line / Southbound	1080+23	12	37.7
			1080+54	12	38.3
			1080+68	12	37.4
			1081+33	12	37.8
			1081+33	14	39.8
			1082+00	14	38.8
			1082+86 [9]	14	39.7
			1083+10 [9]	14	40.2
			1083+10 [9]	12	38.2
			1083+40 [9]	12	38.1
			1084+07 [9]	12	37.2
			1084+15 [9]	12	37.3
			1084+31 [9]	12	37.2
		Approximate Length: 555 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-11 – Barrier Locations and Elevations – Alternative 2 – Segment 5

Barrier No.	Receivers Protected (Receiver No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1116 [3]	R5.19 to R5.22	Shoulder / Northbound	1113+00	18	40.2
			1114+00	18	39.8
			1115+00	18	39.5
			1116+00	18	39.8
			1117+00	18	39.3
			1117+70	18	39.8
		Approximate Length: 470 ft			
S1142 [3]	R5.26 to R5.38	Shoulder / Northbound	1125+35	18	38.7
			1126+00	18	38.7
			1127+00	18	38.5
			1128+00	18	38.3
			1129+00	18	38.2
			1130+00	18	38.0
			1131+00	18	37.8
			1132+00	18	37.7
			1133+00	18	38.9
			1134+00	18	39.6
			1135+00	18	39.0
			1136+00	18	38.3
			1137+00	18	38.4
			1138+00	18	38.4
			1139+00	18	38.5
			1140+00	18	38.6
			1141+00	18	38.6
			1142+00	18	38.6
			1143+00	18	38.6
			1144+00	18	38.5
			1145+00	18	38.5
			1146+00	18	38.4
			1147+00	18	39.0
			1148+00	18	39.6
			1149+00	18	39.4
			1150+00	18	39.1
			1151+00	18	38.6
			1152+00	18	38.1
			1153+00	18	38.1
			1154+00	18	38.0
			1155+00	18	38.0
			1156+00	18	37.9
			1157+00	18	38.7
		Approximate Length: 3,167 ft			
S1162	R5.39 and R5.40	Shoulder / Northbound	1157+00	12	31.9
			1158+00	12	31.3
			1159+00	12	31.4
			1160+00	12	31.4
			1161+00	12	31.5
			1162+00	12	31.5
			1163+00	12	31.5
			1164+00	12	31.5
		Approximate Length: 700 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

Table H-12 – Barrier Locations and Elevations – Alternative 2 – Segment 6

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S431 [3]	R6.1 to R6.11	Shoulder / Southbound	1203+30	10	24.4
			1204+00	10	24.2
			1206+00	10	24.4
			1207+70	10	24.6
			1207+70	14	28.6
			1208+00	14	28.6
			1210+00	14	29.1
			1212+00	14	29.6
			1214+00	14	30.0
			1216+00	14	30.2
			1218+00	14	30.2
			1220+00	14	31.5
			1220+30 [7]	14	31.2
		Approximate Length: 1,700 ft			
S434 [3]	R6.26 to R6.29	Shoulder / Northbound	1217+50 [6]	14	27.3
			1218+00 [6]	14	27.1
			1218+50 [6]	14	27.2
			1219+00 [6]	14	27.5
			1220+00 [6]	14	28.2
			1221+00 [6]	14	28.6
			1222+00 [6]	14	28.3
			1223+00 [6]	14	28.3
			1224+00 [6]	14	28.7
			1225+00 [6]	14	29.2
		Approximate Length: 745 ft			
S445 [3]	R6.12 to R6.17	Shoulder / Southbound	1220+30 [7]	14	31.2
			1221+00 [7]	14	32.0
			1222+00 [7]	14	33.3
			1223+00 [7]	14	34.4
			1224+00 [7]	14	35.3
			1225+00 [7]	14	36.1
			1226+00 [7]	14	36.9
			1227+00 [7]	14	36.9
			1228+00 [7]	14	36.0
			1229+00 [7]	14	34.9
			1230+00 [7]	14	33.8
		Approximate Length: 975 ft			
S1226	R6.35 to R6.36A	R/W / Northbound	1223+89	16	27.8
			1223+93	16	26.8
			1223+96	16	26.8
			1224+78	16	26.8
			1226+02	16	26.7
			1227+13	16	26.6
			1228+13	16	26.8
		Approximate Length: 440 ft			
S464 [3]	R6.45 and R6.46	R/W / Northbound	1244+01	16	27.1
			1244+39	16	26.0
			1245+43	16	27.0
		Approximate Length: 140 ft			

Notes:

1 - Stations correspond to that of I-405 mainline.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - This soundwall is a replace-in-kind soundwall.
4 - This soundwall is a replacement soundwall which has been raised higher than the soundwall it replaces.
5 - This soundwall raises the height of an existing soundwall.
6 - Stations correspond to that of the northbound SR-22 on ramp from Old Ranch Pkwy.
7 - Stations correspond to that of the eastbound SR-22 to southbound I-405 connector.

Table H-13 – Barrier Locations and Elevations – Alternative 3 – Segment 1

Barrier No.	Receivers Protected (Receiver No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S502 [3]	R1.73A	Shoulder / Northbound	557+73 [6]	14	45.6
			558+00 [6]	14	45.5
			559+00 [6]	14	45.7
			560+00 [6]	14	45.9
			561+00 [6]	14	45.7
			562+00 [6]	14	46.4
			563+00 [6]	14	48.2
		Approximate Length: 528 ft			
S583 [3]	R1.61 to R1.67	Shoulder / Southbound	596+57 [7]	14	76.0
			596+00 [7]	14	75.2
			595+00 [7]	14	73.2
			594+00 [7]	14	71.3
			593+00 [7]	14	69.0
			592+00 [7]	14	66.6
			590+00	14	60.8
			588+00	14	55.2
			586+00	14	50.0
			584+00	14	46.2
			582+00	14	45.7
			581+25	14	45.5
			581+00	14	45.4
			579+99 [8]	14	45.1
			579+00 [8]	14	45.3
			578+27 [8]	14	46.0
		Approximate Length: 761 ft			
S614A	R1.75	Shoulder / Northbound	614+00 [9]	12	43.5
			614+50 [9]	12	42.7
			615+00 [9]	12	42.1
			615+50 [9]	12	41.8
			616+00 [9]	12	41.8
		Approximate Length: 200 ft			
S614B	R1.75	Private Property / Northbound	614+84 [9]	8	37.3
			615+46 [9]	8	37.3
		Approximate Length: 64 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the northbound off ramp at Fairview Road.

7 - Stations correspond to that of the southbound on ramp at Harbor Street.

8 - Stations correspond to that of the southbound off ramp at Fairview Road.

9 - Stations correspond to that of the northbound on ramp at Brookhurst Street.

10 - Stations correspond to that of the southbound on ramp at Ellis Avenue.

Table H-13 – Barrier Locations and Elevations – Alternative 3 – Segment 1 (Cont'd)

Barrier No.	Receivers Protected (Receiver No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S629 [3]	R1.85 to R1.89	R/W / Southbound	623+00	14	46.3
			624+00	14	46.5
			625+00	14	46.7
			626+00	14	46.9
			627+00	14	47.1
			628+00	14	47.3
			629+00	14	47.3
			630+00	14	47.3
			631+00	14	47.1
			632+00	14	46.8
			633+00	14	46.3
			634+00	14	45.7
			635+00	14	45.4
			635+70	14	45.1
		Approximate Length: 1275 ft			
S639 [3]	R1.90 to R1.94	R/W / Southbound	635+70	16	47.1
			636+00	16	47.1
			637+00	16	47.3
			638+00	16	47.5
			639+00	16	47.1
			640+00	16	46.7
			641+00	16	47.7
			642+00	16	45.5
		Approximate Length: 635 ft			
S649 [3]	R1.95 to R1.103	Shoulder / Southbound	642+00	12	41.5
			643+00	12	43.6
			644+00	12	44.5
			645+00	12	45.9
			646+00	12	47.7
			647+00	12	49.5
			648+00	12	51.3
			649+00	12	53.1
			650+00 [10]	12	55.2
			651+00 [10]	12	56.5
			652+00 [10]	12	58.0
			653+00 [10]	12	59.1
			654+00 [10]	12	59.7
			655+00 [10]	12	60.9
			655+50 [10]	12	62.1
			655+85 [10]	12	62.7
		Approximate Length: 1,380 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the northbound off ramp at Fairview Road.

7 - Stations correspond to that of the southbound on ramp at Harbor Street.

8 - Stations correspond to that of the southbound off ramp at Fairview Road.

9 - Stations correspond to that of the northbound on ramp at Brookhurst Street.

10 - Stations correspond to that of the southbound on ramp at Ellis Avenue.

Table H-14 – Barrier Locations and Elevations – Alternative 3 – Segment 2

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S699 [3]	R2.1 to R2.4A	R/W / Southbound	695+43	16	44.9
			696+00	16	44.9
			697+00	16	45.2
			698+00	16	45.4
			699+00	16	46.2
			700+00	16	47.0
			700+37	16	47.5
			701+00	16	48.0
			701+10	16	48.0
		Approximate Length: 570 ft			
S705 [3]	R2.5 to R2.9	Shoulder / Southbound	701+10	12	44.0
			702+00	12	44.9
			703+00	12	45.5
			704+00 [6]	12	45.9
			705+00 [6]	12	46.3
			706+00 [6]	12	45.7
			706+50 [6]	12	45.1
			707+00 [6]	12	44.4
			707+50 [6]	12	44.0
			708+00 [6]	12	43.7
			708+11 [6]	12	43.8
		Approximate Length: 705 ft			
S708	R2.13	Shoulder / Northbound	706+00	12	41.6
			707+00	12	41.4
			708+00	12	41.2
			708+42	12	41.1
		Approximate Length: 240 ft			
S710 [3]	R2.14 to R2.16	Shoulder / Northbound	708+42	12	41.1
			709+00	12	41.1
			710+00	12	40.9
			711+00	12	40.8
			712+00	12	40.7
			712+15	12	40.7
		Approximate Length: 375 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound on ramp at Warner Avenue.

10 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-14 – Barrier Locations and Elevations – Alternative 3 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S718	R2.17 to R2.27	Shoulder & R/W/ Northbound	712+15	12	40.7
			712+49	12	38.8
			713+19	12	39.3
			713+19	14	41.3
			713+82	14	41.3
			714+41	14	41.2
			715+08	14	41.4
			715+69	14	41.4
			716+30	14	41.4
			716+92	14	41.4
			717+54	14	41.5
			718+12 [7]	14	41.6
			718+73 [7]	14	41.7
			719+32 [7]	14	41.7
			719+94 [7]	14	41.8
			720+00 [7]	14	42.4
			720+50 [7]	14	42.5
			721+00 [7]	14	42.2
			721+50 [7]	14	41.7
			722+00 [7]	14	41.3
			722+50 [7]	14	41.4
			722+50 [7]	16	43.4
			723+00 [7]	16	43.5
			723+50 [7]	16	43.7
			724+00 [7]	16	44.0
			724+50 [7]	16	44.8
			725+00 [7]	16	45.8
			725+50 [7]	16	47.2
			726+00 [7]	16	49.1
			726+50 [7]	16	51.4
		Approximate Length: 1,405 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound on ramp at Warner Avenue.

10 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-14 – Barrier Locations and Elevations – Alternative 3 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S733	R2.34	Shoulder / Southbound	730+50 [8]	12	47.1
			731+00 [8]	12	46.0
			731+40 [8]	12	45.4
			731+50 [8]	12	45.3
			732+00 [8]	12	44.5
			732+50 [8]	12	43.7
			733+00 [8]	12	43.4
			733+50 [8]	12	43.3
			734+00 [8]	12	43.5
		Approximate Length: 330 ft			
S745	R2.40 to R2.42	R/W / Southbound	741+60	14	44.5
			743+33	14	43.3
			744+21	14	43.3
			744+21	16	45.3
			745+09	16	45.2
			745+13	16	45.2
			745+80	16	45.0
			746+00	16	46.0
			746+50	16	47.0
			747+00	16	47.0
			747+50	16	47.0
			748+00	16	47.0
			748+50	16	47.0
			749+00	16	46.8
		Approximate Length: 750 ft			
S746	R2.45, R45A & R2.46	R/W / Northbound	745+00	12	45.0
			745+50	12	45.0
			746+00	12	43.0
			746+50	12	42.0
			747+00	12	40.6
		Approximate Length: 195 ft			
S765	R2.63 to R2.65	R/W / Southbound	763+98	16	46.0
			764+14	16	46.0
			764+14	14	44.0
			765+58	14	43.0
			765+78	14	42.0
			766+00	14	42.0
			766+07	14	42.8
		Approximate Length: 215 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound on ramp at Warner Avenue.

10 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-14 – Barrier Locations and Elevations – Alternative 3 – Segment 2 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S766	R2.57 to R2.59	R/W / Northbound	766+14	14	46.4
			766+46	14	46.5
			766+62	14	47.0
			767+06	14	47.0
			767+56	14	47.0
		Approximate Length: 145 ft			
S786	R2.80 & R2.81	Shoulder/ Northbound	783+00 [9]	16	66.5
			783+50 [9]	16	67.1
			784+00 [9]	16	67.7
			784+00 [9]	14	65.7
			784+50 [9]	14	66.4
			785+00 [9]	14	67.0
			785+50 [9]	14	67.6
			786+00 [9]	14	68.2
			786+50 [9]	14	68.3
			787+00 [9]	14	68.1
		Approximate Length: 395 ft			
S788	R2.80 to R2.82	Shoulder/ Northbound	787+00 [10]	16	45.4
			787+50 [10]	16	45.6
			788+00 [10]	16	45.6
			788+50 [10]	16	45.5
			788+50 [10]	14	43.5
			788+90 [10]	14	43.6
		Approximate Length: 190 ft			
S792 [3]	R2.80 to R2.87	Shoulder/ Northbound	788+90 [10]	12	41.6
			789+00 [10]	12	41.7
			789+50 [10]	12	42.2
			790+00 [10]	12	42.5
			790+50 [10]	12	42.7
			791+00 [10]	12	42.8
			791+50 [10]	12	43.0
			792+00 [10]	12	43.1
			792+50 [10]	12	43.3
			793+00 [10]	12	43.4
			793+50 [10]	12	43.6
			794+00 [10]	12	43.7
			794+50 [10]	12	43.9
			795+00 [10]	12	44.0
			795+50 [10]	12	44.2
			796+00 [10]	12	44.3
			796+50 [10]	12	44.3
			797+00 [10]	12	44.2
			797+25 [10]	12	44.1
		Approximate Length: 835 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound on ramp at Talbert Avenue.

7 - Stations correspond to that of the northbound off ramp at Brookhurst Avenue.

8 - Stations correspond to that of the southbound off ramp at Brookhurst Avenue.

9 - Stations correspond to that of the northbound on ramp at Warner Avenue.

10 - Stations correspond to that of the northbound off ramp at Magnolia Street.

Table H-15 – Barrier Locations and Elevations – Alternative 3 – Segment 3

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S807	R3.23A, R3.23B, R3.24 & R3.25	Shoulder / Southbound	804+00 [6]	12	56.8
			806+00 [6]	12	50.0
			807+00 [6]	12	47.0
			808+00 [6]	12	44.9
			808+00 [6]	14	46.9
			809+00 [6]	14	47.5
			809+50 [6]	14	47.6
			810+00 [6]	14	47.8
		Approximate Length: 575 ft			
S811 [5]	R3.24 & R3.25	R/W / Southbound	809+37 [6]	16	46.9
			810+17 [6]	16	47.0
			811+13 [6]	16	47.0
			811+18 [6]	16	47.0
			812+05 [6]	16	47.1
			812+08 [6]	16	47.1
			812+08 [6]	10	41.1
			813+13 [6]	10	41.2
			814+00 [6]	10	42.0
		Approximate Length: 480 ft			
S827 [3]	R3.26 to R3.42	R/W on Retaining Wall/ Southbound	814+00	10	45.0
			814+50	10	44.8
			815+00	10	44.7
			815+50	10	44.5
			816+00	10	44.3
			816+50	10	44.3
			817+00	10	44.2
			817+50	10	44.2
			818+00	10	44.1
			819+00	10	43.9
			819+50	10	43.7
			819+50	12	45.7
			820+00	12	45.6
			821+00	12	45.4
			822+00	12	45.1
			823+00	12	44.9
			824+00	12	44.7
			825+00	12	44.6
			826+00	12	44.5
			827+00	12	44.5
			828+00	12	44.5
			829+00	12	44.5
			830+00	12	44.4
			831+00	12	44.2
			832+00	12	44.0
			833+00	12	43.9
			834+00	12	43.7
			834+50	12	43.6
			835+00	12	43.5
			835+50	12	43.3
			836+00	12	43.2
			836+50	12	43.2
			837+00	12	43.2
			837+50	12	43.1
			838+00	12	43.1
		Approximate Length: 2,390 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

8 - Stations correspond to that of the northbound off ramp at Beach Boulevard.

9 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-15 – Barrier Locations and Elevations – Alternative 3 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S834	R3.13 to R3.21	Shoulder / Northbound	827+50	16	50.8
			828+00	16	50.6
			830+00	16	48.8
			832+00	16	48.2
			834+00	16	47.7
			836+00	16	47.4
			838+00	16	47.1
			839+00	16	47.1
			840+00	16	47.0
			840+50	16	46.9
			841+00	16	46.8
		Approximate Length: 1,350 ft			
S841	R3.47 to R3.52	Shoulder / Southbound	837+50	12	43.1
			838+00	12	43.1
			838+50	12	43.1
			839+00	12	43.1
			839+50	12	43.1
			840+00	12	43.1
			840+00	14	45.1
			841+00	14	44.9
			842+00	14	44.6
			842+25	14	44.6
			842+37	14	44.6
			842+50	14	44.5
			842+75	14	44.5
		Approximate Length: 525 ft			
S857	R3.56	Shoulder / Southbound	856+00 [7]	12	42.4
			856+25 [7]	12	42.7
			856+50 [7]	12	42.9
			857+00 [7]	12	43.1
			857+50 [7]	12	43.3
			858+00 [7]	12	43.5
			858+25 [7]	12	43.8
		Approximate Length: 225 ft			
S868	R3.63	R/W / Northbound	866+65 [8]	16	45.4
			867+24 [8]	16	45.9
			868+31 [8]	16	46.5
			869+59 [8]	16	46.5
			870+45 [8]	16	46.5
		Approximate Length: 325 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

8 - Stations correspond to that of the northbound off ramp at Beach Boulevard.

9 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-15 – Barrier Locations and Elevations – Alternative 3 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S896	R3.76 & R3.77	R/W / Northbound	894+76	10	36.9
			895+11	10	36.9
			895+25	10	37.5
			895+43	10	38.0
			895+61	10	38.5
			895+75	10	39.0
			895+86	10	39.0
		Approximate Length: 110 ft			
S902 [3]	R3.78 to R3.84	Shoulder / Northbound	896+85	8	38.5
			897+00	8	39.8
			898+00	8	41.0
			900+00	8	45.0
			902+00	8	50.4
			904+00	8	56.3
			906+00	8	61.0
			908+00	8	64.7
		Approximate Length: 1,110 ft			
S907	R3.87 to R3.89	Shoulder / Southbound	903+00	10	56.8
			904+00	10	59.6
			905+00	10	61.8
			906+00	10	64.0
			906+00	12	66.0
			908+00	12	68.9
			910+00	12	70.6
			910+50	12	70.5
		Approximate Length: 755 ft			
S910 [4]	R3.84 to R3.86A	Shoulder / Northbound	908+00	10	66.7
			910+00	10	68.4
			910+00	12	70.4
			912+00	12	70.2
			912+50	12	69.8
		Approximate Length: 450 ft			
S916	R3.85 to R3.86A	Shoulder / Northbound	912+50	12	69.8
			914+00	12	68.3
			916+00	12	65.1
			918+00	12	60.0
			920+00	12	54.3
		Approximate Length: 750 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

8 - Stations correspond to that of the northbound off ramp at Beach Boulevard.

9 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-15 – Barrier Locations and Elevations – Alternative 3 – Segment 3 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S141 [3]	R3.90 to R3.98	Shoulder / Southbound	910+34	8	66.6
			912+00	8	66.1
			914+00	8	64.3
			916+00	8	60.9
			918+00	8	55.9
			920+00	8	50.1
			922+00	8	45.7
			923+00	8	43.5
			923+25	8	42.9
			923+50	8	42.3
			924+00	8	41.2
			925+00	8	40.5
			925+50	8	40.1
		Approximate Length: 1,525 ft			
S935	R3.99 to R3.100A	R/W / Southbound	932+90 [9]	16	45.2
			933+11 [9]	16	44.5
			934+23 [9]	16	44.0
			934+65 [9]	16	44.4
			935+00 [9]	16	44.5
			935+00 [9]	14	42.5
			936+20 [9]	14	41.6
			936+20 [9]	12	39.6
			936+75 [9]	12	39.0
			936+75 [9]	10	37.0
			937+30 [9]	10	37.0
		Approximate Length: 395 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

6 - Stations correspond to that of the southbound off ramp at Magnolia Street.

7 - Stations correspond to that of the southbound on ramp at Edinger Avenue.

8 - Stations correspond to that of the northbound off ramp at Beach Boulevard.

9 - Stations correspond to that of the southbound on ramp at Bolsa Avenue.

Table H-16 – Barrier Locations and Elevations – Alternative 3 – Segment 4

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S182 [3]	R4.14A to R4.22	Shoulder on Retaining Wall / Northbound	952+90	10	42.3
			954+00	10	42.9
			956+00	10	43.8
			958+00	10	46.3
			960+00	10	50.0
			962+00	10	55.0
			964+00	10	60.3
			966+00	10	64.5
			968+00	10	67.5
			969+00	10	68.0
			970+00	10	68.5
			971+00	10	68.1
		Approximate Length: 1,810 ft			
S972 [4]	R4.23 to R4.24	Shoulder on Retaining Wall / Northbound	971+00	14	72.1
			972+00	14	71.7
			972+00	16	73.7
			974+10	16	71.1
		Approximate Length: 310 ft			
S978	R4.24 to R4.25	Shoulder on Retaining Wall and Shoulder / Northbound	974+10	16	71.1
			976+00	16	67.3
			978+00	16	62.4
			978+00	14	60.4
			980+00	14	54.7
			980+00	12	52.7
			982+00	12	48.5
			983+00	12	47.2
			983+50	12	46.5
			984+00	12	45.9
		Approximate Length: 990 ft			
S995 [5]	R4.1	R/W Line / Southbound	993+63	16	45.9
			994+07	16	45.9
			994+65	16	46.0
			994+65	14	44.0
			995+59	14	44.3
		Approximate Length: 200 ft			
S998	R4.32	R/W Line / Northbound	997+11	14	43.9
			998+00	14	45.7
			998+50	14	45.8
		Approximate Length: 140 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-16 – Barrier Locations and Elevations – Alternative 3 – Segment 4 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1005 [4]	R4.7 to R4.10	R/W Line / Southbound	1004+00 [6]	12	43.6
			1005+00 [6]	12	43.2
			1005+75 [6]	12	43.3
		Approximate Length: 175 ft			
S1009	R4.8 to R4.13	R/W Line Transition to Retaining Wall / Southbound	1005+75 [6]	12	43.3
			1006+00 [6]	12	42.8
			1007+00 [6]	12	42.7
			1007+45 [6]	12	42.9
			1008+00 [6]	12	42.8
			1008+00 [6]	10	40.8
			1008+50 [6]	10	41.8
			1009+00 [6]	10	43.0
			1009+50 [6]	10	44.5
			1010+00 [6]	10	45.9
			1010+50 [6]	10	47.6
			1011+00 [6]	10	49.2
			1011+50 [6]	10	50.8
			1012+00 [6]	10	52.4
			1012+50 [6]	10	53.3
			1013+00 [6]	10	54.2
			1013+50 [6]	10	54.3
			1014+00 [6]	10	54.4
		Approximate Length: 840 ft			
S1006	R4.33A and R4.33	R/W Line / Northbound	1004+70 [7]	10	41.9
			1005+00 [7]	10	41.9
			1006+00 [7]	10	42.1
			1007+00 [7]	10	42.1
			1008+00 [7]	10	42.4
		Approximate Length: 330 ft			
S1016	R4.64C and R4.64D	Ramp Shoulder / Northbound	1013+00 [8]	12	47.9
			1014+00 [8]	12	44.6
			1015+00 [8]	12	42.5
			1016+00 [8]	12	41.9
			1016+00 [8]	14	43.9
			1017+00 [8]	14	43.4
			1017+65 [8]	14	43.0
			1018+00 [8]	14	43.2
			1018+70 [8]	14	43.5
		Approximate Length: 560 ft			
S1020 [4]	R4.64	Ramp Shoulder Transition to R/W Line / Northbound	1018+70 [8]	14	43.5
			1019+00 [8]	14	43.6
			1019+00 [8]	16	45.6
			1020+00 [8]	16	46.0
			1021+00 [8]	16	47.0
			1022+00 [8]	16	47.3
		Approximate Length: 325 ft			
S1022 [5]	R4.65	R/W Line / Northbound	1022+00 [8]	16	47.3
			1024+00	16	47.1
		Approximate Length: 200 ft			
S1024	R4.65	Inside R/W / Northbound	1024+00	16	45.1
			1024+50	16	45.3
			1025+00	16	45.5
			1026+00	16	45.5
		Approximate Length: 200 ft			

Notes:
1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-16 – Barrier Locations and Elevations – Alternative 3 – Segment 4 (Cont'd)

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1026	R4.66	Inside R/W / Northbound	1027+00	16	48.8
			1027+98	16	46.1
		Approximate Length: 100 ft			
S1028 [5]	R4.66	R/W Line / Northbound	1027+98	16	46.1
			1028+70	16	46.4
		Approximate Length: 75 ft			
S1083	R4.59 to R4.62	R/W Line / Southbound	1080+23	14	39.7
			1080+54	14	40.3
			1080+68	14	39.4
			1081+33	14	39.8
			1082+00	14	38.8
			1082+86 [9]	14	39.7
			1083+10 [9]	14	40.2
			1083+10 [9]	12	38.2
			1083+40 [9]	12	38.1
			1084+07 [9]	12	37.2
			1084+15 [9]	12	37.3
			1084+31 [9]	12	37.2
		Approximate Length: 555 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - In-kind replacement of an existing soundwall at new location with same height.
4 - Replacement of existing soundwall at new location with new height.
5 - Replacement of existing soundwall at same location with new height.
6 - Stations correspond to that of the southbound on ramp from Westminster Blvd.
7 - Stations correspond to that of the northbound off ramp (loop) to Westminster Blvd.
8 - Stations correspond to that of the northbound on ramp from Westminster Blvd.
9 - Stations correspond to that of the southbound on ramp (loop) from Valley View St.

Table H-17 – Barrier Locations and Elevations – Alternative 3 – Segment 5

Barrier No.	Receivers Protected (Receiver No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S1116 [3]	R5.19 to R5.22	Shoulder / Northbound	1113+00	18	40.2
			1114+00	18	39.5
			1115+00	18	39.8
			1116+00	18	39.3
			1117+00	18	40.0
		Approximate Length: 400 ft			
S1132 [3]	R5.26 to R5.34	Shoulder / Northbound	1124+00	18	39.0
			1125+00	18	38.6
			1126+00	18	38.7
			1127+00	18	38.5
			1128+00	18	38.3
			1129+00	18	38.2
			1130+00	18	38.0
			1131+00	18	37.8
			1132+00	18	37.7
			1133+00	18	37.6
			1134+00	18	37.4
			1135+00	18	37.2
			1136+00	18	37.1
			1137+00	18	36.9
			1138+00	18	37.1
			1139+00	18	38.1
			1139+50	18	37.5
		Approximate Length: 1,553 ft			
S1162	R5.39 and R5.40	Shoulder / Northbound	1157+00	12	30.0
			1158+00	12	31.3
			1159+00	12	31.4
			1160+00	12	31.4
			1161+00	12	31.5
			1162+00	12	31.5
			1163+00	12	31.5
			1164+00	12	31.5
		Approximate Length: 700 ft			

Notes:

1 - Stations correspond to that of I-405 mainline unless otherwise noted.

2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.

3 - In-kind replacement of an existing soundwall at new location with same height.

4 - Replacement of existing soundwall at new location with new height.

5 - Replacement of existing soundwall at same location with new height.

Table H-18 – Barrier Locations and Elevations – Alternative 3 – Segment 6

Barrier No.	Receivers Protected (Receiverr No.)	Barrier Location / Hwy. Side	Barrier Stations[1]	Approximate Barrier Height, ft	Top of Barrier Elevation[2], ft
S431 [3]	R6.1 to R6.11	Shoulder / Southbound	1203+30	10	24.4
			1204+00	10	24.2
			1206+00	10	24.4
			1207+70	10	24.6
			1207+70	14	28.6
			1208+00	14	28.6
			1210+00	14	29.1
			1212+00	14	29.4
			1214+00	14	29.8
			1216+00	14	30.0
			1218+00	14	30.1
			1220+00	14	31.5
			1220+30 [7]	14	31.2
		Approximate Length: 1,700 ft			
S434 [3]	R6.26 to R6.29	Shoulder / Northbound	1217+50 [6]	14	27.3
			1218+00 [6]	14	27.1
			1218+50 [6]	14	27.2
			1219+00 [6]	14	27.5
			1220+00 [6]	14	28.2
			1221+00 [6]	14	28.6
			1222+00 [6]	14	28.3
			1223+00 [6]	14	28.3
			1224+00 [6]	14	28.7
			1225+00 [6]	14	29.2
		Approximate Length: 745 ft			
S445 [3]	R6.12 to R6.17	Shoulder / Southbound	1220+30 [7]	14	31.2
			1221+00 [7]	14	32.0
			1222+00 [7]	14	33.3
			1223+00 [7]	14	34.4
			1224+00 [7]	14	35.3
			1225+00 [7]	14	36.1
			1226+00 [7]	14	36.9
			1227+00 [7]	14	36.9
		Approximate Length: 675 ft			
S1226	R6.35 to R6.36A	R/W / Northbound	1223+95	16	27.8
			1223+98	16	26.8
			1224+02	16	26.8
			1224+84	16	26.8
			1226+07	16	26.7
			1227+18	16	26.6
			1228+19	16	26.8
		Approximate Length: 440 ft			
S464 [3]	R6.45 and R6.46	R/W / Northbound	1244+04	16	27.1
			1244+43	16	26.0
			1245+46	16	27.0
		Approximate Length: 140 ft			

Notes:

1 - Stations correspond to that of I-405 mainline.
2 - Top of barrier elevations shall take precedence over specified barrier heights for design and construction purposes.
3 - This soundwall is a replace-in-kind soundwall.
4 - This soundwall is a replacement soundwall which has been raised higher than the soundwall it replaces.
5 - This soundwall raises the height of an existing soundwall.
6 - Stations correspond to that of the northbound SR-22 on ramp from Old Ranch Pkwy.
7 - Stations correspond to that of the eastbound SR-22 to southbound I-405 connector.

Appendix I Noise Barrier Reasonableness Analysis Worksheet

Appendix I1 Alternative 1

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location: S708, S710, & S718 (14 ft) / Shoulder & R/W			
Critical Design Receiver: R2.20			
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**19**
Total Unmodified Reasonable Allowance			**$855,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location: S708, S710, & S718 (16 ft) / Shoulder & R/W			
Critical Design Receiver:	R2.20		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**21**
Total Unmodified Reasonable Allowance			**$945,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location: S708, S710, & S718 (Design) / Shoulder & R/W			
Critical Design Receiver: R2.20			
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**21**
Total Unmodified Reasonable Allowance			**$945,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S733 (14 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S733 (16 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S733 (Design) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S746 (8 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$47,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S746 (10 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (12 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (14 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S746 (16 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (Design) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S747 (12 ft) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$37,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S747 (14 ft) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$39,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S747 (16 ft) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$196,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S747 (Design) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$196,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & S811 (12 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	✓	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	✓	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$259,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & S811 (14 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$333,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & S811 (16 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$333,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & S811 (Design) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	✓	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	✓	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$333,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S828 (16 ft) / Shoulder		
Critical Design Receiver:	R3.16		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**12**
Total Unmodified Reasonable Allowance			**$540,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S828 (Design) / Shoulder		
Critical Design Receiver:	R3.16		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**12**
Total Unmodified Reasonable Allowance			**$540,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S841 (8 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$106,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S841 (10 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$110,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (12 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$275,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S841 (14 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$330,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (16 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	12 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$57,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$399,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S841 (Design) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S857 (12 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$329,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S857 (14 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$329,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S857 (16 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$329,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S857 (Design) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$329,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S868 (16 ft) / Right-of-Way		
Critical Design Receiver:	R3.63		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$35,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S868 (Design) / Right-of-Way		
Critical Design Receiver:	R3.63		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$35,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S909 & S911 (10 ft) / Shoulder		
Critical Design Receiver:	R3.87		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$172,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S909 & S911 (12 ft) / Shoulder		
Critical Design Receiver:	R3.87		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$180,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S909 & S911 (14 ft) / Shoulder		
Critical Design Receiver:	R3.87		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S909 & S911 (16 ft) / Shoulder		
Critical Design Receiver:	R3.87		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S909 & S911 (Design) / Shoulder		
Critical Design Receiver:	R3.87		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S910 & S916 (12 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$215,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S910 & S916 (14 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$315,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S910 & S916 (16 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$315,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S910 & S916 (Design) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$315,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S935 (14 ft) / Right-of-Way		
Critical Design Receiver:	R3.99		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA		Add $4,000	
75-78 dBA		Add $6,000	
More than 78 dBA		Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA		Add $0	
3-7 dBA	✓	Add $2,000	**$2,000**
8-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA		Add $2,000	
9-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both		Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$135,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S935 (16 ft) / Right-of-Way		
Critical Design Receiver:	R3.99		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$225,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S935 (Design) / Right-of-Way		
Critical Design Receiver:	R3.99		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$135,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (8 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$70,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (10 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$148,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (12 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$222,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (14 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$333,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (16 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$351,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location:	S972 & S978 (Design) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$333,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S995 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.1		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$70,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S995 (Design) / Right-of-Way		
Critical Design Receiver:	R4.1		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$70,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S998 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.32		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S998 (Design) / Right-of-Way		
Critical Design Receiver:	R4.32		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (8 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	77 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (10 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	77 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (12 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	77 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$371,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	77 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$371,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	77 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$371,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (Design) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	77 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	2/23/2011
Noise Barrier I.D. & Location:	S1009 (8 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$94,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	2/23/2011
Noise Barrier I.D. & Location:	S1009 (10 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$282,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	2/23/2011
Noise Barrier I.D. & Location:	S1009 (12 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$539,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	2/23/2011
Noise Barrier I.D. & Location:	S1009 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$539,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	2/23/2011
Noise Barrier I.D. & Location:	S1009 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	12 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$561,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	2/23/2011
Noise Barrier I.D. & Location:	S1009 (Design) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$539,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location: S1016, S1020, S1024 (16 ft) / Shoulder & Right-of-Way			
Critical Design Receiver:	R4.65		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**8**
Total Unmodified Reasonable Allowance			**$376,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location: S1016, S1020, S1024 (Design) / Shoulder & Right-of-Way			
Critical Design Receiver:	R4.65		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**8**
Total Unmodified Reasonable Allowance			**$376,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1026,1028 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.66		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location:	S1026,1028 (Design) / Right-of-Way		
Critical Design Receiver:	R4.66		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location:	S1079, S1083 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.60		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$245,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location:	S1079, S1083 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.60		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$255,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location:	S1079, S1083 (Design) / Right-of-Way		
Critical Design Receiver:	R4.60		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$245,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (12 ft) / Shoulder		
Critical Design Receiver:	R5.40		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (14 ft) / Shoulder		
Critical Design Receiver:	R5.40		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (16 ft) / Shoulder		
Critical Design Receiver:	R5.40		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	4 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (Design) / Shoulder		
Critical Design Receiver:	R5.40		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S1226 (16 ft) / Right-of-Way		
Critical Design Receiver:	R6.36A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$188,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 1	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S1226 (Design) / Right-of-Way		
Critical Design Receiver:	R6.36A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$188,000**

* at Critical Design Receiver

Appendix I2 Alternative 2

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	2/23/2011
Noise Barrier I.D. & Location:	S708, S710, & S718 (14 ft) / Shoulder & R/W		
Critical Design Receiver:	R2.24		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**20**
Total Unmodified Reasonable Allowance			**$900,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S708, S710, & S718 (16 ft) / Shoulder & R/W		
Critical Design Receiver:	R2.24		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**24**
Total Unmodified Reasonable Allowance			**$1,080,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S708, S710, & S718 (Design) / Shoulder & R/W		
Critical Design Receiver:	R2.24		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**24**
Total Unmodified Reasonable Allowance			**$1,080,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (10 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (12 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (14 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (16 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (Design) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S745 (12 ft) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$37,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S745 (14 ft) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$156,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S745 (16 ft) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$156,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S745 (Design) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$156,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (8 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$51,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (10 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$51,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (12 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$51,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (14 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (16 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (Design) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location: S786, S788, & S792 (16 ft) / Shoulder			
Critical Design Receiver: R2.81			
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	-2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$129,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location: S786, S788, & S792 (Design) / Shoulder			
Critical Design Receiver: R2.81			
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	-2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$129,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (8 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$259,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (10 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$259,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (12 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$273,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (14 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$273,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (16 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$351,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (Design) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$351,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S834 (16 ft) / Shoulder		
Critical Design Receiver:	R3.16		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S834 (Design) / Shoulder		
Critical Design Receiver:	R3.16		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (8 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$106,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (10 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$165,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (12 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$220,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (14 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (16 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (Design) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S857 (12 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$329,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S857 (14 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$343,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S857 (16 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$343,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S857 (Design) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$329,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S868 (16 ft) / Right-of-Way		
Critical Design Receiver:	R3.63		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$35,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S868 (Design) / Right-of-Way		
Critical Design Receiver:	R3.63		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$35,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (8 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (10 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$172,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (12 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$258,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (14 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (16 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (Design) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA		Add $4,000	
75-78 dBA		Add $6,000	
More than 78 dBA		Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA		Add $2,000	
8-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA		Add $2,000	
9-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both		Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$258,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S908 & S916 (10 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$86,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S908 & S916 (12 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$225,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S908 & S916 (14 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$225,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S908 & S916 (16 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$315,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S908 & S916 (Design) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$301,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S935 (16 ft) / Right-of-Way		
Critical Design Receiver:	R3.99		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	✓	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$180,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 2	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S935 (Design) / Right-of-Way		
Critical Design Receiver:	R3.99		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S972 & S978 (8 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$140,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S972 & S978 (10 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$222,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S972 & S978 (12 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$222,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S972 & S978 (14 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$222,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S972 & S978 (16 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**13**
Total Unmodified Reasonable Allowance			**$507,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S972 & S978 (Design) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$407,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S995 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.1		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$74,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S995 (Design) / Right-of-Way		
Critical Design Receiver:	R4.1		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$74,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S998 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.32		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S998 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.32		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$94,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S998 (Design) / Right-of-Way		
Critical Design Receiver:	R4.32		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (8 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (10 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$255,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (12 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$561,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$561,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	12 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$583,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (Design) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$561,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1006 (8 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1006 (10 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1006 (12 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$371,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1006 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$371,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1006 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	12 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1006 (Design) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 11/8/2010	
Noise Barrier I.D. & Location: S1016, S1020, S1022, S1024 (16 ft) / Shoulder & Right-of-Way			
Critical Design Receiver:	R4.65		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**8**
Total Unmodified Reasonable Allowance			**$376,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 11/8/2010	
Noise Barrier I.D. & Location: S1016, S1020, S1022, S1024 (Design) / Shoulder & Right-of-Way			
Critical Design Receiver:	R4.65		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**8**
Total Unmodified Reasonable Allowance			**$376,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1026, S1028 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.66		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 11/8/2010	
Noise Barrier I.D. & Location:	S1026, S1028 (Design) / Right-of-Way		
Critical Design Receiver:	R4.66		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1083 (10 ft) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1083 (12 ft) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$153,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1083 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$255,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1083 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$255,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1083 (Design) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$255,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (16 ft) / Shoulder		
Critical Design Receiver:	R5.39		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	3 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (Design) / Shoulder		
Critical Design Receiver:	R5.39		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 2	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S1226 (Design) / Right-of-Way		
Critical Design Receiver:	R6.36A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$141,000**

* at Critical Design Receiver

Appendix I3 Alternative 3

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614A (8 ft) / Shoulder		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$37,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614A (10 ft) / Shoulder		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$37,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614A (12 ft) / Shoulder		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$39,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614A (14 ft) / Shoulder		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$39,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614A (16 ft) / Shoulder		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	12 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$41,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$41,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614A (Design) / Shoulder		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$39,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614B (8 ft) / Private Property		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$37,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614B (10 ft) / Private Property		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$39,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S614B (12 ft) / Private Property		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	12 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$41,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$41,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614B (14 ft) / Private Property		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	14 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$41,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$41,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614B (16 ft) / Private Property		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	14 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$41,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$41,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S614B (Design) / Private Property		
Critical Design Receiver:	R1.75		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	0 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$37,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S708, S710, & S718 (14 ft) / Shoulder & R/W		
Critical Design Receiver:	R2.24		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**19**
Total Unmodified Reasonable Allowance			**$855,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S708, S710, & S718 (16 ft) / Shoulder & R/W		
Critical Design Receiver:	R2.24		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**21**
Total Unmodified Reasonable Allowance			**$945,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S708, S710, & S718 (Design) / Shoulder & R/W		
Critical Design Receiver:	R2.24		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**21**
Total Unmodified Reasonable Allowance			**$945,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (12 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (14 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (16 ft) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S733 (Design) / Shoulder		
Critical Design Receiver:	R2.34		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S745 (14 ft) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$39,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S745 (16 ft) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$147,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S745 (Design) / Right-of-Way		
Critical Design Receiver:	R2.41		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$147,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (8 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$51,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (10 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (12 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (14 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (16 ft) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/18/2010
Noise Barrier I.D. & Location:	S746 (Design) / Right-of-Way		
Critical Design Receiver:	R2.46		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	7 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S786, S788, & S792 (16 ft) / Shoulder		
Critical Design Receiver:	R2.81		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	-2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$129,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S786, S788, & S792 (Design) / Shoulder		
Critical Design Receiver:	R2.81		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	-2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$129,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (12 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	69 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$259,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (14 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	69 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$259,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (16 ft) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	69 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$333,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S807 & 811 (Design) / Shoulder & Right-of-Way		
Critical Design Receiver:	R3.23B		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	69 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	6 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$333,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S834 (16 ft) / Shoulder		
Critical Design Receiver:	R3.16		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$495,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S834 (Design) / Shoulder		
Critical Design Receiver:	R3.16		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$495,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (8 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$106,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (10 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$159,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (12 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$220,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (14 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (16 ft) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S841 (Design) / Shoulder		
Critical Design Receiver:	R3.48		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	76 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	9 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S857 (12 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$329,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S857 (14 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$343,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S857 (16 ft) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$343,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S857 (Design) / Shoulder		
Critical Design Receiver:	R3.56		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	4 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$329,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S868 (16 ft) / Right-of-Way		
Critical Design Receiver:	R3.63		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$35,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S868 (Design) / Right-of-Way		
Critical Design Receiver:	R3.63		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$35,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (8 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$43,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (10 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$172,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (12 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (14 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (16 ft) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S907 (Design) / Shoulder		
Critical Design Receiver:	R3.88		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	68 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA		Add $4,000	
75-78 dBA		Add $6,000	
More than 78 dBA		Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA		Add $2,000	
8-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA		Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both		Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$270,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S910 & S916 (10 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA		Add $4,000	
75-78 dBA		Add $6,000	
More than 78 dBA		Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA		Add $2,000	
8-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA		Add $2,000	
9-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both		Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$86,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S910 & S916 (12 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$301,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S910 & S916 (14 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA		Add $4,000	
75-78 dBA		Add $6,000	
More than 78 dBA		Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA		Add $2,000	
8-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA		Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA		Add $4,000	
12 dBA or more		Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both		Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$315,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S910 & S916 (16 ft) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	✓	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	✓	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$315,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date: 10/18/2010	
Noise Barrier I.D. & Location:	S910 & S916 (Design) / Shoulder		
Critical Design Receiver:	R3.86A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$43,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$301,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S935 (16 ft) / Right-of-Way		
Critical Design Receiver:	R3.99		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	✓	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	✓	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	✓	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	✓	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$180,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative: 3	Project Location: Orange County	Date:	10/18/2010
Noise Barrier I.D. & Location:	S935 (Design) / Right-of-Way		
Critical Design Receiver:	R3.99		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	66 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (8 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$70,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (10 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$35,000**
Number of Benefited Units			**4**
Total Unmodified Reasonable Allowance			**$140,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (12 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**6**
Total Unmodified Reasonable Allowance			**$222,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (14 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**9**
Total Unmodified Reasonable Allowance			**$333,000**

* at Critical Design Receiver

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Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S972 & S978 (16 ft) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$407,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location:	S972 & S978 (Design) / Shoulder		
Critical Design Receiver:	R4.25A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	1 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$37,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$407,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S995 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.1		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$78,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S995 (Design) / Right-of-Way		
Critical Design Receiver:	R4.1		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	72 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	3 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☐	Add $10,000	
NO on both	☑	Add $0	**$0**
Reasonable Allowance Per Unit			**$39,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$78,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S998 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.32		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S998 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.32		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$94,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S998 (Design) / Right-of-Way		
Critical Design Receiver:	R4.32		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (8 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (10 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$561,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (12 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$561,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	11 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$561,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	12 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$583,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 2/23/2011	
Noise Barrier I.D. & Location:	S1005 & S1009 (Design) / Right-of-Way		
Critical Design Receiver:	R4.11		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	75 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**11**
Total Unmodified Reasonable Allowance			**$561,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (8 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (10 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (12 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	9 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$371,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	10 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$53,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$371,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	12 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☑	Add $6,000	**$6,000**
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$55,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$385,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1006 (Design) / Right-of-Way		
Critical Design Receiver:	R4.33		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	78 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☐	Add $4,000	
75-78 dBA	☑	Add $6,000	**$6,000**
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**7**
Total Unmodified Reasonable Allowance			**$357,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location: S1016, S1020, S1022, S1024 (14 ft) / Shoulder & Right-of-Way			
Critical Design Receiver:	R4.65		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$235,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location: S1016, S1020, S1022, S1024 (16 ft) / Shoulder & Right-of-Way			
Critical Design Receiver:	R4.65		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**8**
Total Unmodified Reasonable Allowance			**$392,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location: S1016, S1020, S1022, S1024 (Design) / Shoulder & Right-of-Way			
Critical Design Receiver:	R4.65		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	74 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**8**
Total Unmodified Reasonable Allowance			**$392,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1026, S1028 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.66		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$47,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location:	S1026, S1028 (Design) / Right-of-Way		
Critical Design Receiver:	R4.66		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	73 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**1**
Total Unmodified Reasonable Allowance			**$45,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1083 (10 ft) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$49,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$98,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/6/2010	
Noise Barrier I.D. & Location:	S1083 (12 ft) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$102,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1083 (14 ft) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	7 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$255,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1083 (16 ft) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	8 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$255,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/6/2010
Noise Barrier I.D. & Location:	S1083 (Design) / Right-of-Way		
Critical Design Receiver:	R4.62		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	70 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	8 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☐	Add $2,000	
8-11 dBA	☑	Add $4,000	**$4,000**
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$51,000**
Number of Benefited Units			**5**
Total Unmodified Reasonable Allowance			**$255,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (12 ft) / Shoulder		
Critical Design Receiver:	R5.39		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (14 ft) / Shoulder		
Critical Design Receiver:	R5.39		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date:	11/8/2010
Noise Barrier I.D. & Location:	S1162 (Design) / Shoulder		
Critical Design Receiver:	R5.39		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	67 dBA*	
69 dBA or less	☑	Add $2,000	**$2,000**
70-74 dBA	☐	Add $4,000	
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	2 dBA*	
Less than 3 dBA	☑	Add $0	**$0**
3-7 dBA	☐	Add $2,000	
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	6 dBA*	
Less than 6 dBA	☐	Add $0	
6-8 dBA	☑	Add $2,000	**$2,000**
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$45,000**
Number of Benefited Units			**2**
Total Unmodified Reasonable Allowance			**$90,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S1226 (16 ft) / Right-of-Way		
Critical Design Receiver:	R6.36A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$141,000**

* at Critical Design Receiver

Project: I-405 PA-ED Alternative 3	Project Location: Orange County	Date: 11/18/2010	
Noise Barrier I.D. & Location:	S1226 (Design) / Right-of-Way		
Critical Design Receiver:	R6.36A		
Base Allowance (2009 Dollars)			**$31,000**
1. Absolute Noise Levels	check one	71 dBA*	
69 dBA or less	☐	Add $2,000	
70-74 dBA	☑	Add $4,000	**$4,000**
75-78 dBA	☐	Add $6,000	
More than 78 dBA	☐	Add $8,000	
2."Build" VS Existing Noise Levels	check one	5 dBA*	
Less than 3 dBA	☐	Add $0	
3-7 dBA	☑	Add $2,000	**$2,000**
8-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
3. Achievable Noise Reduction	check one	5 dBA*	
Less than 6 dBA	☑	Add $0	**$0**
6-8 dBA	☐	Add $2,000	
9-11 dBA	☐	Add $4,000	
12 dBA or more	☐	Add $6,000	
Either New Construction or Pre-1978?	check one		
YES on either one	☑	Add $10,000	**$10,000**
NO on both	☐	Add $0	
Reasonable Allowance Per Unit			**$47,000**
Number of Benefited Units			**3**
Total Unmodified Reasonable Allowance			**$141,000**

* at Critical Design Receiver