



**Noise Analysis for the  
South Dogwood Annexation Project  
Imperial County, California**

*Prepared for*  
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A handwritten signature in black ink that reads "Jessica Fleming". The signature is written in a cursive, flowing style.

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## Acronyms and Abbreviations

Caltrans	California Department of Transportation
CCR	California Code of Regulations
City	City of El Centro
CNEL	community noise equivalent level
County	Imperial County
dB	decibel
dB(A)	A-weighted decibel
FHWA	Federal Highway Administration
GPA	General Plan Amendment
HVAC	heating, ventilation, and air conditioning
$L_{eq}$	equivalent noise level
LLG	Linscott, Law & Greenspan, Engineers
$L_{pw}$	sound power
mph	miles per hour
project	South Dogwood Road Annexation Project
UPRR	Union Pacific Railroad

## Executive Summary

The South Dogwood Road Annexation Project (project) consists of the annexation of approximately 67.78 gross acres (65.1 net acres after road right-of-way exclusions) of Imperial County (County) unincorporated lands to the City of El Centro (City), a General Plan Amendment (GPA) and a Pre-zone. The GPA and Pre-zone would allow for General Commercial development within the northern and central areas and High Medium Density Residential development in the southern four parcels. No specific development is proposed at this time, but future development at the site is anticipated to include infrastructure improvements and design features in order to meet regulatory requirements and provide sufficient infrastructure to serve the future development. This report discusses potential noise impacts from the construction and operation of the project.

## Construction Noise

The proposed project would allow for future construction of commercial and residential uses on the project site. Construction noise would be generated by diesel engine-driven construction equipment used for site preparation and grading, building construction, loading, unloading, and placing materials and paving. Construction noise would potentially result in short-term impacts to surrounding properties. Nearby receivers include residential, hotel, and retail uses.

The City's Noise Abatement and Control Ordinance establishes construction time of day restrictions and noise level limits. Construction activities may only occur Monday through Saturday between the hours of 6:00 a.m. and 7:00 p.m., excluding holidays. The County's Noise Abatement and Control Ordinance limits construction hours to 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday. Additionally, in both the City and the County, construction noise may not exceed 75 A-weighted decibel equivalent noise level [dB(A)  $L_{eq}$ ] at or beyond the property line of a property that is developed and used for residential purposes.

As calculated in this analysis, construction noise levels are not anticipated to exceed 75 dB(A)  $L_{eq}$  at the adjacent uses. Although the existing adjacent residences would be exposed to construction noise levels that may be heard above ambient conditions, the exposure would be temporary. Additionally, construction activities are not anticipated to exceed 75 dB(A)  $L_{eq}$ . As construction activities associated with the project would comply with noise level limits from City's and the County's Noise Abatement and Control Ordinances, temporary increases in noise levels from construction activities would be less than significant.

## Vehicle and Railroad Traffic Noise

### On-Site Noise Land Use Compatibility

The main source of noise on the project site is vehicle traffic on adjacent roadways including Dogwood Road, Danenberg Drive, and McCabe Road. The project site is also located adjacent to Union Pacific Railroad (UPRR) tracks. As calculated in this analysis, exterior noise levels due to vehicle and railroad traffic are not projected to exceed 65 community noise equivalent level (CNEL) outside of the roadway or railroad right-of-way. Noise levels would be 65 CNEL or less across the entire project site.

Residential land uses are normally acceptable (Zone A) with noise levels up to 60 CNEL and are conditionally acceptable (Zone B) with noise levels ranging from 60 to 70 CNEL. In Zone B areas, projects should be analyzed to determine if interior noise levels would meet the interior noise level standard of 45 CNEL. Exterior noise levels at the project site would be 65 CNEL or less and would be considered conditionally acceptable with residential land uses. Additionally, standard construction techniques would provide an exterior-to-interior noise level reduction of at least 20 dB(A). Therefore, through standard construction techniques, residential interior noise levels would be reduced to 45 CNEL or less. Thus, exterior and interior noise levels at future residential uses on the project site would be compatible with City and Title 24 standards.

Commercial land uses are normally acceptable (Zone A) with noise levels up to 65 CNEL and are conditionally acceptable (Zone B) with noise levels ranging from 60 to 75 CNEL. As calculated in this analysis, noise levels would be 65 CNEL or less across the entire project site. The Title 24 interior noise level standard for non-residential uses is 50 dB(A)  $L_{eq}$ . Assuming the same exterior-to-interior noise reduction of 20 dB(A), interior noise levels would be reduced to 45 CNEL or less, and would comply with Title 24 standards. Thus, exterior and interior noise levels at future commercial uses on the project site would be compatible with City and Title 24 standards.

Impacts associated with vehicle and railroad traffic noise compatibility would be less than significant.

### Off-Site Traffic Noise Increases

Project-generated traffic would increase volumes on local roadways and thereby increase traffic noise levels. Existing and future traffic noise levels with and without the project were calculated at specific off-site receivers located at the uses adjacent to the analyzed roadway segments. As shown in Table 10 below, a 3 dB(A) or more noise level increase would occur at the hotel located at the corner of South Dogwood Road and Danenberg Drive (Receiver 11) and at the retail uses located east of South Dogwood Road and west of the Imperial Valley Mall (Receivers 12 and 15). The noise increases at these receivers would range from 3.2 to 3.4 dB(A). While these increases may be barely perceptible, they would not exceed the City's normally acceptable (Zone A) compatibility level of 60 CNEL for hotels. Further, these noise increases would not be considered "substantial," which the

California Department of Transportation defines as a 12 dB(A) increase over existing noise levels. Noise level increases at all other off-site receivers would be less than 3 dB(A) and would, therefore, not be perceptible. Impacts associated with off-site noise level increases would be less than significant.

## **On-Site Generated Noise**

The proposed General Commercial zoning for the northern portion of the project site could accommodate a wide variety of retail and commercial uses. Noise sources would vary depending on the exact type of use that is developed. Common noise sources of concern for retail and commercial uses include, but are not limited to, heating, ventilation, and air conditioning (HVAC) equipment, parking lot activities, and loading docks. The proposed High Density Residential zoning for the southern portion of the project site would allow for multi-family residential uses. Noise sources typical of residential uses include vehicles arriving and leaving, children at play, landscape maintenance activity, and HVAC equipment. All noise sources associated with the project would be similar to noise levels generated at the existing adjacent retail and residential uses. Given that City policies are in place to control noise and reduce noise conflicts between various land uses and enforcement of the Municipal Code Section 17.1 limits noise generation, impacts would be less than significant at the program level.

# **1.0 Introduction**

## **1.1 Project Description**

The South Dogwood Road Annexation Project (project) consists of the annexation of approximately 67.78 gross acres (65.1 net acres after road right-of-way exclusions) of Imperial County (County) unincorporated lands to the City of El Centro (City), a General Plan Amendment (GPA) and a Pre-zone. The property lies along the west side of Dogwood Avenue, from Danenberg Drive to 660 feet north of McCabe Road. Figure 1 shows the regional location and Figure 2 shows an aerial photograph of the project site and vicinity. No specific development is proposed at this time, but future development at the site is anticipated to include infrastructure improvements and design features in order to meet regulatory requirements and provide sufficient infrastructure to serve the future development.

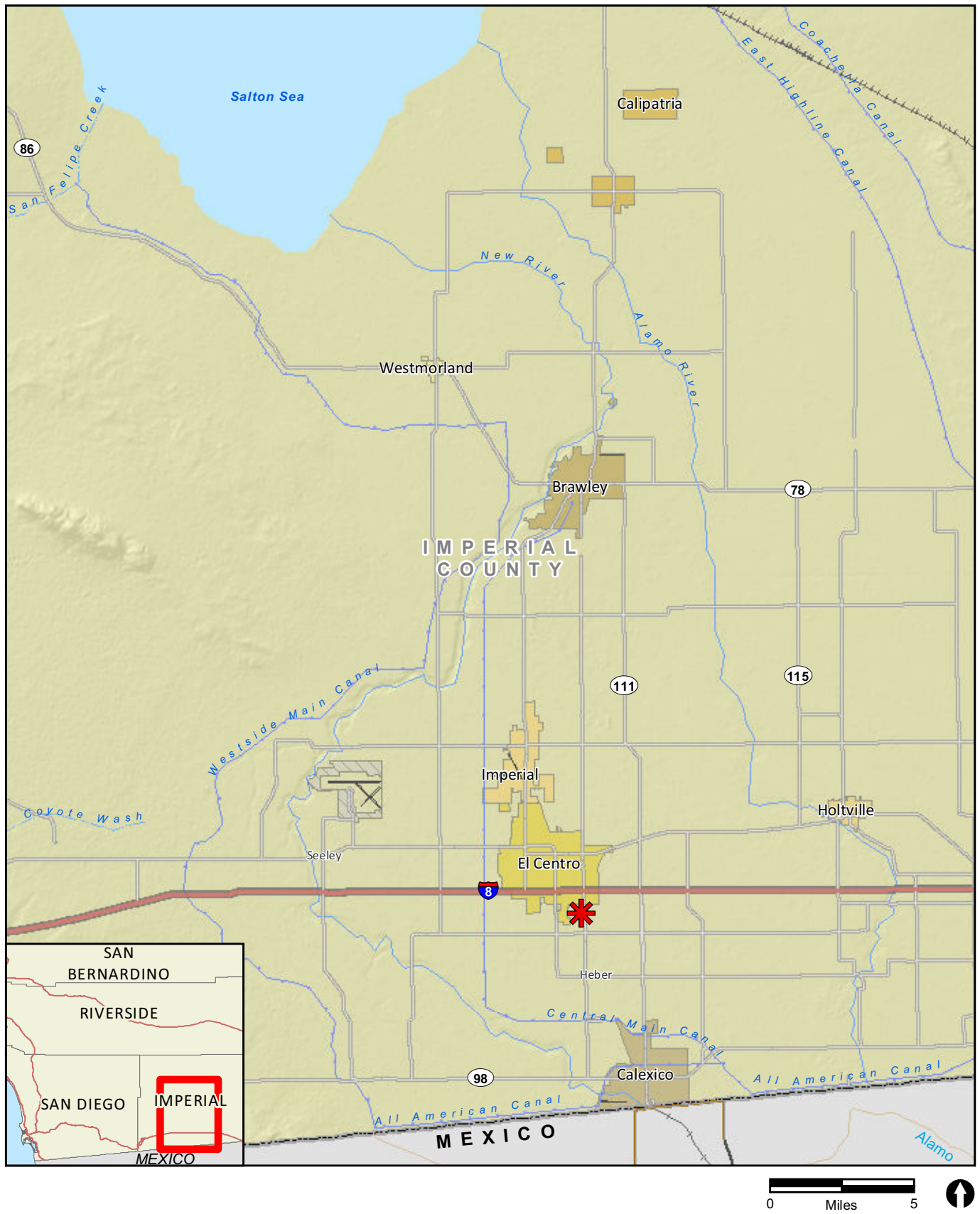
### **1.1.1 General Plan Amendment**

The County currently designates the site as Urban Area, a designation that is intended to cover areas anticipated to be annexed or incorporated into neighboring cities. The El Centro General Plan designates the site as General Industrial Development (northern portion of site) and Low Density Residential (southern portion of site). Concurrent with the application for annexation, the landowners have applied for a GPA to allow for General Commercial development within the northern and central areas and High Medium Density Residential development in the southern four parcels. Figure 3 shows the proposed land use designations.

### **1.1.2 Pre-zone**

The site is currently zoned Medium Industrial Development by the County. As the site is not currently in the City, there is no existing City zoning for the site. The project area is proposed to be zoned CG (General Commercial), except for the southern 1,528 feet (11.97 acres) which is proposed to be zoned R-3 (High Density Residential). The southern area proposed for R-3 (High Density Residential) consists of assessor parcel numbers 054-390-089, 054-390-050, 054-390-051 and 054-390-052.





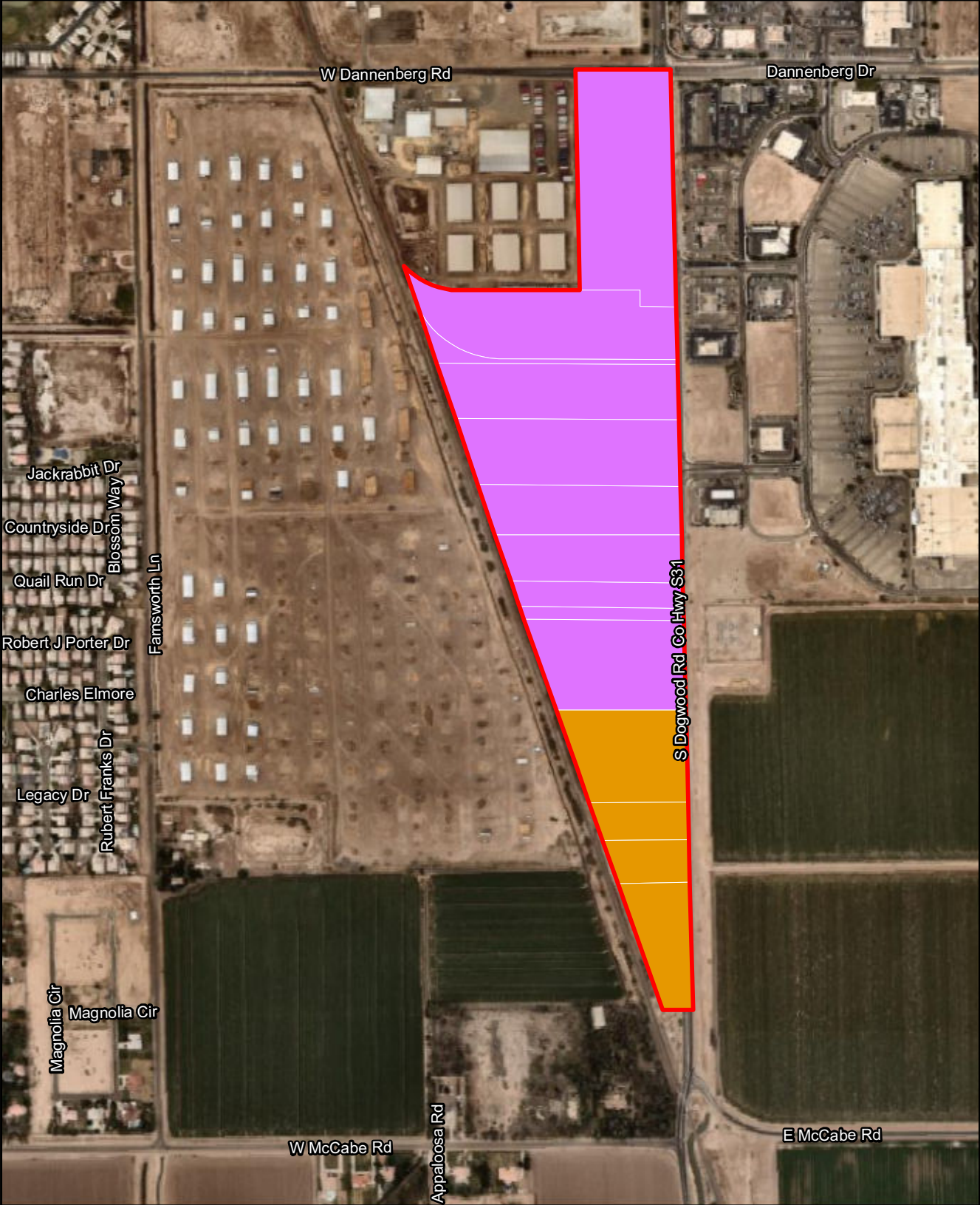
**FIGURE 1**  
 Regional Location



 Project Boundary

FIGURE 2  
Project Location on Aerial Photograph





Project Boundary

**Land Use Designation**

High Medium Density Residential

General Commercial

0 Feet 700



**FIGURE 3**  
Proposed Land Use Designations

At this time, no specific project is proposed. This analysis is based on the assumption of future retail/commercial and multi-family land uses. The total project area is 65.1 acres, with 53.13 acres for retail commercial and 11.97 acres for residential uses. The retail/commercial square footage and number of residential units were estimated as follows:

- **Retail/Commercial** – It is assumed that the retail/commercial square footage is 30% of the total acreage (53.13 acres), or  $30\% \times 53.13 \text{ acres} \times 43,560 \text{ square feet} = 694,303 \text{ square feet}$ .
- **Residential** – A density of 16 units per acre is assumed for the residential, or  $16 \text{ units} \times 11.97 \text{ acres} = 191 \text{ dwelling units}$ .

### 1.1.3 Infrastructure Improvements

Additional right-of-way, pavements, curbs, sidewalk and street lights will be required along the Danenberg Drive and Dogwood Avenue frontages for full build-out of those 4- and 6-lane arterial streets. There are existing pressurized city water lines in Danenberg Drive and Dogwood Avenue, to the south end of the Imperial Valley Mall. A water line extension will be needed for future development to the south of the existing water main and it is likely that a 2,650-foot water line loop will be required to the west (to connect to a water main in Farnsworth Lane) (City of El Centro 2019). New gravity flow sewer mains will be needed in Dogwood Avenue (flowing north) and Danenberg Drive (flowing west to the Union Pacific Railroad [UPRR] tracks).

The City is currently planning to construct a regional sewer lift station (Southern Lift Station) along Danenberg Drive, west of the UPRR tracks, that will include a gravity sewer main extension to the east side of the UPRR tracks, where a new sewer main from the newly annexed lands will connect. The properties within the proposed annexation area have natural ground surface elevations that drain to the north and the west. It is planned to create storm water basins along the UPRR right-of-way with a central storm water collection pipeline which will flow northerly to the southeast corner of Danenberg Drive and the UPRR. The new storm water pipeline will flow to an existing drainage water pipeline which exists below the UPRR tracks and empties into a deep private earthen drainage channel that extends from the UPRR tracks to the Imperial Irrigation District's Date Drain No. 3 (at Farnsworth Lane). A gravel service road is planned to be constructed along the east side of the UPRR right-of-way to allow access to the new storm water pipeline and new storm water storage basins.

### 1.1.4 Project Access

The Imperial Valley Mall is located opposite the project site, on the east side of Dogwood Avenue. Currently, there are two signalized access intersections, the Dogwood Avenue/North Mall Driveway (Chili's) and the Dogwood Avenue/South Mall Driveway (ARCO) along the project frontage providing access to the Imperial Valley Mall. It is assumed that the fourth (west leg) of these existing signalized intersections will provide

access to the retail/commercial portion of the project. A third, new access driveway is assumed to provide access to the residential portion of the project (Linscott, Law & Greenspan, Engineers [LLG] 2019).

## 1.2 Fundamentals of Noise

Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

In technical terms, sound levels are described as either a “sound power level” or a “sound pressure level,” which while commonly confused are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power, expressed as  $L_{pw}$ , is the energy converted into sound by the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an ear drum or microphone, the sound pressure level. Sound measurement instruments only measure sound pressure, and limits used in standards are generally sound pressure levels.

Noise is a sound that is loud or an unpleasant sound that causes disturbance. The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the “A-weighted” noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A). Human perception of noise has no simple correlation with acoustical energy. The California Department of Transportation’s (Caltrans) studies indicate that changes in noise levels are generally perceived by the average human ear as follows: 3 dB(A) is barely perceptible, 5 dB(A) is readily perceptible, and 10 dB(A) is perceived as a doubling or halving of noise (Caltrans 2013).

### 1.2.1 Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this study are the equivalent noise level ( $L_{eq}$ ) and the community noise equivalent level (CNEL). The  $L_{eq}$  is the equivalent steady-state noise level in a stated period of time that is calculated by averaging the acoustic energy over a time period; when no period is specified, a 1-hour period is assumed. The CNEL is a 24-hour equivalent sound level. The CNEL calculation applies an additional 5 A-weighted decibels dB(A) penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and a 10 dB(A) penalty is added to noise occurring during the

night, between 10:00 p.m. and 7:00 a.m. These increases for certain times are intended to account for the added sensitivity of humans to noise during the evening and night.

## **1.2.2 Propagation**

Sound from a small, localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

Traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading from the source, which equates to 6 dB(A) per doubling distance. A soft site (such as soft dirt, grass, or scattered bushes and trees) provides an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would drop off at 7.5 dB(A) per doubling of distance.

## **2.0 Applicable Standards**

The project includes annexation of the project site from the County to the City. Thus, in addition to applicable state standards, City standards and policies would be applicable to the project site. The project site is located adjacent to parcels within the County, so a discussion of the County Noise Abatement and Control Ordinance is also provided.

### **2.1 State of California Standards**

#### **2.1.1 Noise Insulation Standards**

Interior noise levels for habitable rooms are regulated by Title 24 of the California Code of Regulations (CCR; California Code of Regulations 2016), California Noise Insulation Standards. Title 24, Chapter 12, Section 1207 of the California Building Code requires that interior noise levels, attributable to exterior sources, not exceed 45 CNEL in any habitable room within a residential structure. A habitable room in a building is used for living, sleeping, eating, or cooking. Bathrooms, closets, hallways, utility spaces, and similar areas are not considered habitable rooms for this regulation (24 CCR 1207 2016).

## 2.1.2 California Green Building Standards Code – Environmental Comfort

For nonresidential structures, Title 24, Chapter 12, Section 1207.5 refers to 2016 California Green Building Standards, Chapter 5 – Nonresidential Mandatory Measures, Division 5.5 – Environmental Quality, Section 5.507 – Environmental Comfort, Subsection 5.507.4 – Acoustical Control. Pursuant to these standards, all nonresidential building construction shall employ building assemblies and components that achieve a composite sound transmission class rating of at least 50 or shall otherwise demonstrate that exterior noise shall not result in interior noise environment where noise levels exceed 50 dB(A)  $L_{eq}$  in occupied areas during any hour of operation (24 CCR 1207.5 2016).

## 2.2 City of El Centro Standards

### 2.2.1 General Plan Land Use Compatibility Standards

The City General Plan Noise Element policies and plans are designed to protect the existing and planned land uses identified in the Land Use Element from excessive noise. Potential noise sources are identified in the Noise Element, and programs are established to avoid or mitigate noise impacts from planned development. At the same time, the Land Use Element contains policies to ensure that environmental conditions, including noise, are considered in all land use decisions. Preventing the intrusion of incompatible land uses in order to create a healthy environment is a central goal of the Land Use Element. The City Land Use Compatibility Standards for assessing impacts of the existing noise environment on proposed uses are shown in Table 1. The City Land Use Compatibility Standards for assessing noise impacts from proposed development to existing uses are shown in Table 2. Future development of the site is anticipated to include residential and commercial uses. As stated in the City's Noise Element, "if the noise level of a project falls within Zone A or Zone B, the project is considered compatible with the noise environment. Zone A implies that no mitigation will be needed. Zone B implies that minor mitigation may be required to meet the City's and Title 24 noise standards."

Table 1 City of El Centro Compatibility Noise Standards		
Zones	One-Hour Average Sound Level (dB)	
	Outdoor	Indoor*
Rural and Single-Family Residential Zones	60	45
Multi-family Residential Zones	65	45
Schools, libraries, churches, hospitals, nursing homes, and parks and recreation areas	70	45
SOURCE: City of El Centro General Plan Noise Element Table N-2.		
*In the event that outdoor acceptable noise exposure levels cannot be mitigated by various attenuation measures, indoor noise levels shall not exceed 45 dB(A) CNEL.		

Table 2 City of El Centro Noise/Land Use Compatibility Matrix								
Land Use		Community Noise Exposure (L <sub>dn</sub> or CNEL)						
		50	55	60	65	70	75	80
Residential								
Transient Lodging – Motel, Hotel								
Schools, Libraries, Churches, Hospitals, Nursing Homes								
Auditoriums, Concert Halls, Amphitheaters								
Sports Arena, Outdoor Spectator Sports								
Playgrounds, Parks								
Golf Course, Riding Stables, Water Recreation, Cemeteries								
Office Buildings, Business Commercial, and Professional								
Industrial Manufacturing, Utilities, Agriculture								
	Zone A – Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved meet conventional Title 24 construction standards. No special noise insulation requirements.							
	Zone B – Conditionally Acceptable: New Construction or development shall be undertaken only after a detailed noise analysis is made and noise reduction measures are identified and included in the design.							
	Zone C – Normally Unacceptable: New construction or development is discouraged. If new construction is proposed, a detailed analysis is required, noise reduction measures must be identified, and noise insulation features included in the design.							
	Zone D – Clearly Unacceptable: New construction or development clearly should not be undertaken.							
SOURCE: City of El Centro General Plan Noise Element Table N-3.								



## 2.2.2 Municipal Code Noise Abatement and Control Ordinance

The City Code of Ordinances includes controls for excessive and annoying noise from a variety of sources. Maximum hourly average sound levels have been established for each land use designation and these levels vary by time of day.

### 2.2.2.1 On-Site Generated Noise

City Code of Ordinances Section 17.1, also known as the Noise Abatement and Control Ordinance, specifies noise level limits for on-site noise sources. Noise level limits are summarized in Table 3. Noise level limits do not apply to construction equipment.

<b>Table 3</b> <b>City of El Centro Noise Abatement and Control Ordinance</b> <b>Noise Level Limits</b>		
Zone*	Time of Day	One-Hour Average Sound Level [dB(A) $L_{eq}$ ]
Single-family Residential Zones	7:00 a.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
Multiple-family Residential Zones	7:00 a.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial, Civic, and Limited Use Zones	7:00 a.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	55
Manufacturing Zones	7:00 a.m. to 10:00 p.m.	75
	10:00 p.m. to 7:00 a.m.	70
SOURCE: City Code of Ordinances Section 17.1-4. *The zone which exists on the abutting or nearby property at whose boundary the measurement is taken.  The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.  If the measured ambient sound level exceeds the applicable limit shown, the allowable sound level shall be the ambient noise level minus 5 dB, but not less than the sound level limit specified above.		

The project site would be zoned CG (General Commercial) within the northern and central areas and R-3 (High Density Residential) in the southern four parcels. The adjacent City parcels are zoned ML (Light Manufacturing) and CG (General Commercial).

### 2.2.2.2 Construction Noise

Noise Abatement and Control Ordinance Section 17.1-8 addresses noise generated by construction activities. As stated:

Except for emergency work, it shall be unlawful for any person to operate construction equipment at any construction site, except as outlined in subsections (a) and (b) below:

- a) It shall be unlawful for any person to operate construction equipment at any construction site on Sundays, and days appointed by the president, governor, or the city council for a public holiday. Notwithstanding the above, a person may operate construction equipment on the above specified days between the hours of 10:00 a.m. and 5:00 p.m. in compliance with the requirements of subsection (b) of this section at his residence or for the purpose of constructing a residence for himself, provided such operation of construction equipment is not carried on for profit or livelihood. In addition, it shall be unlawful for any person to operate construction equipment at any construction site on Mondays through Saturdays except between the hours of 6:00 a.m. and 7:00 p.m.
- b) No such equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more than eight (8) hours during any twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes.

## 2.3 Imperial County Standards

As discussed, the project site is located adjacent to parcels within the County. The County Noise Abatement and Control Ordinance standards would apply to the County parcels.

### 2.3.1 Municipal Code Noise Abatement and Control Ordinance

#### 2.3.1.1 General Noise Level Limits

Imperial County Code of Ordinances Title 9, Division 7: Noise Abatement and Control, specifies noise level limits. Noise level limits are summarized in Table 4. Noise level limits do not apply to construction equipment.

Table 4 Imperial County Property Line Noise Limits		
Zone*	Time	One-Hour Average Sound Level [dB(A) $L_{eq}$ ]
Residential Zones	7:00 a.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
Multi-Residential Zones	7:00 a.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial Zones	7:00 a.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	55
Light Industrial/Industrial Park Zones	(anytime)	70
General Industrial Zones	(anytime)	75
SOURCE: Imperial County Noise Abatement and Control Ordinance		

The adjacent County parcels are zoned A-1 (Limited Agriculture) and A-2 (General Agriculture).

### **2.3.1.2 Construction Noise Standards**

Imperial County General Plan Noise Element Section IV.C.3 addresses noise generated by construction activities. It states:

- a) Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB  $L_{eq}$ , when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB  $L_{eq}$  when averaged over a one (1) hour period.
- b) Construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9 a.m. and 5 p.m. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

## **3.0 Existing Conditions**

### **3.1 Land Use Environment**

The project site is currently under the jurisdiction of the County. The project site and surrounding Imperial County parcels to the west and southeast are designated as Urban Area in the General Plan Land Use Element, and the parcels to the south are designated as Heber Specific Plan Area. The northern portion of the project site is zoned M-2 (Medium Industrial) and the southern portion is zoned A-1 (Limited Agriculture). The surrounding County parcels are zoned A-1 (Limited Agriculture) and A-2 (General Agriculture).

The parcels northwest, north, and northeast of the project site are under the jurisdiction of the City. The parcels to the northwest and north are designated as General Industrial in the City's General Plan and are zoned ML (Light Manufacturing). The parcels to the northeast and east, including the adjacent Imperial Valley Mall, are designated as General Commercial in the City's General Plan and are zoned CG (General Commercial).

There is a fertilizer storage and distribution facility to the north (across Danenberg Drive) and a hay storage and compress facility (Wilbur-Ellis) to the west (on the south side of Danenberg Drive). The hay storage and compress facility (22.95 acres) was annexed to the City in 2015 (Annexation EC 1-13). Other light to medium industrial developments within

the project area include Quality Hay Scales (1960s), Rolfe truck parking yard (early 1980s), KC Welding and Rentals (1963), AKC Mini-Storage Facility (2002), several fenced equipment storage yards, and two rural residences.

## 3.2 Ambient Noise Measurements

Three short-term noise measurements were taken on October 11, 2019, using a Larson-Davis Model LxT Type 1 Integrating Sound Level Meter, serial number 3827. The meter was calibrated before and after measurements. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Time History Period:	5 seconds
Height	5 feet above ground

Noise measurements were taken to obtain existing ambient noise levels. Noise measurements are described below and shown in Table 5. The locations of the measurements are shown on Figure 4, and the noise measurement data are contained in Attachment 1.

Measurement 1 was located at the southern project boundary, approximately 50 feet west of Dogwood Road. The main source of noise at the measurement location was vehicle traffic on Dogwood Road. Vehicle traffic on McCabe Road approximately 350 feet to the south was also audible. Noise levels were measured for 15 minutes, and vehicle traffic on Dogwood Road was counted. The average measured noise level was 62.1 dB(A)  $L_{eq}$ .

Measurement 2 was located east of the project site, approximately 50 feet east of Dogwood Road. The main source of noise at the measurement location was vehicle traffic on Dogwood Road. Secondary sources of noise included vehicle activities at the nearby gas station. Noise levels were measured for 15 minutes, and vehicle traffic on Dogwood Road was counted. The average measured noise level was 65.5 dB(A)  $L_{eq}$ .

Measurement 3 was located at the north project boundary approximately 50 feet south of Danenberg Drive. The main source of noise at the measurement location was vehicle traffic on Danenberg Drive. Secondary sources of noise included traffic on Dogwood Road. Noise levels were measured for 15 minutes, and vehicle traffic on Danenberg Drive was counted. The average measured noise level was 59.6 dB(A)  $L_{eq}$ .

Noise measurements are summarized in Table 5, and vehicle traffic counts are summarized in Table 6.



FIGURE 4  
Noise Measurement Locations



**Table 5**  
**Noise Measurements**

Measurement	Location	Time	Main Noise Sources	L <sub>eq</sub>
1	Southern project boundary, 50 feet west of Dogwood Road	1:24 p.m. – 1:39 p.m.	Vehicle traffic on Dogwood Road	62.1
2	East of project site, 50 feet east of Dogwood Road	1:49 p.m. – 2:04 p.m.	Vehicle traffic on Dogwood Road	65.5
3	Northern project boundary, 50 feet south of Danenberg Drive	2:17 p.m. – 2:32 p.m.	Vehicle traffic on Danenberg Drive	59.6
NOTE: Noise measurement data is contained in Attachment 1.				

**Table 6**  
**15-minute Traffic Counts**

Measurement	Roadway	Direction	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
1	Dogwood Road	Northbound	83	3	2	1	1
		Southbound	101	0	0	1	0
2	Dogwood Road	Northbound	99	1	1	0	1
		Southbound	107	5	2	1	1
3	Danenberg Drive	Eastbound	67	1	1	0	0
		Westbound	47	0	0	1	0

## 4.0 Analysis Methodology

Noise level predictions and contour mapping were developed using noise modeling software, SoundPlan Essential (SoundPLAN), version 4.1 (Navcon Engineering 2017). SoundPLAN calculates noise propagation based on algorithms and reference levels published by various government agencies, Federal Highway Administration (FHWA), and the International Standards Organization. For traffic the model uses the FHWA traffic noise model algorithms to predict noise levels. For stationary sources SoundPLAN models propagation based on ISO Standard 9613-2, “Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation.” The ISO Standard 9613-2 assumes that all receptors would be downwind of stationary sources. This is a worst-case assumption for total noise impacts, since, in reality, only some receptors will be downwind at any one time. The model uses various input parameters, such as distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. Receivers, sources, and barriers were input into the model using three-dimensional coordinates. The model outputs include noise level contours and noise levels at specific receivers. In all cases, receivers were modeled at 5 feet above ground elevation, which represents the average height of the human ear.

## 4.1 Construction Noise

Project construction noise would be generated by diesel engine-driven construction equipment used for site preparation and grading, building construction, loading, unloading, and placing materials and paving. Diesel engine-driven trucks also would bring materials to the site and remove the soils from excavation.

Table 7 summarizes typical construction equipment noise levels.

Table 7 Typical Construction Equipment Noise Levels		
Equipment	Noise Level at 50 Feet [dB(A) $L_{eq}$ ]	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 kilovolt amps or less)	70	50%
Generator (more than 25 kilovolt amps)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
In situ Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%
SOURCE: Federal Highway Administration 2006, Federal Transit Authority 2006.		

The project site and the area surrounding all off-site roadway extensions are relatively flat. This analysis conservatively assumes no attenuation from barriers and topography. Ground conditions typically change during construction due to fugitive dust control practices such

as soil stabilization through site watering and best management practices such as subgrade compaction. This analysis conservatively models ground conditions as acoustically hard. Thus, construction noise would be characterized by hard site attenuation rate of 6 dB(A) per doubling of distance.

No specific development is proposed at this time; thus, construction phasing and equipment parameters are not available. However, typical construction activities that would be anticipated to occur include site preparation; grading; loading, unloading, and placing materials; building construction; and paving. Additionally, diesel engine-driven trucks would be anticipated to bring materials to the site and remove construction waste.

Grading activities generally result in the highest noise levels at adjacent properties. In the absence of specifics, it was assumed that the loudest noise levels would occur during grading operations. During grading operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. Although maximum noise levels reach 74 to 95 dB(A) at a distance of 50 feet during most construction activities (see Table 7), hourly equivalent noise levels generated by typical grading activities would be less. As a worst-case analysis, construction noise was modeled with six large pieces of construction equipment operating simultaneously throughout the project site. Common construction equipment associated with grading activities include graders, scrapers, and dozers, all which generate a maximum noise level of 85 dB(A)  $L_{eq}$  at 50 feet with a typical duty cycle of 40 percent. Assuming the simultaneous operation of six pieces of equipment, the average hourly noise level would be approximately 89 dB(A)  $L_{eq}$  at 50 feet from the center of construction activities. This noise level was modeled as an area source across the entire project site.

## 4.2 Vehicle Traffic Noise

The SoundPLAN program uses the FHWA Traffic Noise Model algorithms and reference levels to calculate traffic noise levels at selected receiver locations. The model uses various input parameters, such as projected hourly average traffic rates; vehicle mix, distribution, and speed; roadway lengths and gradients; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. Receivers, roadways, and barriers were input into the model using three-dimensional coordinates. The locations of future buildings were obtained from project drawings.

The main source noise on the project site is vehicle traffic on adjacent roadways including Dogwood Road, Danenberg Drive, and McCabe Road. Future traffic volumes with full buildout of the project site were obtained from the Traffic Impact Analysis prepared for the project (LLG 2019). The future traffic volumes account for cumulative development within the vicinity of the project. The modeled vehicle classification mix was 95 percent automobiles, 2 percent medium trucks, 1 percent heavy trucks, 1 percent motorcycles and 1 percent buses, and was based on field traffic counts. The traffic parameters are summarized in Table 8.



**Table 8**  
**Vehicle Traffic Parameters**

Roadway Segment	Traffic Volume (ADT)				Speed (mph)
	Existing	Existing + Project	Existing + Cumulative	Existing + Cumulative + Project	
South Dogwood Road					
East Aurora Drive to I-8	13,970	15,960	14,150	16,140	40
I-8 to Plaza Drive	20,710	32,460	22,220	33,970	40
Plaza Drive to Danenberg Drive	15,290	27,040	15,650	27,400	40
East Danenberg Drive to North Mall Driveway	11,300	25,040	11,500	25,480	40
North Mall Driveway to South Mall Driveway	11,300	18,520	11,740	18,960	40
South Mall Driveway to Residential Driveway	10,310	24,050	10,750	24,490	40
Residential Driveway to South McCabe Road	10,310	18,270	10,750	18,710	40
Danenberg Drive					
State Route 86/4 <sup>th</sup> Street to Farnsworth Lane	5,110	7,100	5,330	7,320	40
Farnsworth Lane to South Dogwood Road	5,730	7,720	5,950	7,940	40
South McCabe Road					
Farnsworth Lane to South Dogwood Road	5,160	7,150	5,330	7,320	40
SOURCE: LLG 2019					

For the analysis of on-site noise compatibility, ground-floor noise contours across the project site were developed, and on-site noise levels were compared to the compatibility standards shown in Table 2.

For the analysis of off-site traffic noise impacts associated with the project, noise levels were modeled at specific off-site receivers located at the uses adjacent to the roadway segments shown in Table 8. Noise levels were modeled for the existing, existing plus project, existing plus cumulative, and existing plus cumulative plus project conditions, and the relative noise increases associated with implementation of the project were analyzed.

The City does not have established criteria for assessing traffic noise increases. Caltrans' Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects (Traffic Noise Protocol) states that traffic noise impacts may occur when the predicted noise level substantially exceeds the existing noise level and define a noise increase as substantial when the predicted traffic noise levels exceed existing noise levels by 12 dB(A) or more (Caltrans 2011). For this analysis, the 12 dB(A) threshold is used to assess significance.

## 4.3 Railroad Noise

The UPRR tracks are located at the western project boundary. These railroad tracks are lightly utilized, with one to two trains passing the project site on a daily basis. The speed of the passing trains is slow, at approximate 20 to 25 miles per hour (mph). SoundPLAN calculates railroad noise levels based on train speed, length, and the number of pass-bys that occur during the daytime, evening, and nighttime hours. Two trains traveling at 25 mph during the nighttime hours were modeled as part of the noise analysis.

## 5.0 Future Acoustical Environment and Impact Analysis

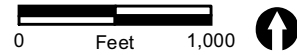
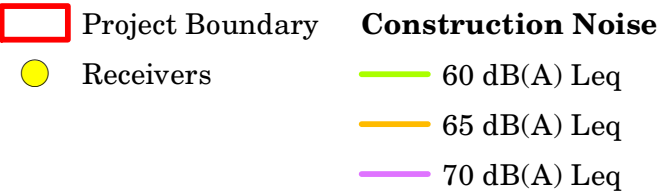
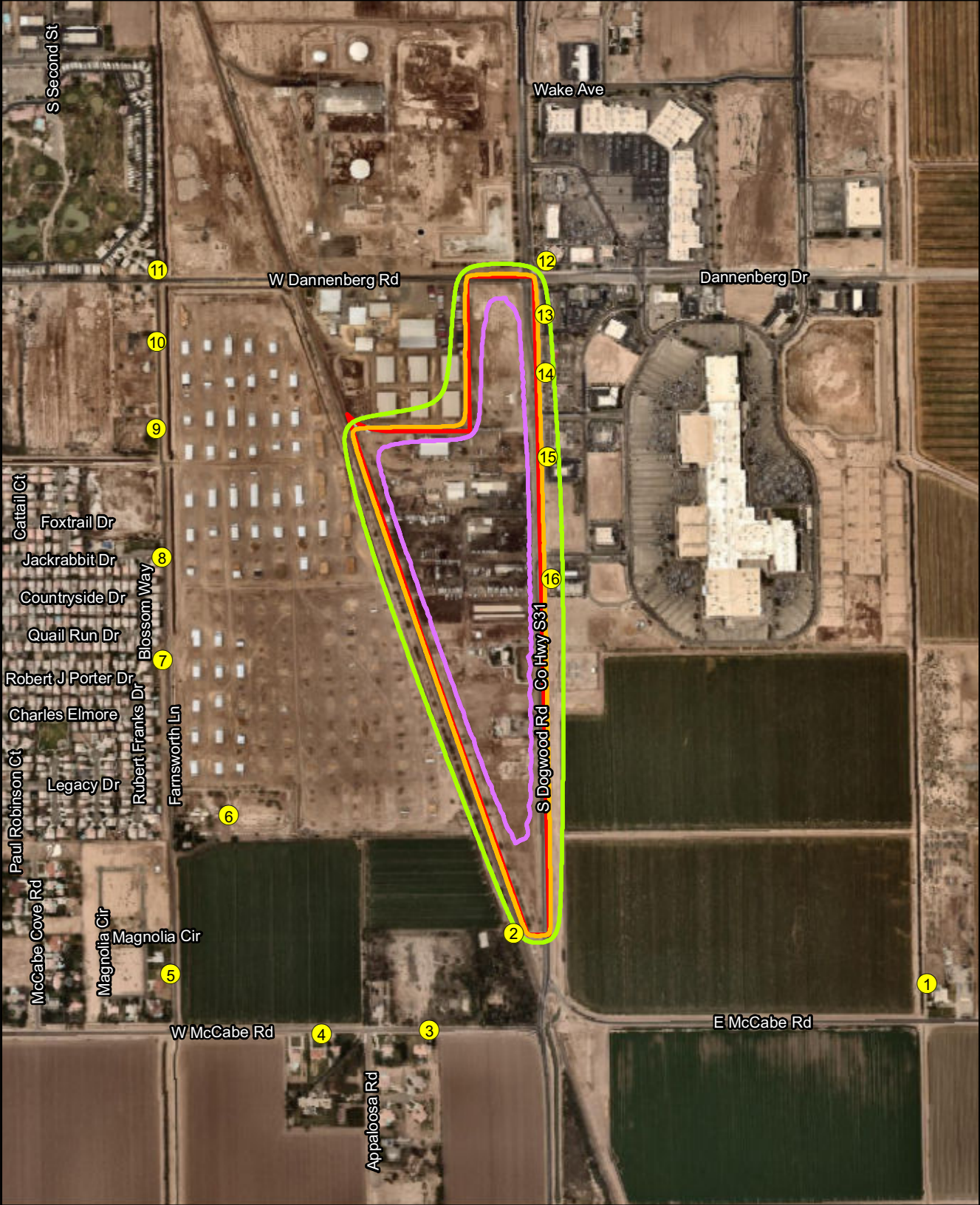
### 5.1 Construction Noise

Noise associated with the grading, building, and paving for the project would potentially result in short-term impacts to surrounding properties. As discussed in Section 4.1, construction noise was modeled with six large pieces of construction equipment operating simultaneously throughout the project site. Assuming the simultaneous operation of six pieces of equipment, the average hourly noise level would be approximately 89 dB(A)  $L_{eq}$  at 50 feet from the center of construction activities. This noise level was modeled as an area source across the entire project site.

The City's Noise Abatement and Control Ordinance (see Section 2.2.2.2) establishes construction time of day restrictions and noise level limits. Construction activities may only occur Monday through Saturday between the hours of 6:00 a.m. and 7:00 p.m., excluding holidays. The County's Noise Abatement and Control Ordinance (see Section 2.3.1.2) limits construction hours to 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday. Additionally, in both the City and the County, construction noise may not exceed 75 dB(A)  $L_{eq}$  at or beyond the property line of a property that is developed and used for residential purposes.

Noise levels were modeled at a series of 16 receivers located at the adjacent uses. The results are summarized in Table 9. Modeled receiver locations and construction noise contours are shown in Figure 5. SoundPLAN data is contained in Attachment 2.

Receiver	Land Use	Construction Noise Level [dB(A) $L_{eq}$ ]
1	Residential	43
2	Residential	58
3	Residential	48
4	Residential	46
5	Residential	45
6	Residential	48
7	Residential	48
8	Residential	49
9	Residential	48
10	Residential	48
11	Residential	47
12	Commercial	56
13	Hotel	61
14	Commercial	62
15	Commercial	62
16	Commercial	62
dB(A) $L_{eq}$ = A-weighted decibels equivalent noise level		



**FIGURE 5**  
Construction Noise Contours

As shown, construction noise levels are not anticipated to exceed 75 dB(A)  $L_{eq}$  at the adjacent uses. Although the existing adjacent residences would be exposed to construction noise levels that may be heard above ambient conditions, the exposure would be temporary. Additionally, construction activities are not anticipated to exceed 75 dB(A)  $L_{eq}$ . As construction activities associated with the project would comply with noise level limits from the City's and the County's Noise Abatement and Control Ordinances, temporary increases in noise levels from construction activities would be less than significant.

## **5.2 Vehicle and Railroad Traffic Noise**

### **5.2.1 On-Site Noise Land Use Compatibility**

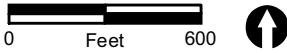
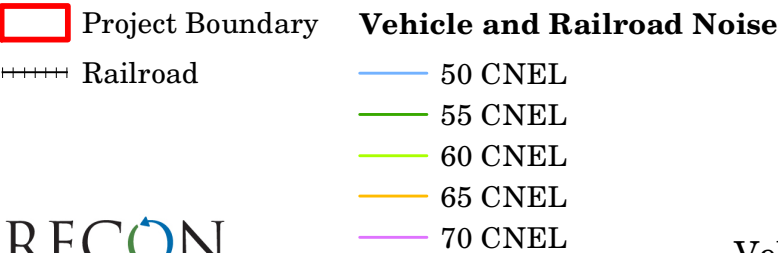
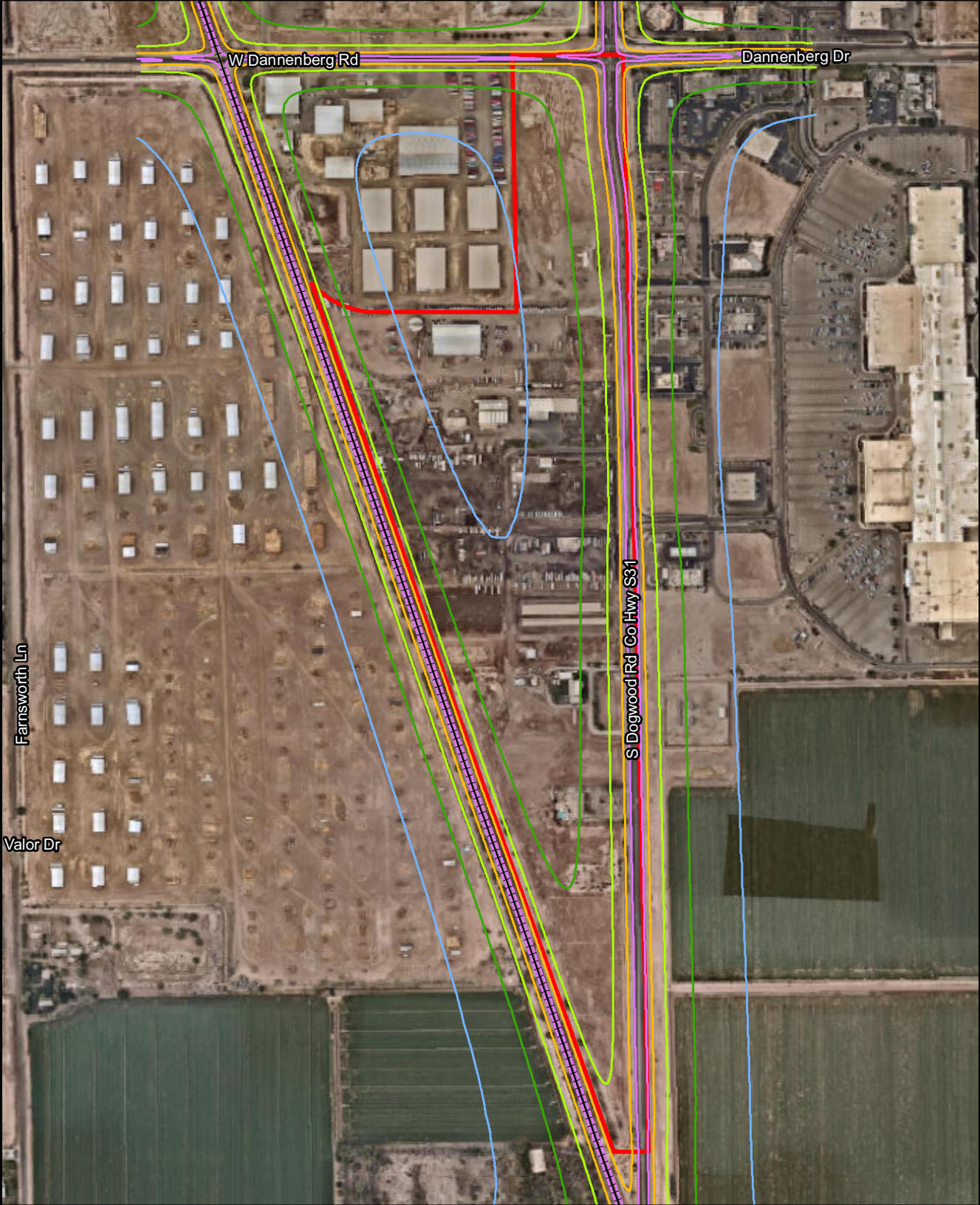
Traffic noise contours were developed using the SoundPLAN program and are based on the parameters discussed in Sections 4.2 and 4.3. Future existing plus cumulative plus project noise level contours are shown on Figure 6. SoundPLAN data are contained in Attachment 3.

#### **5.2.1.1 Residential Uses**

As shown in Table 2, residential land uses are normally acceptable (Zone A) with noise levels up to 60 CNEL and are conditionally acceptable (Zone B) with noise levels ranging from 60 to 70 CNEL. In Zone B areas, projects should be analyzed to determine if interior noise levels would meet the interior noise level standard of 45 CNEL. As shown in Figure 6, exterior noise levels due to vehicle and railroad traffic are not projected to exceed 65 CNEL outside of the roadway or railroad right-of-way. Noise levels would be 65 CNEL or less across the entire project site.

Interior noise levels can be reduced through standard construction techniques. When windows are closed, standard construction techniques provide various exterior-to-interior noise level reductions depending on the type of structure and window. According to the FHWA's Highway Traffic Noise Analysis and Abatement Guidance, buildings with masonry façades and double-glazed windows can be estimated to provide a noise level reduction of 35 dB, while light-frame structures with double-glazed windows may provide noise level reductions of 20 to 25 dB (FHWA 2011). The interior noise level standard for residential uses is 45 CNEL. Assuming an exterior-to-interior noise reduction of 20 dB(A), interior noise levels would be reduced to 45 CNEL or less in areas that are exposed to exterior noise levels of 65 CNEL or less. Thus, interior noise levels would therefore not exceed the City and Title 24 interior noise level standard of 45 CNEL.





**FIGURE 6**  
Vehicle and Railroad Noise Contours

### 5.2.1.2 Commercial Uses

As shown in Table 2, commercial land uses are normally acceptable (Zone A) with noise levels up to 65 CNEL and are conditionally acceptable (Zone B) with noise levels ranging from 60 to 75 CNEL. As shown in Figure 6, noise levels would be 65 CNEL or less across the entire project site. The Title 24 interior noise level standard for non-residential uses is 50 dB(A)  $L_{eq}$ . Assuming the same exterior-to-interior noise reduction of 20 dB(A), interior noise levels would be reduced to 45 CNEL or less, and would comply with Title 24 standards.

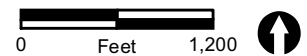
### 5.2.2 Off-Site Traffic Noise Increases

Following the methodology discussed in Section 4.2, existing and future traffic noise levels with and without the project were calculated at specific off-site receivers located at the uses adjacent to the analyzed roadway segments. Off-site receiver locations are shown in Figure 7. Direct and cumulative noise level increases are shown in Table 10. SoundPLAN data is provided in Attachment 3.

A 3 dB(A) increase in noise levels is barely perceptible (Caltrans 2013). Cumulative traffic noise level increases would be 3 dB(A) or greater, and therefore perceptible, at the hotel located at the corner of South Dogwood Road and Danenberg Drive (Receiver 11) and at the retail uses located east of South Dogwood Road and west of the Imperial Valley Mall (Receivers 12 and 15). The noise increases at these receivers would range from 3.2 to 3.4 dB(A). While these increases may be barely perceptible, they would not exceed the City's normally acceptable (Zone A) compatibility level of 60 CNEL for hotels. There are no compatibility standards for retail uses; however, noise levels at the retail uses would be less than the commercial normally acceptable (Zone A) compatibility level of 65 CNEL.

Further, as discussed in Section 4.2, Caltrans defines a traffic noise increase as "substantial" when the predicted noise levels with project implementation exceed existing noise levels by 12 dB(A) or more (Caltrans 2011). No impacts would occur where traffic noise increases would be less than perceptible [less than 3 dB(A)]; less than significant impacts would occur where traffic noise increases would be perceptible, but would be less than substantial [less than 12 dB(A)]; potentially significant impacts may occur where substantial traffic noise increases would occur [12 dB(A) or more]. As shown, the project would not result in a substantial traffic noise level increase adjacent to any of the analyzed roadway segments. Thus, off-site traffic noise impacts would be less than significant.





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**Table 10**  
**Off-Site Noise Levels With and Without Project**  
**(CNEL)**

Receiver	Existing			Existing + Cumulative			Total Increase Over Existing
	Existing without Project	Existing with Project	Increase	Existing + Cumulative without Project	Existing + Cumulative with Project	Increase	
1	59.0	59.6	0.6	59.1	59.6	0.5	0.6
2	50.4	51.0	0.6	50.4	51.1	0.7	0.7
3	56.8	57.4	0.6	56.9	57.4	0.5	0.6
4	48.6	50.5	1.9	48.9	50.6	1.7	2.0
5	50.6	52.6	2.0	50.9	52.7	1.8	2.1
6	55.5	57.8	2.3	55.6	57.9	2.3	2.4
7	44.5	45.8	1.3	44.6	45.9	1.3	1.4
8	56.7	59.1	2.4	56.8	59.2	2.4	2.5
9	56.5	58.7	2.2	56.6	58.7	2.1	2.2
10	58.1	59.6	1.5	58.3	59.7	1.4	1.6
11	<b>56.1</b>	<b>59.2</b>	<b>3.1</b>	<b>56.2</b>	<b>59.3</b>	<b>3.1</b>	<b>3.2</b>
12	<b>58.0</b>	<b>61.4</b>	<b>3.4</b>	<b>58.1</b>	<b>61.4</b>	<b>3.3</b>	<b>3.4</b>
13	58.0	60.2	2.2	58.1	60.3	2.2	2.3
14	47.6	50.0	2.4	47.8	50.1	2.3	2.5
15	<b>57.6</b>	<b>60.9</b>	<b>3.3</b>	<b>57.8</b>	<b>61.0</b>	<b>3.2</b>	<b>3.4</b>
16	64.0	64.2	0.2	64.0	64.2	0.2	0.2
17	56.1	57.5	1.4	56.2	57.6	1.4	1.5
18	59.4	60.9	1.5	59.6	61.0	1.4	1.6
19	59.3	60.7	1.4	59.4	60.8	1.4	1.5
20	55.5	56.9	1.4	55.6	57.0	1.4	1.5
21	59.0	60.4	1.4	59.2	60.5	1.3	1.5
22	53.6	55.0	1.4	53.7	55.1	1.4	1.5
23	57.6	59.1	1.5	57.8	59.2	1.4	1.6
24	59.7	61.1	1.4	59.9	61.2	1.3	1.5
25	58.8	60.2	1.4	58.9	60.3	1.4	1.5
26	59.0	60.4	1.4	59.1	60.5	1.4	1.5
27	61.1	62.6	1.5	61.3	62.7	1.4	1.6
28	62.1	63.5	1.4	62.2	63.6	1.4	1.5
29	62.1	63.5	1.4	62.2	63.6	1.4	1.5
30	59.8	61.2	1.4	60.0	61.3	1.3	1.5
31	58.8	60.2	1.4	59.0	60.4	1.4	1.6
32	55.9	57.1	1.2	56.0	57.2	1.2	1.3
33	57.7	58.9	1.2	57.8	59.0	1.2	1.3
34	52.0	52.6	0.6	52.0	52.6	0.6	0.6
35	48.3	49.3	1.0	48.4	49.3	0.9	1.0



## 5.3 On-Site Generated Noise

No specific development is proposed at this time. The proposed General Commercial zoning for the northern portion of the project site accommodates a wide variety of retail and commercial uses. Noise sources would vary depending on the exact type of use that is developed. Common noise sources of concern for retail and commercial uses include, but are not limited to, heating ventilation, and air conditioning (HVAC) equipment, parking lot activities, and loading docks. The proposed High Density Residential zoning for the southern portion of the project site would allow for multi-family residential uses. Noise sources typical of residential uses include vehicles arriving and leaving, children at play, landscape maintenance activity, and HVAC equipment. All noise sources associated with the project would be similar to noise levels generated at the existing adjacent retail and residential uses.

As discussed in Section 2.2, City policies in place to control noise and reduce noise conflict between various land uses. The City's noise policies, as contained in the General Plan and Noise Abatement and Control Ordinance, include policies and regulations that require noise studies for land uses proposed for potentially incompatible locations, limits on hours of operation for various noise-generating activities, and standards for the compatibility of various land uses with the existing and future noise environment. In addition, enforcement of the federal, state, and local noise regulations reduces noise conflicts. Given that enforcement of the Noise Abatement and Control Ordinance Section 17.1 of the Municipal Code limit noise conflicts, impacts would be less than significant at the program level.

## 6.0 Conclusions

### 6.1 Construction Noise

Construction noise would be generated by diesel engine-driven construction equipment used for site preparation and grading, building construction, loading, unloading, and placing materials and paving. Construction noise would potentially result in short-term impacts to surrounding properties. Nearby receivers include residential, hotel, and retail uses. For this analysis, construction noise was modeled with six large pieces of construction equipment operating simultaneously throughout the project site. Common construction equipment associated with grading activities include graders, scrapers, and dozers, all which generate a maximum noise level of 85 dB(A)  $L_{eq}$  at 50 feet with a typical duty cycle of 40 percent. Assuming the simultaneous operation of six pieces of equipment, the average hourly noise level would be approximately 89 dB(A)  $L_{eq}$  at 50 feet from the center of construction activities. This noise level was modeled as an area source across the entire project site.

The City's Noise Abatement and Control Ordinance establishes construction time of day restrictions and noise level limits. Construction activities may only occur Monday through Saturday between the hours of 6:00 a.m. and 7:00 p.m., excluding holidays. The County's Noise Abatement and Control Ordinance limits construction hours to 7:00 a.m. to 7:00 p.m.

Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday. Additionally, in both the City and the County, construction noise may not exceed 75 dB(A)  $L_{eq}$  at or beyond the property line of a property that is developed and used for residential purposes.

As shown in Table 9, construction noise levels are not anticipated to exceed 75 dB(A)  $L_{eq}$  at the adjacent uses. Although the existing adjacent residences would be exposed to construction noise levels that may be heard above ambient conditions, the exposure would be temporary. Additionally, construction activities are not anticipated to exceed 75 dB(A)  $L_{eq}$ . As construction activities associated with the project would comply with noise level limits from the City's and the County's Noise Abatement and Control Ordinances, temporary increases in noise levels from construction activities would be less than significant.

## **6.2 Vehicle and Railroad Traffic Noise**

### **6.2.1 On-Site Noise Land Use Compatibility**

The main source of noise on the project site is vehicle traffic on adjacent roadways including Dogwood Road, Danenberg Drive, and McCabe Road. The project site is also located adjacent to UPRR tracks. On-site noise contours due to future vehicle and railroad traffic on these roadways and railroad tracks were modeled using SoundPLAN. Exterior noise levels due to vehicle and railroad traffic are not projected to exceed 65 CNEL outside of the roadway or railroad right-of-way. Noise levels would be 65 CNEL or less across the entire project site.

Residential land uses are normally acceptable (Zone A) with noise levels up to 60 CNEL and are conditionally acceptable (Zone B) with noise levels ranging from 60 to 70 CNEL. In Zone B areas, projects should be analyzed to determine if interior noise levels would meet the interior noise level standard of 45 CNEL. Exterior noise levels at the project site would be 65 CNEL or less and would be considered conditionally acceptable with residential land uses. Additionally, standard construction techniques would provide an exterior-to-interior noise level reduction of at least 20 dB(A). Therefore, through standard construction techniques, residential interior noise levels would be reduced to 45 CNEL or less. Thus, exterior and interior noise levels at future residential uses on the project site would be compatible with City and Title 24 standards.

Commercial land uses are normally acceptable (Zone A) with noise levels up to 65 CNEL and are conditionally acceptable (Zone B) with noise levels ranging from 60 to 75 CNEL. As calculated in this analysis, noise levels would be 65 CNEL or less across the entire project site. The Title 24 interior noise level standard for non-residential uses is 50 dB(A)  $L_{eq}$ . Assuming the same exterior-to-interior noise reduction of 20 dB(A), interior noise levels would be reduced to 45 CNEL or less, and would comply with Title 24 standards. Thus, exterior and interior noise levels at future commercial uses on the project site would be compatible with City and Title 24 standards.

Impacts associated with vehicle and railroad traffic noise compatibility would be less than significant.

## **6.2.2 Off-Site Traffic Noise Increases**

Project-generated traffic would increase volumes on local roadways and thereby increase traffic noise levels. Existing and future traffic noise levels with and without the project were calculated at specific off-site receivers located at the uses adjacent to the analyzed roadway segments. As shown in Table 10, a 3 dB(A) or more noise level increase would occur at the hotel located at the corner of South Dogwood Road and Danenberg Drive (Receiver 11) and at the retail uses located east of South Dogwood Road and west of the Imperial Valley Mall (Receivers 12 and 15). The noise increases at these receivers would range from 3.2 to 3.4 dB(A). While these increases may be barely perceptible, they would not exceed the City's normally acceptable (Zone A) compatibility level of 60 CNEL for hotels. Further, these noise increases would not be considered "substantial," which Caltrans defines as a 12 dB(A) increase over existing noise levels. Noise level increases at all other off-site receivers would be less than 3 dB(A) and would therefore not be perceptible. Impacts associated with off-site noise level increases would be less than significant.

## **6.3 On-Site Generated Noise**

The proposed General Commercial zoning for the northern portion of the project site accommodates a wide variety of retail and commercial uses. Noise sources would vary depending on the exact type of use that is developed. Common noise sources of concern for retail and commercial uses include, but are not limited to, HVAC equipment, parking lot activities, and loading docks. The proposed High Density Residential zoning for the southern portion of the project site would allow for multi-family residential uses. Noise sources typical of residential uses include vehicles arriving and leaving, children at play, landscape maintenance activity, and HVAC equipment. All noise sources associated with the project would be similar to noise levels generated at the existing adjacent retail and residential uses. Additionally, City policies are in place to control noise and reduce noise conflicts between various land uses. Given that no specific noise source is proposed and that enforcement of the Municipal Code Section 17.1 limits noise generation, impacts would be less than significant at the program level.

## 7.0 References Cited

### California Code of Regulations

- 2016 2016 *California Building Code, California Code of Regulations, Title 24, Chapter 12 Interior Environment, Section 1207, Sound Transmission*, accessed at <http://www.bsc.ca.gov/codes.aspx>.

### California Department of Transportation (Caltrans)

- 2011 Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects. May. Sacramento, CA. Available: [http://www.dot.ca.gov/hq/env/noise/pub/ca\\_tnap\\_may2011.pdf](http://www.dot.ca.gov/hq/env/noise/pub/ca_tnap_may2011.pdf).

- 2013 Technical Noise Supplement. November.

### El Centro, City of

- 2019 Project Description provided by Angel Hernandez. 2019.

### Federal Highway Administration (FHWA)

- 2006 FHWA Roadway Construction Noise Model User's Guide, Final Report. January.
- 2011 Highway Traffic Noise: Analysis and Abatement Guidance. FHWA-HEP-10-025. December.

### Federal Transit Authority (FTA)

- 2006 Transit Noise and Vibration Impact Assessment. Office of Planning and Environment. FTA-VA-90-1003-06. May.

### Linscott, Law & Greenspan, Engineers (LLG)

- 2019 Transportation Impact Analysis, South Dogwood General Plan Amendment. LLG Ref. 3-19-3147. November 6, 2019.

### Navcon Engineering, Inc.

- 2017 SoundPLAN Essential version 4.1.

## **ATTACHMENTS**

**ATTACHMENT 1**  
Noise Measurement Data

9489 South Dogwood Annexation  
Noise Measurement Data

**Summary**

Filename	LxT_Data.001
Serial Number	3827
Model	SoundExpert™ LxT
Firmware Version	2.301
User	Kevin Isreal
Location	Dogwood Annexation
Job Description	9489.0
Note	
Measurement Description	
Start	2019/10/11 13:23:30
Stop	2019/10/11 13:38:31
Duration	0:15:00.7
Run Time	0:15:00.7
Pause	0:00:00.0

Pre Calibration	2019/10/11 13:21:42
Post Calibration	None
Calibration Deviation	---

**Overall Settings**

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	A Weighting
OBA Max Spectrum	At Lmax
Overload	121.8 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	<b>78.1</b>	75.1	80.1 dB
Under Range Limit	<b>26.1</b>	25.2	32.1 dB
Noise Floor	16.3	16.1	22.0 dB

**Results**

LAeq	62.1 dB
LAE	91.6 dB
EA	161.713 µPa²h
LApeak (max)	2019/10/11 13:37:26 94.8 dB
LASmax	2019/10/11 13:26:37 73.8 dB
LASmin	2019/10/11 13:33:33 38.8 dB
SEA	-99.9 dB

LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

**Community Noise**

	<b>Ldn</b>	<b>LDay 07:00-22:00</b>	<b>LNight 22:00-07:00</b>	<b>Lden</b>
	62.1	62.1	-99.9	62.1
LCeq	69.1 dB			
LAeq	62.1 dB			
LCeq - LAeq	7.1 dB			
LAeq	64.0 dB			
LAeq	62.1 dB			
LAeq - LAeq	1.9 dB			
# Overloads	0			
Overload Duration	0.0 s			
# OBA Overloads	0			
OBA Overload Duration	0.0 s			

**Statistics**

LAS5.00	67.4 dB
LAS10.00	66.2 dB
LAS33.30	62.2 dB
LAS50.00	59.4 dB
LAS66.60	55.3 dB
LAS90.00	46.9 dB

9489 South Dogwood Annexation  
Noise Measurement Data

**Summary**

Filename	LxT_Data.002
Serial Number	3827
Model	SoundExpert™ LxT
Firmware Version	2.301
User	Kevin Isreal
Location	Dogwood Annexation
Job Description	9489.0
Note	
Measurement Description	
Start	2019/10/11 13:48:51
Stop	2019/10/11 14:03:52
Duration	0:15:00.5
Run Time	0:15:00.5
Pause	0:00:00.0

Pre Calibration	2019/10/11 13:48:14
Post Calibration	None
Calibration Deviation	---

**Overall Settings**

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	A Weighting
OBA Max Spectrum	At Lmax
Overload	121.8 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	<b>78.0</b>	75.0	80.0 dB
Under Range Limit	<b>26.0</b>	25.2	32.0 dB
Noise Floor	16.3	16.1	22.0 dB

**Results**

LAeq	65.5 dB
LAE	95.0 dB
EA	353.103 µPa²h
LApeak (max)	2019/10/11 13:57:57 104.0 dB
LASmax	2019/10/11 13:51:28 75.0 dB
LASmin	2019/10/11 13:53:03 44.3 dB
SEA	-99.9 dB

LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

**Community Noise**

	<b>Ldn</b>	<b>LDay 07:00-22:00</b>	<b>LNight 22:00-07:00</b>	<b>Lden</b>
	65.5	65.5	-99.9	65.5
LCeq	72.0 dB			
LAeq	65.5 dB			
LCeq - LAeq	6.6 dB			
LAeq	67.8 dB			
LAeq	65.5 dB			
LAeq - LAeq	2.4 dB			
# Overloads	0			
Overload Duration	0.0 s			
# OBA Overloads	0			
OBA Overload Duration	0.0 s			

**Statistics**

LAS5.00	70.4 dB
LAS10.00	69.4 dB
LAS33.30	65.9 dB
LAS50.00	63.4 dB
LAS66.60	60.2 dB
LAS90.00	51.5 dB



9489 South Dogwood Annexation  
Noise Measurement Data

**Summary**

Filename	LxT_Data.003
Serial Number	3827
Model	SoundExpert™ LxT
Firmware Version	2.301
User	Kevin Isreal
Location	Dogwood Annexation
Job Description	9489.0
Note	
Measurement Description	
Start	2019/10/11 14:16:40
Stop	2019/10/11 14:31:41
Duration	0:15:00.5
Run Time	0:15:00.5
Pause	0:00:00.0

Pre Calibration	2019/10/11 14:15:40
Post Calibration	None
Calibration Deviation	---

**Overall Settings**

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	A Weighting
OBA Max Spectrum	At Lmax
Overload	121.8 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	<b>78.1</b>	75.1	80.1 dB
Under Range Limit	<b>26.0</b>	25.2	32.0 dB
Noise Floor	16.3	16.1	22.0 dB

**Results**

LAeq	59.6 dB	
LAE	89.2 dB	
EA	92.180 µPa²h	
LApeak (max)	2019/10/11 14:22:09	105.2 dB
LASmax	2019/10/11 14:22:09	74.5 dB
LASmin	2019/10/11 14:26:10	48.5 dB
SEA	-99.9 dB	

LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

**Community Noise**

	<b>Ldn</b>	<b>LDay 07:00-22:00</b>	<b>LNight 22:00-07:00</b>	<b>Lden</b>
	59.6	59.6	-99.9	59.6
LCeq	70.9 dB			
LAeq	59.6 dB			
LCeq - LAeq	11.3 dB			
LAeq	64.1 dB			
LAeq	59.6 dB			
LAeq - LAeq	4.5 dB			
# Overloads	0			
Overload Duration	0.0 s			
# OBA Overloads	0			
OBA Overload Duration	0.0 s			

**Statistics**

LAS5.00	64.7 dB
LAS10.00	63.1 dB
LAS33.30	59.3 dB
LAS50.00	56.8 dB
LAS66.60	54.7 dB
LAS90.00	50.7 dB

## **ATTACHMENT 2**

### SoundPLAN – Construction Noise

9489 South Dogwood Annexation  
SoundPLAN - Construction

Source name	Reference	Level	Corrections		
		Leq1 dB(A)	Cwall dB(A)	CI dB(A)	CT dB(A)
Construction	Lw/unit	120	-	-	-

9489 South Dogwood Annexation  
SoundPLAN - Construction

No.	Coordinates		Height	Limit	Level w/o NP	Level w NP	Difference	Conflict
	X	Y		Leq1 dB(A)	Leq1 dB(A)	Leq1 dB(A)	Leq1 dB	Leq1 dB
	in meter		m					
1	638077.21	3624887.81	1.5	-	43.0	0	-43.0	-
2	637187.61	3624990.65	1.5	-	58.3	0	-58.3	-
3	637007.63	3624779.82	1.5	-	47.9	0	-47.9	-
4	636776.24	3624771.25	1.5	-	46.2	0	-46.2	-
5	636450.56	3624896.38	1.5	-	44.8	0	-44.8	-
6	636573.98	3625239.19	1.5	-	48.4	0	-48.4	-
7	636429.99	3625571.72	1.5	-	48.4	0	-48.4	-
8	636426.57	3625792.83	1.5	-	48.8	0	-48.8	-
9	636412.85	3626068.80	1.5	-	48.3	0	-48.3	-
10	636412.85	3626255.63	1.5	-	47.5	0	-47.5	-
11	636412.85	3626409.90	1.5	-	46.5	0	-46.5	-
12	637247.60	3626435.61	1.5	-	56.2	0	-56.2	-
13	637245.89	3626320.77	1.5	-	61.3	0	-61.3	-
14	637247.60	3626193.93	1.5	-	62.1	0	-62.1	-
15	637254.46	3626015.66	1.5	-	62.3	0	-62.3	-
16	637263.03	3625753.41	1.5	-	62.3	0	-62.3	-

## **ATTACHMENT 3**

### SoundPLAN – Vehicle and Railroad Traffic Noise

9489 South Dogwood Annexation  
SoundPLAN Data - Vehicle and Railroad Traffic

Track Station km	Coordinates of track axis			Track type [dB]	Curve radius [dB]	Multiple reflections [dB]	Corrected Emission level		
	X	Y	Z				day	Evening	night
Rail	Rail track:	Direction:	Section:	1	Km: 0+000				
Train type	Number of trains			Speed	Length per train	Max	Emission level		
	day	Evening	night	km/h	m		day dB(A)	Evening dB(A)	night dB(A)
	0	0	0	2	64	188 yes	-	-	57.6
0+000	637743.024	3623470.177	-	-	-	-	-	-	-
3+963	636413.062	3627202.805	-	-	-	-	-	-	-

9489 South Dogwood Annexation  
SoundPLAN Data - Vehicle and Railroad Traffic

Station km	ADT Veh/24h	Traffic values Vehicles type	Vehicle nar day Veh/h	evening Veh/h	night Veh/h	Speed km/h	Control device	Constr. Speed km/h	Affect. veh. %	Road surface	Gradient Min / Max %
Dogwood		Traffic direction: In entry direction									
0+128	13965	Total	-	931	466	155	-	none	-	-	Average (of DGAC and PCC) 0
0+128	13965	Automobiles	-	884	443	147	64	none	-	-	Average (of DGAC and PCC) 0
0+128	13965	Medium trucks	-	19	9	3	64	none	-	-	Average (of DGAC and PCC) 0
0+128	13965	Heavy trucks	-	9	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	13965	Buses	-	9	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	13965	Motorcycles	-	9	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	13965	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+982	20712	Total	-	1381	690	230	-	none	-	-	Average (of DGAC and PCC) 0
0+982	20712	Automobiles	-	1312	656	219	64	none	-	-	Average (of DGAC and PCC) 0
0+982	20712	Medium trucks	-	28	14	5	64	none	-	-	Average (of DGAC and PCC) 0
0+982	20712	Heavy trucks	-	14	7	2	64	none	-	-	Average (of DGAC and PCC) 0
0+982	20712	Buses	-	14	7	2	64	none	-	-	Average (of DGAC and PCC) 0
0+982	20712	Motorcycles	-	14	7	2	64	none	-	-	Average (of DGAC and PCC) 0
0+982	20712	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+368	15288	Total	-	1019	510	170	-	none	-	-	Average (of DGAC and PCC) 0
1+368	15288	Automobiles	-	968	485	162	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15288	Medium trucks	-	20	10	3	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15288	Heavy trucks	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15288	Buses	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15288	Motorcycles	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15288	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+745	11301	Total	-	753	377	126	-	none	-	-	Average (of DGAC and PCC) 0
1+745	11301	Automobiles	-	715	358	120	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11301	Medium trucks	-	15	8	3	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11301	Heavy trucks	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11301	Buses	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11301	Motorcycles	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11301	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+045	11301	Total	-	753	377	126	-	none	-	-	Average (of DGAC and PCC) 0
2+045	11301	Automobiles	-	715	358	120	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11301	Medium trucks	-	15	8	3	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11301	Heavy trucks	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11301	Buses	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11301	Motorcycles	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11301	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+370	10311	Total	-	687	344	115	-	none	-	-	Average (of DGAC and PCC) 0
2+370	10311	Automobiles	-	653	327	109	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10311	Medium trucks	-	14	7	2	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10311	Heavy trucks	-	7	3	1	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10311	Buses	-	7	3	1	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10311	Motorcycles	-	7	3	1	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10311	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
3+133	10311	Total	-	687	344	115	-	none	-	-	Average (of DGAC and PCC) 0
3+133	10311	Automobiles	-	653	327	109	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10311	Medium trucks	-	14	7	2	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10311	Heavy trucks	-	7	3	1	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10311	Buses	-	7	3	1	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10311	Motorcycles	-	7	3	1	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10311	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
4+241	-	-	-	-	-	-	-	-	-	-	-
Danenberg		Traffic direction: In entry direction									
0+128	5115	Total	-	341	170	57	-	none	-	-	Average (of DGAC and PCC) 0
0+128	5115	Automobiles	-	324	162	54	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5115	Medium trucks	-	7	3	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5115	Heavy trucks	-	3	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5115	Buses	-	3	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5115	Motorcycles	-	3	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5115	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+920	5733	Total	-	382	191	64	-	none	-	-	Average (of DGAC and PCC) 0
0+920	5733	Automobiles	-	363	181	61	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5733	Medium trucks	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5733	Heavy trucks	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5733	Buses	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5733	Motorcycles	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5733	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+158	-	-	-	-	-	-	-	-	-	-	-
McCabe		Traffic direction: In entry direction									
0+128	5157	Total	-	344	172	57	-	none	-	-	Average (of DGAC and PCC) 0
0+128	5157	Automobiles	-	327	163	54	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5157	Medium trucks	-	7	3	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5157	Heavy trucks	-	3	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5157	Buses	-	3	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5157	Motorcycles	-	3	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5157	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+713	-	-	-	-	-	-	-	-	-	-	-

9489 South Dogwood Annexation  
SoundPLAN Data - Vehicle and Railroad Traffic

Station km	ADT Veh/24h	Traffic values Vehicles type	Vehicle nar day Veh/h	evening Veh/h	night Veh/h	Speed km/h	Control device	Constr. Speed km/h	Affect. veh. %	Road surface	Gradient Min / Max %
Dogwood		Traffic direction: In entry direction									
0+128	15957	Total	-	1064	532	177	-	none	-	-	Average (of DGAC and PCC) 0
0+128	15957	Automobiles	-	1011	505	168	64	none	-	-	Average (of DGAC and PCC) 0
0+128	15957	Medium trucks	-	21	11	4	64	none	-	-	Average (of DGAC and PCC) 0
0+128	15957	Heavy trucks	-	11	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	15957	Buses	-	11	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	15957	Motorcycles	-	11	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	15957	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+982	32463	Total	-	2164	1082	361	-	none	-	-	Average (of DGAC and PCC) 0
0+982	32463	Automobiles	-	2056	1028	343	64	none	-	-	Average (of DGAC and PCC) 0
0+982	32463	Medium trucks	-	43	22	7	64	none	-	-	Average (of DGAC and PCC) 0
0+982	32463	Heavy trucks	-	22	11	4	64	none	-	-	Average (of DGAC and PCC) 0
0+982	32463	Buses	-	22	11	4	64	none	-	-	Average (of DGAC and PCC) 0
0+982	32463	Motorcycles	-	22	11	4	64	none	-	-	Average (of DGAC and PCC) 0
0+982	32463	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+368	27039	Total	-	1803	901	300	-	none	-	-	Average (of DGAC and PCC) 0
1+368	27039	Automobiles	-	1713	856	285	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27039	Medium trucks	-	36	18	6	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27039	Heavy trucks	-	18	9	3	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27039	Buses	-	18	9	3	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27039	Motorcycles	-	18	9	3	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27039	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+745	25035	Total	-	1669	835	278	-	none	-	-	Average (of DGAC and PCC) 0
1+745	25035	Automobiles	-	1586	793	264	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25035	Medium trucks	-	33	17	6	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25035	Heavy trucks	-	17	8	3	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25035	Buses	-	17	8	3	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25035	Motorcycles	-	17	8	3	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25035	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+045	18525	Total	-	1235	617	206	-	none	-	-	Average (of DGAC and PCC) 0
2+045	18525	Automobiles	-	1173	586	196	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18525	Medium trucks	-	25	12	4	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18525	Heavy trucks	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18525	Buses	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18525	Motorcycles	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18525	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+370	24045	Total	-	1603	802	267	-	none	-	-	Average (of DGAC and PCC) 0
2+370	24045	Automobiles	-	1523	762	254	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24045	Medium trucks	-	32	16	5	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24045	Heavy trucks	-	16	8	3	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24045	Buses	-	16	8	3	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24045	Motorcycles	-	16	8	3	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24045	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
3+133	18270	Total	-	1218	609	203	-	none	-	-	Average (of DGAC and PCC) 0
3+133	18270	Automobiles	-	1157	579	193	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18270	Medium trucks	-	24	12	4	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18270	Heavy trucks	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18270	Buses	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18270	Motorcycles	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18270	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
4+241	-	-	-	-	-	-	-	-	-	-	-
Danenberg		Traffic direction: In entry direction									
0+128	7098	Total	-	473	237	79	-	none	-	-	Average (of DGAC and PCC) 0
0+128	7098	Automobiles	-	449	225	75	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7098	Medium trucks	-	9	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7098	Heavy trucks	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7098	Buses	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7098	Motorcycles	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7098	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+920	7725	Total	-	515	257	86	-	none	-	-	Average (of DGAC and PCC) 0
0+920	7725	Automobiles	-	489	244	82	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7725	Medium trucks	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7725	Heavy trucks	-	5	3	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7725	Buses	-	5	3	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7725	Motorcycles	-	5	3	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7725	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+158	-	-	-	-	-	-	-	-	-	-	-
McCabe		Traffic direction: In entry direction									
0+128	7149	Total	-	477	238	79	-	none	-	-	Average (of DGAC and PCC) 0
0+128	7149	Automobiles	-	453	226	75	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7149	Medium trucks	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7149	Heavy trucks	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7149	Buses	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7149	Motorcycles	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7149	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+713	-	-	-	-	-	-	-	-	-	-	-



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SoundPLAN Data - Vehicle and Railroad Traffic

Station km	ADT Veh/24h	Traffic values Vehicles type	Vehicle nar day Veh/h	evening Veh/h	night Veh/h	Speed km/h	Control device	Constr. Speed km/h	Affect. veh. %	Road surface	Gradient Min / Max %
Dogwood		Traffic direction: In entry direction									
0+128	14145	Total	-	943	472	157	-	none	-	-	Average (of DGAC and PCC) 0
0+128	14145	Automobiles	-	896	448	149	64	none	-	-	Average (of DGAC and PCC) 0
0+128	14145	Medium trucks	-	19	9	3	64	none	-	-	Average (of DGAC and PCC) 0
0+128	14145	Heavy trucks	-	9	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	14145	Buses	-	9	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	14145	Motorcycles	-	9	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	14145	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+982	22218	Total	-	1481	741	247	-	none	-	-	Average (of DGAC and PCC) 0
0+982	22218	Automobiles	-	1407	704	235	64	none	-	-	Average (of DGAC and PCC) 0
0+982	22218	Medium trucks	-	30	15	5	64	none	-	-	Average (of DGAC and PCC) 0
0+982	22218	Heavy trucks	-	15	7	2	64	none	-	-	Average (of DGAC and PCC) 0
0+982	22218	Buses	-	15	7	2	64	none	-	-	Average (of DGAC and PCC) 0
0+982	22218	Motorcycles	-	15	7	2	64	none	-	-	Average (of DGAC and PCC) 0
0+982	22218	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+368	15648	Total	-	1043	522	174	-	none	-	-	Average (of DGAC and PCC) 0
1+368	15648	Automobiles	-	991	496	165	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15648	Medium trucks	-	21	10	3	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15648	Heavy trucks	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15648	Buses	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15648	Motorcycles	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
1+368	15648	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+745	11505	Total	-	767	383	128	-	none	-	-	Average (of DGAC and PCC) 0
1+745	11505	Automobiles	-	729	364	122	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11505	Medium trucks	-	15	8	3	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11505	Heavy trucks	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11505	Buses	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11505	Motorcycles	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
1+745	11505	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+045	11739	Total	-	783	391	130	-	none	-	-	Average (of DGAC and PCC) 0
2+045	11739	Automobiles	-	744	371	124	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11739	Medium trucks	-	16	8	3	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11739	Heavy trucks	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11739	Buses	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11739	Motorcycles	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+045	11739	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+370	10749	Total	-	717	358	119	-	none	-	-	Average (of DGAC and PCC) 0
2+370	10749	Automobiles	-	681	340	113	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10749	Medium trucks	-	14	7	2	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10749	Heavy trucks	-	7	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10749	Buses	-	7	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10749	Motorcycles	-	7	4	1	64	none	-	-	Average (of DGAC and PCC) 0
2+370	10749	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
3+133	10749	Total	-	717	358	119	-	none	-	-	Average (of DGAC and PCC) 0
3+133	10749	Automobiles	-	681	340	113	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10749	Medium trucks	-	14	7	2	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10749	Heavy trucks	-	7	4	1	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10749	Buses	-	7	4	1	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10749	Motorcycles	-	7	4	1	64	none	-	-	Average (of DGAC and PCC) 0
3+133	10749	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
4+241	-	-	-	-	-	-	-	-	-	-	-
Danenberg		Traffic direction: In entry direction									
0+128	5325	Total	-	355	178	59	-	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Automobiles	-	337	169	56	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Medium trucks	-	7	4	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Heavy trucks	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Buses	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Motorcycles	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+920	5952	Total	-	397	198	66	-	none	-	-	Average (of DGAC and PCC) 0
0+920	5952	Automobiles	-	377	188	63	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5952	Medium trucks	-	8	4	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5952	Heavy trucks	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5952	Buses	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5952	Motorcycles	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	5952	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+158	-	-	-	-	-	-	-	-	-	-	-
McCabe		Traffic direction: In entry direction									
0+128	5325	Total	-	355	178	59	-	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Automobiles	-	337	169	56	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Medium trucks	-	7	4	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Heavy trucks	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Buses	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Motorcycles	-	4	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	5325	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+713	-	-	-	-	-	-	-	-	-	-	-

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SoundPLAN Data - Vehicle and Railroad Traffic

Station km	ADT Veh/24h	Traffic values Vehicles type	Vehicle nar day Veh/h	evening Veh/h	night Veh/h	Speed km/h	Control device	Constr. Speed km/h	Affect. veh. %	Road surface	Gradient Min / Max %
Dogwood		Traffic direction: In entry direction									
0+128	16137	Total	-	1076	538	179	-	none	-	-	Average (of DGAC and PCC) 0
0+128	16137	Automobiles	-	1022	511	170	64	none	-	-	Average (of DGAC and PCC) 0
0+128	16137	Medium trucks	-	22	11	4	64	none	-	-	Average (of DGAC and PCC) 0
0+128	16137	Heavy trucks	-	11	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	16137	Buses	-	11	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	16137	Motorcycles	-	11	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	16137	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+982	33969	Total	-	2265	1132	377	-	none	-	-	Average (of DGAC and PCC) 0
0+982	33969	Automobiles	-	2152	1075	358	64	none	-	-	Average (of DGAC and PCC) 0
0+982	33969	Medium trucks	-	45	23	8	64	none	-	-	Average (of DGAC and PCC) 0
0+982	33969	Heavy trucks	-	23	11	4	64	none	-	-	Average (of DGAC and PCC) 0
0+982	33969	Buses	-	23	11	4	64	none	-	-	Average (of DGAC and PCC) 0
0+982	33969	Motorcycles	-	23	11	4	64	none	-	-	Average (of DGAC and PCC) 0
0+982	33969	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+368	27399	Total	-	1827	913	304	-	none	-	-	Average (of DGAC and PCC) 0
1+368	27399	Automobiles	-	1736	867	289	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27399	Medium trucks	-	37	18	6	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27399	Heavy trucks	-	18	9	3	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27399	Buses	-	18	9	3	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27399	Motorcycles	-	18	9	3	64	none	-	-	Average (of DGAC and PCC) 0
1+368	27399	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+745	25482	Total	-	1699	849	283	-	none	-	-	Average (of DGAC and PCC) 0
1+745	25482	Automobiles	-	1614	807	269	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25482	Medium trucks	-	34	17	6	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25482	Heavy trucks	-	17	8	3	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25482	Buses	-	17	8	3	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25482	Motorcycles	-	17	8	3	64	none	-	-	Average (of DGAC and PCC) 0
1+745	25482	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+045	18963	Total	-	1264	632	211	-	none	-	-	Average (of DGAC and PCC) 0
2+045	18963	Automobiles	-	1201	600	200	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18963	Medium trucks	-	25	13	4	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18963	Heavy trucks	-	13	6	2	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18963	Buses	-	13	6	2	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18963	Motorcycles	-	13	6	2	64	none	-	-	Average (of DGAC and PCC) 0
2+045	18963	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+370	24492	Total	-	1633	816	272	-	none	-	-	Average (of DGAC and PCC) 0
2+370	24492	Automobiles	-	1551	775	258	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24492	Medium trucks	-	33	16	5	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24492	Heavy trucks	-	16	8	3	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24492	Buses	-	16	8	3	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24492	Motorcycles	-	16	8	3	64	none	-	-	Average (of DGAC and PCC) 0
2+370	24492	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
3+133	18708	Total	-	1247	624	208	-	none	-	-	Average (of DGAC and PCC) 0
3+133	18708	Automobiles	-	1185	593	198	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18708	Medium trucks	-	25	12	4	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18708	Heavy trucks	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18708	Buses	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18708	Motorcycles	-	12	6	2	64	none	-	-	Average (of DGAC and PCC) 0
3+133	18708	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
4+241	-	-	-	-	-	-	-	-	-	-	-
Danenberg		Traffic direction: In entry direction									
0+128	7317	Total	-	488	244	81	-	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Automobiles	-	464	232	77	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Medium trucks	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Heavy trucks	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Buses	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Motorcycles	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
0+920	7935	Total	-	529	265	88	-	none	-	-	Average (of DGAC and PCC) 0
0+920	7935	Automobiles	-	503	252	84	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7935	Medium trucks	-	11	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7935	Heavy trucks	-	5	3	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7935	Buses	-	5	3	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7935	Motorcycles	-	5	3	1	64	none	-	-	Average (of DGAC and PCC) 0
0+920	7935	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
2+158	-	-	-	-	-	-	-	-	-	-	-
McCabe		Traffic direction: In entry direction									
0+128	7317	Total	-	488	244	81	-	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Automobiles	-	464	232	77	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Medium trucks	-	10	5	2	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Heavy trucks	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Buses	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Motorcycles	-	5	2	1	64	none	-	-	Average (of DGAC and PCC) 0
0+128	7317	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC) 0
1+713	-	-	-	-	-	-	-	-	-	-	-

No.	Coordinates		Height m	Day	EXISTING			EXISTING + PROJECT				EXISTING + CUMULATIVE				EXISTING + CUMULATIVE + PROJECT				
	X	Y			Evening	Night	Lden	Level w/o NP			Level w/o NP			Level w/o NP			Level w/o NP			
											Day	Evening	Night	Lden	Day	Evening	Night	Lden	Day	Evening
	in meter																			
1	637199.32	3627585.40	1.5	57.8	54.8	50.0	59.0	58.4	55.4	50.6	59.6	57.8	54.8	50.1	59.1	58.4	55.4	50.6	59.6	
2	637261.14	3627530.99	1.5	49.1	46.1	41.4	50.4	49.8	46.7	42.0	51.0	49.2	46.2	41.5	50.4	49.8	46.8	42.1	51.1	
3	637212.92	3627454.95	1.5	55.6	52.6	47.8	56.8	56.2	53.2	48.4	57.4	55.6	52.6	47.9	56.9	56.2	53.2	48.5	57.4	
4	637319.26	3627016.31	1.5	47.3	44.3	39.8	48.6	49.2	46.2	41.6	50.5	47.6	44.6	40.0	48.9	49.3	46.3	41.7	50.6	
5	637293.29	3626857.42	1.5	49.3	46.3	41.7	50.6	51.3	48.3	43.6	52.6	49.5	46.5	42.0	50.9	51.5	48.4	43.8	52.7	
6	637242.59	3626735.00	1.5	54.2	51.2	46.5	55.5	56.6	53.6	48.8	57.8	54.4	51.4	46.7	55.6	56.7	53.7	48.9	57.9	
7	636903.80	3626770.86	1.5	40.9	37.9	37.1	44.5	43.0	40.0	38.0	45.8	41.1	38.1	37.2	44.6	43.1	40.1	38.1	45.9	
8	637240.74	3626519.55	1.5	55.4	52.4	47.7	56.7	57.9	54.8	50.1	59.1	55.5	52.5	47.8	56.8	57.9	54.9	50.2	59.2	
9	637253.72	3626439.79	1.5	55.2	52.2	47.5	56.5	57.4	54.4	49.7	58.7	55.3	52.3	47.6	56.6	57.5	54.5	49.8	58.7	
10	637327.91	3626383.53	1.5	56.9	53.9	49.2	58.1	58.3	55.3	50.6	59.6	57.0	54.0	49.3	58.3	58.4	55.4	50.7	59.7	
11	637245.89	3626320.77	1.5	54.8	51.8	47.2	56.1	57.9	54.9	50.2	59.2	54.9	51.9	47.2	56.2	58.0	55.0	50.3	59.3	
12	637247.60	3626193.93	1.5	56.7	53.7	49.1	58.0	60.1	57.1	52.4	61.4	56.8	53.8	49.1	58.1	60.2	57.2	52.5	61.4	
13	637254.46	3626015.66	1.5	56.7	53.7	49.1	58.0	58.9	55.9	51.2	60.2	56.9	53.9	49.2	58.1	59.0	56.0	51.3	60.3	
14	637350.79	3625845.66	1.5	45.8	42.8	39.2	47.6	48.4	45.4	41.3	50.0	46.0	43.0	39.3	47.8	48.5	45.5	41.4	50.1	
15	637263.03	3625753.41	1.5	56.3	53.3	48.7	57.6	59.7	56.7	52.0	60.9	56.5	53.5	48.9	57.8	59.8	56.8	52.1	61.0	
16	637187.61	3624990.65	1.5	49.7	46.7	58.1	64.0	52.6	49.6	58.2	64.2	49.9	46.9	58.2	64.0	52.7	49.7	58.3	64.2	
17	636896.99	3624801.45	1.5	54.8	51.8	47.2	56.1	56.2	53.2	48.6	57.5	54.9	51.9	47.3	56.2	56.3	53.3	48.7	57.6	
18	636953.25	3624768.06	1.5	58.2	55.2	50.5	59.4	59.6	56.6	51.9	60.9	58.3	55.3	50.6	59.6	59.7	56.7	52.0	61.0	
19	636788.80	3624766.21	1.5	58.0	55.0	50.3	59.3	59.4	56.4	51.7	60.7	58.2	55.2	50.4	59.4	59.5	56.5	51.8	60.8	
20	636432.08	3624798.35	1.5	54.2	51.2	46.5	55.5	55.7	52.7	47.9	56.9	54.4	51.4	46.7	55.6	55.8	52.8	48.0	57.0	
21	635653.45	3626393.15	1.5	57.8	54.7	50.0	59.0	59.2	56.2	51.4	60.4	57.9	54.9	50.2	59.2	59.3	56.3	51.5	60.5	
22	635759.23	3626410.78	1.5	52.3	49.3	44.6	53.6	53.8	50.8	46.0	55.0	52.5	49.5	44.8	53.7	53.9	50.9	46.1	55.1	
23	635718.40	3626364.38	1.5	56.4	53.4	48.7	57.6	57.8	54.8	50.1	59.1	56.6	53.6	48.8	57.8	58.0	55.0	50.2	59.2	
24	635832.53	3626369.02	1.5	58.5	55.4	50.7	59.7	59.9	56.9	52.1	61.1	58.6	55.6	50.9	59.9	60.0	57.0	52.2	61.2	
25	635970.79	3626368.09	1.5	57.5	54.5	49.8	58.8	58.9	55.9	51.2	60.2	57.7	54.7	49.9	58.9	59.1	56.1	51.3	60.3	
26	636099.76	3626369.95	1.5	57.7	54.7	50.0	59.0	59.2	56.2	51.4	60.4	57.9	54.9	50.2	59.1	59.3	56.3	51.5	60.5	
27	636030.17	3626392.22	1.5	59.9	56.9	52.2	61.1	61.3	58.3	53.6	62.6	60.1	57.1	52.3	61.3	61.5	58.5	53.7	62.7	
28	636168.43	3626393.15	1.5	60.8	57.8	53.1	62.1	62.2	59.2	54.5	63.5	61.0	58.0	53.2	62.2	62.4	59.4	54.6	63.6	
29	636285.34	3626395.00	1.5	60.8	57.8	53.1	62.1	62.2	59.2	54.5	63.5	61.0	58.0	53.2	62.2	62.4	59.4	54.6	63.6	
30	636402.26	3626400.57	1.5	58.5	55.5	50.9	59.8	59.9	56.9	52.2	61.2	58.7	55.7	51.0	60.0	60.0	57.0	52.3	61.3	
31	636357.72	3626373.66	1.5	57.6	54.5	49.9	58.8	59.0	56.0	51.3	60.2	57.7	54.7	50.1	59.0	59.1	56.1	51.4	60.4	
32	636561.85	3626366.24	1.5	54.1	51.1	47.4	55.9	55.4	52.4	48.5	57.1	54.3	51.3	47.6	56.0	55.6	52.5	48.6	57.2	
33	636812.38	3626375.52	1.5	55.8	52.8	49.4	57.7	57.2	54.1	50.4	58.9	56.0	53.0	49.5	57.8	57.3	54.3	50.4	59.0	
34	636770.63	3626468.30	1.5	46.8	43.8	45.2	52.0	48.2	45.2	45.6	52.6	47.0	43.9	45.2	52.0	48.3	45.3	45.6	52.6	
35	636856.92	3626502.64	1.5	44.6	41.6	41.0	48.3	46.2	43.2	41.7	49.3	44.8	41.7	41.1	48.4	46.3	43.3	41.7	49.3	

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SoundPLAN Data - Vehicle and Railroad Traffic

Source name		Traffic lane		Day	Level w/o NP		Lden		
					Evening	Night			
				dB(A)					
1	1.FI	57.8	54.8	50.0	59.0	0.0	0.0	0.0	0.0
Danenberg		-	-	22.4	19.3	-	14.6	-	23.6
Dogwood		-	-	57.8	54.8	-	50.0	-	59.0
McCabe		-	-	14.1	11.1	-	6.3	-	15.3
Rail		-	-	-	-	-	24.1	-	29.9
2	1.FI	49.1	46.1	41.4	50.4	0.0	0.0	0.0	0.0
Danenberg		-	-	22.6	19.6	-	14.8	-	23.8
Dogwood		-	-	49.1	46.1	-	41.3	-	50.3
McCabe		-	-	14.3	11.3	-	6.5	-	15.5
Rail		-	-	-	-	-	24.3	-	30.0
3	1.FI	55.6	52.6	47.8	56.8	0.0	0.0	0.0	0.0
Danenberg		-	-	23.1	20.1	-	15.4	-	24.4
Dogwood		-	-	55.6	52.6	-	47.8	-	56.8
McCabe		-	-	14.5	11.5	-	6.7	-	15.7
Rail		-	-	-	-	-	25.2	-	31.0
4	1.FI	47.3	44.3	39.8	48.6	0.0	0.0	0.0	0.0
Danenberg		-	-	27.7	24.7	-	20.0	-	29.0
Dogwood		-	-	47.2	44.2	-	39.5	-	48.5
McCabe		-	-	15.9	12.9	-	8.1	-	17.1
Rail		-	-	-	-	-	27.5	-	33.3
5	1.FI	49.3	46.3	41.7	50.6	0.0	0.0	0.0	0.0
Danenberg		-	-	30.6	27.6	-	22.8	-	31.8
Dogwood		-	-	49.2	46.2	-	41.4	-	50.4
McCabe		-	-	16.5	13.5	-	8.7	-	17.7
Rail		-	-	-	-	-	28.6	-	34.4
6	1.FI	54.2	51.2	46.5	55.5	0.0	0.0	0.0	0.0
Danenberg		-	-	33.7	30.7	-	25.9	-	34.9
Dogwood		-	-	54.2	51.2	-	46.4	-	55.4
McCabe		-	-	17.1	14.1	-	9.3	-	18.3
Rail		-	-	-	-	-	29.8	-	35.5
7	1.FI	40.9	37.9	37.1	44.5	0.0	0.0	0.0	0.0
Danenberg		-	-	32.9	29.9	-	25.2	-	34.1
Dogwood		-	-	40.2	37.2	-	32.4	-	41.4
McCabe		-	-	17.3	14.3	-	9.5	-	18.5
Rail		-	-	-	-	-	34.9	-	40.6
8	1.FI	55.4	52.4	47.7	56.7	0.0	0.0	0.0	0.0
Danenberg		-	-	42.5	39.5	-	34.8	-	43.7
Dogwood		-	-	55.2	52.2	-	47.4	-	56.4
McCabe		-	-	18.0	14.9	-	10.1	-	19.2
Rail		-	-	-	-	-	30.9	-	36.6
9	1.FI	55.2	52.2	47.5	56.5	0.0	0.0	0.0	0.0
Danenberg		-	-	50.6	47.6	-	42.9	-	51.9
Dogwood		-	-	53.3	50.3	-	45.5	-	54.5
McCabe		-	-	18.3	15.3	-	10.5	-	19.5
Rail		-	-	-	-	-	31.1	-	36.9
10	1.FI	56.9	53.9	49.2	58.1	0.0	0.0	0.0	0.0
Danenberg		-	-	56.5	53.5	-	48.7	-	57.7
Dogwood		-	-	46.1	43.1	-	38.3	-	47.3
McCabe		-	-	18.4	15.4	-	10.6	-	19.6
Rail		-	-	-	-	-	30.5	-	36.2
11	1.FI	54.8	51.8	47.2	56.1	0.0	0.0	0.0	0.0
Danenberg		-	-	46.0	43.0	-	38.3	-	47.3
Dogwood		-	-	54.2	51.2	-	46.4	-	55.4
McCabe		-	-	18.8	15.8	-	11.0	-	20.0
Rail		-	-	-	-	-	31.8	-	37.6
12	1.FI	56.7	53.7	49.1	58.0	0.0	0.0	0.0	0.0
Danenberg		-	-	38.1	35.1	-	30.3	-	39.3
Dogwood		-	-	56.7	53.7	-	48.9	-	57.9
McCabe		-	-	19.4	16.4	-	11.6	-	20.6
Rail		-	-	-	-	-	32.5	-	38.2
13	1.FI	56.7	53.7	49.1	58.0	0.0	0.0	0.0	0.0
Danenberg		-	-	32.4	29.4	-	24.6	-	33.6
Dogwood		-	-	56.7	53.7	-	48.9	-	57.9
McCabe		-	-	20.3	17.3	-	12.5	-	21.5
Rail		-	-	-	-	-	33.4	-	39.2
14	1.FI	45.8	42.8	39.2	47.6	0.0	0.0	0.0	0.0
Danenberg		-	-	28.6	25.6	-	20.9	-	29.9
Dogwood		-	-	45.7	42.7	-	38.0	-	47.0
McCabe		-	-	21.0	18.0	-	13.2	-	22.2
Rail		-	-	-	-	-	32.8	-	38.6
15	1.FI	56.3	53.3	48.7	57.6	0.0	0.0	0.0	0.0
Danenberg		-	-	27.5	24.5	-	19.7	-	28.7
Dogwood		-	-	56.3	53.3	-	48.6	-	57.5
McCabe		-	-	21.8	18.8	-	14.0	-	23.0
Rail		-	-	-	-	-	35.1	-	40.8
16	1.FI	49.7	46.7	58.1	64.0	0.0	0.0	0.0	0.0
Danenberg		-	-	21.2	18.2	-	13.4	-	22.4
Dogwood		-	-	49.5	46.5	-	41.8	-	50.8
McCabe		-	-	35.8	32.7	-	27.9	-	37.0
Rail		-	-	-	-	-	58.0	-	63.8
17	1.FI	54.8	51.8	47.2	56.1	0.0	0.0	0.0	0.0
Danenberg		-	-	20.5	17.4	-	12.7	-	21.7
Dogwood		-	-	36.2	33.2	-	28.5	-	37.5
McCabe		-	-	54.7	51.7	-	46.9	-	55.9
Rail		-	-	-	-	-	34.3	-	40.0
18	1.FI	58.2	55.2	50.5	59.4	0.0	0.0	0.0	0.0
Danenberg		-	-	20.3	17.2	-	12.5	-	21.5
Dogwood		-	-	37.7	34.7	-	29.9	-	38.9

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McCabe	-			58.1	55.1		50.3	59.3	
Rail	-			-	-		35.2	41.0	
19	1.FI	58.0	55.0	50.3	59.3	0.0	0.0	0.0	0.0
Danenberg	-			20.3	17.3		12.6	21.5	
Dogwood	-			33.9	30.9		26.2	35.2	
McCabe	-			58.0	55.0		50.2	59.2	
Rail	-			-	-		32.3	38.0	
20	1.FI	54.2	51.2	46.5	55.5	0.0	0.0	0.0	0.0
Danenberg	-			20.4	17.4		12.7	21.7	
Dogwood	-			29.4	26.4		21.6	30.6	
McCabe	-			54.2	51.2		46.4	55.4	
Rail	-			-	-		28.3	34.1	
21	1.FI	57.8	54.7	50.0	59.0	0.0	0.0	0.0	0.0
Danenberg	-			57.8	54.7		50.0	59.0	
Dogwood	-			26.4	23.4		18.6	27.6	
McCabe	-			18.5	15.5		10.7	19.7	
Rail	-			-	-		25.8	31.5	
22	1.FI	52.3	49.3	44.6	53.6	0.0	0.0	0.0	0.0
Danenberg	-			52.3	49.3		44.5	53.5	
Dogwood	-			26.9	23.9		19.1	28.1	
McCabe	-			18.6	15.5		10.8	19.8	
Rail	-			-	-		26.7	32.5	
23	1.FI	56.4	53.4	48.7	57.6	0.0	0.0	0.0	0.0
Danenberg	-			56.4	53.4		48.6	57.6	
Dogwood	-			26.7	23.7		18.9	27.9	
McCabe	-			18.7	15.7		10.9	19.9	
Rail	-			-	-		26.3	32.0	
24	1.FI	58.5	55.4	50.7	59.7	0.0	0.0	0.0	0.0
Danenberg	-			58.5	55.4		50.7	59.7	
Dogwood	-			27.2	24.2		19.5	28.4	
McCabe	-			18.9	15.9		11.1	20.1	
Rail	-			-	-		27.4	33.1	
25	1.FI	57.5	54.5	49.8	58.8	0.0	0.0	0.0	0.0
Danenberg	-			57.5	54.5		49.7	58.7	
Dogwood	-			27.9	24.9		20.1	29.1	
McCabe	-			19.0	16.0		11.2	20.2	
Rail	-			-	-		28.9	34.6	
26	1.FI	57.7	54.7	50.0	59.0	0.0	0.0	0.0	0.0
Danenberg	-			57.7	54.7		50.0	58.9	
Dogwood	-			28.6	25.6		20.8	29.8	
McCabe	-			19.2	16.2		11.4	20.4	
Rail	-			-	-		30.4	36.2	
27	1.FI	59.9	56.9	52.2	61.1	0.0	0.0	0.0	0.0
Danenberg	-			59.9	56.9		52.1	61.1	
Dogwood	-			28.2	25.2		20.5	29.5	
McCabe	-			19.0	16.0		11.2	20.2	
Rail	-			-	-		29.6	35.4	
28	1.FI	60.8	57.8	53.1	62.1	0.0	0.0	0.0	0.0
Danenberg	-			60.8	57.8		53.0	62.0	
Dogwood	-			29.0	26.0		21.2	30.2	
McCabe	-			19.1	16.1		11.3	20.3	
Rail	-			-	-		31.5	37.2	
29	1.FI	60.8	57.8	53.1	62.1	0.0	0.0	0.0	0.0
Danenberg	-			60.8	57.8		53.0	62.0	
Dogwood	-			29.8	26.8		22.0	31.0	
McCabe	-			19.2	16.1		11.3	20.4	
Rail	-			-	-		33.4	39.1	
30	1.FI	58.5	55.5	50.9	59.8	0.0	0.0	0.0	0.0
Danenberg	-			58.5	55.5		50.7	59.7	
Dogwood	-			30.8	27.8		23.1	32.1	
McCabe	-			19.2	16.1		11.4	20.4	
Rail	-			-	-		35.9	41.6	
31	1.FI	57.6	54.5	49.9	58.8	0.0	0.0	0.0	0.0
Danenberg	-			57.5	54.5		49.8	58.8	
Dogwood	-			30.4	27.4		22.6	31.6	
McCabe	-			19.3	16.3		11.5	20.5	
Rail	-			-	-		34.7	40.4	
32	1.FI	54.1	51.1	47.4	55.9	0.0	0.0	0.0	0.0
Danenberg	-			54.1	51.1		46.3	55.3	
Dogwood	-			32.6	29.6		24.8	33.8	
McCabe	-			19.3	16.3		11.5	20.5	
Rail	-			-	-		40.9	46.6	
33	1.FI	55.8	52.8	49.4	57.7	0.0	0.0	0.0	0.0
Danenberg	-			55.8	52.8		48.0	57.0	
Dogwood	-			36.6	33.6		28.9	37.9	
McCabe	-			19.1	16.1		11.3	20.3	
Rail	-			-	-		43.4	49.1	
34	1.FI	46.8	43.8	45.2	52.0	0.0	0.0	0.0	0.0
Danenberg	-			46.4	43.4		38.7	47.6	
Dogwood	-			36.0	33.0		28.3	37.3	
McCabe	-			18.7	15.7		10.9	19.9	
Rail	-			-	-		44.0	49.7	
35	1.FI	44.6	41.6	41.0	48.3	0.0	0.0	0.0	0.0
Danenberg	-			43.5	40.5		35.7	44.7	
Dogwood	-			38.1	35.1		30.3	39.3	
McCabe	-			18.5	15.5		10.7	19.7	
Rail	-			-	-		38.9	44.7	

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SoundPLAN Data - Vehicle and Railroad Traffic

Source name	Traffic lane	Day	Level w/o NP		Lden
			Evening	Night	
			dB(A)		
1 1.FI	58.4 55.4	50.6	59.6 0.0	0.0	0.0 0.0
Danenberg	-	23.7	20.7	15.9	24.9
Dogwood	-	58.4	55.4	50.6	59.6
McCabe	-	15.6	12.5	7.8	16.8
Rail	-	-	-	24.1	29.9
2 1.FI	49.8 46.7	42.0	51.0 0.0	0.0	0.0 0.0
Danenberg	-	23.9	20.9	16.1	25.1
Dogwood	-	49.7	46.7	42.0	51.0
McCabe	-	15.7	12.7	7.9	16.9
Rail	-	-	-	24.3	30.0
3 1.FI	56.2 53.2	48.4	57.4 0.0	0.0	0.0 0.0
Danenberg	-	24.5	21.5	16.7	25.7
Dogwood	-	56.2	53.2	48.4	57.4
McCabe	-	16.0	12.9	8.1	17.2
Rail	-	-	-	25.2	31.0
4 1.FI	49.2 46.2	41.6	50.5 0.0	0.0	0.0 0.0
Danenberg	-	29.0	26.0	21.3	30.3
Dogwood	-	49.1	46.1	41.3	50.3
McCabe	-	17.3	14.3	9.5	18.5
Rail	-	-	-	27.5	33.3
5 1.FI	51.3 48.3	43.6	52.6 0.0	0.0	0.0 0.0
Danenberg	-	31.9	28.9	24.1	33.1
Dogwood	-	51.2	48.2	43.5	52.5
McCabe	-	17.9	14.9	10.1	19.1
Rail	-	-	-	28.6	34.4
6 1.FI	56.6 53.6	48.8	57.8 0.0	0.0	0.0 0.0
Danenberg	-	35.0	32.0	27.2	36.2
Dogwood	-	56.5	53.5	48.8	57.8
McCabe	-	18.5	15.5	10.7	19.7
Rail	-	-	-	29.8	35.5
7 1.FI	43.0 40.0	38.0	45.8 0.0	0.0	0.0 0.0
Danenberg	-	34.2	31.2	26.5	35.4
Dogwood	-	42.3	39.3	34.6	43.6
McCabe	-	18.7	15.7	10.9	19.9
Rail	-	-	-	34.9	40.6
8 1.FI	57.9 54.8	50.1	59.1 0.0	0.0	0.0 0.0
Danenberg	-	43.8	40.8	36.0	45.0
Dogwood	-	57.7	54.7	49.9	58.9
McCabe	-	19.4	16.3	11.6	20.6
Rail	-	-	-	30.9	36.6
9 1.FI	57.4 54.4	49.7	58.7 0.0	0.0	0.0 0.0
Danenberg	-	51.9	48.9	44.2	53.1
Dogwood	-	56.0	52.9	48.2	57.2
McCabe	-	19.7	16.7	11.9	20.9
Rail	-	-	-	31.1	36.9
10 1.FI	58.3 55.3	50.6	59.6 0.0	0.0	0.0 0.0
Danenberg	-	57.8	54.8	50.0	59.0
Dogwood	-	49.0	46.0	41.3	50.3
McCabe	-	19.8	16.8	12.0	21.0
Rail	-	-	-	30.5	36.2
11 1.FI	57.9 54.9	50.2	59.2 0.0	0.0	0.0 0.0
Danenberg	-	47.3	44.3	39.6	48.5
Dogwood	-	57.5	54.5	49.8	58.8
McCabe	-	20.2	17.2	12.4	21.4
Rail	-	-	-	31.8	37.6
12 1.FI	60.1 57.1	52.4	61.4 0.0	0.0	0.0 0.0
Danenberg	-	39.4	36.3	31.6	40.6
Dogwood	-	60.1	57.1	52.3	61.3
McCabe	-	20.8	17.8	13.0	22.0
Rail	-	-	-	32.5	38.2
13 1.FI	58.9 55.9	51.2	60.2 0.0	0.0	0.0 0.0
Danenberg	-	33.7	30.7	25.9	34.9
Dogwood	-	58.9	55.9	51.1	60.1
McCabe	-	21.7	18.7	13.9	22.9
Rail	-	-	-	33.4	39.2
14 1.FI	48.4 45.4	41.3	50.0 0.0	0.0	0.0 0.0
Danenberg	-	29.9	26.9	22.2	31.2
Dogwood	-	48.4	45.3	40.6	49.6
McCabe	-	22.4	19.4	14.6	23.6
Rail	-	-	-	32.8	38.6
15 1.FI	59.7 56.7	52.0	60.9 0.0	0.0	0.0 0.0
Danenberg	-	28.8	25.8	21.0	30.0
Dogwood	-	59.7	56.7	51.9	60.9
McCabe	-	23.3	20.2	15.4	24.5
Rail	-	-	-	35.1	40.8
16 1.FI	52.6 49.6	58.2	64.2 0.0	0.0	0.0 0.0
Danenberg	-	22.5	19.5	14.7	23.7
Dogwood	-	52.5	49.5	44.7	53.7
McCabe	-	37.2	34.2	29.4	38.4
Rail	-	-	-	58.0	63.8
17 1.FI	56.2 53.2	48.6	57.5 0.0	0.0	0.0 0.0
Danenberg	-	21.8	18.8	14.0	23.0
Dogwood	-	39.0	36.0	31.2	40.2
McCabe	-	56.1	53.1	48.3	57.3
Rail	-	-	-	34.3	40.0
18 1.FI	59.6 56.6	51.9	60.9 0.0	0.0	0.0 0.0
Danenberg	-	21.6	18.6	13.8	22.8
Dogwood	-	40.4	37.4	32.6	41.6

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McCabe	-			59.6	56.5		51.8	60.8	
Rail	-			-	-		35.2	41.0	
19	1.FI	59.4	56.4	51.7	60.7	0.0	0.0	0.0	0.0
Danenberg	-			21.7	18.6		13.9	22.9	
Dogwood	-			36.7	33.7		28.9	37.9	
McCabe	-			59.4	56.4		51.6	60.6	
Rail	-			-	-		32.3	38.0	
20	1.FI	55.7	52.7	47.9	56.9	0.0	0.0	0.0	0.0
Danenberg	-			21.8	18.8		14.0	23.0	
Dogwood	-			32.2	29.2		24.4	33.4	
McCabe	-			55.7	52.6		47.8	56.9	
Rail	-			-	-		28.3	34.1	
21	1.FI	59.2	56.2	51.4	60.4	0.0	0.0	0.0	0.0
Danenberg	-			59.2	56.2		51.4	60.4	
Dogwood	-			28.7	25.7		21.0	29.9	
McCabe	-			19.9	16.9		12.1	21.1	
Rail	-			-	-		25.8	31.5	
22	1.FI	53.8	50.8	46.0	55.0	0.0	0.0	0.0	0.0
Danenberg	-			53.7	50.7		46.0	55.0	
Dogwood	-			29.2	26.2		21.4	30.4	
McCabe	-			20.0	17.0		12.2	21.2	
Rail	-			-	-		26.7	32.5	
23	1.FI	57.8	54.8	50.1	59.1	0.0	0.0	0.0	0.0
Danenberg	-			57.8	54.8		50.1	59.1	
Dogwood	-			29.0	26.0		21.2	30.2	
McCabe	-			20.1	17.1		12.3	21.3	
Rail	-			-	-		26.3	32.0	
24	1.FI	59.9	56.9	52.1	61.1	0.0	0.0	0.0	0.0
Danenberg	-			59.9	56.9		52.1	61.1	
Dogwood	-			29.6	26.6		21.8	30.8	
McCabe	-			20.3	17.3		12.5	21.5	
Rail	-			-	-		27.4	33.1	
25	1.FI	58.9	55.9	51.2	60.2	0.0	0.0	0.0	0.0
Danenberg	-			58.9	55.9		51.2	60.2	
Dogwood	-			30.3	27.3		22.5	31.5	
McCabe	-			20.5	17.4		12.7	21.7	
Rail	-			-	-		28.9	34.6	
26	1.FI	59.2	56.2	51.4	60.4	0.0	0.0	0.0	0.0
Danenberg	-			59.2	56.1		51.4	60.4	
Dogwood	-			31.0	28.0		23.2	32.2	
McCabe	-			20.6	17.6		12.8	21.8	
Rail	-			-	-		30.4	36.2	
27	1.FI	61.3	58.3	53.6	62.6	0.0	0.0	0.0	0.0
Danenberg	-			61.3	58.3		53.6	62.5	
Dogwood	-			30.6	27.6		22.8	31.8	
McCabe	-			20.4	17.4		12.6	21.6	
Rail	-			-	-		29.6	35.4	
28	1.FI	62.2	59.2	54.5	63.5	0.0	0.0	0.0	0.0
Danenberg	-			62.2	59.2		54.5	63.5	
Dogwood	-			31.4	28.4		23.6	32.6	
McCabe	-			20.5	17.5		12.7	21.7	
Rail	-			-	-		31.5	37.2	
29	1.FI	62.2	59.2	54.5	63.5	0.0	0.0	0.0	0.0
Danenberg	-			62.2	59.2		54.5	63.5	
Dogwood	-			32.2	29.2		24.4	33.4	
McCabe	-			20.6	17.6		12.8	21.8	
Rail	-			-	-		33.4	39.1	
30	1.FI	59.9	56.9	52.2	61.2	0.0	0.0	0.0	0.0
Danenberg	-			59.9	56.9		52.1	61.1	
Dogwood	-			33.3	30.3		25.5	34.5	
McCabe	-			20.6	17.6		12.8	21.8	
Rail	-			-	-		35.9	41.6	
31	1.FI	59.0	56.0	51.3	60.2	0.0	0.0	0.0	0.0
Danenberg	-			59.0	56.0		51.2	60.2	
Dogwood	-			32.8	29.8		25.0	34.0	
McCabe	-			20.7	17.7		12.9	21.9	
Rail	-			-	-		34.7	40.4	
32	1.FI	55.4	52.4	48.5	57.1	0.0	0.0	0.0	0.0
Danenberg	-			55.4	52.4		47.6	56.6	
Dogwood	-			35.1	32.1		27.3	36.3	
McCabe	-			20.7	17.7		12.9	21.9	
Rail	-			-	-		40.9	46.6	
33	1.FI	57.2	54.1	50.4	58.9	0.0	0.0	0.0	0.0
Danenberg	-			57.1	54.1		49.3	58.3	
Dogwood	-			39.3	36.3		31.5	40.5	
McCabe	-			20.6	17.5		12.8	21.8	
Rail	-			-	-		43.4	49.1	
34	1.FI	48.2	45.2	45.6	52.6	0.0	0.0	0.0	0.0
Danenberg	-			47.7	44.7		39.9	48.9	
Dogwood	-			38.6	35.5		30.8	39.8	
McCabe	-			20.1	17.1		12.3	21.3	
Rail	-			-	-		44.0	49.7	
35	1.FI	46.2	43.2	41.7	49.3	0.0	0.0	0.0	0.0
Danenberg	-			44.8	41.8		37.0	46.0	
Dogwood	-			40.6	37.6		32.8	41.8	
McCabe	-			19.9	16.9		12.1	21.1	
Rail	-			-	-		38.9	44.7	



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Source name		Traffic lane		Day	Level w/o NP		Lden		
					Evening	Night			
				dB(A)					
1	1.FI	57.8	54.8	50.1	59.1	0.0	0.0	0.0	0.0
Danenberg		-	-	22.5	19.5	-	14.7	-	23.7
Dogwood		-	-	57.8	54.8	-	50.1	-	59.1
McCabe		-	-	14.3	11.3	-	6.5	-	15.5
Rail		-	-	-	-	-	24.1	-	29.9
2	1.FI	49.2	46.2	41.5	50.4	0.0	0.0	0.0	0.0
Danenberg		-	-	22.8	19.7	-	15.0	-	24.0
Dogwood		-	-	49.2	46.2	-	41.4	-	50.4
McCabe		-	-	14.4	11.4	-	6.6	-	15.6
Rail		-	-	-	-	-	24.3	-	30.0
3	1.FI	55.6	52.6	47.9	56.9	0.0	0.0	0.0	0.0
Danenberg		-	-	23.3	20.3	-	15.5	-	24.5
Dogwood		-	-	55.6	52.6	-	47.8	-	56.8
McCabe		-	-	14.7	11.7	-	6.9	-	15.9
Rail		-	-	-	-	-	25.2	-	31.0
4	1.FI	47.6	44.6	40.0	48.9	0.0	0.0	0.0	0.0
Danenberg		-	-	27.9	24.9	-	20.1	-	29.1
Dogwood		-	-	47.5	44.5	-	39.7	-	48.7
McCabe		-	-	16.0	13.1	-	8.3	-	17.3
Rail		-	-	-	-	-	27.5	-	33.3
5	1.FI	49.5	46.5	42.0	50.9	0.0	0.0	0.0	0.0
Danenberg		-	-	30.8	27.7	-	23.0	-	32.0
Dogwood		-	-	49.5	46.5	-	41.7	-	50.7
McCabe		-	-	16.7	13.7	-	8.9	-	17.9
Rail		-	-	-	-	-	28.6	-	34.4
6	1.FI	54.4	51.4	46.7	55.6	0.0	0.0	0.0	0.0
Danenberg		-	-	33.8	30.8	-	26.0	-	35.0
Dogwood		-	-	54.3	51.3	-	46.6	-	55.6
McCabe		-	-	17.2	14.2	-	9.4	-	18.4
Rail		-	-	-	-	-	29.8	-	35.5
7	1.FI	41.1	38.1	37.2	44.6	0.0	0.0	0.0	0.0
Danenberg		-	-	33.1	30.1	-	25.3	-	34.3
Dogwood		-	-	40.4	37.4	-	32.6	-	41.6
McCabe		-	-	17.4	14.4	-	9.6	-	18.6
Rail		-	-	-	-	-	34.9	-	40.6
8	1.FI	55.5	52.5	47.8	56.8	0.0	0.0	0.0	0.0
Danenberg		-	-	42.7	39.7	-	34.9	-	43.9
Dogwood		-	-	55.3	52.3	-	47.5	-	56.5
McCabe		-	-	18.1	15.1	-	10.3	-	19.3
Rail		-	-	-	-	-	30.9	-	36.6
9	1.FI	55.3	52.3	47.6	56.6	0.0	0.0	0.0	0.0
Danenberg		-	-	50.8	47.8	-	43.0	-	52.0
Dogwood		-	-	53.4	50.4	-	45.6	-	54.6
McCabe		-	-	18.4	15.4	-	10.6	-	19.6
Rail		-	-	-	-	-	31.1	-	36.9
10	1.FI	57.0	54.0	49.3	58.3	0.0	0.0	0.0	0.0
Danenberg		-	-	56.6	53.6	-	48.9	-	57.9
Dogwood		-	-	46.2	43.2	-	38.4	-	47.4
McCabe		-	-	18.5	15.5	-	10.7	-	19.7
Rail		-	-	-	-	-	30.5	-	36.2
11	1.FI	54.9	51.9	47.2	56.2	0.0	0.0	0.0	0.0
Danenberg		-	-	46.2	43.2	-	38.4	-	47.4
Dogwood		-	-	54.3	51.2	-	46.5	-	55.5
McCabe		-	-	19.0	16.0	-	11.2	-	20.2
Rail		-	-	-	-	-	31.8	-	37.6
12	1.FI	56.8	53.8	49.1	58.1	0.0	0.0	0.0	0.0
Danenberg		-	-	38.2	35.2	-	30.4	-	39.4
Dogwood		-	-	56.8	53.7	-	49.0	-	58.0
McCabe		-	-	19.6	16.6	-	11.8	-	20.8
Rail		-	-	-	-	-	32.5	-	38.2
13	1.FI	56.9	53.9	49.2	58.1	0.0	0.0	0.0	0.0
Danenberg		-	-	32.5	29.5	-	24.8	-	33.8
Dogwood		-	-	56.9	53.8	-	49.1	-	58.1
McCabe		-	-	20.5	17.5	-	12.7	-	21.7
Rail		-	-	-	-	-	33.4	-	39.2
14	1.FI	46.0	43.0	39.3	47.8	0.0	0.0	0.0	0.0
Danenberg		-	-	28.8	25.8	-	21.0	-	30.0
Dogwood		-	-	45.9	42.9	-	38.1	-	47.1
McCabe		-	-	21.1	18.1	-	13.3	-	22.3
Rail		-	-	-	-	-	32.8	-	38.6
15	1.FI	56.5	53.5	48.9	57.8	0.0	0.0	0.0	0.0
Danenberg		-	-	27.6	24.6	-	19.8	-	28.8
Dogwood		-	-	56.5	53.5	-	48.7	-	57.7
McCabe		-	-	22.0	19.0	-	14.2	-	23.2
Rail		-	-	-	-	-	35.1	-	40.8
16	1.FI	49.9	46.9	58.2	64.0	0.0	0.0	0.0	0.0
Danenberg		-	-	21.3	18.3	-	13.5	-	22.5
Dogwood		-	-	49.7	46.7	-	41.9	-	50.9
McCabe		-	-	35.9	32.9	-	28.1	-	37.1
Rail		-	-	-	-	-	58.0	-	63.8
17	1.FI	54.9	51.9	47.3	56.2	0.0	0.0	0.0	0.0
Danenberg		-	-	20.6	17.6	-	12.8	-	21.8
Dogwood		-	-	36.4	33.4	-	28.6	-	37.6
McCabe		-	-	54.8	51.8	-	47.0	-	56.0
Rail		-	-	-	-	-	34.3	-	40.0
18	1.FI	58.3	55.3	50.6	59.6	0.0	0.0	0.0	0.0
Danenberg		-	-	20.4	17.4	-	12.6	-	21.6
Dogwood		-	-	37.9	34.9	-	30.1	-	39.1

Contributions - Existing + Cumulative

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McCabe	-			58.3	55.3		50.5	59.5	
Rail	-			-	-		35.2	41.0	
19	1.FI	58.2	55.2	50.4	59.4	0.0	0.0	0.0	0.0
Danenberg	-			20.5	17.5		12.7	21.7	
Dogwood	-			34.1	31.1		26.3	35.3	
McCabe	-			58.1	55.1		50.3	59.3	
Rail	-			-	-		32.3	38.0	
20	1.FI	54.4	51.4	46.7	55.6	0.0	0.0	0.0	0.0
Danenberg	-			20.6	17.6		12.8	21.8	
Dogwood	-			29.6	26.6		21.8	30.8	
McCabe	-			54.4	51.4		46.6	55.6	
Rail	-			-	-		28.3	34.1	
21	1.FI	57.9	54.9	50.2	59.2	0.0	0.0	0.0	0.0
Danenberg	-			57.9	54.9		50.1	59.1	
Dogwood	-			26.6	23.6		18.8	27.8	
McCabe	-			18.6	15.6		10.8	19.8	
Rail	-			-	-		25.8	31.5	
22	1.FI	52.5	49.5	44.8	53.7	0.0	0.0	0.0	0.0
Danenberg	-			52.5	49.5		44.7	53.7	
Dogwood	-			27.0	24.0		19.3	28.3	
McCabe	-			18.7	15.7		10.9	19.9	
Rail	-			-	-		26.7	32.5	
23	1.FI	56.6	53.6	48.8	57.8	0.0	0.0	0.0	0.0
Danenberg	-			56.6	53.6		48.8	57.8	
Dogwood	-			26.8	23.8		19.1	28.1	
McCabe	-			18.8	15.8		11.0	20.1	
Rail	-			-	-		26.3	32.0	
24	1.FI	58.6	55.6	50.9	59.9	0.0	0.0	0.0	0.0
Danenberg	-			58.6	55.6		50.8	59.8	
Dogwood	-			27.4	24.4		19.6	28.6	
McCabe	-			19.0	16.0		11.2	20.2	
Rail	-			-	-		27.4	33.1	
25	1.FI	57.7	54.7	49.9	58.9	0.0	0.0	0.0	0.0
Danenberg	-			57.7	54.7		49.9	58.9	
Dogwood	-			28.1	25.1		20.3	29.3	
McCabe	-			19.2	16.2		11.4	20.4	
Rail	-			-	-		28.9	34.6	
26	1.FI	57.9	54.9	50.2	59.1	0.0	0.0	0.0	0.0
Danenberg	-			57.9	54.9		50.1	59.1	
Dogwood	-			28.8	25.8		21.0	30.0	
McCabe	-			19.3	16.3		11.5	20.5	
Rail	-			-	-		30.4	36.2	
27	1.FI	60.1	57.1	52.3	61.3	0.0	0.0	0.0	0.0
Danenberg	-			60.1	57.1		52.3	61.3	
Dogwood	-			28.4	25.4		20.6	29.6	
McCabe	-			19.1	16.1		11.3	20.3	
Rail	-			-	-		29.6	35.4	
28	1.FI	61.0	58.0	53.2	62.2	0.0	0.0	0.0	0.0
Danenberg	-			61.0	58.0		53.2	62.2	
Dogwood	-			29.2	26.2		21.4	30.4	
McCabe	-			19.2	16.2		11.4	20.4	
Rail	-			-	-		31.5	37.2	
29	1.FI	61.0	58.0	53.2	62.2	0.0	0.0	0.0	0.0
Danenberg	-			61.0	58.0		53.2	62.2	
Dogwood	-			30.0	27.0		22.2	31.2	
McCabe	-			19.3	16.3		11.5	20.5	
Rail	-			-	-		33.4	39.1	
30	1.FI	58.7	55.7	51.0	60.0	0.0	0.0	0.0	0.0
Danenberg	-			58.7	55.7		50.9	59.9	
Dogwood	-			31.0	28.0		23.2	32.2	
McCabe	-			19.3	16.3		11.5	20.5	
Rail	-			-	-		35.9	41.6	
31	1.FI	57.7	54.7	50.1	59.0	0.0	0.0	0.0	0.0
Danenberg	-			57.7	54.7		49.9	58.9	
Dogwood	-			30.6	27.5		22.8	31.8	
McCabe	-			19.4	16.4		11.6	20.6	
Rail	-			-	-		34.7	40.4	
32	1.FI	54.3	51.3	47.6	56.0	0.0	0.0	0.0	0.0
Danenberg	-			54.3	51.2		46.5	55.5	
Dogwood	-			32.7	29.7		25.0	34.0	
McCabe	-			19.5	16.5		11.7	20.7	
Rail	-			-	-		40.9	46.6	
33	1.FI	56.0	53.0	49.5	57.8	0.0	0.0	0.0	0.0
Danenberg	-			56.0	52.9		48.2	57.2	
Dogwood	-			36.8	33.8		29.0	38.0	
McCabe	-			19.3	16.3		11.5	20.5	
Rail	-			-	-		43.4	49.1	
34	1.FI	47.0	43.9	45.2	52.0	0.0	0.0	0.0	0.0
Danenberg	-			46.6	43.6		38.8	47.8	
Dogwood	-			36.2	33.2		28.4	37.4	
McCabe	-			18.9	15.9		11.1	20.1	
Rail	-			-	-		44.0	49.7	
35	1.FI	44.8	41.7	41.1	48.4	0.0	0.0	0.0	0.0
Danenberg	-			43.7	40.6		35.9	44.9	
Dogwood	-			38.2	35.2		30.4	39.4	
McCabe	-			18.6	15.6		10.8	19.8	
Rail	-			-	-		38.9	44.7	

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Source name		Traffic lane		Day	Level w/o NP					
					Evening	Night				
				dB(A)						
1	1.FI	58.4	55.4	50.6	59.6	0.0	0.0	0.0	0.0	
Danenberg		-		23.8	20.8		16.0		25.0	
Dogwood		-		58.4	55.4		50.6		59.6	
McCabe		-		15.7	12.6		7.9		16.9	
Rail		-		-	-		24.1		29.9	
2	1.FI	49.8	46.8	42.1	51.1	0.0	0.0	0.0	0.0	
Danenberg		-		24.0	21.0		16.2		25.2	
Dogwood		-		49.8	46.8		42.0		51.0	
McCabe		-		15.8	12.8		8.0		17.0	
Rail		-		-	-		24.3		30.0	
3	1.FI	56.2	53.2	48.5	57.4	0.0	0.0	0.0	0.0	
Danenberg		-		24.6	21.6		16.8		25.8	
Dogwood		-		56.2	53.2		48.4		57.4	
McCabe		-		16.1	13.0		8.3		17.3	
Rail		-		-	-		25.2		31.0	
4	1.FI	49.3	46.3	41.7	50.6	0.0	0.0	0.0	0.0	
Danenberg		-		29.2	26.1		21.4		30.4	
Dogwood		-		49.3	46.3		41.5		50.5	
McCabe		-		17.4	14.4		9.6		18.6	
Rail		-		-	-		27.5		33.3	
5	1.FI	51.5	48.4	43.8	52.7	0.0	0.0	0.0	0.0	
Danenberg		-		32.0	29.0		24.2		33.2	
Dogwood		-		51.4	48.4		43.6		52.6	
McCabe		-		18.0	15.0		10.2		19.2	
Rail		-		-	-		28.6		34.4	
6	1.FI	56.7	53.7	48.9	57.9	0.0	0.0	0.0	0.0	
Danenberg		-		35.1	32.1		27.3		36.3	
Dogwood		-		56.6	53.6		48.8		57.8	
McCabe		-		18.6	15.6		10.8		19.8	
Rail		-		-	-		29.8		35.5	
7	1.FI	43.1	40.1	38.1	45.9	0.0	0.0	0.0	0.0	
Danenberg		-		34.3	31.3		26.6		35.6	
Dogwood		-		42.5	39.5		34.7		43.7	
McCabe		-		18.8	15.8		11.0		20.0	
Rail		-		-	-		34.9		40.6	
8	1.FI	57.9	54.9	50.2	59.2	0.0	0.0	0.0	0.0	
Danenberg		-		43.9	40.9		36.1		45.1	
Dogwood		-		57.7	54.7		50.0		58.9	
McCabe		-		19.5	16.5		11.7		20.7	
Rail		-		-	-		30.9		36.6	
9	1.FI	57.5	54.5	49.8	58.7	0.0	0.0	0.0	0.0	
Danenberg		-		52.0	49.0		44.3		53.3	
Dogwood		-		56.0	53.0		48.2		57.2	
McCabe		-		19.8	16.8		12.0		21.0	
Rail		-		-	-		31.1		36.9	
10	1.FI	58.4	55.4	50.7	59.7	0.0	0.0	0.0	0.0	
Danenberg		-		57.9	54.9		50.1		59.1	
Dogwood		-		49.1	46.1		41.3		50.3	
McCabe		-		19.9	16.9		12.1		21.1	
Rail		-		-	-		30.5		36.2	
11	1.FI	58.0	55.0	50.3	59.3	0.0	0.0	0.0	0.0	
Danenberg		-		47.4	44.4		39.6		48.7	
Dogwood		-		57.6	54.6		49.8		58.8	
McCabe		-		20.3	17.3		12.5		21.5	
Rail		-		-	-		31.8		37.6	
12	1.FI	60.2	57.2	52.5	61.4	0.0	0.0	0.0	0.0	
Danenberg		-		39.5	36.5		31.7		40.7	
Dogwood		-		60.2	57.2		52.4		61.4	
McCabe		-		20.9	17.9		13.1		22.2	
Rail		-		-	-		32.5		38.2	
13	1.FI	59.0	56.0	51.3	60.3	0.0	0.0	0.0	0.0	
Danenberg		-		33.8	30.8		26.0		35.0	
Dogwood		-		59.0	56.0		51.2		60.2	
McCabe		-		21.8	18.8		14.0		23.0	
Rail		-		-	-		33.4		39.2	
14	1.FI	48.5	45.5	41.4	50.1	0.0	0.0	0.0	0.0	
Danenberg		-		30.1	27.1		22.3		31.3	
Dogwood		-		48.4	45.4		40.7		49.7	
McCabe		-		22.5	19.5		14.7		23.7	
Rail		-		-	-		32.8		38.6	
15	1.FI	59.8	56.8	52.1	61.0	0.0	0.0	0.0	0.0	
Danenberg		-		28.9	25.9		21.1		30.1	
Dogwood		-		59.8	56.8		52.0		61.0	
McCabe		-		23.4	20.3		15.6		24.6	
Rail		-		-	-		35.1		40.8	
16	1.FI	52.7	49.7	58.3	64.2	0.0	0.0	0.0	0.0	
Danenberg		-		22.6	19.6		14.8		23.8	
Dogwood		-		52.6	49.6		44.8		53.8	
McCabe		-		37.3	34.3		29.5		38.5	
Rail		-		-	-		58.0		63.8	
17	1.FI	56.3	53.3	48.7	57.6	0.0	0.0	0.0	0.0	
Danenberg		-		21.9	18.9		14.1		23.1	
Dogwood		-		39.1	36.1		31.3		40.3	
McCabe		-		56.2	53.2		48.4		57.4	
Rail		-		-	-		34.3		40.0	
18	1.FI	59.7	56.7	52.0	61.0	0.0	0.0	0.0	0.0	
Danenberg		-		21.7	18.7		13.9		22.9	
Dogwood		-		40.5	37.5		32.7		41.7	

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McCabe	-			59.7	56.6	51.9	60.9		
Rail	-			-	-	35.2	41.0		
19	1.FI	59.5	56.5	51.8	60.8	0.0	0.0	0.0	0.0
Danenberg	-			21.8	18.8	14.0	23.0		
Dogwood	-			36.8	33.8	29.0	38.0		
McCabe	-			59.5	56.5	51.7	60.7		
Rail	-			-	-	32.3	38.0		
20	1.FI	55.8	52.8	48.0	57.0	0.0	0.0	0.0	0.0
Danenberg	-			21.9	18.9	14.1	23.1		
Dogwood	-			32.3	29.3	24.5	33.5		
McCabe	-			55.8	52.7	48.0	57.0		
Rail	-			-	-	28.3	34.1		
21	1.FI	59.3	56.3	51.5	60.5	0.0	0.0	0.0	0.0
Danenberg	-			59.3	56.3	51.5	60.5		
Dogwood	-			28.8	25.8	21.0	30.0		
McCabe	-			20.0	17.0	12.2	21.2		
Rail	-			-	-	25.8	31.5		
22	1.FI	53.9	50.9	46.1	55.1	0.0	0.0	0.0	0.0
Danenberg	-			53.9	50.9	46.1	55.1		
Dogwood	-			29.3	26.3	21.5	30.5		
McCabe	-			20.1	17.1	12.3	21.3		
Rail	-			-	-	26.7	32.5		
23	1.FI	58.0	55.0	50.2	59.2	0.0	0.0	0.0	0.0
Danenberg	-			58.0	55.0	50.2	59.2		
Dogwood	-			29.1	26.1	21.3	30.3		
McCabe	-			20.2	17.2	12.4	21.4		
Rail	-			-	-	26.3	32.0		
24	1.FI	60.0	57.0	52.2	61.2	0.0	0.0	0.0	0.0
Danenberg	-			60.0	57.0	52.2	61.2		
Dogwood	-			29.7	26.7	21.9	30.9		
McCabe	-			20.4	17.4	12.6	21.6		
Rail	-			-	-	27.4	33.1		
25	1.FI	59.1	56.1	51.3	60.3	0.0	0.0	0.0	0.0
Danenberg	-			59.1	56.1	51.3	60.3		
Dogwood	-			30.4	27.4	22.6	31.6		
McCabe	-			20.6	17.5	12.8	21.8		
Rail	-			-	-	28.9	34.6		
26	1.FI	59.3	56.3	51.5	60.5	0.0	0.0	0.0	0.0
Danenberg	-			59.3	56.3	51.5	60.5		
Dogwood	-			31.1	28.1	23.3	32.3		
McCabe	-			20.7	17.7	12.9	21.9		
Rail	-			-	-	30.4	36.2		
27	1.FI	61.5	58.5	53.7	62.7	0.0	0.0	0.0	0.0
Danenberg	-			61.5	58.5	53.7	62.7		
Dogwood	-			30.7	27.7	22.9	31.9		
McCabe	-			20.5	17.5	12.7	21.7		
Rail	-			-	-	29.6	35.4		
28	1.FI	62.4	59.4	54.6	63.6	0.0	0.0	0.0	0.0
Danenberg	-			62.4	59.4	54.6	63.6		
Dogwood	-			31.5	28.5	23.7	32.7		
McCabe	-			20.6	17.6	12.8	21.8		
Rail	-			-	-	31.5	37.2		
29	1.FI	62.4	59.4	54.6	63.6	0.0	0.0	0.0	0.0
Danenberg	-			62.4	59.4	54.6	63.6		
Dogwood	-			32.3	29.3	24.5	33.5		
McCabe	-			20.7	17.7	12.9	21.9		
Rail	-			-	-	33.4	39.1		
30	1.FI	60.0	57.0	52.3	61.3	0.0	0.0	0.0	0.0
Danenberg	-			60.0	57.0	52.2	61.2		
Dogwood	-			33.4	30.4	25.6	34.6		
McCabe	-			20.7	17.7	12.9	21.9		
Rail	-			-	-	35.9	41.6		
31	1.FI	59.1	56.1	51.4	60.4	0.0	0.0	0.0	0.0
Danenberg	-			59.1	56.1	51.3	60.3		
Dogwood	-			32.9	29.9	25.1	34.1		
McCabe	-			20.8	17.8	13.0	22.0		
Rail	-			-	-	34.7	40.4		
32	1.FI	55.6	52.5	48.6	57.2	0.0	0.0	0.0	0.0
Danenberg	-			55.5	52.5	47.7	56.7		
Dogwood	-			35.2	32.2	27.4	36.4		
McCabe	-			20.8	17.8	13.0	22.0		
Rail	-			-	-	40.9	46.6		
33	1.FI	57.3	54.3	50.4	59.0	0.0	0.0	0.0	0.0
Danenberg	-			57.2	54.2	49.4	58.4		
Dogwood	-			39.4	36.3	31.6	40.6		
McCabe	-			20.7	17.6	12.9	21.9		
Rail	-			-	-	43.4	49.1		
34	1.FI	48.3	45.3	45.6	52.6	0.0	0.0	0.0	0.0
Danenberg	-			47.8	44.8	40.0	49.0		
Dogwood	-			38.6	35.6	30.9	39.9		
McCabe	-			20.2	17.2	12.4	21.4		
Rail	-			-	-	44.0	49.7		
35	1.FI	46.3	43.3	41.7	49.3	0.0	0.0	0.0	0.0
Danenberg	-			44.9	41.9	37.1	46.1		
Dogwood	-			40.7	37.7	32.9	41.9		
McCabe	-			20.0	17.0	12.2	21.2		
Rail	-			-	-	38.9	44.7		