# APPENDIX H

## Noise Analysis

# APPENDIX H-1

## Noise Impact Analysis

# NOISE IMPACT ANALYSIS

# WESTPARK PROMENADE

# CITY OF WILDOMAR, CALIFORNIA

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Date:

July 27, 2015

Project No.: P14-044

## PROJECT DESCRIPTION

Giroux & Associates prepared this noise impact analysis for the proposed Westpark Promenade Project (project). The project would consist of the subdivision of a 27.6 acre property into a mixed use commercial and residential project in the City of Wildomar.

The site is located east of the I-15 Freeway between Depasquale Road and Clinton Keith Road in the City of Wildomar. The site is proposed to be developed with approximately 191 multi-family residential units, 85,000 sf of supermarket uses, 17,354 sf of retail uses and 16,000 sf of restaurant use. The project site is currently vacant.

## NOISE SETTING

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted sound. Sound is characterized by various parameters which describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound wave. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of sound pressure as expressed in a ratio to express the faintest sound detectable by a keen human ear is called a decibel (dB).

Because sound or noise can vary in intensity by over one million times within the range of human hearing, decibels are on a logarithmic loudness scale similar to the Richter Scale used for earthquake magnitude. Since the human ear is not as equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called “A-weighting” written as “dBA.” Any further reference to decibels written as “dB” should be understood to be A-weighted values.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called Leq), or, alternately, as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL).

CNEL-based standards apply to noise sources whose noise generation is preempted from local control (such as from on-road vehicles, trains, airplanes, etc.). Since local jurisdictions cannot regulate the noise generator, they exercise land use planning authority on the receiving property. Uses that are amenable to local control are generally considered “stationary sources.” Local jurisdictions generally regulate the level of noise that one use may impose upon another.

This noise study addresses noise impacts associated with the Westpark Promenade project in Wildomar. Development may increase the ambient noise environment due to project-related traffic on site-access roads. Except in close proximity to the site, traffic from any single project becomes progressively diluted. Noise impacts are therefore typically cumulative without a clearly perceptible impact being created by any single project.

## WILDOMAR NOISE STANDARDS

The City of Wildomar was incorporated on July 1, 2008. At that time, the City adopted all ordinances and resolutions of the County of Riverside to remain in full force and effect. In 2013 it was decided to create an updated General Plan which would be tailored to Wildomar and better address local issues. However, to date there have been no actions on noise protection that supersede the County of Riverside documents. Therefore, noise standards set forth in the Riverside County General Plan have been adopted for use for this project.

In the Noise Element of the Riverside County General Plan, the County uses the State of California Office of Noise Control guidelines to specify a range of community noise exposure levels which are considered acceptable for various receiver site land uses, as seen in Table 1. The Noise Element of the Riverside County General Plan states that an exterior noise exposure standard of 60 dB CNEL is the most desirable level for single-family residential uses while levels of 65 dB CNEL are desirable for usable outdoor space (patios, decks, pools, etc.) for multi-family developments. A level of 70 dB CNEL is considered "conditionally acceptable" for all residential uses. In a "conditionally acceptable" noise category, new construction should be undertaken only after a noise analysis has been made and needed noise insulation features have been incorporated in the project design.

In the Riverside County General Plan, Noise Element Data, Steven Hinde, Senior Industrial Hygienist at Riverside County, clarifies that the appropriate exterior noise threshold for residential use is 65 Ldn/CNEL and the interior threshold is 45 Ldn/CNEL[1].

The General Plan states that an exterior noise exposure standard of 70 dB CNEL is the most desirable level for commercial uses. A level of 77.5 dB CNEL is considered acceptable if all available noise mitigation has been adopted, where feasible. Unless noise-sensitive uses such as outdoor dining are included, noise exposure is generally not considered a location or design constraint for commercial facilities with typical project area noise. In most instances, commercial uses are conducted in enclosed space such that an acceptable interior noise environment is more critical than the exterior.

An interior CNEL of 45 dB is mandated by the State of California Noise Insulation Standards (CCR, Title 24, Part 6, Section T25-28) for multiple-family dwellings and hotel and motel rooms. In 1988, the State Building Standards Commission expanded that standard to include all habitable rooms in residential use, including single-family dwelling units. For this project an exterior noise level of 65 dB CNEL in any usable outdoor recreational area and interior noise level of 45 dB in any habitable residential indoor space are considered to be the appropriate compatibility standards for residential use. An interior noise level of 50 dB Leq is typically required for non-residential use. Unless the proposed project commercial uses have any associated outdoor components, it is the interior noise level which is of concern.

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[1] http://planning.rctlma.org/Portals/0/genplan/general_plan_2013/4%20Technical%20appendices/App_I_Noise_Data_Adopted_Final.pdf

The guidelines in Table 1 are mainly advisory, except near airports, where state law restricts construction of noise-sensitive uses in a high noise area. They apply mainly to transportation activity (vehicles, trains, planes, etc.) noise impacts on adjacent land use. These guidelines are used in land-use decisions because noise control from transportation is controlled by state or federal agencies and is not locally regulated.

While the Noise Element guidelines apply to mobile transportation noise sources, stationary equipment noise crossing the boundary of adjoining uses is generally regulated by local noise standards because no state or federal preemption exists for such sources.

For stationary noise sources located proximate to residential uses, Riverside County has adopted a noise exposure planning policy contained in Table N-2 of the Noise Element (see Table 2). These noise standards must be met at the nearest sensitive receptors in the vicinity of any stationary or operational source of noise originating from the project. The policy applies to any on-site activities such as mechanical equipment and deliveries. The policy allows maximum property line noise level of 65 dB Leq from 7 a.m. to 10 p.m. and 45 dB Leq from 10 p.m. to 7 a.m. for 10-minute periods at any sensitive receiver.

In the City of Wildomar Municipal Code, modeled on an older but since updated version of the Riverside County Codes, the code requirement for residential land uses is 55 dB Lmax from 7:00 a.m. to 10:00 p.m. and 45 dB Lmax from 10:00 p.m. to 7:00 a.m. These standards differ from those established in the General Plan Noise Element, as described above. Because the General Plan is by law the guiding land use document, the Riverside County Office of Industrial Hygiene has indicated that the appropriate noise standard to apply to the project is that of the General Plan rather than the Municipal Code[2]. Steven Hinde, Senior Industrial Hygienist at Riverside County has also clarified this stating that the levels are a 10 minute Leq and not an Lmax.

Construction activity noise is restricted by ordinance to occur during hours of lesser sensitivity. In addition, grading permits require use of properly operating mufflers on all combustion equipment. Materials stockpiling and equipment and vehicle staging areas are also encouraged to be placed as far away from existing homes to the north and east as is reasonably feasible.

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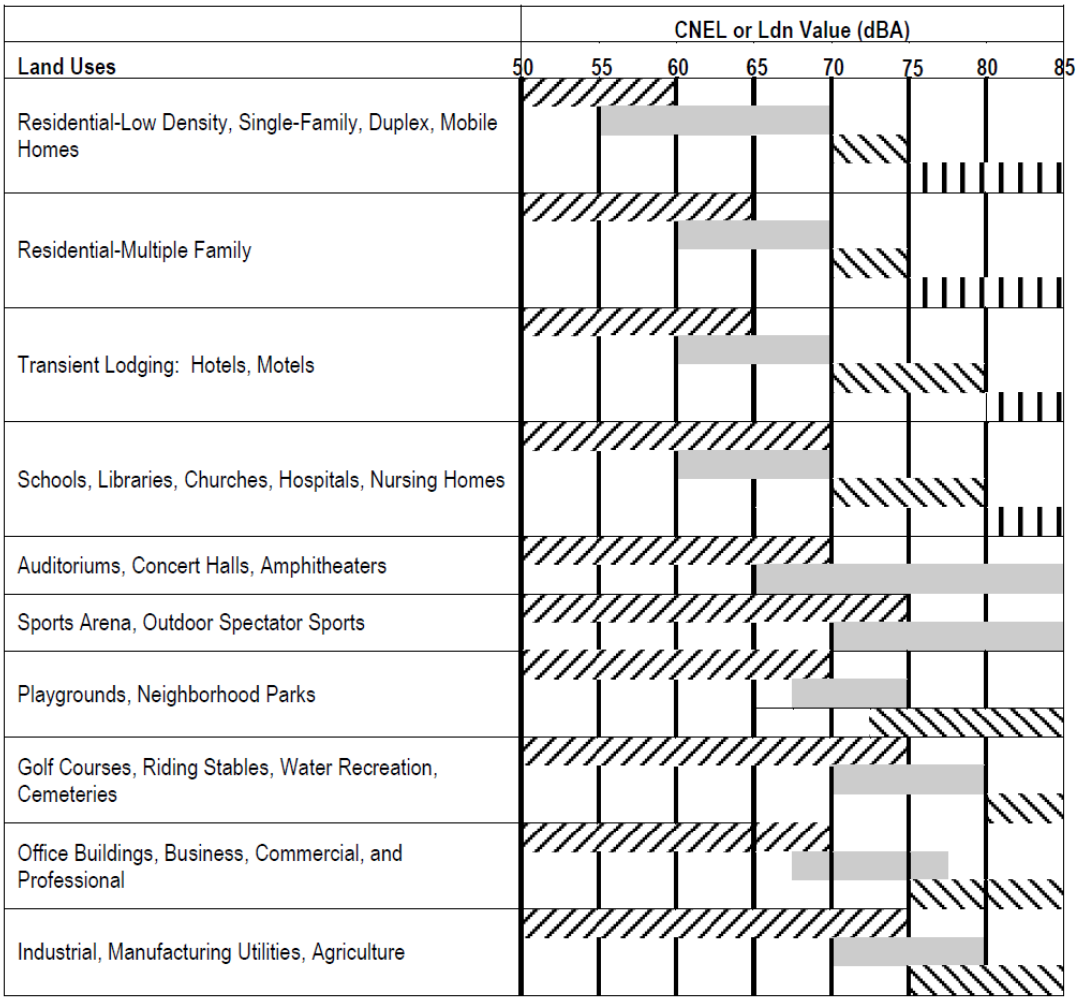
[2] http://planning.rctlma.org/Portals/0/genplan/general_plan_2013/4%20Technical%20appendices/App_I_Noise_Data_Adopted_Final.pdf

**Table 1**

## Riverside County Land Use Compatibility Chart for Community Noise




**Legend:**

**Normally Acceptable:** Specified land use as satisfactory based upon the assumption that any buildings involved are of normal environmental construction, without any special noise insulation requirements.

**Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.

**Normally Unacceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor area must be shielded.

**Clearly Unacceptable:** New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

**Table 2**

| Stationary Source Land Use Exterior Noise Standards | |
|---|---|
| 7 a.m. – 10 p.m. | 65 dB Leq (10 minute) |
| 10 p.m. – 7 a.m. | 45 dB Leq (10 minute) |

*Source: Noise Element Table N-2*

## GROUNDBORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is described as the velocity and the rate of change of the speed is described as the acceleration. Each of these descriptors can be used to correlate vibration to building damage, and acceptable equipment vibration levels.

During construction, the operation of construction equipment can cause groundborne vibration. This type of vibration is best measured in velocity and acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak of the vibration signal and RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage. The units for PPV velocity is normally inches per second (in/sec). Another vibration descriptor, often used for describing annoyance levels, is presented and discussed in dB units in order to compress the range of numbers required to describe the vibration. In this study, all PPV and RMS velocity levels are in in/sec and all vibration levels are in dB relative to one microinch per second (abbreviated as VdB). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

## EXISTING NOISE LEVELS

In order to evaluate site suitability for residential and commercial uses, and to categorize current noise levels, short-term noise measurements were conducted. These help to serve as a basis for projecting future noise exposure from the project upon the surrounding community as well as determining site suitability for intended uses. Noise monitoring was conducted on Wednesday, August 20, 2014, mid-afternoon (3-4 p.m.), at four locations for fifteen minutes each. Measurement locations are shown in Figure 1 and summarized in Table 3.

**Table 3**
**Measured Noise Levels (dBA)**

| Site No. | Leq | Lmax | Lmin | L10 | L33 | L50 | L90 |
|---|---|---|---|---|---|---|---|
| 1 | 71.9 | 76 | 67 | 74 | 73 | 72 | 70 |
| 2 | 63.1 | 66 | 58 | 65 | 64 | 62 | 61 |
| 3 | 59.6 | 63 | 54 | 61 | 60 | 59 | 58 |
| 4 | 60.5 | 81* | 52 | 67 | 61 | 59 | 56 |

*motorcycle near meter

Existing noise levels throughout the project area derive almost exclusively from vehicular sources on the I-15 freeway. The project site is vacant and therefore, the site is not an existing noise source in the area. Other than the freeway, the only other potential noise sources are the residential uses immediately to the north and east. However, compared to vehicular traffic, the residential uses are not a significant noise source.

Monitoring experience shows that 24-hour weighted CNELs can be reasonably well estimated from early rush peak hour noise readings. CNELs are approximately equal to afternoon hour Leq plus 2 dB (Caltrans Technical Noise Supplement, 2009). Meter 1 was located at the end of Catt Road and captured freeway noise at the southern end of the site. The observed noise level of 72 dB Leq would indicate a CNEL of approximately 74 dB. Meter 2 and 3 are located along the northern perimeter of the project site and are representative of existing noise levels at the adjacent residences. Meter 2, sited at southern end of Murren Road is closer to the freeway than Meter 3 which is located at the end of Westpark Street. Existing noise levels at these locations are considered to be in the range of 62 to 65 dB CNEL. Meter 4, located along the eastern site perimeter captured existing noise levels for the residences abutting the property line. The existing noise level at these residences is approximately 63 dB CNEL. The project will lessen freeway noise for these residences as the structures on the project site will provide an intervening noise shield.

**Figure 1**
**Long Term Noise Monitor Locations**

**Meter Locations**

**Meter 1** West end of Catt

**Meter 2** South end of Murren

**Meter 3** South end of Westpark

**Meter 4** West end of Copper Court

## NOISE IMPACTS

### IMPACT SIGNIFICANCE CRITERIA

Noise impacts are considered significant if:

1. They create violations of noise standards, or,

2. They substantially worsen an already excessive noise environment, or,

3. They substantially increase an existing quiet environment even if noise standards are not violated by the proposed action.

Three characteristic noise sources are typically identified with land use intensification such as that proposed for the development of the proposed commercial and residential mixed use project. Construction activities, especially heavy equipment, will create short-term noise increases near the project site. Such impacts are important for any nearby noise-sensitive receptors, such as the existing residential uses. Upon completion, project-related traffic will cause an incremental increase in area-wide noise levels throughout the project area. Additionally, operational noise from the shopping center must not exceed noise standards at the nearest sensitive use.

Traffic noise impacts are generally analyzed both to insure that the project does not adversely impact the acoustic environment of the surrounding community, as well as to insure that the project site is not exposed to an unacceptable level of noise resulting from the ambient noise environment acting on the project. Because the site involves a proposed mixed use and commercial uses have observed noise levels that are within the recommended commercial compatibility thresholds, the focus of this study is on noise produced by the proposed project (rather than noise produced by the community which could impact the project).

- According to the current CEQA Appendix G guidelines, noise impacts are considered potentially significant if they cause:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Noise levels exceeding the Wildomar/Riverside County Noise Standards would be considered significant.

- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

- Exposure of people residing or working in the project area to excessive noise levels, for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.

- Exposure of people residing or working in the project area to excessive noise levels, for a project within the vicinity of a private airstrip.

The proposed project is not located near the Skylark Field Airport in Lake Elsinore or the Perris Valley Airport or within an airport land use plan. The project is not located within two miles of an airport and/or within the vicinity of a private airstrip. The proposed project site is located over 3.5 miles from the Skylark Field Airport and 10 miles away from the Perris Valley Airport. Therefore there will be no impact on the project site in regards to exposing people residing or working in the project area to excessive noise levels attributed to airport proximity.

The terms "substantial" or "excessive" are not defined in most environmental compliance guidelines. Noise analysis methodology is accurate only to the nearest whole decibel and the human ear can only clearly detect changes of around 3 dB; changes of less than 3 dB, while audible under controlled circumstances, are not readily discernable in an outdoor environment. Thus, a change of 3 dB is considered as a barely audible change. Most people can readily hear a change of 5 dB in an exterior environment; therefore, in Riverside County, an increase of 5 dB or greater in the noise exposure of sensitive receptors is considered a substantial change (Riverside County Integrated Project General Plan EIR, 2003[3]).

Temporary noise generation will result during construction activities, particularly during grading. For projects within Riverside County, the duration and intensity of such noise is typically regulated by time constraints placed on grading and heavy equipment operations.

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[3] http://planning.rctlma.org/Portals/0/genplan/general_plan_2014/EnvironmentalImpactReport/09-07_Appendix_EIR-7_NoiseStudies2011-2013_2014-04-23.pdf
and
http://planning.rctlma.org/Portals/0/genplan/content/eir/volume1.html

## CONSTRUCTION NOISE IMPACTS

To address the CEQA significance criterion regarding "substantial temporary or periodic noise increases in ambient noise levels" for construction noise, a "substantial" noise increase is defined as an increase in noise to a level that causes interference with land use activities at nearby sensitive receptors. One indicator that construction noise could interfere with daytime activities would be speech interference, and an indicator that construction noise could interfere with nighttime activities would be sleep interference. Since project construction is proposed to occur only during the daytime hours, only the speech interference threshold is evaluated in this analysis to define potential "substantial" noise impacts. A speech interference threshold, in the context of impact duration and time of day, is used to identify substantial increases in noise resulting from temporary construction activities.

A typical building with single pane windows can reduce noise levels by 25 dB with the windows closed (U.S. Environmental Protection Agency (EPA), 1974). However, most modern homes are constructed with dual paned windows which can afford up to a 30 dB noise reduction with closed windows. The residences closest to the project perimeters were recently built and are therefore assumed to have dual paned windows, which is mandatory in modern construction.

For indoor noise environments, the highest noise level that permits relaxed conversation with 100 percent intelligibility throughout the room is 45 dB. Speech interference is considered to be intolerable when normal conversation is precluded at 3 feet, which occurs when background noise levels exceed 60 dB. An exterior noise level of 75 dB at receptor locations would maintain an acceptable interior noise environment of 45 dB with closed dual paned windows. In some cases, this noise reduction could be maintained only on a temporary basis, since it requires that windows remain closed at all times assuming homes have air conditioning. For this analysis, a significant noise impact would occur if noise levels remained above the 75-dB exterior noise level and 45 dB interior noise level speech interference thresholds.

It should be noted that construction noise levels would be sporadic rather than continuous in nature, because different types of construction equipment would be used throughout the construction process. This noise impact assessment estimates noise levels associated with proposed project construction and compares daytime construction noise levels at sensitive receptors against the speech interference threshold.

Construction noise sources range from about 76 to 85 dB ($L_{max}$) at 50 feet for most types of construction equipment with slightly higher levels of up to 90 dB at 50 feet for certain types of equipment such as jackhammers and concrete saws. Although the highest noise levels are generated by impact pile drivers (101 dBA at 50 feet), pile driving would not be required for project construction. The potential for construction-related noise to adversely affect nearby residential receptors would depend on the location and proximity of construction activities to these receptors.

Table 4 identifies highest ($L_{max}$) noise levels associated with each type of equipment, then adjusts this noise level for the extent of equipment usage (usage factor), which is represented as $L_{eq}$. As indicated in this table, construction equipment noise levels associated with construction of the closest project buildings or parking areas on the site would range between 65 and 82 dBA

(Leq) at the closest residential receptors north and east of the project site. Such noise levels could exceed the 75 dB speech interference threshold if heavy equipment were to operate within 50 feet of any adjacent homes. With geometrical spreading loss, the worst-case speech interference "envelope" could extend 100 feet from the source. Insertion of a temporary barrier between the source and receiver, or the use of smaller equipment within the zone of potential impact, could reduce possible speech interference noise impact to less-than-significant at any adjacent homes that are occupied during allowable hours of construction.

**TABLE 4**

**PROJECT-RELATED CONSTRUCTION NOISE LEVELS AT THE CLOSEST NOISE-SENSITIVE RECEPTOR**

| Principal Noise Sources | Reference Noise Level, Lmax in dBA at 50 feet[a] | Assumed Usage Factor | Noise Level Adjustment Factor for Usage | Leq Noise Level Adjusted for Usage @ 50' |
|---|---|---|---|---|
| Jackhammer | 89 | 20% | -7 | 82 |
| Concrete Saw | 90 | 20% | -7 | 83 |
| Crane | 81 | 16% | -8 | 73 |
| Dozer | 82 | 40% | -4 | 78 |
| Excavator | 81 | 40% | -4 | 77 |
| Forklift, Front End Loader | 79 | 40% | -4 | 75 |
| Generator | 81 | 50% | -3 | 78 |
| Grader | 85 | 40% | -4 | 81 |
| Other Equipment (>5 hp) | 85 | 50% | -3 | 81 |
| Cement/Mortar Mixer | 79 | 40% | -4 | 65 |
| Paver | 77 | 50% | -3 | 74 |
| Roller | 80 | 20% | -7 | 73 |
| Tractor | 84 | 40% | -4 | 80 |
| Truck | 80 | 40% | -4 | 76 |
| Welder | 74 | 40% | -4 | 70 |

[a] Reference noise levels and equipment usage factors are based on noise measurements collected during a roadway tunnel project (FHWA, 2011) and found in the FHWA Noise Construction Handbook

Compliance with ordinance limits on allowable hours of heavy construction is mandatory. A failure to adhere to those hours would be a significant impact under CEQA guidelines. However, the converse is not necessarily sufficient evidence of a less-than-significant (LTS) noise impact. The recent decision in *Keep Our Mountains Quiet versus County of Santa Clara (2015)* very clearly affirmed that noise ordinance compliance alone was not enough to support an LTS finding.

For other projects under current review, the City of Wildomar has accepted adoption of a numerical noise performance significance standard to supplement the time restriction in the municipal code. The adopted standard is 85 dB Leq for construction activities. Unless there are

highly noisy stationary equipment sources such as rock crushers or pile drivers, the inherent mobility of dozers, scrapers, graders, etc. limits the equipment noise impact envelope to less than 50 feet between the source and receiver, Given the combination of an elevated freeway noise background, and the fact that many people will be away from their homes Monday through Friday, and the temporary nature of the activity is adequate evidence to support an LTS noise impact finding as long as major grading is restricted from 7 a.m. to 5 p.m. Monday through Friday in close proximity to any occupied homes around the project perimeter.

Therefore, compliance with ordinance time limits as well as implementation of Mitigation Measures (MM) 1-8, which specifies best management practices to reduce noise from heavy equipment including the limiting of hours to those of lesser sensitivity, would reduce this impact but not to a less-than-significant level.

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**Mitigation Measures (MM) Construction-Related Mitigation Measures:**

**MM Noise 1:** Compliance with construction time limits of Riverside County Ordinance No. 457, Section 1G that prohibits construction activities between the hours of 6 p.m. and 6 a.m. during the months of June through September, and between 6 p.m. and 7 a.m. during the months of October through May. Major grading within 100 feet of any occupied homes shall be limited from 7 a.m. to 5 p.m. Monday through Friday. Site entry gates shall be closed and locked during restricted hours.

**MM Noise 2:** Construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices. No equipment shall be permitted to have an un-muffled exhaust. If possible install an upgraded muffler/silencer of the engine to reduce engine noise.

**MM Noise 3:** Install ambient sensitive backup indicators on all equipment that requires backup indicators to reduce back up noise.

**MM Noise 4:** Establish an effective communication plan to address the local residents; the plan shall address a timeline for construction notification, the method of notification, and how often progress reports will be provided. The Plan should establish a public information hotline to minimize public complaints regarding noise levels. The construction contractor shall designate a Noise Disturbance Coordinator to respond to any public complaints related to noise generation.

**MM Noise 5:** To the extent feasible, the noisiest operations shall be scheduled to occur simultaneously in the construction program to avoid prolonged periods of annoyance.

**MM Noise 6:** The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.

**MM Noise 7:** No music or electronically reinforced speech from construction workers shall be audible at noise-sensitive property.

**MM Noise 8:** All project workers exposed to noise levels above 80 dB shall be provided with personal protective equipment for hearing protection (i.e., earplugs and/or earmuffs); areas where noise levels are routinely expected to exceed 80 dB shall be clearly posted with signs requiring hearing protection be worn.

## CONSTRUCTION ACTIVITY VIBRATION

Construction activities generate ground-borne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Vibration related problems generally occur due to resonances in the structural components of a building because structures amplify groundborne vibration. Within the "soft" sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Groundborne vibration is almost never annoying to people who are outdoors (FTA 2006).

Groundborne vibrations from construction activities rarely reach levels that can damage structures. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

A vibration descriptor commonly used to determine structural damage is the peak particle velocity (ppv) which is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in in/sec. The range of such vibration is as follows in Table 5:

**Table 5**
**Human Response To Transient Vibration**

| Average Human Response | ppv (in/sec) |
|---|---|
| Severe | 2.00 |
| Strongly perceptible | 0.90 |
| Distinctly perceptible | 0.24 |
| Barely perceptible | 0.03 |

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2013.

Over the years, numerous vibration criteria and standards have been suggested by researchers, organizations, and governmental agencies. There are no Caltrans or Federal Highway Administration standards for vibration.

According to Caltrans, the threshold for structural vibration damage for modern structures such as the ones in this study are 0.5 in/sec for intermittent sources, which include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. The American Association of State Highway and Transportation Officials (AASHTO) (1990) identifies maximum vibration levels for preventing damage to structures from intermittent construction or maintenance activities for residential buildings in good repair with gypsum board walls to be 0.4–0.5 in/sec. The damage threshold criterion of 0.2 in/sec is appropriate for fragile buildings. To be conservative, for the purpose of this analysis, the 0.2 in/sec damage threshold for older fragile buildings is used. Below this

level there is virtually no risk of building damage. Table 6 shows that the predicted vibration levels generated by construction equipment.

**Table 6**
**Estimated Vibration Levels During Project Construction**

| Equipment | PPV at 25 ft (in/sec) | PPV at 50 ft (in/sec) | PPV at 60 ft (in/sec) | PPV at 100 ft (in/sec) |
|---|---|---|---|---|
| Large Bulldozer | 0.089 | 0.031 | 0.024 | 0.011 |
| Loaded trucks | 0.076 | 0.027 | 0.020 | 0.010 |
| Jackhammer | 0.035 | 0.012 | 0.009 | 0.004 |
| Small Bulldozer | 0.003 | 0.001 | 0.001 | 0.000 |

Source: FHWA Transit Noise and Vibration Impact Assessment

The nearest sensitive use to any structural component on the project site is approximately 100 feet, however, the project parking lots could be closer to the off-site homes with as little as a 50 foot separation distance. Table 6 shows that the predicted vibration levels generated by construction equipment would be 0.03 in/sec, which is well below levels that could create structural damage in fragile buildings (i.e., 0.2 in/sec).

Ground-borne vibration related to human annoyance is generally related to velocity levels expressed in decibel notation (VdB), the root mean square (RMS) velocity of a vibrating object. RMS velocities are expressed in units of vibration decibels. The range of vibration decibels (VdB) is as follows:

65 VdB - threshold of human perception
72 VdB - annoyance due to frequent events
80 VdB - annoyance due to infrequent events
100 VdB - minor cosmetic damage

Note: "Frequent events" is defined as more than 70 events per day. "Infrequent events" is defined as fewer than 70 events per day.

To determine potential impacts of the project's construction activities, estimates of vibration levels induced by the construction equipment at various distances are presented in Table 7.

**Table 7**
**Approximate Vibration Levels (VdB) Induced by Construction Equipment**

| Equipment | 25 feet | 50 feet | 60 feet | 100 feet |
|---|---|---|---|---|
| Large Bulldozer | 87 | 81 | 79 | 75 |
| Loaded Truck | 86 | 80 | 78 | 74 |
| Jackhammer | 79 | 73 | 71 | 67 |
| Small Bulldozer | 58 | 52 | 50 | 46 |

* (FTA Transit Noise & Vibration Assessment, Chapter 12, Construction, 2006)

The on-site construction equipment that will create the maximum potential vibration is a large bulldozer or loaded truck. The stated vibration source level in the FTA Handbook for such

equipment is 81 VdB at 50 feet from the source. At this distance separation vibration levels from heavy equipment could be above the 80 VdB annoyance threshold, but are substantially below the 100 VdB damage threshold. Groundborne vibration attenuates quickly with distance and the vibration level falls below the 80 VdB only shortly beyond 50 feet from the heavy equipment. Large bulldozers will not likely operate directly at the shared property line with the perimeter homes. Regardless, vibration may be noticeable for short periods during construction, but it would be temporary and periodic and would not be excessive. Vibration impacts would only occur during daylight hours when construction is permitted. Therefore, because construction activity vibration impacts would be substantially below the level required for minor cosmetic damage, and the vibrations would only occur during permitted hours for construction activity, construction activity vibration impacts are judged as less-than-significant.

## OFF-SITE PROJECT-RELATED VEHICULAR NOISE IMPACTS

Long-term noise concerns from the increase of commercial and residential uses at the project site are primarily based on vehicular operations on project area roadways. These concerns are addressed using California-specific vehicle noise curves (CALVENO) in the federal roadway noise model (the FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108). The model calculates the Leq noise level for a reference set of input conditions, and then makes a series of adjustments for site-specific traffic volumes, distances, speeds, or noise barriers.

Table 8 summarizes the calculated 24-hour CNEL level at 50 feet from the roadway centerline along project adjacent roadway segments. Modeling output is provided in the appendix of this report. Two time frames were evaluated; existing conditions “with and without project”, and build-out conditions “with and without project”. The noise analysis utilized data from the traffic analysis, prepared in March 2015, by Trames Solutions Inc., for this project.

As shown in Table 9, project traffic could cause one roadway segment to exceed the +5 dB CNEL threshold due to implementation. This +5.3 dB CNEL increase is on Catt Road, northwest of Clinton Keith at 50 feet from roadway centerline. At build-out, due to increased non-project traffic utilizing Catt Road, the impacts for the same segment decreases to +4.4 dB CNEL at 50 feet from centerline and would be below the significance guideline. Nevertheless, this impact would be considered significant and unavoidable.

There are three residences along the north side of Catt Road who could be impacted by this noise increase. The homes are two stories with an intervening noise wall providing sound protection for ground level uses. The anticipated “with project” traffic noise level will be around 59 dB CNEL under current “without project” conditions and 64 dB CNEL under “with project” conditions. The noise level will be less than the 65 dB CNEL residential noise compatibility guideline. Therefore, on Catt Road north of Clinton Keith traffic noise increases due to project implementation are considered substantial but the impact would still result in exposure of sensitive receptors to acceptable noise levels.

**Table 8**
**Traffic Noise Impact Analysis**
**(dB CNEL at 50 feet from centerline)**

| **Segment** | | ***Existing*** | ***Existing + Project*** | ***Build-Out*** | ***Build-Out + Project*** |
|---|---|---|---|---|---|
| Clinton Keith Rd/ | E of Copper Craft | 70.2 | 70.4 | 75.0 | 75.0 |
| | Copper Craft-Smith Ranch Rd | 70.2 | 70.8 | 74.1 | 74.4 |
| | Smith Ranch Rd-Inland Valley Dr | 70.7 | 71.4 | 74.0 | 74.4 |
| | Inland Valley Dr-George Ave | 72.4 | 73.4 | 74.7 | 75.3 |
| | George Av-Catt Rd | 73.0 | 74.0 | 75.1 | 75.7 |
| | Catt Rd-I-15 | 74.0 | 74.7 | 75.9 | 76.3 |
| | I-15-Hidden Springs Rd | 73.5 | 74.1 | 75.4 | 75.7 |
| | Hidden Hills-Palomar | 72.4 | 72.9 | 74.8 | 75.1 |
| | Palomar-Grand | 71.0 | 71.3 | 72.8 | 73.0 |
| | W of Grand | 70.2 | 70.4 | 71.3 | 71.5 |
| Copper Craft Dr/ | N of Clinton Keith | 57.8 | 60.1 | 59.0 | 60.9 |
| Spinning Wheel Dr/ | S of Clinton Keith | 57.8 | 60.1 | 59.0 | 60.6 |
| Smith Ranch Rd/ | N of Clinton Keith | 60.9 | 62.2 | 62.2 | 63.2 |
| Inland Valley Dr/ | S of Clinton Keith | 68.1 | 69.3 | 69.4 | 70.3 |
| George Ave/ | S of Clinton Keith | 63.5 | 63.5 | 64.3 | 64.3 |
| | Clinton Keith-Depasquale Rd | 64.1 | 64.2 | 65.2 | 65.3 |
| | N of Depasquale | 63.2 | 64.7 | 64.4 | 65.5 |
| Hidden Springs Rd/ | S of Clinton Keith | 61.8 | 61.8 | 66.5 | 66.5 |
| | N of Clinton Keith | 69.1 | 69.5 | 70.1 | 70.5 |
| Palomar St/ | S of Clinton Keith | 69.3 | 69.5 | 70.7 | 70.8 |
| | N of Clinton Keith | 70.8 | 71.0 | 72.5 | 72.6 |
| Catt Rd/ | S of Clinton Keith | 64.0 | 64.1 | 64.9 | 65.0 |
| | N of Clinton Keith | 58.9 | 64.2 | 60.3 | 64.8 |
| Depasquale Rd/ | George Av-Westpark St | 55.1 | 58.9 | 56.3 | 59.5 |

**Table 9**
**Project Impact**
**(dB CNEL at 50 feet from centerline)***

| **Segment** | | ***Project Only Existing*** | ***Project Only Build Out*** | ***Cumulative Impact*** |
|---|---|---|---|---|
| Clinton Keith Rd/ | E of Copper Craft | 0.2 | 0.1 | 4.8 |
| | Copper Craft-Smith Ranch Rd | 0.6 | 0.3 | 4.1 |
| | Smith Ranch Rd-Inland Valley Dr | 0.7 | 0.4 | 3.7 |
| | Inland Valley Dr-George Ave | 1.0 | 0.6 | 2.9 |
| | George Av-Catt Rd | 0.9 | 0.6 | 2.7 |
| | Catt Rd-I-15 | 0.7 | 0.5 | 2.3 |
| | I-15-Hidden Springs Rd | 0.6 | 0.4 | 2.2 |
| | Hidden Hills-Palomar | 0.5 | 0.3 | 2.7 |
| | Palomar-Grand | 0.3 | 0.2 | 2.0 |
| | W of Grand | 0.2 | 0.2 | 1.3 |
| Copper Craft Dr/ | N of Clinton Keith | 2.3 | 1.9 | 3.0 |
| Spinning Wheel Dr/ | S of Clinton Keith | 2.3 | 1.6 | 2.8 |
| Smith Ranch Rd/ | N of Clinton Keith | 1.3 | 1.0 | 2.3 |
| Inland Valley Dr/ | S of Clinton Keith | 1.1 | 0.9 | 2.1 |
| George Ave/ | S of Clinton Keith | 0.0 | 0.0 | 0.8 |
| | Clinton Keith-Depasquale Rd | 0.1 | 0.1 | 1.2 |
| | N of Depasquale | 1.5 | 1.2 | 2.4 |
| Hidden Springs Rd/ | S of Clinton Keith | 0.0 | 0.0 | 4.7 |
| | N of Clinton Keith | 0.4 | 0.3 | 1.4 |
| Palomar St/ | S of Clinton Keith | 0.2 | 0.2 | 1.5 |
| | N of Clinton Keith | 0.2 | 0.1 | 1.8 |
| Catt Rd/ | S of Clinton Keith | 0.1 | 0.1 | 0.8 |
| | N of Clinton Keith | **5.3** | 4.5 | **5.8** |
| Depasquale Rd/ | George Av-Westpark St | 3.8 | 3.2 | 4.3 |

*May be off by +/- 0.1 due to rounding off by excel
Bold entries exceed +5 dB significance threshold

Cumulative impacts compare the "build-out with project" noise levels with the "existing no project" scenario. The majority of the cumulative increases are attributed to area growth that will occur with or without project implementation. The largest cumulative traffic noise increase is +5.8 dB CNEL also on Catt Road north of Clinton Keith. However, as discussed, the expected noise level at 50 feet from roadway centerline is 65 dB CNEL at build-out under "with project" conditions which is the recommended exterior compatibility guideline. Therefore, cumulative traffic noise on Catt Road north of Clinton Keith is considered significant and unavoidable but the impact would still result in exposure of sensitive receptors to acceptable noise levels.

## ON-SITE NOISE GENERATION

The primary noise concern for siting a commercial operation in proximity to residential uses is that the activities in support of the proposed commercial use may create a noise nuisance at the nearest sensitive receivers. Commercial support activities could include delivery/unloading of heavy goods and maintenance activities such as refuse collection or parking lot sweeping. Early morning truck traffic could also be a nuisance.

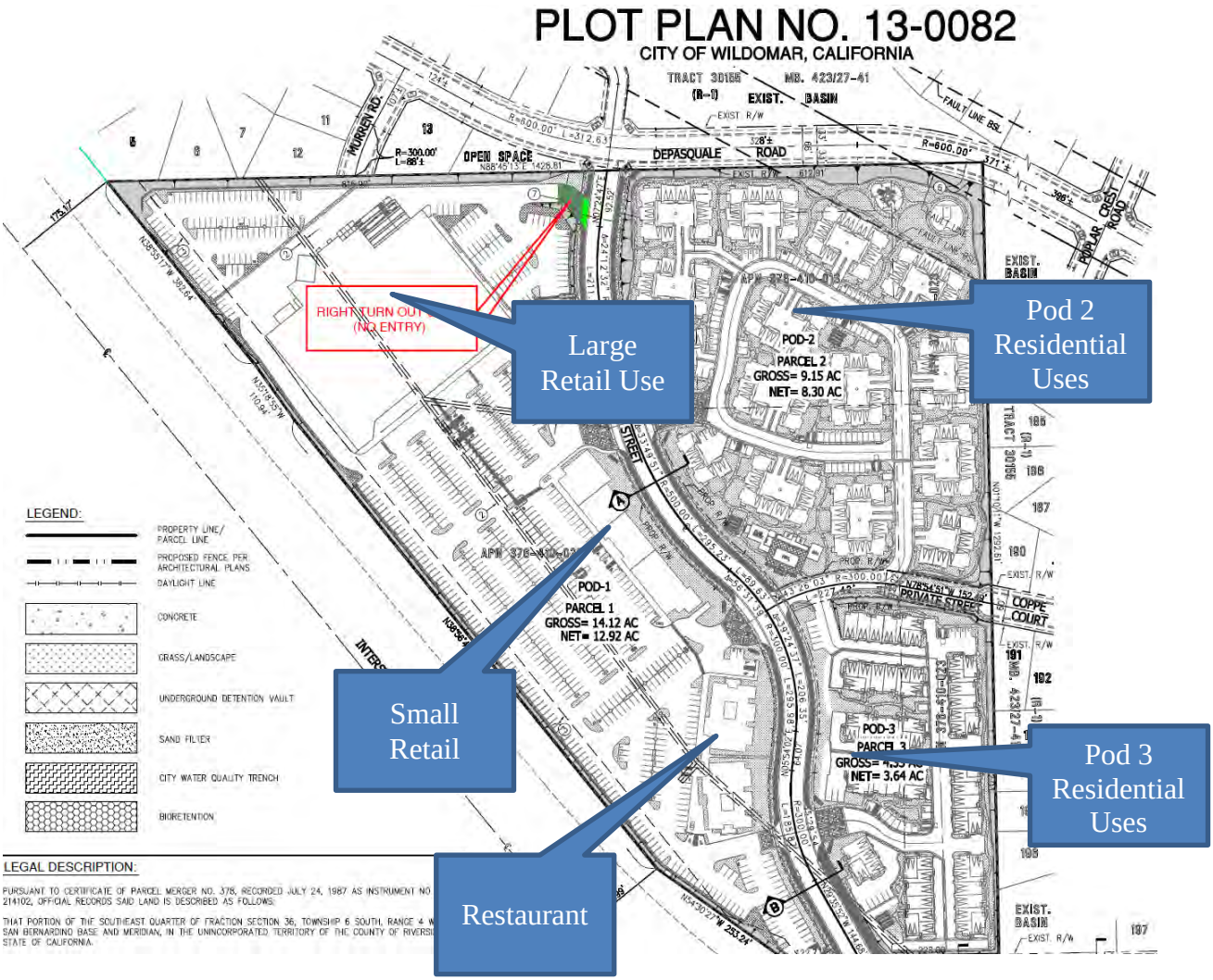
Single events could include operation of truck unloading, trucks at low-speed and high-rpm shifting gears, trash pick-up, etc. Minimization of nuisance potential can be achieved by time limits on activities to less sensitive hours, or by creating a noise propagation barrier between the source and receiver.

There are existing residential uses to the north and east of the site. Although residential uses to the north would be adjacent to commercial uses it is likely that freeway noise would dominate the acoustic environment. Figure 2 shows the current site plan. Per CEQA guidelines, only project impacts to the existing acoustic environment are analyzed for impact and therefore only off-site uses were examined in this study.

Ambient noise levels at locations nearest the freeway are already elevated and will increase with the development of the area. Design strategies and conformity with adopted noise ordinances can help prevent conflicts due to commercial site operations in an area with residential uses.

## Figure 2

## Project Site Plan



**Loading Dock Noise**

There are two types of deliveries that would result from implementation of the proposed project. Small deliveries like parcels and packages and large deliveries of pallets. Smaller deliveries are typically made via van or single axle truck.

Tenant mix for the proposed commercial center is not yet known. However, only the major retail use at the northern end of the site is large enough to generate any substantial deliveries. Other retail and restaurant uses are much smaller, generally 6-8,000 square feet and delivery would primarily be by smaller gas powered trucks such as those used by UPS or Fedex, vans or small trucks.

As seen in Figure 3, the northernmost major retail building is the only on-site use of sufficient size for which loading dock noise is anticipated to be a concern. The other retail use buildings and restaurants are small and deliveries will likely occur with smaller trucks. Trucks would access the site via Westpark Street and would approach the project site via Catt Street. The northern loading dock is separated from the off-site residences by 110 feet.

Giroux & Associates has performed noise monitoring for commercial activity noise levels at the rear of a number of big box and large shopping centers. A detailed noise study was conducted at a very busy combination of a grocery and a home improvement store in Torrance, California, in 1998. This study isolated various individual activity components (trucks, back-up alarms, idling engines, etc.), and monitored both the spectral components as well as the A-weighted integrated noise level. It is unlikely that the proposed major retail use will be home to operations as large as the prototype measurements but these numbers are analyzed a worst case scenario.

The relevant noise ordinance performance standard for loading dock activity is a 10 minute energy-weighted average (Leq). In order to utilize a set of isolated activity data to construct the Leq, detailed knowledge on the duration and location of each activity must be specified. An alternative data source for truck unloading reference noise data was therefore evaluated that already combined all unloading activities into a single Leq measurement. The measured reference noise level for unloading semi-trucks and for associated ancillary activities is 67 dB Leq at 50 feet from the center of the activities with no noise protection.

Modern loading docks for trucks include a foam seal and enhanced bumpers on the deck leveler to reduce dock mating noise. The rubber gasket provides a tight connection between the truck and the building. All unloading can be done directly into the building. The project dock activity may therefore be slightly quieter than the measured prototype data source, but the measured data were used as a worst-case condition. The 10-minute average reference noise levels at a 50-foot analysis distance for the project impact analysis are as follows:

| Noise Generating Activity | Reference Level @ 50' | Data Source |
|---|---|---|
| Semi-Truck Unloading | 67 dB | El Cajon Study |
| Med. Box Truck Unloading* | 65 dB | Harbor Center Analysis |

* Box truck merged with dock, fork lift operating inside receiving area

The above data were modeled and adjusted for geometrical (spherical) spreading losses at 6 dB per distance doubling between the source and the closest receiver. The project site is at a 20 feet lower elevation than the nearest residential use to the north. The homes have a 6-foot block fence at the top of slope along the property line. Typically, exterior noise standard compliance refers to a receiver at 10 feet inside the lot line and this distance is required for all Riverside County projects.[4] Modeling a receiver with a greater setback, closer to the residential structure, would reduce impacts, and therefore worst case conditions are considered to have been examined and a recreational receiver was modeled as being 10 feet inside the property line. The modeling results are shown in the appendix and summarized below and show a residual noise level of 48-50 dB Leq for off-site recreational receptors:

**Loading Dock Noise At Closest Residence to the North**

| Noise Generating Activity | Noise Level 10 feet Inside Property Line | Noise Level at Façade (110 feet from source) |
|---|---|---|
| Semi-Truck Unloading | 50 dB | 44 dB |
| Med. Box Truck Unloading | 48 dB | 42 dB |

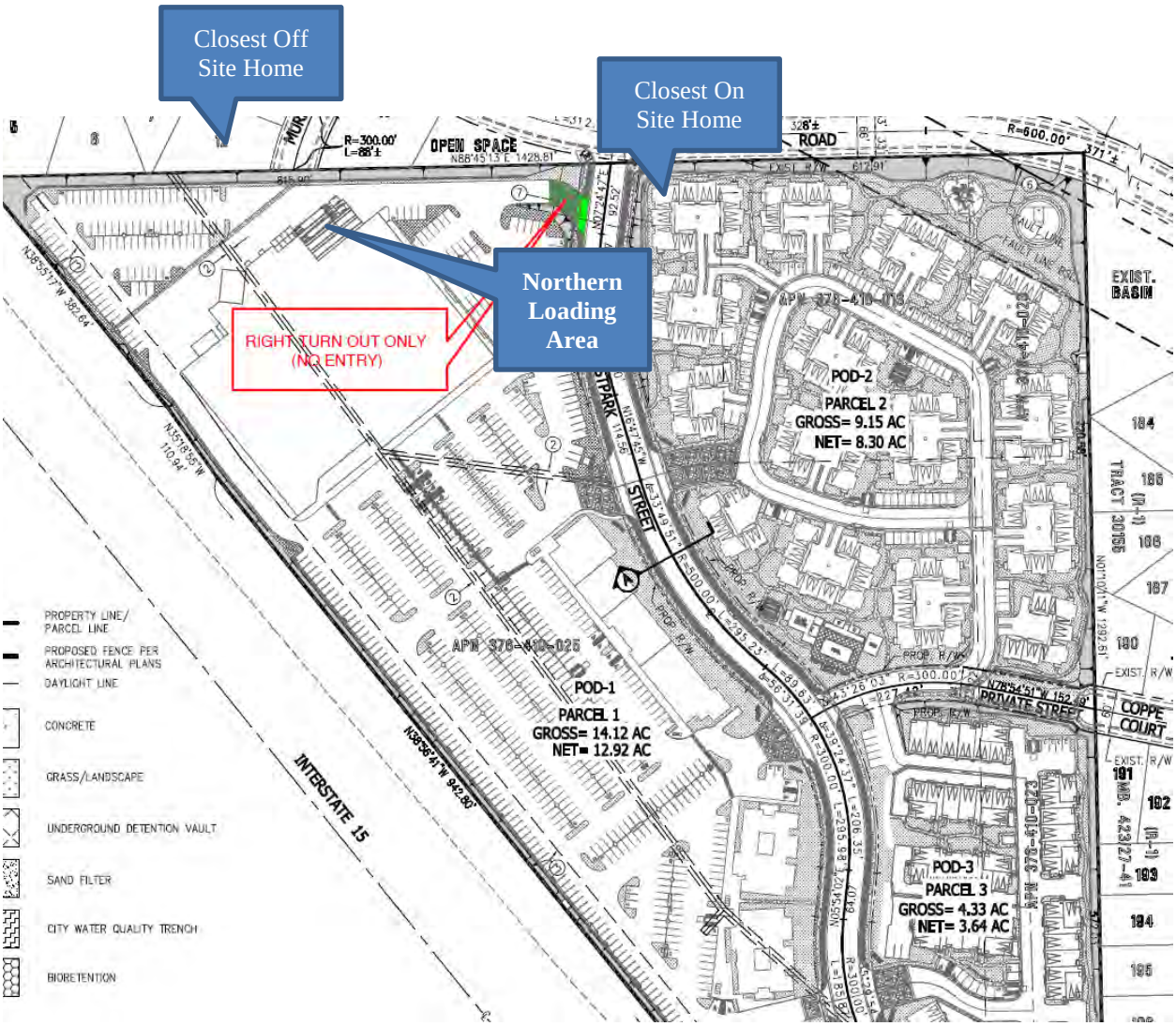
The northern major retail loading dock is an area of possible noise concern, particularly at night. The noise levels for adjacent sensitive uses could exceed the nocturnal 45 dB Leq. Noise is likely slightly less than the nocturnal noise standard but due to proximity to the site there is a potential for sleep disturbance though freeway noise will dampen the impact. Nevertheless, loading dock noise is a potentially significant impact but is mitigated with the following recommended mitigation measure:

1. Medium Box Truck and Semi-Truck unloading at the northern loading area may not occur during nighttime hours of 10 p.m. through 7 a.m.

As discussed, the northernmost major retail use is the only structure of sufficient size for which loading dock noise is anticipated to be a concern. The other retail uses are small and deliveries will likely occur with smaller trucks.

[4] Riverside County Office of Industrial Hygiene
http://planning.rctlma.org/Portals/0/genplan/general_plan_2013/4%20Technical%20appendices/App_I_Noise_Data_Adopted_Final.pdf

**Figure 3**
**Major Retail Loading Area Location**



## Mechanical Equipment (HVAC) Noise

Mechanical equipment typically includes heating, ventilating, air-conditioning, and refrigerating equipment. Noise generated by rooftop-mounted mechanical equipment varies significantly depending upon the equipment type and size. Measurements observed at other similar commercial centers, in particular measurement data from a 2008 study performed by Giroux & Associates for a Target Store equipped with refrigeration and walk in coolers, at 1701 North Gaffey Street in San Pedro for Greenberg Farrow in 2008, showed a maximal sound power level of 88 dB (sound power level of a 20 ton Lennox unit in full cool mode with all four condenser fans in operation and with readings in fan orientation direction). Decaying for a minimal 100 feet distance to the closest off-site use to the north, the noise level at the residence could be as high as 49 dB without shielding. This would be in excess of the nocturnal noise standard.

Noise levels would be reduced due to shielding from rooftop parapets. The parapets would need to be tall enough to break the line of sight between the rooftop mechanical equipment and the nearest existing residences. Up to an additional -5 dBA is taken for the attenuation for parapet walls such that the off-site residual residential noise level would be 44 dB Leq.

Equipment selection and placement is not yet finalized. However, rooftop parapets and/or shielding is needed to break the line of sight between rooftop HVAC equipment and the adjacent residential uses.

The noise impact to the nearest existing residences would be less than significant if all rooftop mechanical equipment is fully screened. Regardless, the applicant will be required to submit engineering and acoustical specifications for project mechanical equipment for review prior to the issuance of building permits which demonstrates that the equipment design combined with distance separation and parapets or screen walls will not exceed the City of Wildomar noise standards for any impacted residences.

## Trash Pick-Up and Parking Lot Cleaning

Parking lot cleaning is typically accomplished by vacuums attached to light-weight pick-up trucks. Lots are most easily cleaned when there are only a few cars in the lot (early morning or late evening). Any noise audibility during lot cleaning would only occur if the sweepers operated at night. It is therefore recommended that no sweeping activity occur from 10 p.m. to 7 a.m.

Trash pick-up activity noise can be disturbing from dumpsters banging and from high engine rpm while hoisting containers. Although distance separation and a rear perimeter wall at the closest residences will substantially abate this noise source, it may still be sleep-disturbing if it occurs during “quiet hours.” Trash pick-up and parking lot sweeping are considered to be potentially significant noise sources for which mitigation is recommended. A prohibition against trash pick-up or sweeping from 10 p.m. to 7 a.m. is recommended for all on-site commercial uses to reduce any potential nuisance.

**Parking Lot Noise**

The project traffic report estimates that 80 percent of project traffic will enter the site via Catt Road and 20% will enter via Depasquale Road. Noise impacts for existing residences on Catt and Despasquale Road from the increase in vehicular travel on both roadways have been identified earlier in this report.

Traffic associated with parking lots is typically not of sufficient volume to exceed noise standards. However, the instantaneous maximum sound levels generated by a car door slamming and engine starting up could be an annoyance to adjacent noise sensitive receptors.

Proposed project parking is separated from existing residential uses east of the site, off Poplar Crest Road, by a minimum 350 feet separation at the southern end of the site and 800 feet at the northern end. In addition to distance, multiple on-site retail and residential structures would break the line of site from on-site parking to off-site uses on Poplar Crest Road. The combination of distance and intervening structures would reduce nuisance noise from parking lot activities for these residences to a barely perceptible level.

There is a small parking area north of the large retail commercial use which is adjacent to existing residential uses. However, these parking spaces are to the far side and rear of the large retail building and are considered to be less desirable to patrons and as such would only be used during periods of high demand. In addition, the existing 20 foot elevation differential and 6-foot block wall would assist in mitigating potential noise sources at these residences. Finally, elevated baseline noise levels due to I-15 proximity would mask any noise generated from the infrequent adjacent project parking lot activity.

## ON-SITE NOISE EXPOSURE

Noise at any on-site noise sensitive use were evaluated to determine if freeway traffic noise caused exterior noise exposure greater than 65 dB CNEL or interior noise exposures greater than 45 dB CNEL. The proposed residential uses are located in Pods 2 and 3. Residential uses are located closer to the I-15 at the south end of the site with set-back distance increasing to the north of the site.

Traffic volumes and percentage of trucks were obtained from the California Department of Transportation website. In the project vicinity the maximum traffic volume on the I-15 in the project area is shown to be 126,000 vehicles per day. Of the total traffic count, 8.7% of the vehicles are trucks. The truck composition is comprised with 4.0% of the total traffic volume being medium duty trucks and 4.7% heavy duty trucks (3+ axles). With an assumed travel speed of 60 mph, the associated noise level is 81 dB CNEL at 50 feet from the centerline. As a reference, on site measurements observed an approximate 74 dB CNEL level at about 350 feet from the freeway centerline. Decaying the calculated 81 dB CNEL at 50 feet to the 350 foot measurement location would provide for a 73 dB CNEL noise level. The calculated and observed noise levels are in agreement.

The closest project commercial use would have a 260 foot setback from the I-15 centerline and the closest residential use would have a 380 foot setback. The residential units analyzed in this report, located in Pod 3, are identified in Figure 4 and labeled “A” and “B”. For these maximally exposed units there is a 10 foot elevation differential from the freeway. A recreational user is modeled at 10 feet within the property line. The noise loading for a recreational user was expected to be 72 dB CNEL without a noise wall and 65 dB CNEL with a 6.5-foot noise wall. Thus, any exterior recreational use yards or patios for these units would be exposed to noise levels exceeding the recommended guideline without mitigation. However, as shown in the appendix of this report, a 6.5-foot noise wall would provide the mitigation necessary to reduce exterior noise levels to 65 dB CNEL.

| Use | I-15 Setback (from centerline) | Noise Wall Height | Resultant Noise Level |
|---|---|---|---|
| Commercial | 260 ft | - | 74 dB CNEL |
| Residential A | 380 ft | No wall | 72 dB CNEL |
| Residential A | 380 ft | 6.5 ft wall | 65 dB CNEL |
| Residential B | 400 | No wall | 72 dB CNEL |
| Residential B | 400 | 6.5 ft wall | 65 dB CNEL |

Therefore, the following mitigation measure is required to reduce impacts to the southwestern most residential structure to a less-than-significant noise level:

- Construct a 6.5-foot noise wall at top of grade shielding recreational users from line of sight to the I-15 for units labeled A and B on Figure 4.

All other residential uses have a much greater setback from the freeway and/or intervening commercial use structures. Although a noise wall would reduce noise, it is not required to meet compatibility guidelines.

The interior residential noise standard is 45 dB CNEL. For typical wood-framed construction with stucco and gypsum board wall assemblies, the exterior to interior noise level reduction is as follows:

Partly open windows – 12 dB

Closed single-paned windows – 20 dB

Closed dual-paned windows – 30 dB

Use of dual-paned windows is required by the California Building Code (CBC) for energy conservation in new residential construction. Therefore, the maximal exterior residential noise level would be reduced to well below 45 dB CNEL with the ability to close windows.

If window closure is a necessary condition to meet the interior standard, the building code requires provision of supplemental ventilation. The requirement can be met with a fresh air inlet duct on the return air plenum on the furnace fan. The recommended ventilation rate is 15 CFM per person of fresh make-up air as per Title 24 of the California Code of Regulations. Assuming

a four-person occupancy in any livable space, the supplemental ventilation system should be sized to deliver 60 CFM of fresh air.

A supplemental acoustical analysis must be submitted in conjunction with the issuance of building permits for residences with a line-of-sight to the freeway to verify that adequate structural noise protection exists in perimeter residences to meet the 45 dB CNEL interior standard.

If the restaurant were to have dining patios built very close to the western edge of the property, they could be noise impacted. Therefore, mitigation in the form of barriers or other noise attenuation features (increased setback, site redesign, etc.) were evaluated as potential mitigation measures.

If the restaurants propose an outdoor venue, the following mitigation measures would ensure mitigation below the City of Wildomar/Riverside County noise standards:

- Site outdoor eating areas at a setback distance of 350 feet or greater from the I-15 centerline which would provide a 69 dB CNEL outdoor noise exposure, or

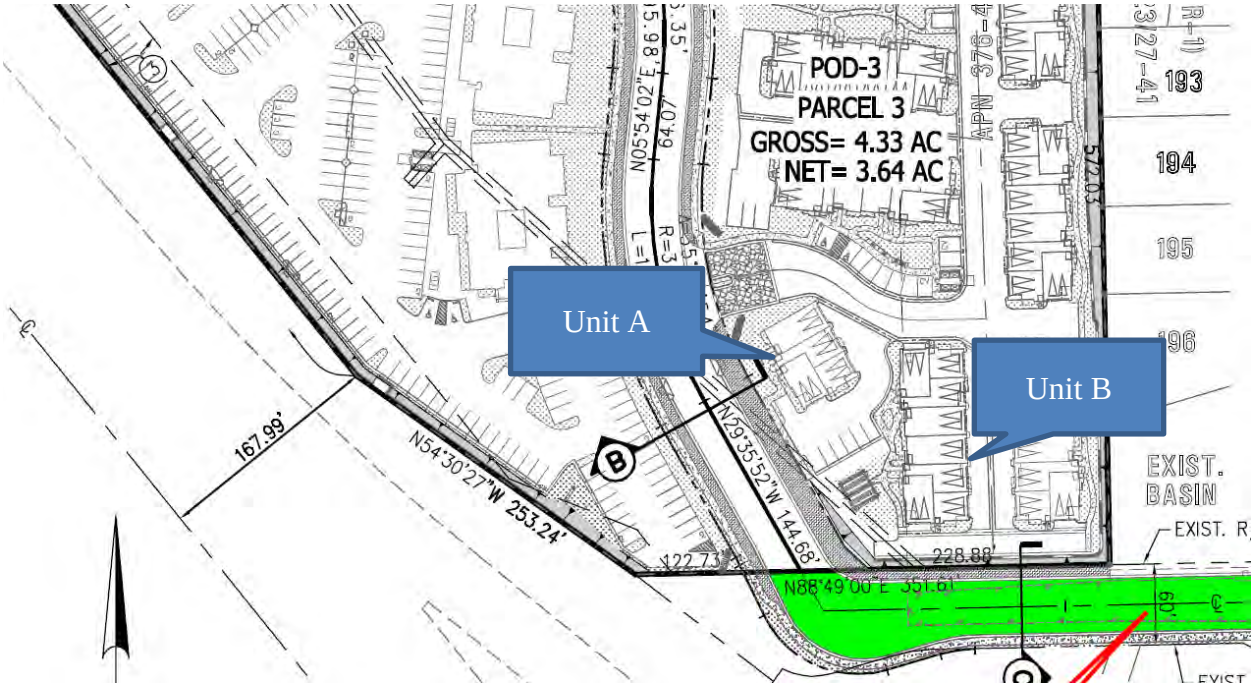
If an outdoor venue were sited at a distance closer than 350 feet from the I-15 centerline the following mitigation measures would achieve necessary exterior noise mitigation:

- Orient patios on the east side of the restaurant away from the I-15 such that the restaurant structure itself would provide needed noise attenuation, or

- Construct a 5-foot plexiglass wall to shield the patios from freeway traffic. Such a structure would provide at least -5 dB of noise attenuation.

**Figure 4**

**Units with Maximal Exposure to I-15 Traffic**



## CONCLUSIONS

### Construction and Grading Noise

The construction noise analysis shows that the nearby sensitive residential receivers will likely experience a significant, temporary/periodic increase above the existing ambient noise due to project construction activities. Although a non-mitigable potentially significant impact, Mitigation Measures 1-8 which specifies best management practices to reduce noise from heavy equipment and limiting activity to hours of lesser noise sensitivity, this impact would be reduced but not to a less-than-significant level.

### Mitigation Measures (MM) Construction-Related Mitigation Measures:

**MM Noise 1:** Compliance with construction time limits of Riverside County Ordinance No. 457, Section 1G that prohibits construction activities between the hours of 6 p.m. and 6 a.m. during the months of June through September, and between 6 p.m. and 7 a.m. during the months of October through May. Site entry gates shall be closed and locked during restricted hours.

**MM Noise 2:** Construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices. No equipment shall be permitted to have an un-muffled exhaust. If possible install an upgraded muffler/silencer of the engine to reduce engine noise.

**MM Noise 3:** Install ambient sensitive backup indicators on all equipment that requires backup indicators to reduce back up noise.

**MM Noise 4:** Establish an effective communication plan to address the local residents; the plan shall address a timeline for construction notification, the method of notification, and how often progress reports will be provided. The Plan should establish a public information hotline to minimize public complaints regarding noise levels. The construction contractor shall designate a Noise Disturbance Coordinator to respond to any public complaints related to noise generation.

**MM Noise 5:** To the extent feasible, the noisiest operations shall be scheduled to occur simultaneously in the construction program to avoid prolonged periods of annoyance.

**MM Noise 6:** The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.

**MM Noise 7:** No music or electronically reinforced speech from construction workers shall be audible at noise-sensitive property.

**MM Noise 8:** All project workers exposed to noise levels above 80 dB shall be provided with personal protective equipment for hearing protection (i.e., earplugs and/or earmuffs); areas where noise levels are routinely expected to exceed 80 dB shall be clearly posted with signs requiring hearing protection be worn.

### Operational Traffic Noise Increases

Project-related off-site traffic noise changes on existing roadways could exceed the +5 dB significance threshold and be significant and non-mitigable along Catt Road north of Clinton Keith. However the overall "with project" noise level will less than the 65 dB CNEL compatibility guideline.

The noise impact is non-mitigable but the fact that noise levels remain less than compatibility guidelines should be considered.

### Loading Dock Noise

The unloading activities associated with both semi-trucks and medium-duty trucks is not expected to exceed noise ordinance thresholds at the closest residences during daytime hours however there is a potential for sleep disturbance during nocturnal hours and the nocturnal standard of 45 dB Leq could be exceeded. Therefore the impact is considered potentially significant and the following mitigation is recommended:

**MM Noise 1:** Medium Box Truck and Semi-Truck Delivery trucks at the northern loading dock should not unload during nighttime hours of 10 p.m. through 7 a.m.

The noise impact is less-than-significant with mitigation.

### Trash Pick Up and Parking Lot Cleaning

Trash pick-up and parking lot cleaning has the potential to exceed nocturnal noise standards and is considered potentially significant.

**MM Noise 2:** To assure compliance with the noise standards and minimize nuisance potential at the closest sensitive use, trash pick-up shall be confined to the hours of 7:00 a.m. through 10:00 p.m. Parking lot sweeping closest to homes shall be similarly restricted to 7:00 a.m. through 10:00 p.m.

The noise impact is less-than-significant with mitigation.

### Rooftop Mechanical Equipment

It is not anticipated that rooftop mechanical equipment will exceed the noise standards; however the following mitigation measure is recommended to ensure compliance:

**MM Noise 3:** The applicant shall submit engineering drawings and acoustical specifications for project mechanical equipment demonstrating that the equipment design, location and possible screens will not exceed noise thresholds for any adjacent residential uses.

The noise impact is less-than-significant with mitigation.

### Parking Lot Activity Noise

Residential uses are not expected to be affected by parking lot activity noise.

### Exterior Noise for On-Site Residential Uses

Patios or yards for units in the southernmost portion of the project in Pod 3 could be exposed to freeway noise in excess of 65 dB CNEL. Therefore, the following mitigation measure is recommended:

**MM Noise 4:** Construct a 6.5 foot noise wall around exterior recreational space with a line-of-sight to the I-15 freeway in Pod 3

The noise impact is less-than-significant with mitigation.

### Interior Noise for On-Site Residential Uses

Interior noise thresholds are expected to be met with the ability to close windows. If window closure is a necessary condition to meet the interior standard, the building code requires provision of supplemental ventilation. However, it is recommended that a supplemental acoustical analysis must be submitted in conjunction with the issuance of building permits for residences adjacent to the freeway to verify that adequate structural noise protection exists in perimeter residences to meet the 45 dB CNEL interior standard.

**MM Noise 5**: Require a supplemental acoustical analysis in conjunction with building permits to ensure the 45 dB CNEL interior threshold is met at residential uses.

The noise impact is less-than-significant with mitigation.

### Site Suitability for Possible Commercial Exterior Use Venue

**MM Noise 7**: If the proposed restaurants plan an outside eating area, one of the following mitigation measures would ensure the noise level is below the recommended 70 dB CNEL compatibility threshold:

- Site outdoor eating areas at a setback distance of 350 feet or greater from the I-15 centerline which would provide a 69 dB CNEL outdoor noise exposure, or

If an outdoor venue were sited at a distance closer than 350 feet from the I-15 centerline the following mitigation measures would achieve necessary exterior noise mitigation:

- Orient patios on the east side of the restaurant away from the I-15 such that the restaurant structure itself would provide needed noise attenuation, or
- Construct a 5-foot plexiglass wall to shield the patios from freeway traffic. Such a structure would provide at least -5 dB of noise attenuation.

The noise impact is less-than-significant with mitigation.

# Appendix

**Noise Modeling Calculations**

- **Loading Docks Noise**
- **Freeway Noise**

**Traffic Noise Modeling Output Files**

- **Existing Conditions**
- **Existing W Project Conditions**

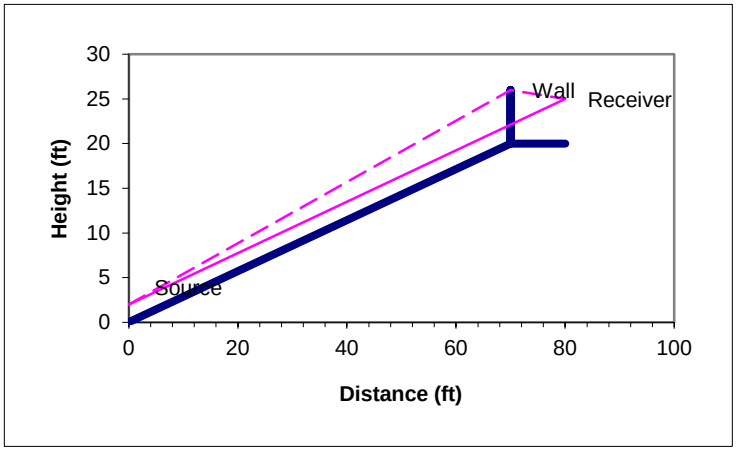
**Noise Measurement Form**

## Loading Dock Noise Modeling

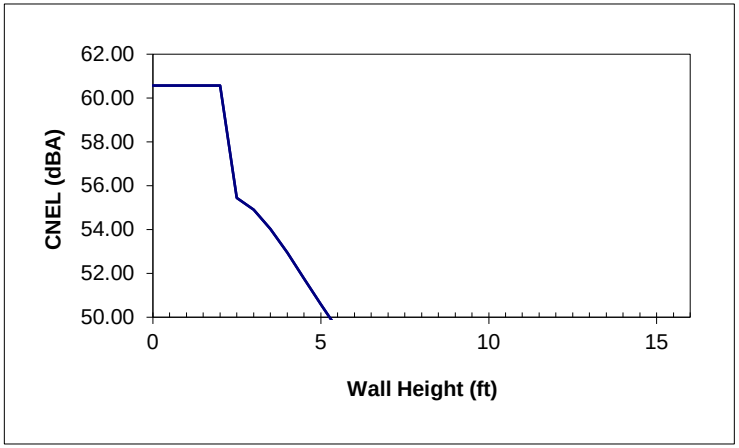
## Loading Dock Semi Truck At Off-Site Receiver

Receiver 10 feet in Property Line

| | |
|---|---|
| Distance to Receiver | 80 |
| Distance to Wall | 70 |
| Wall Base Height | 20 |
| Receiver Pad Height | 20 |
| Height of Receiver | 5 |
| Hard or Soft Site | hard |
| Height of Wall | 6 |
| Equipment Height | 2 |
| Source Frequency | 550 |
| Net Receiver Height | 23 |
| Net Wall Height | 24.00 |
| Direct LOS Height | 20.13 |
| Effective Wall Height | 24.00 |




| | |
|---|---|
| Direct Distance (CD) | 83.24 |
| Indirect Distance (CI) | 84.05 |
| Difference (D) | 0.809 |
| Fresnel Adjusted | 0.791 |
| Reduction (NLR) | 12.17 |
| 50 ft Reference SPL | 67.00 |
| Attenuatd SPL | 62.57 |
| Resulting Noise Level | 50.41 |

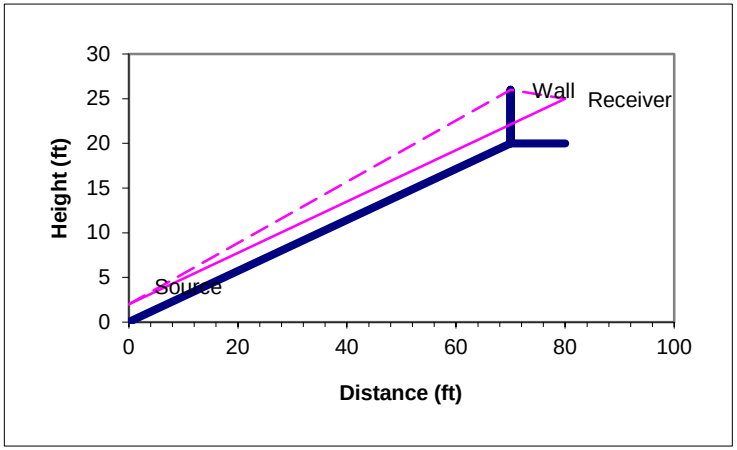



***Giroux and Associates***
Analyst - Sara Gerrick

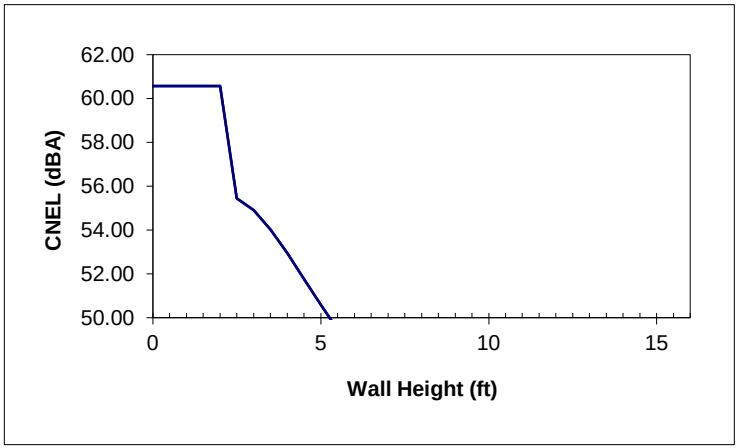
## Loading Dock Noise Medium Truck At Off-Site Receiver

Receiver 10 feet in Property Line

| | |
|---|---|
| Distance to Receiver | 80 |
| Distance to Wall | 70 |
| Wall Base Height | 20 |
| Receiver Pad Height | 20 |
| Height of Receiver | 5 |
| Hard or Soft Site | hard |
| Height of Wall | 6 |
| Equipment Height | 2 |
| Source Frequency | 550 |
| Net Receiver Height | 23 |
| Net Wall Height | 24.00 |
| Direct LOS Height | 20.13 |
| Effective Wall Height | 24.00 |




| | |
|---|---|
| Direct Distance (CD) | 83.24 |
| Indirect Distance (CI) | 84.05 |
| Difference (D) | 0.809 |
| Fresnel Adjusted | 0.791 |
| Reduction (NLR) | 12.17 |
| | |
| 50 ft Reference SPL | 65.00 |
| Attenuatd SPL | 60.57 |
| Resulting Noise Level | 48.41 |




***Giroux and Associates***
Analyst - Sara Gerrick

## Wall Height Needed for On-Site Residence 380 Ft from I-15 CL "Unit A"

| | |
|---|---|
| Distance to Receiver | 380 |
| Distance to Wall | 370 |
| Wall Base Height | 10 |
| Receiver Pad Height | 10 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 6.5 |

**50 ft Reference SPL**

| Type | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.62 | 70.85 | 64.79 | 45.16 |
| Medium Trucks | 63.97 | 57.6 | 56.07 | 74.72 |
| Heavy Trucks | 64.6 | 55.6 | 56.82 | 79.21 |
| | 73.74 | 71.17 | 65.91 | 80.53 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 15 | 12.7 | 7 |
| Net Wall Height | 16.50 | 14.20 | 8.50 |
| Direct LOS Height | 14.61 | 12.37 | 6.82 |
| Effective Wall Height | 16.50 | 14.20 | 8.50 |

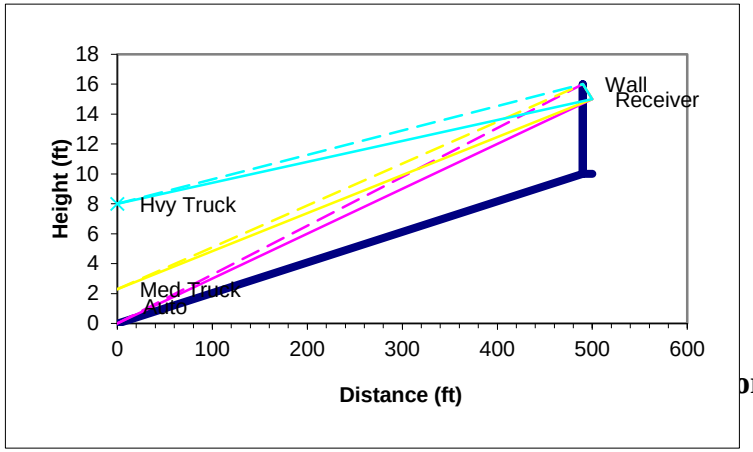
**Attenuated SPL**

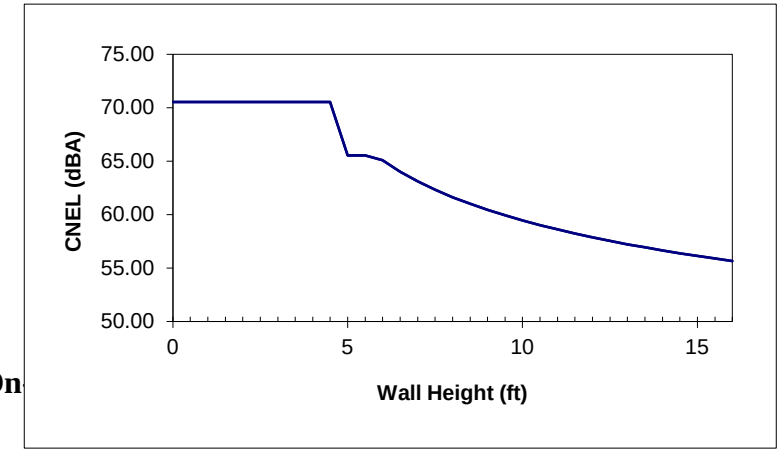
| Type | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 63.81 | 62.04 | 55.98 | 36.35 |
| Medium Trucks | 55.16 | 48.79 | 47.26 | 65.91 |
| Heavy Trucks | 55.79 | 46.79 | 48.01 | 70.40 |
| | 64.93 | 62.36 | 57.10 | 71.72 |

| | | | |
|---|---|---|---|
| Direct Distance (CD) | 380.30 | 380.21 | 380.06 |
| Indirect Distance (CI) | 380.48 | 380.38 | 380.21 |
| Difference ( ☐) | 0.184 | 0.172 | 0.145 |
| Fresnel Adjusted | 0.180 | 0.168 | 0.142 |
| Reduction (NLR) | 6.96 | 6.84 | 6.56 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 29.39 | 59.07 | 63.84 | 65.09 |



## Wall Height Needed for On-Site Residence 410 Ft from I-15 CL "Unit B"

| | |
|---|---|
| Distance to Receiver | 410 |
| Distance to Wall | 400 |
| Wall Base Height | 10 |
| Receiver Pad Height | 10 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 6.5 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 15 | 12.7 | 7 |
| Net Wall Height | 16.50 | 14.20 | 8.50 |
| Direct LOS Height | 14.63 | 12.39 | 6.83 |
| Effective Wall Height | 16.50 | 14.20 | 8.50 |
| Direct Distance (CD) | 410.27 | 410.20 | 410.06 |
| Indirect Distance (CI) | 410.45 | 410.36 | 410.20 |
| Difference (D) | 0.178 | 0.167 | 0.142 |
| Fresnel Adjusted | 0.174 | 0.164 | 0.139 |
| Reduction (NLR) | 6.90 | 6.79 | 6.53 |

**50 ft Reference SPL**

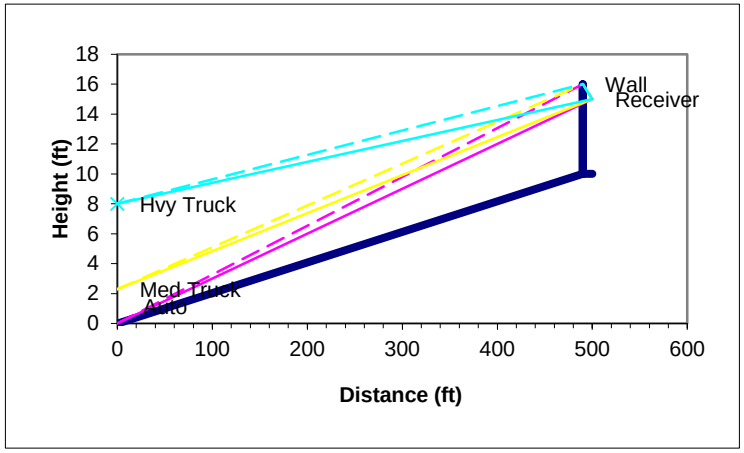
| Type | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.62 | 70.85 | 64.79 | 45.16 |
| Medium Trucks | 63.97 | 57.6 | 56.07 | 74.72 |
| Heavy Trucks | 64.6 | 55.6 | 56.82 | 79.21 |
| | 73.74 | 71.17 | 65.91 | 80.53 |

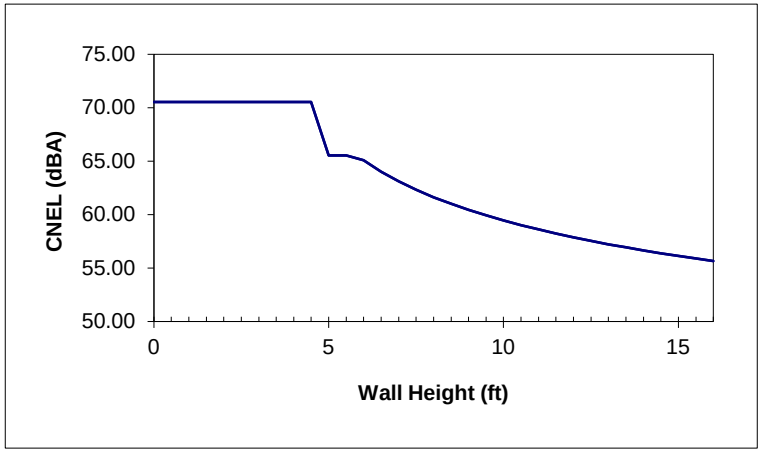
**Attenuated SPL**

| Type | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 63.48 | 61.71 | 55.65 | 36.02 |
| Medium Trucks | 54.83 | 48.46 | 46.93 | 65.58 |
| Heavy Trucks | 55.46 | 46.46 | 47.68 | 70.07 |
| | 64.60 | 62.03 | 56.77 | 71.39 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 29.12 | 58.79 | 63.54 | 64.80 |



# Traffic Noise Modeling Output

## Existing - Clinton Keith E of Copper Craft

| | |
|---|---|
| Case | 1 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 13,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.99 | 66.23 | 60.17 | 69.40 |
| Medium Trucks | 58.75 | 52.38 | 50.84 | 59.53 |
| Heavy Trucks | 59.08 | 50.04 | 51.29 | 59.77 |
| | 68.95 | 66.50 | 61.13 | 70.24 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.97 | 66.21 | 60.15 | 69.38 |
| Medium Trucks | 58.74 | 52.38 | 50.83 | 59.53 |
| Heavy Trucks | 59.07 | 50.03 | 51.28 | 59.76 |
| | 68.93 | 66.48 | 61.11 | 70.22 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.38 | 59.53 | 59.76 | **70.22** |

## Existing - Clinton Keith/ E of Copper Craft

| | |
|---|---|
| Case | 2 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 13,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.99 | 66.23 | 60.17 | 69.40 |
| Medium Trucks | 58.75 | 52.38 | 50.84 | 59.53 |
| Heavy Trucks | 59.08 | 50.04 | 51.29 | 59.77 |
| | 68.95 | 66.50 | 61.13 | 70.24 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.97 | 66.21 | 60.15 | 69.38 |
| Medium Trucks | 58.74 | 52.38 | 50.83 | 59.53 |
| Heavy Trucks | 59.07 | 50.03 | 51.28 | 59.76 |
| | 68.93 | 66.48 | 61.11 | 70.22 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.38 | 59.53 | 59.76 | **70.22** |

## Existing - Clinton Keith/ Copper Craft-Smith Ranch Rd

| | |
|---|---|
| Case | 3 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 14,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.46 | 66.69 | 60.64 | 69.87 |
| Medium Trucks | 59.21 | 52.85 | 51.31 | 60.00 |
| Heavy Trucks | 59.54 | 50.51 | 51.76 | 60.24 |
| | 69.42 | 66.97 | 61.59 | 70.70 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.44 | 66.67 | 60.62 | 69.85 |
| Medium Trucks | 59.21 | 52.85 | 51.30 | 59.99 |
| Heavy Trucks | 59.54 | 50.50 | 51.75 | 60.23 |
| | 69.40 | 66.95 | 61.58 | 70.68 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.85 | 59.99 | 60.23 | **70.68** |

## Existing - Clinton Keith/ Smith Ranch Rd-Inland Valley Dr

| | |
|---|---|
| Case | 4 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 21,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.15 | 68.39 | 62.33 | 71.56 |
| Medium Trucks | 60.90 | 54.54 | 53.00 | 61.69 |
| Heavy Trucks | 61.24 | 52.20 | 53.45 | 61.93 |
| | 71.11 | 68.66 | 63.29 | 72.39 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.13 | 68.36 | 62.31 | 71.54 |
| Medium Trucks | 60.90 | 54.54 | 52.99 | 61.69 |
| Heavy Trucks | 61.23 | 52.19 | 53.44 | 61.92 |
| | 71.09 | 68.64 | 63.27 | 72.38 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 71.54 | 61.69 | 61.92 | **72.38** |

## Existing - Clinton Keith/ Inland Valley Dr-George Ave

| | |
|---|---|
| Case | 5 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 25,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.80 | 69.04 | 62.98 | 72.21 |
| Medium Trucks | 61.55 | 55.19 | 53.65 | 62.34 |
| Heavy Trucks | 61.88 | 52.85 | 54.10 | 62.58 |
| | 71.76 | 69.31 | 63.94 | 73.04 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.78 | 69.01 | 62.96 | 72.19 |
| Medium Trucks | 61.55 | 55.19 | 53.64 | 62.34 |
| Heavy Trucks | 61.88 | 52.84 | 54.09 | 62.57 |
| | 71.74 | 69.29 | 63.92 | 73.02 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 72.19 | 62.34 | 62.57 | **73.02** |

## Existing - Clinton Keith/ George Av-Catt Rd

| | |
|---|---|
| Case | 6 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 31,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.80 | 70.03 | 63.98 | 73.21 |
| Medium Trucks | 62.55 | 56.19 | 54.64 | 63.34 |
| Heavy Trucks | 62.88 | 53.85 | 55.09 | 63.58 |
| | 72.76 | 70.31 | 64.93 | 74.04 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.78 | 70.01 | 63.96 | 73.18 |
| Medium Trucks | 62.54 | 56.18 | 54.64 | 63.33 |
| Heavy Trucks | 62.87 | 53.84 | 55.09 | 63.57 |
| | 72.74 | 70.29 | 64.91 | 74.02 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.18 | 63.33 | 63.57 | **74.02** |

## Existing - Clinton Keith/ Catt Rd-I-15

| | |
|---|---|
| Case | 7 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 27,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.24 | 69.48 | 63.42 | 72.65 |
| Medium Trucks | 62.00 | 55.63 | 54.09 | 62.78 |
| Heavy Trucks | 62.33 | 53.29 | 54.54 | 63.02 |
| | 72.20 | 69.75 | 64.38 | 73.49 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.22 | 69.46 | 63.40 | 72.63 |
| Medium Trucks | 61.99 | 55.63 | 54.08 | 62.78 |
| Heavy Trucks | 62.32 | 53.28 | 54.53 | 63.01 |
| | 72.18 | 69.73 | 64.36 | 73.47 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 72.63 | 62.78 | 63.01 | **73.47** |

## Existing - Clinton Keith/ I-15-Hidden Springs Rd

| | |
|---|---|
| Case | 8 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 21,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.15 | 68.39 | 62.33 | 71.56 |
| Medium Trucks | 60.90 | 54.54 | 53.00 | 61.69 |
| Heavy Trucks | 61.24 | 52.20 | 53.45 | 61.93 |
| | 71.11 | 68.66 | 63.29 | 72.39 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.13 | 68.36 | 62.31 | 71.54 |
| Medium Trucks | 60.90 | 54.54 | 52.99 | 61.69 |
| Heavy Trucks | 61.23 | 52.19 | 53.44 | 61.92 |
| | 71.09 | 68.64 | 63.27 | 72.38 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 71.54 | 61.69 | 61.92 | **72.38** |

## Existing - Clinton Keith/ Hidden Hills-Palomar

| | |
|---|---|
| Case | 9 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 15,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.75 | 66.98 | 60.93 | 70.15 |
| Medium Trucks | 59.50 | 53.14 | 51.59 | 60.29 |
| Heavy Trucks | 59.83 | 50.79 | 52.04 | 60.52 |
| | 69.71 | 67.26 | 61.88 | 70.99 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.73 | 66.96 | 60.90 | 70.13 |
| Medium Trucks | 59.49 | 53.13 | 51.59 | 60.28 |
| Heavy Trucks | 59.82 | 50.79 | 52.04 | 60.52 |
| | 69.69 | 67.23 | 61.86 | 70.97 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 70.13 | 60.28 | 60.52 | **70.97** |

## Existing - Clinton Keith/ Palomar-Grand

| | |
|---|---|
| Case | 10 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 13,100 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.96 | 66.19 | 60.14 | 69.37 |
| Medium Trucks | 58.71 | 52.35 | 50.81 | 59.50 |
| Heavy Trucks | 59.04 | 50.01 | 51.26 | 59.74 |
| | 68.92 | 66.47 | 61.09 | 70.20 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.94 | 66.17 | 60.12 | 69.35 |
| Medium Trucks | 58.71 | 52.35 | 50.80 | 59.49 |
| Heavy Trucks | 59.04 | 50.00 | 51.25 | 59.73 |
| | 68.90 | 66.45 | 61.08 | 70.18 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.35 | 59.49 | 59.73 | **70.18** |

## Existing - Copper Craft Dr/ N of Clinton Keith

| | |
|---|---|
| Case | 11 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 55.49 | 53.72 | 47.67 | 56.89 |
| Medium Trucks | 46.84 | 40.48 | 38.93 | 47.63 |
| Heavy Trucks | 47.47 | 38.43 | 39.68 | 48.17 |
| | 56.61 | 54.04 | 48.78 | 57.87 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 55.47 | 53.70 | 47.65 | 56.87 |
| Medium Trucks | 46.83 | 40.47 | 38.93 | 47.62 |
| Heavy Trucks | 47.46 | 38.43 | 39.68 | 48.16 |
| | 56.59 | 54.02 | 48.76 | 57.85 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 56.87 | 47.62 | 48.16 | **57.85** |

## Existing - Spinning Wheel Drive/ S of Clinton Keith

| | |
|---|---|
| Case | 12 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 55.49 | 53.72 | 47.67 | 56.89 |
| Medium Trucks | 46.84 | 40.48 | 38.93 | 47.63 |
| Heavy Trucks | 47.47 | 38.43 | 39.68 | 48.17 |
| | 56.61 | 54.04 | 48.78 | 57.87 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 55.47 | 53.70 | 47.65 | 56.87 |
| Medium Trucks | 46.83 | 40.47 | 38.93 | 47.62 |
| Heavy Trucks | 47.46 | 38.43 | 39.68 | 48.16 |
| | 56.59 | 54.02 | 48.76 | 57.85 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 56.87 | 47.62 | 48.16 | **57.85** |

## Existing - Smith Ranch/ N of Clinton Keith

| | |
|---|---|
| Case | 13 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 58.50 | 56.73 | 50.68 | 59.90 |
| Medium Trucks | 49.85 | 43.49 | 41.94 | 50.64 |
| Heavy Trucks | 50.48 | 41.45 | 42.69 | 51.18 |
| | 59.62 | 57.05 | 51.79 | 60.88 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 58.48 | 56.71 | 50.66 | 59.88 |
| Medium Trucks | 49.84 | 43.48 | 41.94 | 50.63 |
| Heavy Trucks | 50.47 | 41.44 | 42.69 | 51.17 |
| | 59.60 | 57.03 | 51.77 | 60.86 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 59.88 | 50.63 | 51.17 | **60.86** |

## Existing - Inland Valley/ S of Clinton Keith

| | |
|---|---|
| Case | 14 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 10,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 65.78 | 64.02 | 57.96 | 67.19 |
| Medium Trucks | 57.13 | 50.77 | 49.23 | 57.92 |
| Heavy Trucks | 57.76 | 48.73 | 49.98 | 58.46 |
| | 66.90 | 64.34 | 59.08 | 68.17 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 65.76 | 63.99 | 57.94 | 67.17 |
| Medium Trucks | 57.13 | 50.77 | 49.22 | 57.91 |
| Heavy Trucks | 57.76 | 48.72 | 49.97 | 58.45 |
| | 66.88 | 64.32 | 59.06 | 68.15 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 67.17 | 57.91 | 58.45 | **68.15** |

## Existing - George/ S of Clinton Keith

| | |
|---|---|
| Case | 15 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 3,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.17 | 59.40 | 53.35 | 62.58 |
| Medium Trucks | 52.52 | 46.16 | 44.62 | 53.31 |
| Heavy Trucks | 53.15 | 44.12 | 45.37 | 53.85 |
| | 62.29 | 59.73 | 54.46 | 63.55 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.15 | 59.38 | 53.33 | 62.55 |
| Medium Trucks | 52.52 | 46.15 | 44.61 | 53.30 |
| Heavy Trucks | 53.14 | 44.11 | 45.36 | 53.84 |
| | 62.27 | 59.70 | 54.45 | 63.54 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 62.55 | 53.30 | 53.84 | **63.54** |

## Existing - George/ Clinton Keith-Depasquale Rd

| | |
|---|---|
| Case | 16 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 4,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.72 | 59.95 | 53.90 | 63.13 |
| Medium Trucks | 53.07 | 46.71 | 45.17 | 53.86 |
| Heavy Trucks | 53.70 | 44.67 | 45.92 | 54.40 |
| | 62.84 | 60.28 | 55.02 | 64.10 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.70 | 59.93 | 53.88 | 63.11 |
| Medium Trucks | 53.07 | 46.71 | 45.16 | 53.85 |
| Heavy Trucks | 53.70 | 44.66 | 45.91 | 54.39 |
| | 62.82 | 60.26 | 55.00 | 64.09 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.11 | 53.85 | 54.39 | **64.09** |

## Existing - George/ N of Depasquale

| | |
|---|---|
| Case | 17 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 3,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 60.80 | 59.04 | 52.98 | 62.21 |
| Medium Trucks | 52.16 | 45.79 | 44.25 | 52.94 |
| Heavy Trucks | 52.79 | 43.75 | 45.00 | 53.48 |
| | 61.92 | 59.36 | 54.10 | 63.19 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 60.78 | 59.01 | 52.96 | 62.19 |
| Medium Trucks | 52.15 | 45.79 | 44.24 | 52.94 |
| Heavy Trucks | 52.78 | 43.74 | 44.99 | 53.47 |
| | 61.90 | 59.34 | 54.08 | 63.17 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 62.19 | 52.94 | 53.47 | **63.17** |

## Existing - Hidden Springs/ S of Clinton Keith

| | |
|---|---|
| Case | 18 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,500 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 59.47 | 57.70 | 51.65 | 60.87 |
| Medium Trucks | 50.82 | 44.46 | 42.91 | 51.61 |
| Heavy Trucks | 51.45 | 42.41 | 43.66 | 52.15 |
| | 60.59 | 58.02 | 52.76 | 61.85 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 59.45 | 57.68 | 51.62 | 60.85 |
| Medium Trucks | 50.81 | 44.45 | 42.91 | 51.60 |
| Heavy Trucks | 51.44 | 42.41 | 43.66 | 52.14 |
| | 60.57 | 58.00 | 52.74 | 61.83 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 60.85 | 51.60 | 52.14 | **61.83** |

## Existing - Hiden Springs/ N of Clinton Keith

| | |
|---|---|
| Case | 19 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 13,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 66.69 | 64.93 | 58.87 | 68.10 |
| Medium Trucks | 58.05 | 51.68 | 50.14 | 58.83 |
| Heavy Trucks | 58.68 | 49.64 | 50.89 | 59.37 |
| | 67.81 | 65.25 | 59.99 | 69.08 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 66.67 | 64.91 | 58.85 | 68.08 |
| Medium Trucks | 58.04 | 51.68 | 50.13 | 58.83 |
| Heavy Trucks | 58.67 | 49.63 | 50.88 | 59.36 |
| | 67.80 | 65.23 | 59.97 | 69.06 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 68.08 | 58.83 | 59.36 | **69.06** |

## Existing - Palomar/ S of Clinton Keith

| | |
|---|---|
| Case | 20 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 14,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 66.95 | 65.18 | 59.13 | 68.36 |
| Medium Trucks | 58.30 | 51.94 | 50.40 | 59.09 |
| Heavy Trucks | 58.93 | 49.90 | 51.15 | 59.63 |
| | 68.07 | 65.50 | 60.24 | 69.33 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 66.93 | 65.16 | 59.11 | 68.33 |
| Medium Trucks | 58.30 | 51.93 | 50.39 | 59.08 |
| Heavy Trucks | 58.92 | 49.89 | 51.14 | 59.62 |
| | 68.05 | 65.48 | 60.23 | 69.31 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 68.33 | 59.08 | 59.62 | **69.31** |

## Existing - Palomar/ N of Clinton Keith

| | |
|---|---|
| Case | 21 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 19,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.48 | 66.71 | 60.66 | 69.88 |
| Medium Trucks | 59.83 | 53.47 | 51.92 | 60.62 |
| Heavy Trucks | 60.46 | 51.42 | 52.67 | 61.15 |
| | 69.60 | 67.03 | 61.77 | 70.86 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.45 | 66.69 | 60.63 | 69.86 |
| Medium Trucks | 59.82 | 53.46 | 51.92 | 60.61 |
| Heavy Trucks | 60.45 | 51.42 | 52.66 | 61.15 |
| | 69.58 | 67.01 | 61.75 | 70.84 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.86 | 60.61 | 61.15 | **70.84** |

## Existing - Catt/ S of Clinton Keith

| | |
|---|---|
| Case | 22 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 7,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.26 | 59.50 | 53.44 | 62.67 |
| Medium Trucks | 54.12 | 47.76 | 46.21 | 54.90 |
| Heavy Trucks | 55.45 | 46.41 | 47.66 | 56.14 |
| | 62.89 | 59.97 | 55.07 | 64.10 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.24 | 59.48 | 53.42 | 62.65 |
| Medium Trucks | 54.11 | 47.75 | 46.20 | 54.90 |
| Heavy Trucks | 55.44 | 46.40 | 47.65 | 56.13 |
| | 62.88 | 59.95 | 55.05 | 64.08 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 62.65 | 54.90 | 56.13 | **64.08** |

## Existing - Catt/ N of Clinton Keith

| | |
|---|---|
| Case | 23 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.09 | 54.32 | 48.27 | 57.50 |
| Medium Trucks | 48.94 | 42.58 | 41.04 | 49.73 |
| Heavy Trucks | 50.27 | 41.24 | 42.49 | 50.97 |
| | 57.72 | 54.80 | 49.89 | 58.93 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.07 | 54.30 | 48.25 | 57.47 |
| Medium Trucks | 48.94 | 42.57 | 41.03 | 49.72 |
| Heavy Trucks | 50.26 | 41.23 | 42.48 | 50.96 |
| | 57.70 | 54.78 | 49.88 | 58.91 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 57.47 | 49.72 | 50.96 | **58.91** |

## Existing - Depasquale/ George Av-Westpark St

| | |
|---|---|
| Case | 24 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 52.29 | 50.52 | 44.47 | 53.69 |
| Medium Trucks | 45.14 | 38.78 | 37.23 | 45.93 |
| Heavy Trucks | 46.47 | 37.43 | 38.68 | 47.17 |
| | 53.92 | 51.00 | 46.09 | 55.12 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 52.27 | 50.50 | 44.45 | 53.67 |
| Medium Trucks | 45.13 | 38.77 | 37.23 | 45.92 |
| Heavy Trucks | 46.46 | 37.43 | 38.68 | 47.16 |
| | 53.90 | 50.98 | 46.07 | 55.11 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 53.67 | 45.92 | 47.16 | **55.11** |

## Exist+Project - Clinton Keith/ E of Copper Craft

| | |
|---|---|
| Case | 25 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 13,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.22 | 66.45 | 60.40 | 69.62 |
| Medium Trucks | 58.97 | 52.61 | 51.06 | 59.76 |
| Heavy Trucks | 59.30 | 50.26 | 51.51 | 60.00 |
| | 69.18 | 66.73 | 61.35 | 70.46 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.20 | 66.43 | 60.38 | 69.60 |
| Medium Trucks | 58.96 | 52.60 | 51.06 | 59.75 |
| Heavy Trucks | 59.29 | 50.26 | 51.51 | 59.99 |
| | 69.16 | 66.71 | 61.33 | 70.44 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.60 | 59.75 | 59.99 | **70.44** |

## Exist+Project - Clinton Keith/ Copper Craft-Smith Ranch Rd

| | |
|---|---|
| Case | 26 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 15,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.61 | 66.84 | 60.79 | 70.01 |
| Medium Trucks | 59.36 | 53.00 | 51.45 | 60.15 |
| Heavy Trucks | 59.69 | 50.65 | 51.90 | 60.38 |
| | 69.57 | 67.11 | 61.74 | 70.85 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.58 | 66.82 | 60.76 | 69.99 |
| Medium Trucks | 59.35 | 52.99 | 51.45 | 60.14 |
| Heavy Trucks | 59.68 | 50.65 | 51.89 | 60.38 |
| | 69.55 | 67.09 | 61.72 | 70.83 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.99 | 60.14 | 60.38 | **70.83** |

## Exist+Project - Clinton Keith/ Smith Ranch Rd-Inland Valley Dr

| | |
|---|---|
| Case | 27 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 17,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 69.19 | 67.43 | 61.37 | 70.60 |
| Medium Trucks | 59.95 | 53.58 | 52.04 | 60.73 |
| Heavy Trucks | 60.28 | 51.24 | 52.49 | 60.97 |
| | 70.15 | 67.70 | 62.33 | 71.44 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 69.17 | 67.41 | 61.35 | 70.58 |
| Medium Trucks | 59.94 | 53.58 | 52.03 | 60.73 |
| Heavy Trucks | 60.27 | 51.23 | 52.48 | 60.96 |
| | 70.13 | 67.68 | 62.31 | 71.42 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 70.58 | 60.73 | 60.96 | **71.42** |

## Exist+Project - Clinton Keith/ Inland Valley Dr-George Ave

| | |
|---|---|
| Case | 28 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 27,500 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.18 | 69.41 | 63.36 | 72.59 |
| Medium Trucks | 61.93 | 55.57 | 54.03 | 62.72 |
| Heavy Trucks | 62.26 | 53.23 | 54.48 | 62.96 |
| | 72.14 | 69.69 | 64.32 | 73.42 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.16 | 69.39 | 63.34 | 72.57 |
| Medium Trucks | 61.93 | 55.57 | 54.02 | 62.71 |
| Heavy Trucks | 62.26 | 53.22 | 54.47 | 62.95 |
| | 72.12 | 69.67 | 64.30 | 73.40 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 72.57 | 62.71 | 62.95 | **73.40** |

## Exist+Project - Clinton Keith/ George Av-Catt Rd

| | |
|---|---|
| Case | 29 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 31,100 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.72 | 69.95 | 63.89 | 73.12 |
| Medium Trucks | 62.47 | 56.11 | 54.56 | 63.25 |
| Heavy Trucks | 62.80 | 53.76 | 55.01 | 63.49 |
| | 72.67 | 70.22 | 64.85 | 73.96 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.69 | 69.93 | 63.87 | 73.10 |
| Medium Trucks | 62.46 | 56.10 | 54.56 | 63.25 |
| Heavy Trucks | 62.79 | 53.75 | 55.00 | 63.49 |
| | 72.66 | 70.20 | 64.83 | 73.94 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.10 | 63.25 | 63.49 | **73.94** |

## Exist+Project - Clinton Keith/ Catt Rd-I-15

| | |
|---|---|
| Case | 30 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 37,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.50 | 70.74 | 64.68 | 73.91 |
| Medium Trucks | 63.26 | 56.90 | 55.35 | 64.04 |
| Heavy Trucks | 63.59 | 54.55 | 55.80 | 64.28 |
| | 73.46 | 71.01 | 65.64 | 74.75 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.48 | 70.72 | 64.66 | 73.89 |
| Medium Trucks | 63.25 | 56.89 | 55.34 | 64.04 |
| Heavy Trucks | 63.58 | 54.54 | 55.79 | 64.28 |
| | 73.45 | 70.99 | 65.62 | 74.73 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.89 | 64.04 | 64.28 | **74.73** |

## Exist+Project - Clinton Keith/ I-15-Hidden Springs Rd

| | |
|---|---|
| Case | 31 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 31,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.83 | 70.06 | 64.00 | 73.23 |
| Medium Trucks | 62.58 | 56.22 | 54.67 | 63.37 |
| Heavy Trucks | 62.91 | 53.87 | 55.12 | 63.60 |
| | 72.79 | 70.33 | 64.96 | 74.07 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.80 | 70.04 | 63.98 | 73.21 |
| Medium Trucks | 62.57 | 56.21 | 54.67 | 63.36 |
| Heavy Trucks | 62.90 | 53.86 | 55.11 | 63.60 |
| | 72.77 | 70.31 | 64.94 | 74.05 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.21 | 63.36 | 63.60 | **74.05** |

## Exist+Project - Clinton Keith/ Hidden Hills-Palomar

| | |
|---|---|
| Case | 32 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 24,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.64 | 68.88 | 62.82 | 72.05 |
| Medium Trucks | 61.40 | 55.03 | 53.49 | 62.18 |
| Heavy Trucks | 61.73 | 52.69 | 53.94 | 62.42 |
| | 71.60 | 69.15 | 63.78 | 72.89 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.62 | 68.86 | 62.80 | 72.03 |
| Medium Trucks | 61.39 | 55.03 | 53.48 | 62.18 |
| Heavy Trucks | 61.72 | 52.68 | 53.93 | 62.41 |
| | 71.58 | 69.13 | 63.76 | 72.87 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 72.03 | 62.18 | 62.41 | **72.87** |

## Exist+Project - Clinton Keith/ Palomar-Grand

| | |
|---|---|
| Case | 33 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 17,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 69.09 | 67.33 | 61.27 | 70.50 |
| Medium Trucks | 59.84 | 53.48 | 51.94 | 60.63 |
| Heavy Trucks | 60.18 | 51.14 | 52.39 | 60.87 |
| | 70.05 | 67.60 | 62.23 | 71.33 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 69.07 | 67.30 | 61.25 | 70.48 |
| Medium Trucks | 59.84 | 53.48 | 51.93 | 60.63 |
| Heavy Trucks | 60.17 | 51.13 | 52.38 | 60.86 |
| | 70.03 | 67.58 | 62.21 | 71.32 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 70.48 | 60.63 | 60.86 | **71.32** |

## Exist+Project - Clinton Keith/W of Grand

| | |
|---|---|
| Case | 34 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 13,800 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 66.89 | 65.12 | 59.07 | 68.29 |
| Medium Trucks | 58.24 | 51.88 | 50.33 | 59.03 |
| Heavy Trucks | 58.87 | 49.83 | 51.08 | 59.56 |
| | 68.01 | 65.44 | 60.18 | 69.27 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 66.86 | 65.10 | 59.04 | 68.27 |
| Medium Trucks | 58.23 | 51.87 | 50.33 | 59.02 |
| Heavy Trucks | 58.86 | 49.83 | 51.08 | 59.56 |
| | 67.99 | 65.42 | 60.16 | 69.25 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 68.27 | 59.02 | 59.56 | **69.25** |

## Exist+Project - Copper Craft Dr/ N of Clinton Keith

| | |
|---|---|
| Case | 35 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 57.79 | 56.03 | 49.97 | 59.20 |
| Medium Trucks | 49.14 | 42.78 | 41.24 | 49.93 |
| Heavy Trucks | 49.78 | 40.74 | 41.99 | 50.47 |
| | 58.91 | 56.35 | 51.09 | 60.18 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 57.77 | 56.00 | 49.95 | 59.18 |
| Medium Trucks | 49.14 | 42.78 | 41.23 | 49.93 |
| Heavy Trucks | 49.77 | 40.73 | 41.98 | 50.46 |
| | 58.89 | 56.33 | 51.07 | 60.16 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 59.18 | 49.93 | 50.46 | **60.16** |

## Exist+Project - Spinning Wheel Drive/ S of Clinton Keith

| | |
|---|---|
| Case | 36 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 57.79 | 56.03 | 49.97 | 59.20 |
| Medium Trucks | 49.14 | 42.78 | 41.24 | 49.93 |
| Heavy Trucks | 49.78 | 40.74 | 41.99 | 50.47 |
| | 58.91 | 56.35 | 51.09 | 60.18 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 57.77 | 56.00 | 49.95 | 59.18 |
| Medium Trucks | 49.14 | 42.78 | 41.23 | 49.93 |
| Heavy Trucks | 49.77 | 40.73 | 41.98 | 50.46 |
| | 58.89 | 56.33 | 51.07 | 60.16 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 59.18 | 49.93 | 50.46 | **60.16** |

## Exist+Project - Smith Ranch/ N of Clinton Keith

| | |
|---|---|
| Case | 37 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 59.80 | 58.03 | 51.98 | 61.21 |
| Medium Trucks | 51.15 | 44.79 | 43.25 | 51.94 |
| Heavy Trucks | 51.78 | 42.75 | 44.00 | 52.48 |
| | 60.92 | 58.36 | 53.10 | 62.19 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 59.78 | 58.01 | 51.96 | 61.19 |
| Medium Trucks | 51.15 | 44.79 | 43.24 | 51.93 |
| Heavy Trucks | 51.78 | 42.74 | 43.99 | 52.47 |
| | 60.90 | 58.34 | 53.08 | 62.17 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 61.19 | 51.93 | 52.47 | **62.17** |

## Exist+Project - Inland Valley/ S of Clinton Keith

| | |
|---|---|
| Case | 38 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 13,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 66.92 | 65.15 | 59.10 | 68.32 |
| Medium Trucks | 58.27 | 51.91 | 50.36 | 59.06 |
| Heavy Trucks | 58.90 | 49.86 | 51.11 | 59.60 |
| | 68.04 | 65.47 | 60.21 | 69.30 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 66.90 | 65.13 | 59.08 | 68.30 |
| Medium Trucks | 58.26 | 51.90 | 50.36 | 59.05 |
| Heavy Trucks | 58.89 | 49.86 | 51.11 | 59.59 |
| | 68.02 | 65.45 | 60.19 | 69.28 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 68.30 | 59.05 | 59.59 | **69.28** |

## Exist+Project - George/ S of Clinton Keith

| | |
|---|---|
| Case | 39 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 3,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.17 | 59.40 | 53.35 | 62.58 |
| Medium Trucks | 52.52 | 46.16 | 44.62 | 53.31 |
| Heavy Trucks | 53.15 | 44.12 | 45.37 | 53.85 |
| | 62.29 | 59.73 | 54.46 | 63.55 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.15 | 59.38 | 53.33 | 62.55 |
| Medium Trucks | 52.52 | 46.15 | 44.61 | 53.30 |
| Heavy Trucks | 53.14 | 44.11 | 45.36 | 53.84 |
| | 62.27 | 59.70 | 54.45 | 63.54 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 62.55 | 53.30 | 53.84 | **63.54** |

## Exist+Project - George/ Clinton Keith-Depasquale Rd

| | |
|---|---|
| Case | 40 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 4,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.82 | 60.06 | 54.00 | 63.23 |
| Medium Trucks | 53.18 | 46.81 | 45.27 | 53.96 |
| Heavy Trucks | 53.81 | 44.77 | 46.02 | 54.50 |
| | 62.94 | 60.38 | 55.12 | 64.21 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.80 | 60.03 | 53.98 | 63.21 |
| Medium Trucks | 53.17 | 46.81 | 45.26 | 53.96 |
| Heavy Trucks | 53.80 | 44.76 | 46.01 | 54.49 |
| | 62.92 | 60.36 | 55.10 | 64.19 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.21 | 53.96 | 54.49 | **64.19** |

## Exist+Project - George/ N of Depasquale

| | |
|---|---|
| Case | 41 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 4,800 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.30 | 60.53 | 54.48 | 63.71 |
| Medium Trucks | 53.65 | 47.29 | 45.75 | 54.44 |
| Heavy Trucks | 54.28 | 45.25 | 46.50 | 54.98 |
| | 63.42 | 60.86 | 55.60 | 64.68 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.28 | 60.51 | 54.46 | 63.69 |
| Medium Trucks | 53.65 | 47.29 | 45.74 | 54.43 |
| Heavy Trucks | 54.28 | 45.24 | 46.49 | 54.97 |
| | 63.40 | 60.84 | 55.58 | 64.67 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.69 | 54.43 | 54.97 | **64.67** |

## Exist+Project - Hidden Springs/ S of Clinton Keith

| | |
|---|---|
| Case | 42 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,500 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 59.47 | 57.70 | 51.65 | 60.87 |
| Medium Trucks | 50.82 | 44.46 | 42.91 | 51.61 |
| Heavy Trucks | 51.45 | 42.41 | 43.66 | 52.15 |
| | 60.59 | 58.02 | 52.76 | 61.85 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 59.45 | 57.68 | 51.62 | 60.85 |
| Medium Trucks | 50.81 | 44.45 | 42.91 | 51.60 |
| Heavy Trucks | 51.44 | 42.41 | 43.66 | 52.14 |
| | 60.57 | 58.00 | 52.74 | 61.83 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 60.85 | 51.60 | 52.14 | **61.83** |

## Exist+Project - Hiden Springs/ N of Clinton Keith

| | |
|---|---|
| Case | 43 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 14,500 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted Reduction (NLR) | 0.000 | 0.000 | 0.000 |
| | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.10 | 65.33 | 59.28 | 68.51 |
| Medium Trucks | 58.45 | 52.09 | 50.55 | 59.24 |
| Heavy Trucks | 59.08 | 50.05 | 51.30 | 59.78 |
| | 68.22 | 65.66 | 60.40 | 69.49 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.08 | 65.31 | 59.26 | 68.49 |
| Medium Trucks | 58.45 | 52.09 | 50.54 | 59.23 |
| Heavy Trucks | 59.08 | 50.04 | 51.29 | 59.77 |
| | 68.20 | 65.64 | 60.38 | 69.47 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 68.49 | 59.23 | 59.77 | **69.47** |

## Exist+Project - Palomar/ S of Clinton Keith

| | |
|---|---|
| Case | 44 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 14,600 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted Reduction (NLR) | 0.000 | 0.000 | 0.000 |
| | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.13 | 65.36 | 59.31 | 68.54 |
| Medium Trucks | 58.48 | 52.12 | 50.58 | 59.27 |
| Heavy Trucks | 59.11 | 50.08 | 51.33 | 59.81 |
| | 68.25 | 65.69 | 60.43 | 69.52 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.11 | 65.34 | 59.29 | 68.52 |
| Medium Trucks | 58.48 | 52.12 | 50.57 | 59.26 |
| Heavy Trucks | 59.11 | 50.07 | 51.32 | 59.80 |
| | 68.23 | 65.67 | 60.41 | 69.50 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 68.52 | 59.26 | 59.80 | **69.50** |

## Exist+Project - Palomar/ N of Clinton Keith

| | |
|---|---|
| Case | 45 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 20,600 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.63 | 66.86 | 60.81 | 70.03 |
| Medium Trucks | 59.98 | 53.62 | 52.07 | 60.77 |
| Heavy Trucks | 60.61 | 51.57 | 52.82 | 61.30 |
| | 69.75 | 67.18 | 61.92 | 71.01 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.60 | 66.84 | 60.78 | 70.01 |
| Medium Trucks | 59.97 | 53.61 | 52.07 | 60.76 |
| Heavy Trucks | 60.60 | 51.57 | 52.81 | 61.30 |
| | 69.73 | 67.16 | 61.90 | 70.99 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 70.01 | 60.76 | 61.30 | **70.99** |

## Exist+Project - Catt/ S of Clinton Keith

| | |
|---|---|
| Case | 46 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 8,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.32 | 59.55 | 53.50 | 62.73 |
| Medium Trucks | 54.17 | 47.81 | 46.27 | 54.96 |
| Heavy Trucks | 55.50 | 46.47 | 47.72 | 56.20 |
| | 62.95 | 60.03 | 55.12 | 64.15 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.30 | 59.53 | 53.48 | 62.70 |
| Medium Trucks | 54.16 | 47.80 | 46.26 | 54.95 |
| Heavy Trucks | 55.49 | 46.46 | 47.71 | 56.19 |
| | 62.93 | 60.01 | 55.10 | 64.14 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 62.70 | 54.95 | 56.19 | **64.14** |

## Exist+Project - Catt/ N of Clinton Keith

| | |
|---|---|
| Case | 47 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 8,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.43 | 59.66 | 53.60 | 62.83 |
| Medium Trucks | 54.28 | 47.92 | 46.37 | 55.07 |
| Heavy Trucks | 55.61 | 46.57 | 47.82 | 56.30 |
| | 63.05 | 60.14 | 55.23 | 64.26 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.40 | 59.64 | 53.58 | 62.81 |
| Medium Trucks | 54.27 | 47.91 | 46.37 | 55.06 |
| Heavy Trucks | 55.60 | 46.57 | 47.81 | 56.30 |
| | 63.04 | 60.12 | 55.21 | 64.24 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 62.81 | 55.06 | 56.30 | **64.24** |

## Exist+Project - Depasquale/ George Av-Westpark St

| | |
|---|---|
| Case | 48 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| Percentages | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| 50 ft Reference SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.09 | 54.32 | 48.27 | 57.50 |
| Medium Trucks | 48.94 | 42.58 | 41.04 | 49.73 |
| Heavy Trucks | 50.27 | 41.24 | 42.49 | 50.97 |
| | 57.72 | 54.80 | 49.89 | 58.93 |

| Attenuated SPL | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.07 | 54.30 | 48.25 | 57.47 |
| Medium Trucks | 48.94 | 42.57 | 41.03 | 49.72 |
| Heavy Trucks | 50.26 | 41.23 | 42.48 | 50.96 |
| | 57.70 | 54.78 | 49.88 | 58.91 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 57.47 | 49.72 | 50.96 | **58.91** |

# Noise Measurement Form

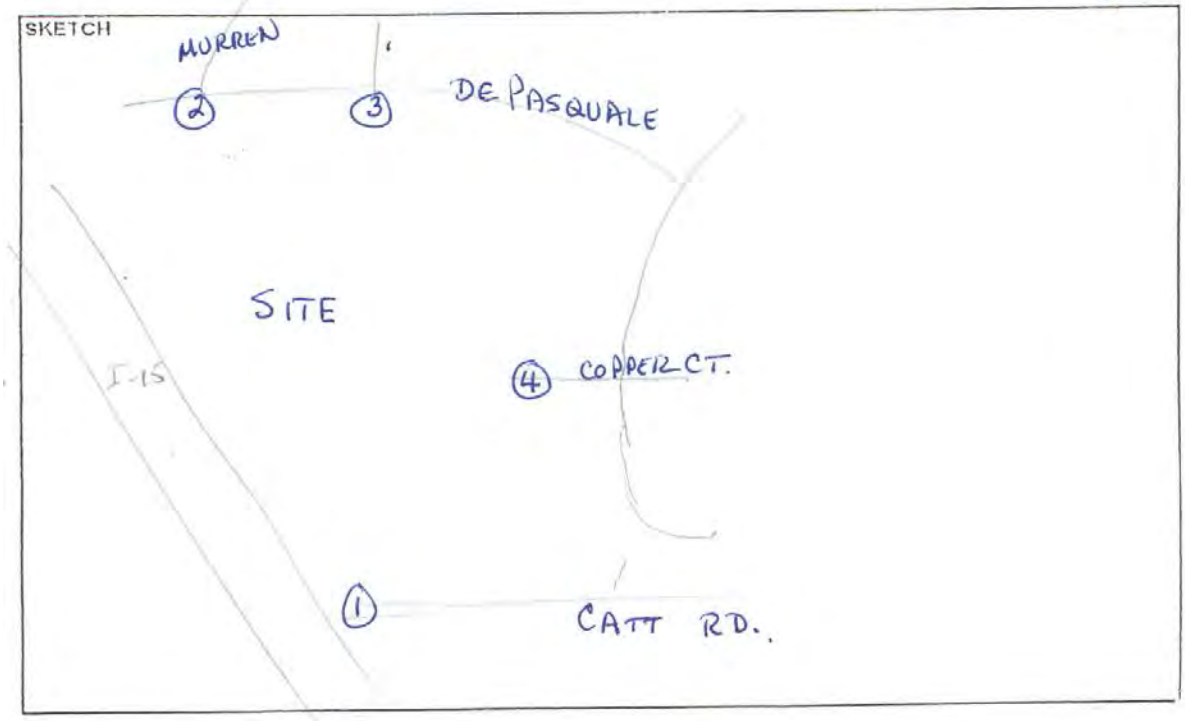
NOISE MEASUREMENT FORM

| PROJECT: | ENGINEER/TECHNICIAN: | DATE: |
|---|---|---|
| WESTPARK / WILDOMAR | H.G. | 8/20/14 |
| LOCATION: ON-SITE - VARIOUS | | SITE NO.: |

| SOUND LEVEL METER: | | NOTES: |
|---|---|---|
| LDL 700B | | VERY WARM - 90°F |
| SERIAL #: B0409 | | SLIGHT BREEZE (NW-SE) |

| TIME START | TIME FINISH | $L_{EQ}$ | $L_{MAX}$ | $L_{MIN}$ | $L_{10}$ | $L_{33}$ | $L_{50}$ | $L_{90}$ | |
|---|---|---|---|---|---|---|---|---|---|
| 3:15 | 3:30 | 72 | 76 | 67 | 74 | 73 | 72 | 70 | end of Catt @ I-15 |
| 3:35 | 3:50 | 63 | 66 | 58 | 65 | 64 | 63 | 61 | end of Murren |
| 3:55 | 4:10 | 59 | 63 | 54 | 61 | 60 | 59 | 58 | end of Westpark @ De Pasquale |
| 4:15 | 4:30 | 60 | 81* | 52 | 67 | 60 | 59 | 56 | end of Copper Court |
| | | | | | | | | | *= motorcycle nearby |

SKETCH



## Future - Clinton Keith E of Copper Craft

| | |
|---|---|
| Case | 1 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 39,100 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.71 | 70.94 | 64.89 | 74.12 |
| Medium Trucks | 63.46 | 57.10 | 55.56 | 64.25 |
| Heavy Trucks | 63.79 | 54.76 | 56.01 | 64.49 |
| | 73.67 | 71.22 | 65.84 | 74.95 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.69 | 70.92 | 64.87 | 74.09 |
| Medium Trucks | 63.46 | 57.09 | 55.55 | 64.24 |
| Heavy Trucks | 63.78 | 54.75 | 56.00 | 64.48 |
| | 73.65 | 71.20 | 65.82 | 74.93 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 74.09 | 64.24 | 64.48 | **74.93** |

## Future - Clinton Keith/ E of Copper Craft

| | |
|---|---|
| Case | 2 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 32,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.87 | 70.10 | 64.05 | 73.27 |
| Medium Trucks | 62.62 | 56.26 | 54.71 | 63.41 |
| Heavy Trucks | 62.95 | 53.91 | 55.16 | 63.64 |
| | 72.83 | 70.37 | 65.00 | 74.11 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.84 | 70.08 | 64.02 | 73.25 |
| Medium Trucks | 62.61 | 56.25 | 54.71 | 63.40 |
| Heavy Trucks | 62.94 | 53.91 | 55.15 | 63.64 |
| | 72.81 | 70.35 | 64.98 | 74.09 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.25 | 63.40 | 63.64 | **74.09** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Clinton Keith/ Copper Craft-Smith Ranch Rd

| | |
|---|---|
| Case | 3 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 31,600 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.78 | 70.02 | 63.96 | 73.19 |
| Medium Trucks | 62.54 | 56.18 | 54.63 | 63.32 |
| Heavy Trucks | 62.87 | 53.83 | 55.08 | 63.56 |
| | 72.74 | 70.29 | 64.92 | 74.03 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 71.76 | 70.00 | 63.94 | 73.17 |
| Medium Trucks | 62.53 | 56.17 | 54.62 | 63.32 |
| Heavy Trucks | 62.86 | 53.82 | 55.07 | 63.56 |
| | 72.73 | 70.27 | 64.90 | 74.01 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.17 | 63.32 | 63.56 | **74.01** |

## Future - Clinton Keith/ Smith Ranch Rd-Inland Valley Dr

| | |
|---|---|
| Case | 4 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 36,600 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.42 | 70.66 | 64.60 | 73.83 |
| Medium Trucks | 63.18 | 56.81 | 55.27 | 63.96 |
| Heavy Trucks | 63.51 | 54.47 | 55.72 | 64.20 |
| | 73.38 | 70.93 | 65.56 | 74.66 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.40 | 70.63 | 64.58 | 73.81 |
| Medium Trucks | 63.17 | 56.81 | 55.26 | 63.96 |
| Heavy Trucks | 63.50 | 54.46 | 55.71 | 64.19 |
| | 73.36 | 70.91 | 65.54 | 74.65 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.81 | 63.96 | 64.19 | **74.65** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Clinton Keith/ Inland Valley Dr-George Ave

| | |
|---|---|
| Case | 5 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 40,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.90 | 71.14 | 65.08 | 74.31 |
| Medium Trucks | 63.66 | 57.30 | 55.75 | 64.44 |
| Heavy Trucks | 63.99 | 54.95 | 56.20 | 64.68 |
| | 73.86 | 71.41 | 66.04 | 75.15 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.88 | 71.12 | 65.06 | 74.29 |
| Medium Trucks | 63.65 | 57.29 | 55.75 | 64.44 |
| Heavy Trucks | 63.98 | 54.94 | 56.19 | 64.68 |
| | 73.85 | 71.39 | 66.02 | 75.13 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 74.29 | 64.44 | 64.68 | **75.13** |

## Future - Clinton Keith/ George Av-Catt Rd

| | |
|---|---|
| Case | 6 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 48,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.62 | 71.85 | 65.80 | 75.02 |
| Medium Trucks | 64.37 | 58.01 | 56.46 | 65.16 |
| Heavy Trucks | 64.70 | 55.67 | 56.91 | 65.40 |
| | 74.58 | 72.13 | 66.75 | 75.86 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.60 | 71.83 | 65.78 | 75.00 |
| Medium Trucks | 64.36 | 58.00 | 56.46 | 65.15 |
| Heavy Trucks | 64.69 | 55.66 | 56.91 | 65.39 |
| | 74.56 | 72.11 | 66.73 | 75.84 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 75.00 | 65.15 | 65.39 | **75.84** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Clinton Keith/ Catt Rd-I-15

| | |
|---|---|
| Case | 7 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 42,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.11 | 71.35 | 65.29 | 74.52 |
| Medium Trucks | 63.86 | 57.50 | 55.96 | 64.65 |
| Heavy Trucks | 64.20 | 55.16 | 56.41 | 64.89 |
| | 74.07 | 71.62 | 66.25 | 75.35 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.09 | 71.32 | 65.27 | 74.50 |
| Medium Trucks | 63.86 | 57.50 | 55.95 | 64.65 |
| Heavy Trucks | 64.19 | 55.15 | 56.40 | 64.88 |
| | 74.05 | 71.60 | 66.23 | 75.34 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 74.50 | 64.65 | 64.88 | **75.34** |

## Future - Clinton Keith/ I-15-Hidden Springs Rd

| | |
|---|---|
| Case | 8 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 38,100 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.60 | 70.83 | 64.78 | 74.00 |
| Medium Trucks | 63.35 | 56.99 | 55.44 | 64.14 |
| Heavy Trucks | 63.68 | 54.64 | 55.89 | 64.38 |
| | 73.56 | 71.11 | 65.73 | 74.84 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.58 | 70.81 | 64.75 | 73.98 |
| Medium Trucks | 63.34 | 56.98 | 55.44 | 64.13 |
| Heavy Trucks | 63.67 | 54.64 | 55.89 | 64.37 |
| | 73.54 | 71.08 | 65.71 | 74.82 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.98 | 64.13 | 64.37 | **74.82** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Clinton Keith/ Hidden Hills-Palomar

| | |
|---|---|
| Case | 9 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 23,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.54 | 68.77 | 62.71 | 71.94 |
| Medium Trucks | 61.29 | 54.93 | 53.38 | 62.07 |
| Heavy Trucks | 61.62 | 52.58 | 53.83 | 62.31 |
| | 71.49 | 69.04 | 63.67 | 72.78 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.51 | 68.75 | 62.69 | 71.92 |
| Medium Trucks | 61.28 | 54.92 | 53.38 | 62.07 |
| Heavy Trucks | 61.61 | 52.57 | 53.82 | 62.31 |
| | 71.48 | 69.02 | 63.65 | 72.76 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 71.92 | 62.07 | 62.31 | **72.76** |

## Future - Clinton Keith/ Palomar-Grand

| | |
|---|---|
| Case | 10 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 17,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 69.09 | 67.33 | 61.27 | 70.50 |
| Medium Trucks | 59.84 | 53.48 | 51.94 | 60.63 |
| Heavy Trucks | 60.18 | 51.14 | 52.39 | 60.87 |
| | 70.05 | 67.60 | 62.23 | 71.33 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 69.07 | 67.30 | 61.25 | 70.48 |
| Medium Trucks | 59.84 | 53.48 | 51.93 | 60.63 |
| Heavy Trucks | 60.17 | 51.13 | 52.38 | 60.86 |
| | 70.03 | 67.58 | 62.21 | 71.32 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 70.48 | 60.63 | 60.86 | **71.32** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Copper Craft Dr/ N of Clinton Keith

| | |
|---|---|
| Case | 11 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.63 | 54.86 | 48.81 | 58.03 |
| Medium Trucks | 47.98 | 41.62 | 40.07 | 48.77 |
| Heavy Trucks | 48.61 | 39.57 | 40.82 | 49.31 |
| | 57.75 | 55.18 | 49.92 | 59.01 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.61 | 54.84 | 48.78 | 58.01 |
| Medium Trucks | 47.97 | 41.61 | 40.07 | 48.76 |
| Heavy Trucks | 48.60 | 39.57 | 40.82 | 49.30 |
| | 57.73 | 55.16 | 49.90 | 58.99 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 58.01 | 48.76 | 49.30 | **58.99** |

## Future - Spinning Wheel Drive/ S of Clinton Keith

| | |
|---|---|
| Case | 12 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.63 | 54.86 | 48.81 | 58.03 |
| Medium Trucks | 47.98 | 41.62 | 40.07 | 48.77 |
| Heavy Trucks | 48.61 | 39.57 | 40.82 | 49.31 |
| | 57.75 | 55.18 | 49.92 | 59.01 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.61 | 54.84 | 48.78 | 58.01 |
| Medium Trucks | 47.97 | 41.61 | 40.07 | 48.76 |
| Heavy Trucks | 48.60 | 39.57 | 40.82 | 49.30 |
| | 57.73 | 55.16 | 49.90 | 58.99 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 58.01 | 48.76 | 49.30 | **58.99** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Smith Ranch/ N of Clinton Keith

| | |
|---|---|
| Case | 13 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,700 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 59.80 | 58.03 | 51.98 | 61.21 |
| Medium Trucks | 51.15 | 44.79 | 43.25 | 51.94 |
| Heavy Trucks | 51.78 | 42.75 | 44.00 | 52.48 |
| | 60.92 | 58.36 | 53.10 | 62.19 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 59.78 | 58.01 | 51.96 | 61.19 |
| Medium Trucks | 51.15 | 44.79 | 43.24 | 51.93 |
| Heavy Trucks | 51.78 | 42.74 | 43.99 | 52.47 |
| | 60.90 | 58.34 | 53.08 | 62.17 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 61.19 | 51.93 | 52.47 | **62.17** |

## Future - Inland Valley/ S of Clinton Keith

| | |
|---|---|
| Case | 14 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 14,300 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.04 | 65.27 | 59.22 | 68.45 |
| Medium Trucks | 58.39 | 52.03 | 50.49 | 59.18 |
| Heavy Trucks | 59.02 | 49.99 | 51.24 | 59.72 |
| | 68.16 | 65.60 | 60.34 | 69.43 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.02 | 65.25 | 59.20 | 68.43 |
| Medium Trucks | 58.39 | 52.03 | 50.48 | 59.17 |
| Heavy Trucks | 59.02 | 49.98 | 51.23 | 59.71 |
| | 68.14 | 65.58 | 60.32 | 69.41 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 68.43 | 59.17 | 59.71 | **69.41** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - George/ S of Clinton Keith

| | |
|---|---|
| Case | 15 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 4,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.92 | 60.16 | 54.10 | 63.33 |
| Medium Trucks | 53.27 | 46.91 | 45.37 | 54.06 |
| Heavy Trucks | 53.91 | 44.87 | 46.12 | 54.60 |
| | 63.04 | 60.48 | 55.22 | 64.31 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.90 | 60.13 | 54.08 | 63.31 |
| Medium Trucks | 53.27 | 46.91 | 45.36 | 54.06 |
| Heavy Trucks | 53.90 | 44.86 | 46.11 | 54.59 |
| | 63.02 | 60.46 | 55.20 | 64.29 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.31 | 54.06 | 54.59 | **64.29** |

## Future - George/ Clinton Keith-Depasquale Rd

| | |
|---|---|
| Case | 16 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 5,500 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.89 | 61.12 | 55.07 | 64.30 |
| Medium Trucks | 54.24 | 47.88 | 46.34 | 55.03 |
| Heavy Trucks | 54.87 | 45.84 | 47.09 | 55.57 |
| | 64.01 | 61.45 | 56.19 | 65.28 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.87 | 61.10 | 55.05 | 64.28 |
| Medium Trucks | 54.24 | 47.88 | 46.33 | 55.02 |
| Heavy Trucks | 54.87 | 45.83 | 47.08 | 55.56 |
| | 63.99 | 61.43 | 56.17 | 65.26 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 64.28 | 55.02 | 55.56 | **65.26** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - George/ N of Depasquale

| | |
|---|---|
| Case | 17 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 4,500 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.02 | 60.25 | 54.20 | 63.43 |
| Medium Trucks | 53.37 | 47.01 | 45.47 | 54.16 |
| Heavy Trucks | 54.00 | 44.97 | 46.22 | 54.70 |
| | 63.14 | 60.58 | 55.31 | 64.40 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.00 | 60.23 | 54.18 | 63.40 |
| Medium Trucks | 53.37 | 47.00 | 45.46 | 54.15 |
| Heavy Trucks | 53.99 | 44.96 | 46.21 | 54.69 |
| | 63.12 | 60.55 | 55.30 | 64.39 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.40 | 54.15 | 54.69 | **64.39** |

## Future - Hidden Springs/ S of Clinton Keith

| | |
|---|---|
| Case | 18 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 7,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 64.18 | 62.41 | 56.36 | 65.59 |
| Medium Trucks | 55.53 | 49.17 | 47.63 | 56.32 |
| Heavy Trucks | 56.16 | 47.13 | 48.38 | 56.86 |
| | 65.30 | 62.74 | 57.48 | 66.56 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 64.16 | 62.39 | 56.34 | 65.57 |
| Medium Trucks | 55.53 | 49.16 | 47.62 | 56.31 |
| Heavy Trucks | 56.16 | 47.12 | 48.37 | 56.85 |
| | 65.28 | 62.72 | 57.46 | 66.55 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 65.57 | 56.31 | 56.85 | **66.55** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Hiden Springs/ N of Clinton Keith

| | |
|---|---|
| Case | 19 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 17,000 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.79 | 66.03 | 59.97 | 69.20 |
| Medium Trucks | 59.14 | 52.78 | 51.24 | 59.93 |
| Heavy Trucks | 59.78 | 50.74 | 51.99 | 60.47 |
| | 68.91 | 66.35 | 61.09 | 70.18 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.77 | 66.00 | 59.95 | 69.18 |
| Medium Trucks | 59.14 | 52.78 | 51.23 | 59.93 |
| Heavy Trucks | 59.77 | 50.73 | 51.98 | 60.46 |
| | 68.89 | 66.33 | 61.07 | 70.16 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.18 | 59.93 | 60.46 | **70.16** |

## Future - Palomar/ S of Clinton Keith

| | |
|---|---|
| Case | 20 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 19,100 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.30 | 66.53 | 60.48 | 69.70 |
| Medium Trucks | 59.65 | 53.29 | 51.74 | 60.44 |
| Heavy Trucks | 60.28 | 51.25 | 52.49 | 60.98 |
| | 69.42 | 66.85 | 61.59 | 70.68 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.28 | 66.51 | 60.46 | 69.68 |
| Medium Trucks | 59.64 | 53.28 | 51.74 | 60.43 |
| Heavy Trucks | 60.27 | 51.24 | 52.49 | 60.97 |
| | 69.40 | 66.83 | 61.57 | 70.66 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.68 | 60.43 | 60.97 | **70.66** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Palomar/ N of Clinton Keith

| | |
|---|---|
| Case | 21 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 29,100 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.13 | 68.36 | 62.31 | 71.53 |
| Medium Trucks | 61.48 | 55.12 | 53.57 | 62.27 |
| Heavy Trucks | 62.11 | 53.07 | 54.32 | 62.80 |
| | 71.25 | 68.68 | 63.42 | 72.51 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.11 | 68.34 | 62.28 | 71.51 |
| Medium Trucks | 61.47 | 55.11 | 53.57 | 62.26 |
| Heavy Trucks | 62.10 | 53.07 | 54.32 | 62.80 |
| | 71.23 | 68.66 | 63.40 | 72.49 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 71.51 | 62.26 | 62.80 | **72.49** |

## Future - Catt/ S of Clinton Keith

| | |
|---|---|
| Case | 22 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 9,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.02 | 60.25 | 54.20 | 63.43 |
| Medium Trucks | 54.87 | 48.51 | 46.97 | 55.66 |
| Heavy Trucks | 56.20 | 47.17 | 48.42 | 56.90 |
| | 63.65 | 60.73 | 55.82 | 64.85 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.00 | 60.23 | 54.18 | 63.40 |
| Medium Trucks | 54.87 | 48.50 | 46.96 | 55.65 |
| Heavy Trucks | 56.19 | 47.16 | 48.41 | 56.89 |
| | 63.63 | 60.71 | 55.80 | 64.84 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.40 | 55.65 | 56.89 | **64.84** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future - Catt/ N of Clinton Keith

| | |
|---|---|
| Case | 23 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 3,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 57.47 | 55.71 | 49.65 | 58.88 |
| Medium Trucks | 50.33 | 43.96 | 42.42 | 51.11 |
| Heavy Trucks | 51.66 | 42.62 | 43.87 | 52.35 |
| | 59.10 | 56.18 | 51.28 | 60.31 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 57.45 | 55.68 | 49.63 | 58.86 |
| Medium Trucks | 50.32 | 43.96 | 42.41 | 51.11 |
| Heavy Trucks | 51.65 | 42.61 | 43.86 | 52.34 |
| | 59.08 | 56.16 | 51.26 | 60.29 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 58.86 | 51.11 | 52.34 | **60.29** |

## Future - Depasquale/ George Av-Westpark St

| | |
|---|---|
| Case | 24 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 53.43 | 51.66 | 45.61 | 54.83 |
| Medium Trucks | 46.28 | 39.92 | 38.37 | 47.07 |
| Heavy Trucks | 47.61 | 38.57 | 39.82 | 48.31 |
| | 55.06 | 52.14 | 47.23 | 56.26 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 53.41 | 51.64 | 45.58 | 54.81 |
| Medium Trucks | 46.27 | 39.91 | 38.37 | 47.06 |
| Heavy Trucks | 47.60 | 38.57 | 39.82 | 48.30 |
| | 55.04 | 52.12 | 47.21 | 56.25 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 54.81 | 47.06 | 48.30 | **56.25** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Clinton Keith/ E of Copper Craft

| | |
|---|---|
| Case | 25 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 39,800 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.79 | 71.02 | 64.97 | 74.19 |
| Medium Trucks | 63.54 | 57.18 | 55.63 | 64.33 |
| Heavy Trucks | 63.87 | 54.83 | 56.08 | 64.56 |
| | 73.75 | 71.29 | 65.92 | 75.03 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.76 | 71.00 | 64.94 | 74.17 |
| Medium Trucks | 63.53 | 57.17 | 55.63 | 64.32 |
| Heavy Trucks | 63.86 | 54.83 | 56.08 | 64.56 |
| | 73.73 | 71.27 | 65.90 | 75.01 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 74.17 | 64.32 | 64.56 | **75.01** |

## Future + Project - Clinton Keith/ Copper Craft-Smith Ranch Rd

| | |
|---|---|
| Case | 26 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 34,200 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.13 | 70.36 | 64.31 | 73.53 |
| Medium Trucks | 62.88 | 56.52 | 54.97 | 63.67 |
| Heavy Trucks | 63.21 | 54.18 | 55.42 | 63.91 |
| | 73.09 | 70.64 | 65.26 | 74.37 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.11 | 70.34 | 64.29 | 73.51 |
| Medium Trucks | 62.87 | 56.51 | 54.97 | 63.66 |
| Heavy Trucks | 63.20 | 54.17 | 55.42 | 63.90 |
| | 73.07 | 70.62 | 65.24 | 74.35 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.51 | 63.66 | 63.90 | **74.35** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Clinton Keith/ Smith Ranch Rd-Inland Valley Dr

| | |
|---|---|
| Case | 27 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 34,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.14 | 70.37 | 64.32 | 73.55 |
| Medium Trucks | 62.89 | 56.53 | 54.99 | 63.68 |
| Heavy Trucks | 63.22 | 54.19 | 55.44 | 63.92 |
| | 73.10 | 70.65 | 65.27 | 74.38 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.12 | 70.35 | 64.30 | 73.53 |
| Medium Trucks | 62.89 | 56.53 | 54.98 | 63.67 |
| Heavy Trucks | 63.22 | 54.18 | 55.43 | 63.91 |
| | 73.08 | 70.63 | 65.26 | 74.36 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 73.53 | 63.67 | 63.91 | **74.36** |

## Future + Project - Clinton Keith/ Inland Valley Dr-George Ave

| | |
|---|---|
| Case | 28 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 42,500 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.07 | 71.31 | 65.25 | 74.48 |
| Medium Trucks | 63.82 | 57.46 | 55.92 | 64.61 |
| Heavy Trucks | 64.15 | 55.12 | 56.37 | 64.85 |
| | 74.03 | 71.58 | 66.21 | 75.31 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.05 | 71.28 | 65.23 | 74.46 |
| Medium Trucks | 63.82 | 57.46 | 55.91 | 64.60 |
| Heavy Trucks | 64.15 | 55.11 | 56.36 | 64.84 |
| | 74.01 | 71.56 | 66.19 | 75.29 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 74.46 | 64.60 | 64.84 | **75.29** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Clinton Keith/ George Av-Catt Rd

| | |
|---|---|
| Case | 29 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 46,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.48 | 71.71 | 65.66 | 74.89 |
| Medium Trucks | 64.23 | 57.87 | 56.33 | 65.02 |
| Heavy Trucks | 64.56 | 55.53 | 56.78 | 65.26 |
| | 74.44 | 71.99 | 66.61 | 75.72 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.46 | 71.69 | 65.64 | 74.87 |
| Medium Trucks | 64.23 | 57.87 | 56.32 | 65.01 |
| Heavy Trucks | 64.56 | 55.52 | 56.77 | 65.25 |
| | 74.42 | 71.97 | 66.60 | 75.70 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 74.87 | 65.01 | 65.25 | **75.70** |

## Future + Project - Clinton Keith/ Catt Rd-I-15

| | |
|---|---|
| Case | 30 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 53,700 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 74.09 | 72.32 | 66.27 | 75.49 |
| Medium Trucks | 64.84 | 58.48 | 56.93 | 65.63 |
| Heavy Trucks | 65.17 | 56.13 | 57.38 | 65.87 |
| | 75.05 | 72.60 | 67.22 | 76.33 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 74.07 | 72.30 | 66.24 | 75.47 |
| Medium Trucks | 64.83 | 58.47 | 56.93 | 65.62 |
| Heavy Trucks | 65.16 | 56.13 | 57.38 | 65.86 |
| | 75.03 | 72.58 | 67.20 | 76.31 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 75.47 | 65.62 | 65.86 | **76.31** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Clinton Keith/ I-15-Hidden Springs Rd

| | |
|---|---|
| Case | 31 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 46,800 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.49 | 71.72 | 65.67 | 74.90 |
| Medium Trucks | 64.24 | 57.88 | 56.34 | 65.03 |
| Heavy Trucks | 64.57 | 55.54 | 56.79 | 65.27 |
| | 74.45 | 72.00 | 66.62 | 75.73 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 73.47 | 71.70 | 65.65 | 74.88 |
| Medium Trucks | 64.24 | 57.88 | 56.33 | 65.02 |
| Heavy Trucks | 64.57 | 55.53 | 56.78 | 65.26 |
| | 74.43 | 71.98 | 66.61 | 75.71 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 74.88 | 65.02 | 65.26 | **75.71** |

## Future + Project - Clinton Keith/ Hidden Hills-Palomar

| | |
|---|---|
| Case | 32 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 40,800 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.89 | 71.13 | 65.07 | 74.30 |
| Medium Trucks | 63.65 | 57.29 | 55.74 | 64.43 |
| Heavy Trucks | 63.98 | 54.94 | 56.19 | 64.67 |
| | 73.85 | 71.40 | 66.03 | 75.14 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 72.87 | 71.11 | 65.05 | 74.28 |
| Medium Trucks | 63.64 | 57.28 | 55.73 | 64.43 |
| Heavy Trucks | 63.97 | 54.93 | 56.18 | 64.66 |
| | 73.84 | 71.38 | 66.01 | 75.12 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 74.28 | 64.43 | 64.66 | **75.12** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Clinton Keith/ Palomar-Grand

| | |
|---|---|
| Case | 33 |
| Speed | 50 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 25,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.77 | 69.00 | 62.95 | 72.17 |
| Medium Trucks | 61.52 | 55.16 | 53.61 | 62.31 |
| Heavy Trucks | 61.85 | 52.81 | 54.06 | 62.55 |
| | 71.73 | 69.28 | 63.90 | 73.01 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.75 | 68.98 | 62.92 | 72.15 |
| Medium Trucks | 61.51 | 55.15 | 53.61 | 62.30 |
| Heavy Trucks | 61.84 | 52.81 | 54.06 | 62.54 |
| | 71.71 | 69.25 | 63.88 | 72.99 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 72.15 | 62.30 | 62.54 | **72.99** |

## Future + Project - Clinton Keith/W of Grand

| | |
|---|---|
| Case | 34 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 17,600 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.94 | 66.18 | 60.12 | 69.35 |
| Medium Trucks | 59.30 | 52.93 | 51.39 | 60.08 |
| Heavy Trucks | 59.93 | 50.89 | 52.14 | 60.62 |
| | 69.06 | 66.50 | 61.24 | 70.33 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.92 | 66.15 | 60.10 | 69.33 |
| Medium Trucks | 59.29 | 52.93 | 51.38 | 60.08 |
| Heavy Trucks | 59.92 | 50.88 | 52.13 | 60.61 |
| | 69.05 | 66.48 | 61.22 | 70.31 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.33 | 60.08 | 60.61 | **70.31** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Copper Craft Dr/ N of Clinton Keith

| | |
|---|---|
| Case | 35 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,000 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 58.50 | 56.73 | 50.68 | 59.90 |
| Medium Trucks | 49.85 | 43.49 | 41.94 | 50.64 |
| Heavy Trucks | 50.48 | 41.45 | 42.69 | 51.18 |
| | 59.62 | 57.05 | 51.79 | 60.88 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 58.48 | 56.71 | 50.66 | 59.88 |
| Medium Trucks | 49.84 | 43.48 | 41.94 | 50.63 |
| Heavy Trucks | 50.47 | 41.44 | 42.69 | 51.17 |
| | 59.60 | 57.03 | 51.77 | 60.86 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 59.88 | 50.63 | 51.17 | **60.86** |

## Future + Project - Spinning Wheel Drive/ S of Clinton Keith

| | |
|---|---|
| Case | 36 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 1,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 58.28 | 56.51 | 50.45 | 59.68 |
| Medium Trucks | 49.63 | 43.27 | 41.72 | 50.41 |
| Heavy Trucks | 50.26 | 41.22 | 42.47 | 50.95 |
| | 59.40 | 56.83 | 51.57 | 60.66 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 58.25 | 56.49 | 50.43 | 59.66 |
| Medium Trucks | 49.62 | 43.26 | 41.72 | 50.41 |
| Heavy Trucks | 50.25 | 41.21 | 42.46 | 50.95 |
| | 59.38 | 56.81 | 51.55 | 60.64 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 59.66 | 50.41 | 50.95 | **60.64** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Smith Ranch/ N of Clinton Keith

| | |
|---|---|
| Case | 37 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 3,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 60.80 | 59.04 | 52.98 | 62.21 |
| Medium Trucks | 52.16 | 45.79 | 44.25 | 52.94 |
| Heavy Trucks | 52.79 | 43.75 | 45.00 | 53.48 |
| | 61.92 | 59.36 | 54.10 | 63.19 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 60.78 | 59.01 | 52.96 | 62.19 |
| Medium Trucks | 52.15 | 45.79 | 44.24 | 52.94 |
| Heavy Trucks | 52.78 | 43.74 | 44.99 | 53.47 |
| | 61.90 | 59.34 | 54.08 | 63.17 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 62.19 | 52.94 | 53.47 | **63.17** |

## Future + Project - Inland Valley/ S of Clinton Keith

| | |
|---|---|
| Case | 38 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 17,500 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.92 | 66.15 | 60.10 | 69.32 |
| Medium Trucks | 59.27 | 52.91 | 51.36 | 60.06 |
| Heavy Trucks | 59.90 | 50.87 | 52.11 | 60.60 |
| | 69.04 | 66.47 | 61.21 | 70.30 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 67.90 | 66.13 | 60.08 | 69.30 |
| Medium Trucks | 59.26 | 52.90 | 51.36 | 60.05 |
| Heavy Trucks | 59.89 | 50.86 | 52.11 | 60.59 |
| | 69.02 | 66.45 | 61.19 | 70.28 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.30 | 60.05 | 60.59 | **70.28** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - George/ S of Clinton Keith

| | |
|---|---|
| Case | 39 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 4,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.92 | 60.16 | 54.10 | 63.33 |
| Medium Trucks | 53.27 | 46.91 | 45.37 | 54.06 |
| Heavy Trucks | 53.91 | 44.87 | 46.12 | 54.60 |
| | 63.04 | 60.48 | 55.22 | 64.31 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.90 | 60.13 | 54.08 | 63.31 |
| Medium Trucks | 53.27 | 46.91 | 45.36 | 54.06 |
| Heavy Trucks | 53.90 | 44.86 | 46.11 | 54.59 |
| | 63.02 | 60.46 | 55.20 | 64.29 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.31 | 54.06 | 54.59 | **64.29** |

## Future + Project - George/ Clinton Keith-Depasquale Rd

| | |
|---|---|
| Case | 40 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 5,600 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.97 | 61.20 | 55.15 | 64.38 |
| Medium Trucks | 54.32 | 47.96 | 46.42 | 55.11 |
| Heavy Trucks | 54.95 | 45.92 | 47.17 | 55.65 |
| | 64.09 | 61.53 | 56.26 | 65.35 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.95 | 61.18 | 55.13 | 64.35 |
| Medium Trucks | 54.32 | 47.95 | 46.41 | 55.10 |
| Heavy Trucks | 54.94 | 45.91 | 47.16 | 55.64 |
| | 64.07 | 61.50 | 56.25 | 65.34 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 64.35 | 55.10 | 55.64 | **65.34** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - George/ N of Depasquale

| | |
|---|---|
| Case | 41 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 5,900 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 63.20 | 61.43 | 55.38 | 64.60 |
| Medium Trucks | 54.55 | 48.19 | 46.64 | 55.34 |
| Heavy Trucks | 55.18 | 46.14 | 47.39 | 55.87 |
| | 64.32 | 61.75 | 56.49 | 65.58 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 63.17 | 61.41 | 55.35 | 64.58 |
| Medium Trucks | 54.54 | 48.18 | 46.64 | 55.33 |
| Heavy Trucks | 55.17 | 46.14 | 47.38 | 55.87 |
| | 64.30 | 61.73 | 56.47 | 65.56 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 64.58 | 55.33 | 55.87 | **65.56** |

## Future + Project - Hidden Springs/ S of Clinton Keith

| | |
|---|---|
| Case | 42 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 7,400 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 64.18 | 62.41 | 56.36 | 65.59 |
| Medium Trucks | 55.53 | 49.17 | 47.63 | 56.32 |
| Heavy Trucks | 56.16 | 47.13 | 48.38 | 56.86 |
| | 65.30 | 62.74 | 57.48 | 66.56 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 64.16 | 62.39 | 56.34 | 65.57 |
| Medium Trucks | 55.53 | 49.16 | 47.62 | 56.31 |
| Heavy Trucks | 56.16 | 47.12 | 48.37 | 56.85 |
| | 65.28 | 62.72 | 57.46 | 66.55 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 65.57 | 56.31 | 56.85 | **66.55** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Hiden Springs/ N of Clinton Keith

| | |
|---|---|
| Case | 43 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 18,300 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.11 | 66.35 | 60.29 | 69.52 |
| Medium Trucks | 59.46 | 53.10 | 51.56 | 60.25 |
| Heavy Trucks | 60.10 | 51.06 | 52.31 | 60.79 |
| | 69.23 | 66.67 | 61.41 | 70.50 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.09 | 66.32 | 60.27 | 69.50 |
| Medium Trucks | 59.46 | 53.10 | 51.55 | 60.25 |
| Heavy Trucks | 60.09 | 51.05 | 52.30 | 60.78 |
| | 69.21 | 66.65 | 61.39 | 70.48 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.50 | 60.25 | 60.78 | **70.48** |

## Future + Project - Palomar/ S of Clinton Keith

| | |
|---|---|
| Case | 44 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 19,800 |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.45 | 66.69 | 60.63 | 69.86 |
| Medium Trucks | 59.81 | 53.45 | 51.90 | 60.59 |
| Heavy Trucks | 60.44 | 51.40 | 52.65 | 61.13 |
| | 69.58 | 67.01 | 61.75 | 70.84 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 68.43 | 66.67 | 60.61 | 69.84 |
| Medium Trucks | 59.80 | 53.44 | 51.89 | 60.59 |
| Heavy Trucks | 60.43 | 51.39 | 52.64 | 61.12 |
| | 69.56 | 66.99 | 61.73 | 70.82 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 69.84 | 60.59 | 61.12 | **70.82** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Palomar/ N of Clinton Keith

| | |
|---|---|
| Case | 45 |
| Speed | 45 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 29,800 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.23 | 68.46 | 62.41 | 71.64 |
| Medium Trucks | 61.58 | 55.22 | 53.68 | 62.37 |
| Heavy Trucks | 62.21 | 53.18 | 54.43 | 62.91 |
| | 71.35 | 68.79 | 63.52 | 72.61 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 70.21 | 68.44 | 62.39 | 71.62 |
| Medium Trucks | 61.58 | 55.21 | 53.67 | 62.36 |
| Heavy Trucks | 62.21 | 53.17 | 54.42 | 62.90 |
| | 71.33 | 68.76 | 63.51 | 72.60 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 71.62 | 62.36 | 62.90 | **72.60** |

## Future + Project - Catt/ S of Clinton Keith

| | |
|---|---|
| Case | 46 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 9,600 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.11 | 60.34 | 54.29 | 63.52 |
| Medium Trucks | 54.96 | 48.60 | 47.06 | 55.75 |
| Heavy Trucks | 56.29 | 47.26 | 48.51 | 56.99 |
| | 63.74 | 60.82 | 55.91 | 64.95 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 62.09 | 60.32 | 54.27 | 63.50 |
| Medium Trucks | 54.96 | 48.60 | 47.05 | 55.74 |
| Heavy Trucks | 56.29 | 47.25 | 48.50 | 56.98 |
| | 63.72 | 60.80 | 55.90 | 64.93 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.50 | 55.74 | 56.98 | **64.93** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*

## Future + Project - Catt/ N of Clinton Keith

| | |
|---|---|
| Case | 47 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 9,200 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.93 | 60.16 | 54.10 | 63.33 |
| Medium Trucks | 54.78 | 48.42 | 46.87 | 55.57 |
| Heavy Trucks | 56.11 | 47.07 | 48.32 | 56.80 |
| | 63.55 | 60.64 | 55.73 | 64.76 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 61.90 | 60.14 | 54.08 | 63.31 |
| Medium Trucks | 54.77 | 48.41 | 46.87 | 55.56 |
| Heavy Trucks | 56.10 | 47.06 | 48.31 | 56.80 |
| | 63.54 | 60.62 | 55.71 | 64.74 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 63.31 | 55.56 | 56.80 | **64.74** |

## Future + Project - Depasquale/ George Av-Westpark St

| | |
|---|---|
| Case | 48 |
| Speed | 35 |
| Distance to Receiver | 50 |
| Distance to Wall | 25 |
| Elevation Change | 0 |
| Height of Receiver | 5 |
| Hard or Soft Site | Hard |
| Height of Wall | 0 |
| Total Vehicle Volume | 2,700 |

| **Percentages** | Day | Evening | Night | Daily |
|---|---|---|---|---|
| Auto | 77.5% | 12.9% | 9.6% | 97.4% |
| Med | 84.8% | 4.9% | 10.3% | 1.8% |
| Heavy | 86.5% | 2.7% | 10.8% | 0.7% |

| | Auto | Med Truck | Hvy Truck |
|---|---|---|---|
| Vehicle Height | 0 | 2.3 | 8 |
| Net Receiver Height | 5 | 2.7 | -3 |
| Net Wall Height | 0.00 | -2.30 | -8.00 |
| Direct LOS Height | 2.50 | 1.35 | -1.50 |
| Effective Wall Height | 2.50 | 1.35 | -1.50 |
| Direct Distance (CD) | 50.25 | 50.07 | 50.09 |
| Indirect Distance (CI) | 50.25 | 50.07 | 50.09 |
| Difference (D) | 0.000 | 0.000 | 0.000 |
| Fresnel Adjusted | 0.000 | 0.000 | 0.000 |
| Reduction (NLR) | 0.00 | 0.00 | 0.00 |

| **50 ft Reference SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.60 | 54.83 | 48.78 | 58.01 |
| Medium Trucks | 49.45 | 43.09 | 41.55 | 50.24 |
| Heavy Trucks | 50.78 | 41.75 | 43.00 | 51.48 |
| | 58.23 | 55.31 | 50.40 | 59.44 |

| **Attenuated SPL** | Day | Evening | Night | CNEL |
|---|---|---|---|---|
| Auto | 56.58 | 54.81 | 48.76 | 57.99 |
| Medium Trucks | 49.45 | 43.09 | 41.54 | 50.23 |
| Heavy Trucks | 50.78 | 41.74 | 42.99 | 51.47 |
| | 58.21 | 55.29 | 50.39 | 59.42 |

**Resulting Noise Levels**

| | Auto | Medium Truck | Heavy Truck | 24-hour CNEL |
|---|---|---|---|---|
| Total Attenuated Noise | 57.99 | 50.23 | 51.47 | **59.42** |

***Giroux and Associates***
*Analyst: Sara Gerrick*
*12/10/2015*