Appendix J

Noise Modeling Data

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)	Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Threshold	2,536	50.0	Dump Truck	84	1
Residence 1	4,020	42.4	Grader	85	1
		#NUM!	Dozer	85	1
			Scraper	85	1
			Scraper	85	1
			Grader	85	1

Ground Type	SOFT
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dump Truck	84.0
Grader	85.0
Dozer	85.0
Scraper	85.0
Scraper	85.0
Grader	85.0
Combined Predicted Noise Level (L_{eq} dBA at 50 feet)	
92.6	

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

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 (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Construction Source Noise Prediction Model

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Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)	Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Threshold	2,572	50.0	Dozer	85	1
Residence 1	9,650	32.6	Dozer	85	1
		#NUM!	Dozer	85	1
			Scraper	85	1
			Scraper	85	1
			Grader	85	1

Ground Type	SOFT
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dozer	85.0
Dozer	85.0
Dozer	85.0
Scraper	85.0
Scraper	85.0
Grader	85.0
Combined Predicted Noise Level (L_{eq} dBA at 50 feet)	
	92.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

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 (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Traffic Noise Spreadsheet Calculator

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Project:

Number	Name	Segment Description and Location From	To	Existing Conditions	Existing + Project Conditions	Δ Existing – Existing + Project	Cumulative Conditions	Cumulative +Project Conditions	Δ Cumulative – Cumulative + Project
Summary of Net Changes									
1	Hay Road	Lewis Road	Hayroad Landfill Rd	58.2	58.6	0.4	59.9	60.3	0.3
2	SR 113	SR 12	Hay Road	61.3	61.6	0.2	63.9	64.1	0.1
3	SR 113	Midway Road	Hay Road	59.3	60.0	0.7	61.8	62.2	0.4
4	Midway Road	Porter Road	SR 113	60.4	60.6	0.3	61.9	61.9	-0.1

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.