Appendix E – Noise Modeling Results

Project-Generated Construction Source Noise Prediction Model

San Jose City Hall

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L_{eq} dBA)	
Threshold*	388	Daytime	60
	2,184	Nighttime	45
From Commercial	150	68	
From Residential	350	61	

Assumptions:	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Man Lift	75	0.2
Man Lift	75	0.2
Front End Loader	79	0.4
Dump Truck	76	0.4

Ground Type	Hard
Ground Factor	0.00

Predicted Noise Level [2]	L_{eq} dBA at 50 feet[2]
Man Lift	68.0
Man Lift	68.0
Front End Loader	75.0
Dump Truck	72.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
77.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, Janu

[2] Based on the following from the Federal Transit Noise and Vibration

$L_{eq}(equip) = E.L.+10*\log (U.F.) - 20*\log (D/50) - 10*G*\log (D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Project-Generated Construction Source Noise Prediction Model

San Jose City Hall

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L_{eq} dBA)	
Threshold*	630	Daytime	60
	3,541	Nighttime	45
From Commercial	150	72	
From Residential	350	65	

Assumptions:	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Man Lift	75	0.2
Front End Loader	79	0.4
Dozer	82	0.4
Backhoe	78	0.4
Dump Truck	76	0.4
Dump Truck	76	0.4

Ground Type	Hard
Ground Factor	0.00

Predicted Noise Level [2]	L_{eq} dBA at 50 feet[2]
Man Lift	68.0
Front End Loader	75.0
Dozer	78.0
Backhoe	74.0
Dump Truck	72.0
Dump Truck	72.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
82.0

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, Janu

[2] Based on the following from the Federal Transit Noise and Vibration

$L_{eq}(equip) = E.L.+10*\log (U.F.) - 20*\log (D/50) - 10*G*\log (D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Project-Generated Construction Source Noise Prediction Model

San Jose City Hall

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L_{eq} dBA)	
Threshold*	969	Daytime	60
	5,449	Nighttime	45
From Commercial	150	76	
From Residential	350	69	

Assumptions:	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Crane	81	0.16
Man Lift	75	0.2
Excavator	81	0.4
Excavator	81	0.4
Excavator	81	0.4
Front End Loader	79	0.4
Concrete Batch Plant	83	0.15
Dozer	82	0.4
Backhoe	78	0.4
Dump Truck	76	0.4
Dump Truck	76	0.4
Vacuum Street Sweeper	82	0.1

Ground Type	Hard
Ground Factor	0.00

Predicted Noise Level [2]	L_{eq} dBA at 50 feet[2]
Crane	73.0
Man Lift	68.0
Excavator	77.0
Excavator	77.0
Excavator	77.0
Front End Loader	75.0
Concrete Batch Plant	74.8
Dozer	78.0
Backhoe	74.0
Dump Truck	72.0
Dump Truck	72.0
Vacuum Street Sweeper	72.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
85.7

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, Janu

[2] Based on the following from the Federal Transit Noise and Vibration

$L_{eq}(equip) = E.L.+10*\log (U.F.) - 20*\log (D/50) - 10*G*\log (D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Project-Generated Construction Source Noise Prediction Model

San Jose City Hall

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L_{eq} dBA)	
Threshold*	870	Daytime	60
	4,892	Nighttime	45
From Commercial	150	75	
From Residential	350	68	

Assumptions:	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	0.4
Dozer	82	0.4
Compactor (ground)	83	0.2
Backhoe	78	0.4
Dump Truck	76	0.4
Dump Truck	76	0.4
Vacuum Street Sweeper	82	0.1

Ground Type	Hard
Ground Factor	0.00

Predicted Noise Level [2]	L_{eq} dBA at 50 feet[2]
Grader	81.0
Dozer	78.0
Compactor (ground)	76.0
Backhoe	74.0
Dump Truck	72.0
Dump Truck	72.0
Vacuum Street Sweeper	72.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
84.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, Janu

[2] Based on the following from the Federal Transit Noise and Vibration

$L_{eq}(equip) = E.L.+10*\log (U.F.) - 20*\log (D/50) - 10*G*\log (D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold