

Appendix D

Noise Calculations

Field Noise Measurement Data Sheets

FIELD NOISE MEASUREMENT DATA

DUDEK

PROJECT <u>EL CAMINO COLLEGE FINE ACADEMY</u>	PROJECT # <u>13453</u>
SITE ID _____	OBSERVER(S) <u>PEYE VITAR</u>
SITE ADDRESS _____	
START DATE <u>8/18/21</u>	END DATE <u>8/18/21</u>
START TIME _____	END TIME _____

METEOROLOGICAL CONDITIONS

TEMP 75 F HUMIDITY 62 % R.H. WIND CALM LIGHT MODERATE
WINDSPD 10 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY SUNNY CLEAR OVRCAST ~~FOG~~ FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT PICCOLLO SLM-P3 TYPE 1 2 SERIAL # 140317004
CALIBRATOR ISSWA CA 114 SERIAL # 490151
CALIBRATION CHECK -PRE-TEST _____ dBA SPL POST-TEST _____ dBA SPL WINDSCRN YES

SETTINGS A-WTB SLOW FAST FRONTAL RANDOM ANSI OTHER: _____

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC)
<u>1-16</u>	<u>12:02</u>	<u>12:17</u>							

COMMENTS
READING TAKEN IN FRONT OF 16501 FAUDA AVE (RESIDENTIAL); PRIMARY NOISE SOURCE IS TRAFFIC FROM NEAREST REDWOOD BEACH BLVD

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE TRAFFIC AIRCRAFT RAIL INDUSTRIAL OTHER: _____
ROADWAY TYPE: ASPHALT DIST. TO RDWY C/L OR EOP: APX 5' TO EDGE OF STREET

TRAFFIC COUNT DURATION: <u>15</u> MIN	SPEED				IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE <input checked="" type="checkbox"/>	SPEED				
	DIRECTION	NB/EB	SB/WB	NB/EB		SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
COUNT 1 (OR RDWY 1)	AUTOS	0								
	MED TRKS	0								
	HVY TRKS	0								
	BUSES	0								
	MOTRCLS	0								
COUNT 2 (OR RDWY 2)	AUTOS									
	MED TRKS									
	HVY TRKS									
	BUSES									
	MOTRCLS									

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY: _____

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS/YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: DISTANT TRAFFIC FROM REDWOOD BEACH BLVD

DESCRIPTION / SKETCH

TERRAIN HARD SOFT MIXED FLAT OTHER: _____
PHOTOS 0529; 0530; 0531; 0532;
OTHER COMMENTS / SKETCH _____


FIELD NOISE MEASUREMENT DATA

DUDEK

PROJECT <u>EL CAMINO COLLEGE FIRE ACADEMY</u>	PROJECT # <u>13453</u>
SITE ID _____	OBSERVER(S) <u>PEYE VITAR</u>
SITE ADDRESS _____	
START DATE <u>8/18/21</u>	END DATE <u>8/18/21</u>
START TIME _____	END TIME _____

METEOROLOGICAL CONDITIONS									
TEMP	<u>75</u> F	HUMIDITY	<u>62</u> % R.H.	WIND	CALM	<input checked="" type="radio"/> LIGHT	MODERATE		
WINDSPD	<u>10</u> MPH	DIR.	<u>N</u> NE S SE S SW W NW		VARIABLE	STEADY	GUSTY		
SKY	<u>SUNNY</u> CLEAR	<input checked="" type="radio"/> OVERCAST	PRTLY CLDY	FOG	RAIN				
ACOUSTIC MEASUREMENTS									
MEAS. INSTRUMENT	<u>PICCOLLO SLM-P3</u>			TYPE	<u>1</u>	<u>2</u>	SERIAL #	<u>140317004</u>	
CALIBRATION	<u>ISSWA CA 114</u>						SERIAL #	<u>490151</u>	
CALIBRATION CHECK	<u>PRE-TEST</u>	<u>dB A SPL</u>		POST-TEST	<u>dB A SPL</u>		WINDSCREEN	<u>YES</u>	
SETTINGS	<input checked="" type="radio"/> A-WTD	<input checked="" type="radio"/> SLOW	FAST	FRONTAL	RANDOM	ANSI	OTHER:		
REC. #	BEGIN	END	L _{eq}	L _{max}	L _{min}	L ₉₀	L ₅₀	L ₁₀	OTHER (SPECIFY METRIC)
<u>ST2</u> 17-32	<u>12:27</u>	<u>12:42</u>							
COMMENTS <u>AT BACK EDGE OF PROPERTY LINE</u> <u>READING TAKEN IN OF 3211 W. 166TH ST (RESIDENTIAL); PRIMATE NOISE SOURCE</u> <u>IS TRAFFIC ON REDONDO BEACH BLVD AND CRENSHAW BLVD;</u>									

SOURCE INFO AND TRAFFIC COUNTS											
PRIMARY NOISE SOURCE			<input checked="" type="radio"/> TRAFFIC	AIRCRAFT	RAIL	INDUSTRIAL	OTHER:				
ROADWAY TYPE:			<u>ASPHLT</u>			DIST. TO RDWY C/L OR EOP: <u>###</u>					
TRAFFIC COUNT DURATION:			<u>15</u> MIN			SPEED _____ MIN _____ SPEED					
COUNT 1 (OR RDWY 1)	DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB	SB/WB	
	AUTOS										
	MED TRKS	<u>2</u>									
	HYV TRKS	<u>0</u>									
	BUSES	<u>0</u>									
	MOTRCLS	<u>0</u>									
SPEEDS ESTIMATED BY: <u>RADAR / DRIVING THE PACE</u>											
POSTED SPEED LIMIT SIGNS SAY:											
OTHER NOISE SOURCES (BACKGROUND): <u>DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL</u> <u>DIST. KIDS PLAYING DIST. CONVRTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS / LANDSCAPING NOISE</u> OTHER: <u>REDONDO BEACH BLVD; CRENSHAW BLVD</u>											

DESCRIPTION / SKETCH	
TERRAIN	<input checked="" type="radio"/> HARD <input type="radio"/> SOFT <input type="radio"/> MIXED <input type="radio"/> FLAT <input type="radio"/> OTHER: _____
PHOTOS	<u>0534; 0535; 0536; 0537;</u>
OTHER COMMENTS / SKETCH	
	

FIELD NOISE MEASUREMENT DATA

DUDEK

PROJECT <u>EL CAMINO COLLEGE FIRE ACADEMY</u>	PROJECT # <u>13453</u>
SITE ID _____	OBSERVER(S) <u>PEYE VITAR</u>
SITE ADDRESS _____	
START DATE <u>8/18/21</u>	END DATE <u>8/18/21</u>
START TIME _____	END TIME _____

METEOROLOGICAL CONDITIONS									
TEMP	<u>76</u> F	HUMIDITY	<u>58</u> % R.H.	WIND	CALM	<u>LIGHT</u>	MODERATE		
WINDSPD	<u>9</u> MPH	DIR.	N NE S SE S SW W NW		VARIABLE	STEADY	GUSTY		
SKY	<u>SUNNY</u> CLEAR	<u>OVERCAST</u>	PRTLY CLDY	FOG	RAIN				
ACOUSTIC MEASUREMENTS									
MEAS. INSTRUMENT	<u>PICCOLLO SLM-P3</u>			TYPE	1	2	SERIAL #	<u>140317004</u>	
CALIBRATOR	<u>LISSA CA 114</u>						SERIAL #	<u>490151</u>	
CALIBRATION CHECK	PRE-TEST	_____	dBA SPL	POST-TEST	_____	dBA SPL	WINDSCREEN	<u>YES</u>	
SETTINGS	<u>A-WTD</u>	<u>SLOW</u>	FAST	FRONTAL	RANDOM	ANSI	OTHER:	_____	
REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC)
<u>573</u> 24-49	<u>13:01</u>	<u>13:16</u>	_____	_____	_____	_____	_____	_____	_____
COMMENTS <u>READING TAKEN IN SOUTHEASTERN PORTION OF ALONDRA PARK; PRIMARY NOISE SOURCE IS TRAFFIC ON REDONDO BEACH BLVD; SECONDARY IS GEESE FEEDING;</u>									

SOURCE INFO AND TRAFFIC COUNTS										
PRIMARY NOISE SOURCE					OTHER:					
ROADWAY TYPE: <u>ASPHALT</u>					DIST. TO ROWY: <u>APX 200' TO 4/L ON REDONDO BEACH BLVD</u>					
TRAFFIC COUNT DURATION: <u>15</u> MIN					SPEED _____ MIN _____ SPEED _____					
COUNT 1 (OR ROWY 1)	DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	COUNT 2 (OR ROWY 2)	NB/EB	SB/WB	NB/EB	SB/WB
	AUTOS	<u>392</u>	_____	_____	_____		_____	_____	_____	_____
	MED TRKS	<u>3</u>	_____	_____	_____		_____	_____	_____	_____
	HVY TRKS	<u>1</u>	_____	_____	_____		_____	_____	_____	_____
	BUSES	<u>5</u>	_____	_____	_____		_____	_____	_____	_____
	MOTRCLS	<u>0</u>	_____	_____	_____		_____	_____	_____	_____
SPEEDS ESTIMATED BY: <u>RADAR / DRIVING THE PACE</u>										
POSTED SPEED LIMIT SIGNS SAY: _____										
OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS <u>BIRDS</u> DIST. INDUSTRIAL										
DIST. KIDS PLAYING <u>DIST. CONVERSATIONS / YELLING</u> DIST. TRAFFIC (LIST ROWYS BELOW) DIST. GARDENERS/LANDSCAPING NOISE										
OTHER: <u>GEESE IN PARK;</u>										

DESCRIPTION / SKETCH									
TERRAIN	HARD	SOFT	<u>MIXED</u>	FLAT	OTHER:				
PHOTOS	<u>0539; 0540; 0541; 0542;</u>								
OTHER COMMENTS / SKETCH									
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 100%; height: 100%;"></div> </div>									

FIELD NOISE MEASUREMENT DATA

DUDEK

PROJECT <u>EL CAMINO COLLEGE FIRE ACADEMY</u>	PROJECT # <u>13453</u>
SITE ID _____	OBSERVER(S) <u>PEYE VITAR</u>
SITE ADDRESS _____	
START DATE <u>8/18/21</u>	END DATE <u>8/18/21</u>
START TIME _____	END TIME _____

METEOROLOGICAL CONDITIONS

TEMP 76 F HUMIDITY 60 % R.H. WIND CALM LIGHT MODERATE
 WINDSPD 8 MPH DIR N NE S SE S SW W NW VARIABLE STEADY GUSTY
 SKY SUNNY CLEAR OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT PICCOLLO SLM-P3 TYPE 1 2 SERIAL # 140317004
 CALIBRATOR ISSWA CA 114 SERIAL # 490151
 CALIBRATION CHECK _____ PRE-TEST _____ dBA SPL POST-TEST _____ dBA SPL WINDSCREEN YES

SETTINGS A-WTD SLOW FAST FRONTAL RANDOM ANSI OTHER: _____

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC)
<u>ST4</u> D-65	<u>13:29</u>	<u>13:44</u>							

COMMENTS
READING TAKEN IN PARTIAL AVE ON SOUTH SIDE OF EL CAMINO COLLEGE, ALONG REDONDO BEACH BLVD; PRIMARY NOISE SOURCE IS TRAFFIC ALONG REDONDO BEACH BLVD;

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE TRAFFIC AIRCRAFT RAIL INDUSTRIAL OTHER: _____
 ROADWAY TYPE: ASPH DIST. TO RDWY APX 160' TO C/L ON REDONDO BEACH BLVD

TRAFFIC COUNT DURATION: 15 MIN SPEED _____ MIN SPEED _____

COUNT 1 (OR RDWY 1)	DIRECTION	NB/EB		SB/WB		IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE	COUNT 2 (OR RDWY 2)	NB/EB		SB/WB	
		NB/EB	SB/WB	NB/EB	SB/WB			NB/EB	SB/WB		
	AUTOS	417									
	MED TRKS	5									
	HVY TRKS	0									
	BUSES	4									
	MOTOCLS	1									

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
 POSTED SPEED LIMIT SIGNS SAY: _____

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL
 DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
 OTHER: _____

DESCRIPTION / SKETCH

TERRAIN HARD SOFT MIXED FLAT OTHER: _____
 PHOTOS 0546; 0547; 0548; 0549; 0550; 0551;
 OTHER COMMENTS / SKETCH _____

Construction Noise Model Input / Output

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/30/2021

Case Descriptio El Camino College Fire Academy_Ph 1 Demo Nearest

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

		Equipment				
		Impact	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description	Device	Usage(%)				
Dozer	No	40		81.7	150	0
Backhoe	No	40		77.6	180	0
Concrete Saw	No	20		89.6	200	0
Front End Loader	No	40		79.1	210	0
Tractor	No	40	84		220	0

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		72.1	68.1	N/A	N/A	N/A	N/A
Backhoe		66.4	62.5	N/A	N/A	N/A	N/A
Concrete Saw		77.5	70.5	N/A	N/A	N/A	N/A
Front End Loader		66.6	62.7	N/A	N/A	N/A	N/A
Tractor		71.1	67.2	N/A	N/A	N/A	N/A
	Total	77.5	74.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

		Equipment				
		Impact	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description	Device	Usage(%)				
Dozer	No	40		81.7	400	0
Backhoe	No	40		77.6	420	0
Concrete Saw	No	20		89.6	440	0
Front End Loader	No	40		79.1	430	0
Tractor	No	40	84		450	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	
Backhoe	71.1	64.1	N/A	N/A	N/A	N/A	
Concrete Saw	58.7	54.7	N/A	N/A	N/A	N/A	
Front End Loader	60.4	56.4	N/A	N/A	N/A	N/A	
Tractor	64.9	60.9	N/A	N/A	N/A	N/A	
Total	71.1	67.4	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Dozer	No	40	
Backhoe	No	40		77.6	320	0
Concrete Saw	No	20		89.6	340	0
Front End Loader	No	40		79.1	330	0
Tractor	No	40	84		350	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Dozer	66.1	62.1	N/A	N/A	N/A	N/A	
Backhoe	73.5	66.5	N/A	N/A	N/A	N/A	
Concrete Saw	60.9	56.9	N/A	N/A	N/A	N/A	
Front End Loader	62.7	58.7	N/A	N/A	N/A	N/A	
Tractor	67.1	63.1	N/A	N/A	N/A	N/A	
Total	73.5	69.7	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/30/2021

Case Descriptic El Camino College Fire Academy_Ph 1 Demo Typical

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Dozer	No	40		81.7	300	0
Backhoe	No	40		77.6	300	0
Concrete Saw	No	20		89.6	300	0
Front End Loader	No	40		79.1	300	0
Tractor	No	40	84		300	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day		Noise Limits (dBA)	
			Lmax	Leq	Evening Lmax	Evening Leq
Dozer	66.1	62.1	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A
Concrete Saw	74	67	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A
Tractor	68.4	64.5	N/A	N/A	N/A	N/A
Total	74	70.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Dozer	No	40		81.7	620	0
Backhoe	No	40		77.6	620	0
Concrete Saw	No	20		89.6	620	0
Front End Loader	No	40		79.1	620	0
Tractor	No	40	84		620	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day		Noise Limits (dBA)	
			Lmax	Leq	Evening Lmax	Evening Leq
Dozer	59.8	55.8	N/A	N/A	N/A	N/A
Backhoe	67.7	60.7	N/A	N/A	N/A	N/A
Concrete Saw	55.7	51.7	N/A	N/A	N/A	N/A
Front End Loader	57.2	53.3	N/A	N/A	N/A	N/A
Tractor	62.1	58.2	N/A	N/A	N/A	N/A
Total	67.7	64.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

		Equipment				
		Spec	Actual	Receptor	Estimated	
		Impact	Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dozer	No	40		81.7	460	0
Backhoe	No	40		77.6	460	0
Concrete Saw	No	20		89.6	460	0
Front End Loader	No	40		79.1	460	0
Tractor	No	40	84		460	0

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		62.4	58.4	N/A	N/A	N/A	N/A
Backhoe		70.3	63.3	N/A	N/A	N/A	N/A
Concrete Saw		58.3	54.3	N/A	N/A	N/A	N/A
Front End Loader		59.8	55.9	N/A	N/A	N/A	N/A
Tractor		64.7	60.7	N/A	N/A	N/A	N/A
	Total	70.3	66.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/27/2021

Case Descriptic El Camino College Fire Academy_Ph 1 Site Prep Nearest

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

		Equipment				
		Spec	Actual	Receptor	Estimated	
		Impact	Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader	No	40	85		150	0
Front End Loader	No	40		79.1	170	0
Scraper	No	40		83.6	200	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq
Grader	75.5	71.5	N/A	N/A	N/A	N/A
Front End Loader	68.5	64.5	N/A	N/A	N/A	N/A
Scraper	71.5	67.6	N/A	N/A	N/A	N/A
Total	75.5	73.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Device	Impact	Usage(%)	Equipment			Receptor Distance (feet)	Estimated Shielding (dBA)
				Spec	Actual			
				Lmax (dBA)	Lmax (dBA)			
Grader	No	No	40	85		400	0	
Front End Loader	No	No	40		79.1	430	0	
Scraper	No	No	40		83.6	450	0	

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq
Grader	66.9	63	N/A	N/A	N/A	N/A
Front End Loader	60.4	56.4	N/A	N/A	N/A	N/A
Scraper	64.5	60.5	N/A	N/A	N/A	N/A
Total	66.9	65.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Device	Impact	Usage(%)	Equipment			Receptor Distance (feet)	Estimated Shielding (dBA)
				Spec	Actual			
				Lmax (dBA)	Lmax (dBA)			
Grader	No	No	40	85		300	0	
Front End Loader	No	No	40		79.1	330	0	
Scraper	No	No	40		83.6	350	0	

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq

Grader	69.4	65.5	N/A	N/A	N/A	N/A
Front End Loader	62.7	58.7	N/A	N/A	N/A	N/A
Scraper	66.7	62.7	N/A	N/A	N/A	N/A
Total	69.4	67.9	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/27/2021

Case Descriptio El Camino College Fire Academy_Ph 1 Site Prep Typical

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

		Equipment				
		Spec	Actual	Receptor	Estimated	
Description	Impact	Lmax	Lmax	Distance	Shielding	
	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader	No	40	85	300	0	
Front End Loader	No	40		79.1	300	0
Scraper	No	40		83.6	300	0

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		69.4	65.5	N/A	N/A	N/A	N/A
Front End Loader		63.5	59.6	N/A	N/A	N/A	N/A
Scraper		68	64	N/A	N/A	N/A	N/A
Total		69.4	68.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

		Equipment				
		Spec	Actual	Receptor	Estimated	
Description	Impact	Lmax	Lmax	Distance	Shielding	
	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader	No	40	85	620	0	
Front End Loader	No	40		79.1	620	0
Scraper	No	40		83.6	620	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	Leq
Grader	63.1	59.2	N/A	N/A	N/A	N/A
Front End Loader	57.2	53.3	N/A	N/A	N/A	N/A
Scraper	61.7	57.7	N/A	N/A	N/A	N/A
Total	63.1	62.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		460	0
Front End Loader	No	40		79.1	460	0
Scraper	No	40		83.6	460	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	Leq
Grader	65.7	61.7	N/A	N/A	N/A	N/A
Front End Loader	59.8	55.9	N/A	N/A	N/A	N/A
Scraper	64.3	60.3	N/A	N/A	N/A	N/A
Total	65.7	64.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/27/2021

Case Descriptio El Camino College Fire Academy_Ph 1 Grading Nearest

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Impact	Equipment			
	Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding

Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dozer	No	40			81.7	150
Backhoe	No	40			77.6	180
Front End Loader	No	40			79.1	200
Grader	No	40	85			170

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Dozer	72.1	68.1	N/A	N/A	N/A	N/A
Backhoe	66.4	62.5	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A
Grader	74.4	70.4	N/A	N/A	N/A	N/A
Total	74.4	73.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Device	Usage(%)	Equipment				
			Impact	Spec	Actual	Receptor	Estimated
				Lmax	Lmax	Distance	Shielding
			(dBA)	(dBA)	(feet)	(dBA)	
Dozer	No	40		81.7	400	0	
Backhoe	No	40		77.6	420	0	
Front End Loader	No	40		79.1	440	0	
Grader	No	40	85		430	0	

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Dozer	63.6	59.6	N/A	N/A	N/A	N/A
Backhoe	59.1	55.1	N/A	N/A	N/A	N/A
Front End Loader	60.2	56.2	N/A	N/A	N/A	N/A
Grader	66.3	62.3	N/A	N/A	N/A	N/A
Total	66.3	65.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Device	Usage(%)	Equipment				
			Impact	Spec	Actual	Receptor	Estimated
				Lmax	Lmax	Distance	Shielding
			(dBA)	(dBA)	(feet)	(dBA)	

Description	Impact	Usage(%)	Lmax	Lmax	Distance (feet)	Shielding (dBA)
	Device		(dBA)	(dBA)		
Dozer	No	40		81.7	300	0
Backhoe	No	40		77.6	320	0
Front End Loader	No	40		79.1	340	0
Grader	No	40	85		330	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq
Dozer	66.1	62.1	N/A	N/A	N/A	N/A
Backhoe	61.4	57.5	N/A	N/A	N/A	N/A
Front End Loader	62.5	58.5	N/A	N/A	N/A	N/A
Grader	68.6	64.6	N/A	N/A	N/A	N/A
Total	68.6	67.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/27/2021

Case Descriptic El Camino College Fire Academy_Ph 1 Grading Typical

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact	Usage(%)	Equipment			
			Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Dozer	No	40		81.7	300	0
Backhoe	No	40		77.6	300	0
Front End Loader	No	40		79.1	300	0
Grader	No	40	85		300	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq
Dozer	66.1	62.1	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A
Grader	69.4	65.5	N/A	N/A	N/A	N/A
Total	69.4	68.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)						
Description	Land Use	Daytime	Evening	Night				
Park to NW	Residential	65	60	55				
					Equipment			
					Spec	Actual	Receptor	Estimated
					Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)		
Dozer	No	40			81.7	620	0	
Backhoe	No	40			77.6	620	0	
Front End Loader	No	40			79.1	620	0	
Grader	No	40	85			620	0	

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		59.8	55.8	N/A	N/A	N/A	N/A
Backhoe		55.7	51.7	N/A	N/A	N/A	N/A
Front End Loader		57.2	53.3	N/A	N/A	N/A	N/A
Grader		63.1	59.2	N/A	N/A	N/A	N/A
	Total	63.1	61.9	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)						
Description	Land Use	Daytime	Evening	Night				
ECC to N	Residential	65	60	55				
					Equipment			
					Spec	Actual	Receptor	Estimated
					Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)		
Dozer	No	40			81.7	460	0	
Backhoe	No	40			77.6	460	0	
Front End Loader	No	40			79.1	460	0	
Grader	No	40	85			460	0	

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		62.4	58.4	N/A	N/A	N/A	N/A
Backhoe		58.3	54.3	N/A	N/A	N/A	N/A
Front End Loader		59.8	55.9	N/A	N/A	N/A	N/A
Grader		65.7	61.7	N/A	N/A	N/A	N/A

Total 65.7 64.5 N/A N/A N/A N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/27/2021

Case Descriptio El Camino College Fire Academy_Ph 1 Trenching Nearest

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	150	0
Backhoe	No	40		77.6	180	0
Slurry Trenching Machine	No	50		80.4	200	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Compactor (ground)	73.7	66.7	N/A	N/A	N/A	N/A
Backhoe	66.4	62.5	N/A	N/A	N/A	N/A
Slurry Trenching Machine	68.3	65.3	N/A	N/A	N/A	N/A
Total	73.7	69.9	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	400	0
Backhoe	No	40		77.6	420	0
Slurry Trenching Machine	No	50		80.4	440	0

Results

Calculated (dBA)	Noise Limits (dBA)
------------------	--------------------

Equipment	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Compactor (ground)	65.2	58.2	N/A	N/A	N/A	N/A
Backhoe	59.1	55.1	N/A	N/A	N/A	N/A
Slurry Trenching Machine	61.5	58.5	N/A	N/A	N/A	N/A
Total	65.2	62.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
			Compactor (ground)	No		
Backhoe	No	40	77.6	320	0	
Slurry Trenching Machine	No	50	80.4	340	0	

Equipment	*Lmax	Leq	Results			
			Calculated (dBA)		Noise Limits (dBA)	
			Day Lmax	Day Leq	Evening Lmax	Evening Leq
Compactor (ground)	67.7	60.7	N/A	N/A	N/A	N/A
Backhoe	61.4	57.5	N/A	N/A	N/A	N/A
Slurry Trenching Machine	63.7	60.7	N/A	N/A	N/A	N/A
Total	67.7	64.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/27/2021

Case Descriptic El Camino College Fire Academy_Ph 1 Trenching Typical

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
			Compactor (ground)	No		
Backhoe	No	40	77.6	300	0	

Slurry Trenching Machine	No	50	80.4	300	0
--------------------------	----	----	------	-----	---

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq
Compactor (ground)	67.7	60.7	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A
Slurry Trenching Machine	64.8	61.8	N/A	N/A	N/A	N/A
Total	67.7	65.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compactor (ground)	No	20		83.2	620	0
Backhoe	No	40		77.6	620	0
Slurry Trenching Machine	No	50		80.4	620	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq
Compactor (ground)	61.4	54.4	N/A	N/A	N/A	N/A
Backhoe	55.7	51.7	N/A	N/A	N/A	N/A
Slurry Trenching Machine	58.5	55.5	N/A	N/A	N/A	N/A
Total	61.4	58.9	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compactor (ground)	No	20		83.2	460	0
Backhoe	No	40		77.6	460	0
Slurry Trenching Machine	No	50		80.4	460	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Compactor (ground)	64	57	N/A	N/A	N/A	N/A	
Backhoe	58.3	54.3	N/A	N/A	N/A	N/A	
Slurry Trenching Machine	61.1	58.1	N/A	N/A	N/A	N/A	
Total	64	61.5	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/27/2021

Case Descriptio ECC College Fire Acdmy_Ph 1 ModBldInst Nearest

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Crane	No	16	80.6
Man Lift	No	20	74.7	180	0	
Man Lift	No	20	74.7	200	0	
Front End Loader	No	40	79.1	170	0	
Welder / Torch	No	40	74	220	0	
Welder / Torch	No	40	74	180	0	
Welder / Torch	No	40	74	210	0	
Generator	No	50	80.6	170	0	

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Crane	71	63	N/A	N/A	N/A	N/A	
Man Lift	63.6	56.6	N/A	N/A	N/A	N/A	
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	
Front End Loader	68.5	64.5	N/A	N/A	N/A	N/A	
Welder / Torch	61.1	57.2	N/A	N/A	N/A	N/A	
Welder / Torch	62.9	58.9	N/A	N/A	N/A	N/A	
Welder / Torch	61.5	57.6	N/A	N/A	N/A	N/A	
Generator	70	67	N/A	N/A	N/A	N/A	
Total	71	71	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

		Equipment				
		Impact	Spec	Actual	Receptor	Estimated
Description	Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Crane	No	16		80.6	400	0
Man Lift	No	20		74.7	420	0
Man Lift	No	20		74.7	440	0
Front End Loader	No	40		79.1	430	0
Welder / Torch	No	40		74	450	0
Welder / Torch	No	40		74	440	0
Welder / Torch	No	40		74	470	0
Generator	No	50		80.6	440	0

		Results					
		Calculated (dBA)			Noise Limits (dBA)		
				Day	Evening		
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		62.5	54.5	N/A	N/A	N/A	N/A
Man Lift		56.2	49.2	N/A	N/A	N/A	N/A
Man Lift		55.8	48.8	N/A	N/A	N/A	N/A
Front End Loader		60.4	56.4	N/A	N/A	N/A	N/A
Welder / Torch		54.9	50.9	N/A	N/A	N/A	N/A
Welder / Torch		55.1	51.1	N/A	N/A	N/A	N/A
Welder / Torch		54.5	50.6	N/A	N/A	N/A	N/A
Generator		61.7	58.7	N/A	N/A	N/A	N/A
	Total	62.5	63	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

		Equipment				
		Impact	Spec	Actual	Receptor	Estimated
Description	Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Crane	No	16		80.6	300	0
Man Lift	No	20		74.7	320	0
Man Lift	No	20		74.7	340	0
Front End Loader	No	40		79.1	330	0
Welder / Torch	No	40		74	350	0
Welder / Torch	No	40		74	330	0
Welder / Torch	No	40		74	370	0

Generator No 50 80.6 350 0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Crane	65	57	N/A	N/A	N/A	N/A
Man Lift	58.6	51.6	N/A	N/A	N/A	N/A
Man Lift	58	51.1	N/A	N/A	N/A	N/A
Front End Loader	62.7	58.7	N/A	N/A	N/A	N/A
Welder / Torch	57.1	53.1	N/A	N/A	N/A	N/A
Welder / Torch	57.6	53.6	N/A	N/A	N/A	N/A
Welder / Torch	56.6	52.6	N/A	N/A	N/A	N/A
Generator	63.7	60.7	N/A	N/A	N/A	N/A
Total	65	65.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/27/2021

Case Descriptio ECC College Fire Acdmy_Ph 1 ModBldInst Typical

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact	Device	Usage(%)	Equipment		
				Spec	Actual	Receptor
				Lmax (dBA)	Lmax (dBA)	Distance (feet)
Crane	No		16	80.6	300	0
Man Lift	No		20	74.7	300	0
Man Lift	No		20	74.7	300	0
Front End Loader	No		40	79.1	300	0
Welder / Torch	No		40	74	300	0
Welder / Torch	No		40	74	300	0
Welder / Torch	No		40	74	300	0
Generator	No		50	80.6	300	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Crane	65	57	N/A	N/A	N/A	N/A
Man Lift	59.1	52.1	N/A	N/A	N/A	N/A
Man Lift	59.1	52.1	N/A	N/A	N/A	N/A

Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A
Welder / Torch	58.4	54.5	N/A	N/A	N/A	N/A
Welder / Torch	58.4	54.5	N/A	N/A	N/A	N/A
Welder / Torch	58.4	54.5	N/A	N/A	N/A	N/A
Generator	65.1	62.1	N/A	N/A	N/A	N/A
Total	65.1	66.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Crane	No	16	80.6
Man Lift	No	20	74.7	620	0	
Man Lift	No	20	74.7	620	0	
Front End Loader	No	40	79.1	620	0	
Welder / Torch	No	40	74	620	0	
Welder / Torch	No	40	74	620	0	
Welder / Torch	No	40	74	620	0	
Generator	No	50	80.6	620	0	

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Day		Evening	
				Leq	Lmax	Leq	
Crane	58.7	50.7	N/A	N/A	N/A	N/A	N/A
Man Lift	52.8	45.8	N/A	N/A	N/A	N/A	N/A
Man Lift	52.8	45.8	N/A	N/A	N/A	N/A	N/A
Front End Loader	57.2	53.3	N/A	N/A	N/A	N/A	N/A
Welder / Torch	52.1	48.2	N/A	N/A	N/A	N/A	N/A
Welder / Torch	52.1	48.2	N/A	N/A	N/A	N/A	N/A
Welder / Torch	52.1	48.2	N/A	N/A	N/A	N/A	N/A
Generator	58.8	55.8	N/A	N/A	N/A	N/A	N/A
Total	58.8	59.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact	Equipment			
		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
		ECC to N	Residential	65	60

Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Crane	No	16		80.6	460	0
Man Lift	No	20		74.7	460	0
Man Lift	No	20		74.7	460	0
Front End Loader	No	40		79.1	460	0
Welder / Torch	No	40		74	460	0
Welder / Torch	No	40		74	460	0
Welder / Torch	No	40		74	460	0
Generator	No	50		80.6	460	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Crane	61.3	53.3	N/A	N/A	N/A	N/A
Man Lift	55.4	48.4	N/A	N/A	N/A	N/A
Man Lift	55.4	48.4	N/A	N/A	N/A	N/A
Front End Loader	59.8	55.9	N/A	N/A	N/A	N/A
Welder / Torch	54.7	50.7	N/A	N/A	N/A	N/A
Welder / Torch	54.7	50.7	N/A	N/A	N/A	N/A
Welder / Torch	54.7	50.7	N/A	N/A	N/A	N/A
Generator	61.4	58.3	N/A	N/A	N/A	N/A
Total	61.4	62.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/27/2021

Case Descriptic El Camino College Fire Academy_Ph 1 Paving Nearest

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Device	Usage(%)	Equipment			
			Impact	Spec	Actual	Receptor
				Lmax	Lmax	Distance
			(dBA)	(dBA)	(feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	150	0
Concrete Mixer Truck	No	40		78.8	180	0
Roller	No	20		80	200	0
Roller	No	20		80	170	0
Tractor	No	40	84		220	0
Concrete Pump Truck	No	20		81.4	190	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Paver	67.7	64.7	N/A	N/A	N/A	N/A	
Concrete Mixer Truck	67.7	63.7	N/A	N/A	N/A	N/A	
Roller	68	61	N/A	N/A	N/A	N/A	
Roller	69.4	62.4	N/A	N/A	N/A	N/A	
Tractor	71.1	67.2	N/A	N/A	N/A	N/A	
Concrete Pump Truck	69.8	62.8	N/A	N/A	N/A	N/A	
Total	71.1	71.9	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact	Device	Usage(%)	Equipment		
				Spec	Actual	Receptor
				Lmax (dBA)	Lmax (dBA)	Distance (feet)
Paver	No		50	77.2	400	0
Concrete Mixer Truck	No		40	78.8	420	0
Roller	No		20	80	440	0
Roller	No		20	80	430	0
Tractor	No		40	84	450	0
Concrete Pump Truck	No		20	81.4	460	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Paver	59.2	56.1	N/A	N/A	N/A	N/A	
Concrete Mixer Truck	60.3	56.3	N/A	N/A	N/A	N/A	
Roller	61.1	54.1	N/A	N/A	N/A	N/A	
Roller	61.3	54.3	N/A	N/A	N/A	N/A	
Tractor	64.9	60.9	N/A	N/A	N/A	N/A	
Concrete Pump Truck	62.1	55.1	N/A	N/A	N/A	N/A	
Total	64.9	64.7	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact	Device	Usage(%)	Equipment		
				Spec	Actual	Receptor
				Lmax (dBA)	Lmax (dBA)	Distance (feet)
						Estimated Shielding (dBA)

Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Paver	No	50		77.2	300	0
Concrete Mixer Truck	No	40		78.8	320	0
Roller	No	20		80	340	0
Roller	No	20		80	330	0
Tractor	No	40	84		350	0
Concrete Pump Truck	No	20		81.4	340	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Paver	61.7	58.6	N/A	N/A	N/A	N/A
Concrete Mixer Truck	62.7	58.7	N/A	N/A	N/A	N/A
Roller	63.3	56.4	N/A	N/A	N/A	N/A
Roller	63.6	56.6	N/A	N/A	N/A	N/A
Tractor	67.1	63.1	N/A	N/A	N/A	N/A
Concrete Pump Truck	64.7	57.8	N/A	N/A	N/A	N/A
Total	67.1	67	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/30/2021

Case Descriptio El Camino College Fire Academy_Ph 1 Paving Typical

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Device	Usage(%)	Equipment			
			Spec	Actual	Receptor	Estimated
			Lmax	Lmax	Distance	Shielding
Paver	No	50	(dBA)	(dBA)	(feet)	(dBA)
Concrete Mixer Truck	No	40		77.2	300	0
Roller	No	20		78.8	300	0
Roller	No	20		80	300	0
Tractor	No	40	84		300	0
Concrete Pump Truck	No	20		81.4	300	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Paver	61.7	58.6	N/A	N/A	N/A	N/A

Concrete Mixer Truck	63.2	59.3	N/A	N/A	N/A	N/A
Roller	64.4	57.4	N/A	N/A	N/A	N/A
Roller	64.4	57.4	N/A	N/A	N/A	N/A
Tractor	68.4	64.5	N/A	N/A	N/A	N/A
Concrete Pump Truck	65.8	58.8	N/A	N/A	N/A	N/A
Total	68.4	68	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Paver	No	50	77.2
Concrete Mixer Truck	No	40	78.8	620	0	
Roller	No	20	80	620	0	
Roller	No	20	80	620	0	
Tractor	No	40	84	620	0	
Concrete Pump Truck	No	20	81.4	620	0	

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Paver	55.4	52.3	N/A	N/A	N/A	N/A
Concrete Mixer Truck	56.9	53	N/A	N/A	N/A	N/A
Roller	58.1	51.1	N/A	N/A	N/A	N/A
Roller	58.1	51.1	N/A	N/A	N/A	N/A
Tractor	62.1	58.2	N/A	N/A	N/A	N/A
Concrete Pump Truck	59.5	52.5	N/A	N/A	N/A	N/A
Total	62.1	61.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Paver	No	50	77.2
Concrete Mixer Truck	No	40	78.8	460	0	
Roller	No	20	80	460	0	

Roller	No	20		80	460	0
Tractor	No	40	84		460	0
Concrete Pump Truck	No	20		81.4	460	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Paver	57.9	54.9	N/A	N/A	N/A	N/A
Concrete Mixer Truck	59.5	55.5	N/A	N/A	N/A	N/A
Roller	60.7	53.7	N/A	N/A	N/A	N/A
Roller	60.7	53.7	N/A	N/A	N/A	N/A
Tractor	64.7	60.7	N/A	N/A	N/A	N/A
Concrete Pump Truck	62.1	55.1	N/A	N/A	N/A	N/A
Total	64.7	64.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/27/2021

Case Descriptio ECC Fire Academy_Ph 1 Arch Coating Nearest

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Compressor (air)	No	40	77.7

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Compressor (air)	68.1	64.1	N/A	N/A	N/A	N/A
Total	68.1	64.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compressor (air)	No	40		77.7	400	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day	Leq	Evening	Leq
			Lmax		Lmax	
Compressor (air)	59.6	55.6	N/A	N/A	N/A	N/A
Total	59.6	55.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compressor (air)	No	40		77.7	300	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day	Leq	Evening	Leq
			Lmax		Lmax	
Compressor (air)	62.1	58.1	N/A	N/A	N/A	N/A
Total	62.1	58.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/27/2021

Case Descriptic ECC Fire Academy_Ph 1 Arch Coating Typical

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compressor (air)	No	40		77.7	300	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Evening	Lmax	Leq
Compressor (air)	62.1	58.1	N/A	N/A	N/A	N/A
Total	62.1	58.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	620	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Evening	Lmax	Leq
Compressor (air)	55.8	51.8	N/A	N/A	N/A	N/A
Total	55.8	51.8	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	460	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Evening	Lmax	Leq
Compressor (air)	58.4	54.4	N/A	N/A	N/A	N/A
Total	58.4	54.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/30/2021

Case Descriptio El Camino College Fire Academy_Ph 2 Site Prep Nearest

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Resis to S, SW	Residential	65	60	55			

		Equipment				
Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Grader	No	40	85		150	0
Front End Loader	No	40		79.1	170	0
Scraper	No	40		83.6	200	0

Results

		Calculated (dBA)		Noise Limits (dBA)			
Equipment		*Lmax	Leq	Day		Evening	
				Lmax	Leq	Lmax	Leq
Grader		75.5	71.5	N/A	N/A	N/A	N/A
Front End Loader		68.5	64.5	N/A	N/A	N/A	N/A
Scraper		71.5	67.6	N/A	N/A	N/A	N/A
	Total	75.5	73.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Park to NW	Residential	65	60	55			

		Equipment				
Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Grader	No	40	85		450	0
Front End Loader	No	40		79.1	480	0
Scraper	No	40		83.6	500	0

Results

		Calculated (dBA)		Noise Limits (dBA)			
Equipment		*Lmax	Leq	Day		Evening	
				Lmax	Leq	Lmax	Leq
Grader		65.9	61.9	N/A	N/A	N/A	N/A
Front End Loader		59.5	55.5	N/A	N/A	N/A	N/A
Scraper		63.6	59.6	N/A	N/A	N/A	N/A

Total 65.9 64.5 N/A N/A N/A N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
ECC to N	Residential	65	60	55			
		Equipment					
		Impact	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description	Device						
Grader	No		40	85		430	0
Front End Loader	No		40		79.1	450	0
Scraper	No		40		83.6	470	0

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		66.3	62.3	N/A	N/A	N/A	N/A
Front End Loader		60	56	N/A	N/A	N/A	N/A
Scraper		64.1	60.1	N/A	N/A	N/A	N/A
Total		66.3	65	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/30/2021

Case Descriptic El Camino College Fire Academy_Ph 2 Site Prep Typical

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Resis to S, SW	Residential	65	60	55			
		Equipment					
		Impact	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description	Device						
Grader	No		40	85		225	0
Front End Loader	No		40		79.1	225	0
Scraper	No		40		83.6	225	0

Results

		Calculated (dBA)		Noise Limits (dBA)	
--	--	------------------	--	--------------------	--

Equipment	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Grader	71.9		68	N/A	N/A	N/A
Front End Loader	66		62.1	N/A	N/A	N/A
Scraper	70.5		66.5	N/A	N/A	N/A
Total	71.9		70.9	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85		640	0
Front End Loader	No	40		79.1	640	0
Scraper	No	40		83.6	640	0

Results

Equipment	*Lmax	Leq	Calculated (dBA)		Noise Limits (dBA)	
			Day	Evening	Lmax	Leq
Grader	62.9		58.9	N/A	N/A	N/A
Front End Loader	57		53	N/A	N/A	N/A
Scraper	61.4		57.5	N/A	N/A	N/A
Total	62.9		61.8	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85		515	0
Front End Loader	No	40		79.1	515	0
Scraper	No	40		83.6	515	0

Results

Equipment	*Lmax	Leq	Calculated (dBA)		Noise Limits (dBA)	
			Day	Evening	Lmax	Leq
Grader	64.7		60.8	N/A	N/A	N/A

Front End Loader	58.9	54.9	N/A	N/A	N/A	N/A
Scraper	63.3	59.3	N/A	N/A	N/A	N/A
Total	64.7	63.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/30/2021

Case Descriptic ECC College Fire Acdmy_Ph 2 BldCnst Nearest

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

		Equipment				
		Spec	Actual	Receptor	Estimated	
Description	Impact	Lmax	Lmax	Distance	Shielding	
	Device	Usage(%)	(dBA)	(feet)	(dBA)	
Crane	No	16	80.6	150	0	
Man Lift	No	20	74.7	180	0	
Man Lift	No	20	74.7	200	0	
Front End Loader	No	40	79.1	170	0	
Welder / Torch	No	40	74	220	0	
Welder / Torch	No	40	74	180	0	
Welder / Torch	No	40	74	210	0	
Generator	No	50	80.6	170	0	

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		71	63	N/A	N/A	N/A	N/A
Man Lift		63.6	56.6	N/A	N/A	N/A	N/A
Man Lift		62.7	55.7	N/A	N/A	N/A	N/A
Front End Loader		68.5	64.5	N/A	N/A	N/A	N/A
Welder / Torch		61.1	57.2	N/A	N/A	N/A	N/A
Welder / Torch		62.9	58.9	N/A	N/A	N/A	N/A
Welder / Torch		61.5	57.6	N/A	N/A	N/A	N/A
Generator		70	67	N/A	N/A	N/A	N/A
Total		71	71	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night

Park to NW Residential 65 60 55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Crane	No	16	80.6
Man Lift	No	20	74.7	480	0	
Man Lift	No	20	74.7	500	0	
Front End Loader	No	40	79.1	470	0	
Welder / Torch	No	40	74	490	0	
Welder / Torch	No	40	74	510	0	
Welder / Torch	No	40	74	470	0	
Generator	No	50	80.6	440	0	

Equipment	Results			
	Calculated (dBA)		Noise Limits (dBA)	
	*Lmax	Leq	Day Lmax	Evening Leq
Crane	61.5	53.5	N/A	N/A
Man Lift	55.1	48.1	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A
Front End Loader	59.6	55.7	N/A	N/A
Welder / Torch	54.2	50.2	N/A	N/A
Welder / Torch	53.8	49.8	N/A	N/A
Welder / Torch	54.5	50.6	N/A	N/A
Generator	61.7	58.7	N/A	N/A
Total	61.7	62.5	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Crane	No	16	80.6
Man Lift	No	20	74.7	450	0	
Man Lift	No	20	74.7	500	0	
Front End Loader	No	40	79.1	460	0	
Welder / Torch	No	40	74	470	0	
Welder / Torch	No	40	74	510	0	
Welder / Torch	No	40	74	480	0	
Generator	No	50	80.6	460	0	

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Crane	61.9	53.9	N/A	N/A	N/A	N/A	
Man Lift	55.6	48.6	N/A	N/A	N/A	N/A	
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	
Front End Loader	59.8	55.9	N/A	N/A	N/A	N/A	
Welder / Torch	54.5	50.6	N/A	N/A	N/A	N/A	
Welder / Torch	53.8	49.8	N/A	N/A	N/A	N/A	
Welder / Torch	54.4	50.4	N/A	N/A	N/A	N/A	
Generator	61.4	58.3	N/A	N/A	N/A	N/A	
Total	61.9	62.5	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/30/2021

Case Descriptive ECC College Fire Academy_Ph 2 Bldg Const Typical

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
			Crane	No	16	80.6
Man Lift	No	20	74.7	225	0	
Man Lift	No	20	74.7	225	0	
Front End Loader	No	40	79.1	225	0	
Welder / Torch	No	40	74	225	0	
Welder / Torch	No	40	74	225	0	
Welder / Torch	No	40	74	225	0	
Generator	No	50	80.6	225	0	

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Crane	67.5	59.5	N/A	N/A	N/A	N/A	
Man Lift	61.6	54.6	N/A	N/A	N/A	N/A	
Man Lift	61.6	54.6	N/A	N/A	N/A	N/A	
Front End Loader	66	62.1	N/A	N/A	N/A	N/A	
Welder / Torch	60.9	57	N/A	N/A	N/A	N/A	
Welder / Torch	60.9	57	N/A	N/A	N/A	N/A	

Welder / Torch	60.9	57	N/A	N/A	N/A	N/A
Generator	67.6	64.6	N/A	N/A	N/A	N/A
Total	67.6	68.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Crane	No	16		80.6	640	0
Man Lift	No	20		74.7	640	0
Man Lift	No	20		74.7	640	0
Front End Loader	No	40		79.1	640	0
Welder / Torch	No	40		74	640	0
Welder / Torch	No	40		74	640	0
Welder / Torch	No	40		74	640	0
Generator	No	50		80.6	640	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Crane	58.4	50.4	N/A	N/A	N/A	N/A
Man Lift	52.6	45.6	N/A	N/A	N/A	N/A
Man Lift	52.6	45.6	N/A	N/A	N/A	N/A
Front End Loader	57	53	N/A	N/A	N/A	N/A
Welder / Torch	51.9	47.9	N/A	N/A	N/A	N/A
Welder / Torch	51.9	47.9	N/A	N/A	N/A	N/A
Welder / Torch	51.9	47.9	N/A	N/A	N/A	N/A
Generator	58.5	55.5	N/A	N/A	N/A	N/A
Total	58.5	59.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Crane	No	16		80.6	515	0
Man Lift	No	20		74.7	515	0

Man Lift	No	20	74.7	515	0
Front End Loader	No	40	79.1	515	0
Welder / Torch	No	40	74	515	0
Welder / Torch	No	40	74	515	0
Welder / Torch	No	40	74	515	0
Generator	No	50	80.6	515	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
Lmax			Lmax		Leq	
Crane	60.3	52.3	N/A	N/A	N/A	N/A
Man Lift	54.4	47.5	N/A	N/A	N/A	N/A
Man Lift	54.4	47.5	N/A	N/A	N/A	N/A
Front End Loader	58.9	54.9	N/A	N/A	N/A	N/A
Welder / Torch	53.7	49.8	N/A	N/A	N/A	N/A
Welder / Torch	53.7	49.8	N/A	N/A	N/A	N/A
Welder / Torch	53.7	49.8	N/A	N/A	N/A	N/A
Generator	60.4	57.4	N/A	N/A	N/A	N/A
Total	60.4	61.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/30/2021

Case Descriptic ECC Fire Academy_Ph 2 Arch Coating Nearest

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Equipment					
	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compressor (air)	No	40		77.7	150	0

Equipment	Results					
	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
Lmax			Lmax		Leq	
Compressor (air)	68.1	64.1	N/A	N/A	N/A	N/A
Total	68.1	64.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

		Equipment				
		Impact	Spec	Actual	Receptor	Estimated
Description	Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compressor (air)	No	40		77.7	450	0

		Results					
		Calculated (dBA)			Noise Limits (dBA)		
				Day	Evening		
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		58.6	54.6	N/A	N/A	N/A	N/A
	Total	58.6	54.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

		Equipment				
		Impact	Spec	Actual	Receptor	Estimated
Description	Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compressor (air)	No	40		77.7	430	0

		Results					
		Calculated (dBA)			Noise Limits (dBA)		
				Day	Evening		
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		59	55	N/A	N/A	N/A	N/A
	Total	59	55	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/30/2021
Case Descriptic ECC Fire Academy_Ph 2 Arch Coating Typical

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Resis to S, SW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	225	0

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Compressor (air)	64.6	60.6	N/A	N/A	N/A	N/A
Total	64.6	60.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Park to NW	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	640	0

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Compressor (air)	55.5	51.5	N/A	N/A	N/A	N/A
Total	55.5	51.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
ECC to N	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	515	0

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq

Compressor (air)	57.4	53.4	N/A	N/A	N/A	N/A
Total	57.4	53.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Mechanical Noise Calculations



TECHNICAL GUIDE

R-410A ZE/ZF/ZR/XN/XP SERIES 3 - 6 TON 60 Hertz



Description

YORK® ZE/ZF/ZR/XN/XP Series units are convertible single package high efficiency rooftops with a common roof curb for the 3, 4, 5 and 6 Ton sizes (ZE, ZR, XN, XP not available in 6 Ton). Although the units are primarily designed for curb mounting on a roof, they can also be slab-mounted at ground level or set on steel beams above a finished roof.

All ZE/ZF/ZR/XN/XP Series units are self-contained and assembled on rigid full perimeter base rails allowing for overhead rigging. Every unit is completely charged, wired, piped and tested at the factory to provide a quick and easy field installation.

All models (including those with an economizer) are convertible between bottom and horizontal duct connections.

ZE/ZF/ZR Series units are available in the following configurations: cooling only, cooling with electric heat, and cooling with one or two stage gas heat. Electric heaters are available as factory-installed option or field installed accessory.

XN/XP Series units are available in the following configurations: cooling and heating only and cooling and heating with electric heat.

Tested in accordance with:

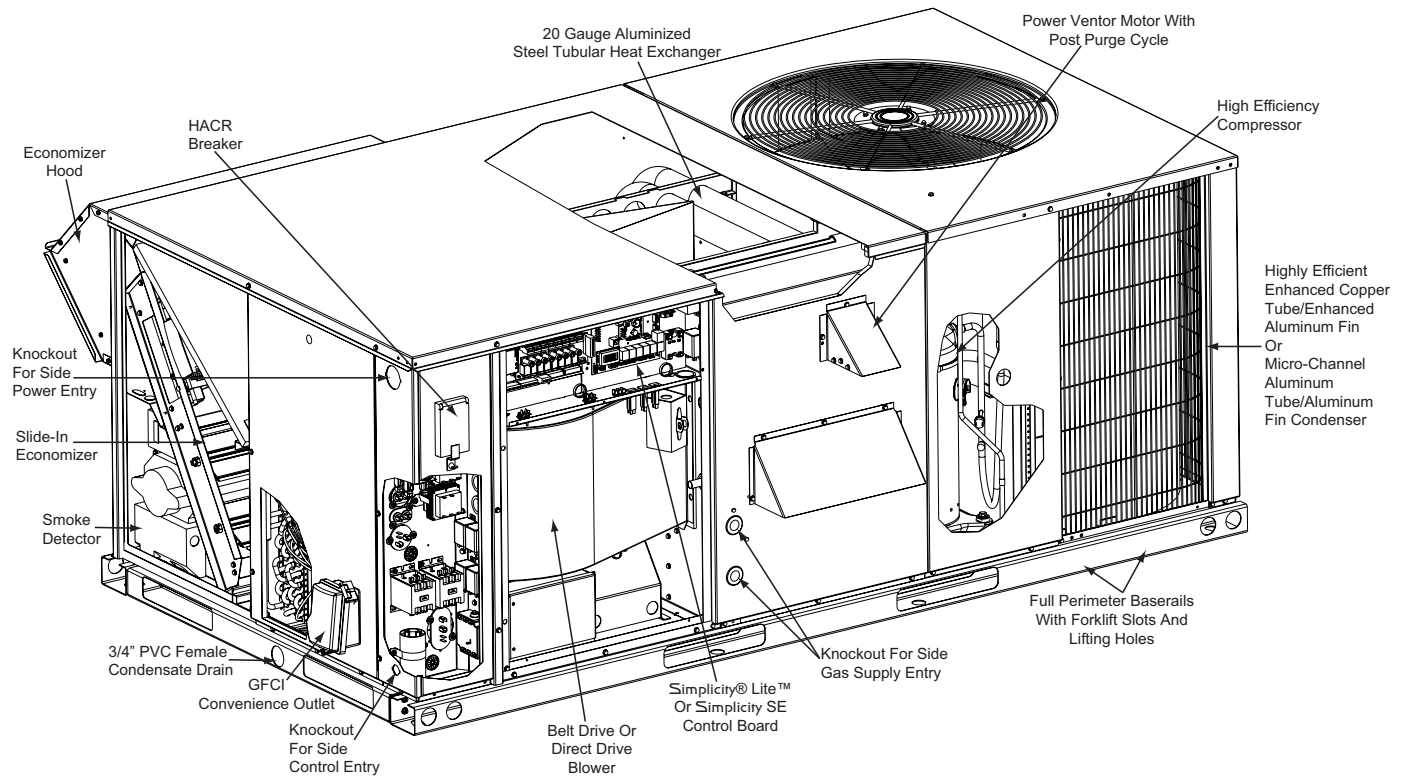


Table of Contents

Description	1
Table of Contents	2
Component Location	2
Nomenclature	4
Features and Benefits	5
Guide Specifications	9
Physical Data	12
Capacity Performance	25
Airflow Performance	67
Sound Performance	86
Electrical Data	87
Typical Field Power and Control Wiring	143
Weights and Dimensions	147

Component Location

Gas/Electric



Sound Performance

ZF/ZR/XP Indoor Sound Power Levels

Size (Tons)	CFM	ESP (IWG)	Blower		Sound Power, dB (10 ⁻¹²) Watts								
					Sound Rating ¹ dB (A)	Octave Band Centerline Frequency (Hz)							
			RPM	BHP		63	125	250	500	1000	2000	4000	8000
036 (3.0)	1200	0.2	630	0.41	63	82	77	59	50	43	42	40	45
048 (4.0)	1600	0.2	791	0.54	72	95	84	58	54	46	44	45	44
060 (5.0)	2000	0.2	840	0.67	62	84	71	58	53	50	49	49	49
072 (6.0)	2200	0.3	920	1.45	76	61	71	68	67	72	66	61	54

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings.

ZE/ZF/ZR Outdoor Sound Power Levels

Size (Tons)	Sound Rating ¹ dB (A)	Octave Band Centerline Frequency (Hz)							
		63	125	250	500	1000	2000	4000	8000
036 (3.0)	81	87.5	86.0	81.0	77.0	75.0	69.5	65.5	70.5
048 (4.0)	80	84.5	81.0	80.0	78.0	75.0	70.0	67.0	70.5
060 (5.0)	82	86.5	87.5	81.5	77.5	75.0	71.5	68.0	70.5
072 (6.0)	83	-	84.0	85.0	79.0	80.0	72.0	67.5	62.5

1. Rated in accordance with AHRI 270 standard.

XN/XP Outdoor Sound Power Levels

Size (Tons)	Sound Rating ¹ dB (A)	Octave Band Centerline Frequency (Hz)							
		63	125	250	500	1000	2000	4000	8000
036 (3.0)	76	83.5	84.5	76.5	72.0	68.0	66.0	60.0	56.0
048 (4.0)	80	85.0	83.0	81.0	77.5	75.5	71.5	67.5	61.5
060 (5.0)	80	86.0	84.0	81.0	77.0	75.5	71.0	66.5	60.5

1. Rated in accordance with AHRI 270 standard.

Sound Power Level, Sound Pressure Level

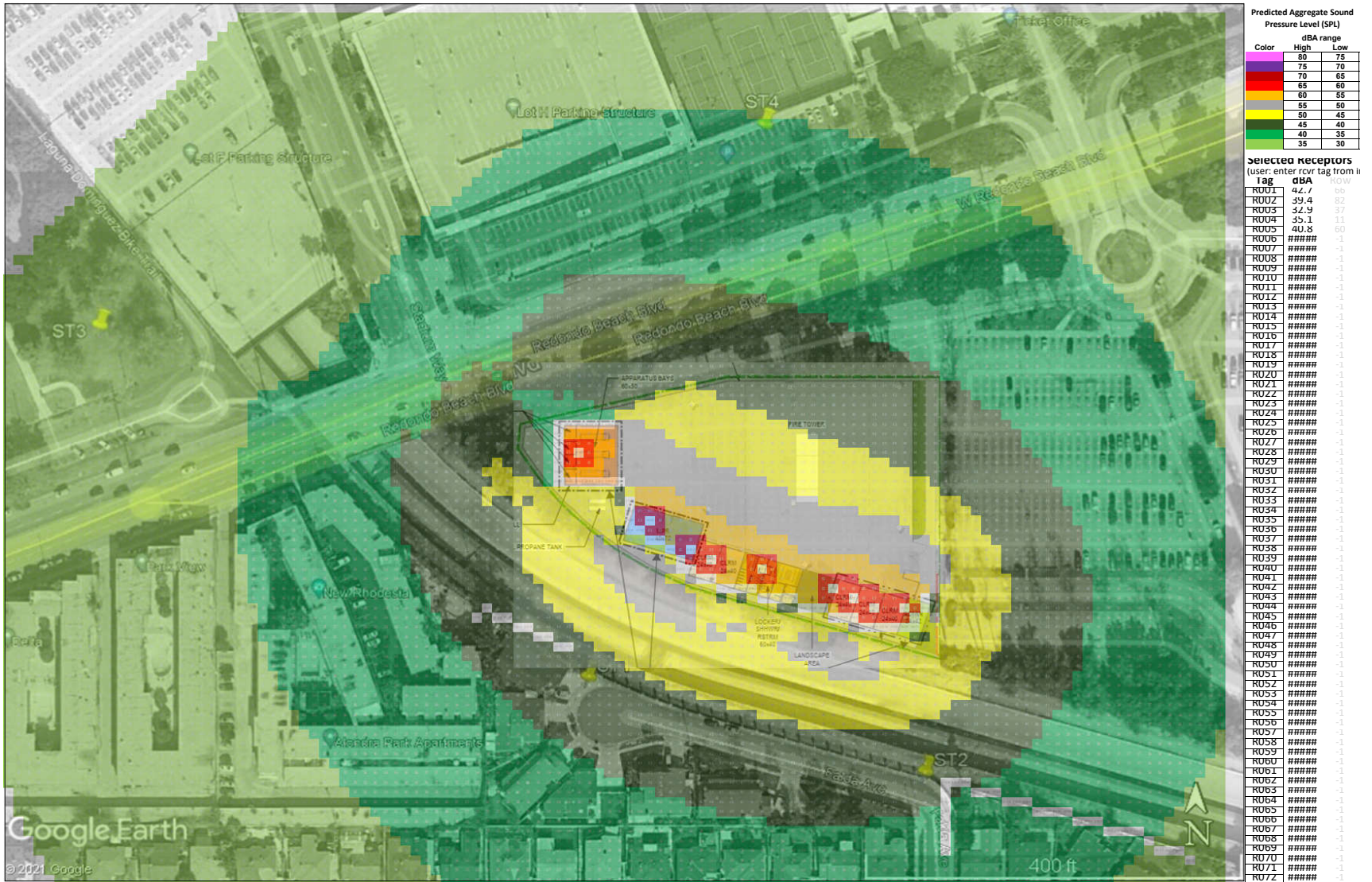
Per Diehl, pg. 80:

(Ref: Diehl, George M. Machinery Acoustics, 1974.)

$L_p = L_w - 20 \cdot \log(R) + 2.5$, in feet - true for a free field above a reflecting plane.

Test L_w (dBA)	Test R (Ft)	Diehl (Reflecting Plane): L_p (dBA)	
81.0	3.3	73.1	3 Tons York
82.0	3.3	74.2	5 Tons York
83.0	3.3	75.2	6 Tons York

HVAC Only



HVAC plus Training Activities

