Construction Noise Impact Analysis

noah tanski environmental consulting

11900 Saltair Terrace Residence: Relocation Preparation (ALT 4)

Ambient Noise Level:	55.3 dBA Leq
Distance:	100 feet

Unmitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Crane	74.2	0.16	66.2
Welder	71.2	0.4	67.2
Welder	71.2	0.4	67.2
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.0

Unmitigated Construction Noise Impact

Combined Equipment Noise Level	73.0 dBA Leq
Total Shielding (existing building rows/sound barrier)	0 dBA
Ground Factor	0
Distance - Equipment to Receptor	100 ft

Unmitigated Construction Noise Level	67.0 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	67.3 dBA Leq
Unmitigated Noise Increase	**12.0 dBA**

Mitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Crane	74.2	0.16	66.2
Welder	71.2	0.4	67.2
Welder	71.2	0.4	67.2
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.0

Mitigated Construction Noise Impact

Combined Equipment Noise Level	73.0 dBA Leq
Total Shielding (sound barrier)	15 dBA
Ground Factor	0
Distance - Equipment to Receptor	100 ft

Mitigated Construction Noise Level	52.0 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	57.0 dBA Leq
Mitigated Noise Increase	**1.7 dBA**

Construction Noise Impact Analysis

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Potential Receptor at 50 feet: Trenching/Grading (ALT 4)

Ambient Noise Level:	55.3 dBA Leq
Distance:	50 feet

Unmitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Unmitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (existing building rows/sound barrier)	0 dBA
Ground Factor	0
Distance - Equipment to Receptor	50 ft

Unmitigated Construction Noise Level	73.5 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	73.6 dBA Leq
Unmitigated Noise Increase	**18.3 dBA**

Mitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Mitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (sound barrier)	15 dBA
Ground Factor	0
Distance - Equipment to Receptor	50 ft

Mitigated Construction Noise Level	58.5 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	60.2 dBA Leq
Mitigated Noise Increase	**4.9 dBA**

Construction Noise Impact Analysis

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Potential Receptor at 75 feet: Trenching/Grading (ALT 4)

Ambient Noise Level:	55.3 dBA Leq
Distance:	75 feet

Unmitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Unmitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (existing building rows/sound barrier)	0 dBA
Ground Factor	0
Distance - Equipment to Receptor	75 ft

Unmitigated Construction Noise Level	70.0 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	70.1 dBA Leq
Unmitigated Noise Increase	**14.8 dBA**

Mitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Mitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (sound barrier)	15 dBA
Ground Factor	0
Distance - Equipment to Receptor	75 ft

Mitigated Construction Noise Level	55.0 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	58.2 dBA Leq
Mitigated Noise Increase	**2.9 dBA**

Construction Noise Impact Analysis

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Potential Receptor at 100 feet: Trenching/Grading (ALT 4)

Ambient Noise Level:	55.3 dBA Leq
Distance:	100 feet

Unmitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Unmitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (existing building rows/sound barrier)	0 dBA
Ground Factor	0
Distance - Equipment to Receptor	100 ft

Unmitigated Construction Noise Level	67.5 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	67.8 dBA Leq
Unmitigated Noise Increase	**12.5 dBA**

Mitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Mitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (sound barrier)	15 dBA
Ground Factor	0
Distance - Equipment to Receptor	100 ft

Mitigated Construction Noise Level	52.5 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	57.1 dBA Leq
Mitigated Noise Increase	**1.8 dBA**

Construction Noise Impact Analysis

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Potential Receptor at 200 feet: Trenching/Grading (ALT 4)

Ambient Noise Level:	55.3 dBA Leq
Distance:	200 feet

Unmitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Unmitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (existing building rows/sound barrier)	0 dBA
Ground Factor	0
Distance - Equipment to Receptor	200 ft

Unmitigated Construction Noise Level	61.5 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	62.4 dBA Leq
Unmitigated Noise Increase	**7.1 dBA**

Mitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Mitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (sound barrier)	15 dBA
Ground Factor	0
Distance - Equipment to Receptor	200 ft

Mitigated Construction Noise Level	46.5 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	55.8 dBA Leq
Mitigated Noise Increase	**0.5 dBA**

Construction Noise Impact Analysis

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Potential Receptor at 300 feet: Trenching/Grading (ALT 4)

Ambient Noise Level:	55.3 dBA Leq
Distance:	300 feet

Unmitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Unmitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (existing building rows/sound barrier)	0 dBA
Ground Factor	0
Distance - Equipment to Receptor	300 ft

Unmitigated Construction Noise Level	58.0 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	59.8 dBA Leq
Unmitigated Noise Increase	**4.5 dBA**

Mitigated

Equipment Noise Levels

Equipment	Noise Level - 50ft dBA Leq	Usage %	Workday Noise Level - 50ft dBA Leq
Excavator	75.9	0.4	71.9
Loader	72.4	0.4	68.4
-	0	1	0.0
-	0	1	0.0
-	0	1	0.0
		Combined dBA Leq:	73.5

Mitigated Construction Noise Impact

Combined Equipment Noise Level	73.5 dBA Leq
Total Shielding (sound barrier)	15 dBA
Ground Factor	0
Distance - Equipment to Receptor	300 ft

Mitigated Construction Noise Level	43.0 dBA Leq
Ambient Noise Level	55.3 dBA
New Noise Level	55.5 dBA Leq
Mitigated Noise Increase	**0.2 dBA**

Alternative 4: Construction Vibration - PPV

Equipment:	"Large Bulldozer" or vibrational equivalent
Equipment PPV (in/sec):	0.089
Reference Distance (ft):	25
"n" value	1.1

Existing Barry Building Site - Unmitigated

Receptor	Distance (ft)	Vibration Level (in/sec PPV)
11961 San Vicente Boulevard	10	0.244
11980 San Vicente Boulevard	250	0.007
11999 San Vicente Boulevard	150	0.012
11900 West Saltair Terrace	175	0.010

Future Relocation Site - Potential Receptors

Receptor	Distance (ft)	Vibration Level (in/sec PPV)
Potential Receptor at 10 feet	10	0.244
Potential Receptor at 15 feet	15	0.156
Potential Receptor at 20 feet	20	0.114
Potential Receptor at 25 feet	25	0.089

Construction Vibration - VdB

Equipment:	"Large Bulldozer"
Equipment VdB:	87
Reference Distance (ft):	25
"n" value	n/a

Existing Barry Building Site - Unmitigated

Receptor	Distance (ft)	Vibration Level (in/sec PPV)
11900 Saltair Terrace - Residential	175	61.6
640 Saltair Ave - Residential	265	56.2
529 Westgate Ave - Residential	260	56.5
-	-	-

Future Relocation Site

Receptor	Distance (ft)	Vibration Level (in/sec PPV)
Potential Receptor at 85 feet	85	71.1
Potential Receptor at 75 feet	75	72.7
Potential Receptor at 65 feet	65	74.6
-	-	-