Appendix F

Noise Calculation Worksheets

Senior Residential Community at the Bellwood Project

Noise Calculations Worksheets

Provided by Acoustical Engineering Services

Ambient Noise Measurements

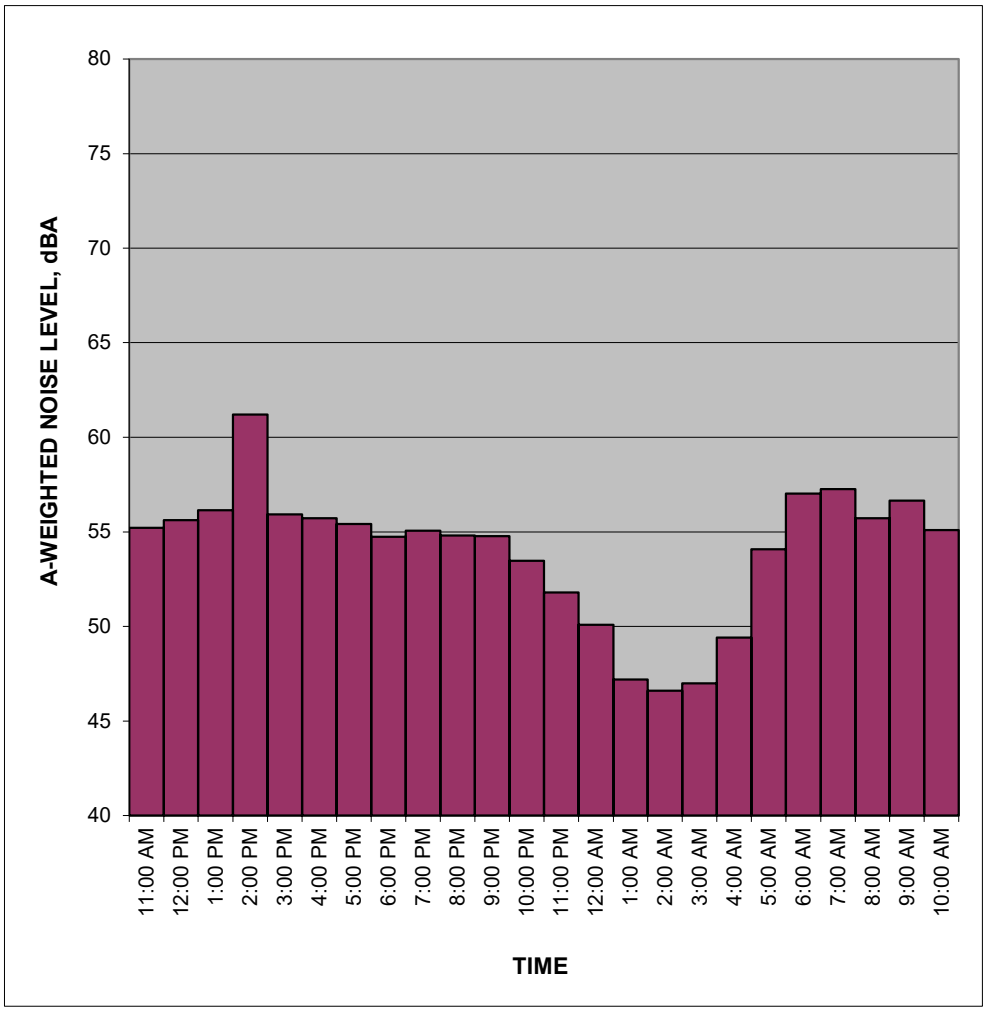
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: Bellwood
Location: R1
Sources: Ambient

Date: 8/20/2019

TIME	HNL, dB(A)
11:00 AM	55.2
12:00 PM	55.6
1:00 PM	56.1
2:00 PM	61.2
3:00 PM	55.9
4:00 PM	55.7
5:00 PM	55.4
6:00 PM	54.8
7:00 PM	55.1
8:00 PM	54.8
9:00 PM	54.8
10:00 PM	53.5
11:00 PM	51.8
12:00 AM	50.1
1:00 AM	47.2
2:00 AM	46.6
3:00 AM	47.0
4:00 AM	49.4
5:00 AM	54.1
6:00 AM	57.0
7:00 AM	57.3
8:00 AM	55.7
9:00 AM	56.7
10:00 AM	55.1
CNEL, dB(A):	**59.8**



NOTES:

Daytime Average Noise Levels: 56.3 dBA
Nighttime Average Noise Levels: 52.1 dBA

Location: R2
Date: 8/20/2019

AES
Acoustical Engineering Services

Time	Overload	Leq	Lmax	L10	L90
11:22:28 AM	No	59.9	64.1	62.5	54.4
11:23:28 AM	No	55.3	61.8	58.3	51.3
11:24:28 AM	No	58.6	61.9	61.3	53.2
11:25:28 AM	No	57.1	64.3	60	51.2
11:26:28 AM	No	57.8	63.3	60.3	53
11:27:28 AM	No	60.1	68.3	62.8	53.2
11:28:28 AM	No	59.5	65.2	62.7	55
11:29:28 AM	No	58.3	61	59.7	55.6
11:30:28 AM	No	55.4	60.3	58.2	50.4
11:31:28 AM	No	59.3	64.3	62	50.9
11:32:28 AM	No	57.6	62.1	60.8	54
11:33:28 AM	No	58.1	61.3	60.1	53.8
11:34:28 AM	No	57.5	61	59.7	54.6
11:35:28 AM	No	57.5	60.6	59.5	53.8
11:36:28 AM	No	58.5	63.3	61	53.6
		58.2			

Time	Overload	Leq	Lmax	L10	L90
9:58:41 PM	No	56.9	61.2	58.7	53.9
9:59:41 PM	No	55.3	66.9	58.8	47.2
10:00:41 PM	No	54.6	58.2	57	50.1
10:01:41 PM	No	52.7	63	54.9	46.5
10:02:41 PM	No	55.6	65.2	58.1	50.8
10:03:41 PM	No	53	56.7	55.8	48.1
10:04:41 PM	No	57.9	66.2	60.7	51.9
10:05:41 PM	No	57	67.6	58.7	52.1
10:06:41 PM	No	54.3	58.9	57.2	45.1
10:07:41 PM	No	55.7	61.2	58	52
10:08:41 PM	No	54.4	60.3	57.7	49.6
10:09:41 PM	No	56.4	60	58.5	53.6
10:10:41 PM	No	53.5	57.7	54.9	49.9
10:11:41 PM	No	53.7	56.4	55.7	48.4
10:12:41 PM	No	53.2	56.6	55.7	47.7
		55.2			

Location: R3
Date: 8/20/2019

AES
Acoustical Engineering Services

Time	Overload	Leq	Lmax	L10	L90
12:05:58 PM	No	58	61	59.6	56.1
12:06:58 PM	No	52.8	59	55.5	49.7
12:07:58 PM	No	57.4	61.2	59.5	53
12:08:58 PM	No	55.3	59	56.5	53.3
12:09:58 PM	No	56.4	61.2	59.1	51.4
12:10:58 PM	No	55.2	60.4	57	52.7
12:11:58 PM	No	56.6	60.9	59.3	53.7
12:12:58 PM	No	58.1	66	61.3	53.5
12:13:58 PM	No	57.4	62.9	59.5	51.4
12:14:58 PM	No	56	60.7	57.9	52.8
12:15:58 PM	No	57.9	65.5	60.3	55.3
12:16:58 PM	No	55.7	61.4	58.8	51.8
12:17:58 PM	No	57.1	66.6	60.8	50.1
12:18:58 PM	No	58.4	65	61.4	53.6
12:19:58 PM	No	53.2	59.9	56.5	48.9
		56.7			

Time	Overload	Leq	Lmax	L10	L90
10:37:29 PM	No	57.1	62.1	60	53.3
10:38:29 PM	No	55.2	61.3	59.4	46
10:39:29 PM	No	55.5	60.1	58.6	50.5
10:40:29 PM	No	54.3	59.1	57.5	49.9
10:41:29 PM	No	56.8	61.6	60.3	47.5
10:42:29 PM	No	53.7	60.3	58.3	45.3
10:43:29 PM	No	51.8	62.1	55.3	46.1
10:44:29 PM	No	56.5	61.9	59.2	50.4
10:45:29 PM	No	53.5	60.7	57.5	45.8
10:46:29 PM	No	54	61.5	57.1	49.3
10:47:29 PM	No	55	59.4	58.2	49.3
10:48:29 PM	No	57.1	64.7	61	52.1
10:49:29 PM	No	52.6	59.1	55.8	47.5
10:50:29 PM	No	55.6	59.6	58	51.6
10:51:29 PM	No	54.5	59	58.1	47.5
		55.2			

Location: R4
Date: 8/20/2019

AES
Acoustical Engineering Services

Time	Overload	Leq	Lmax	L10	L90
12:25:26 PM	No	65.1	69.6	67.8	60.4
12:26:26 PM	No	68.0	73	70.5	62.4
12:27:26 PM	No	63.7	68.8	66.6	56.3
12:28:26 PM	No	67.1	71.8	68.9	63.3
12:29:26 PM	No	63.8	68.5	66.9	53.5
12:30:26 PM	No	68.9	72.4	71.2	63.7
12:31:26 PM	No	64.4	68.9	67.2	59
12:32:26 PM	No	67.6	72.2	68.9	65.4
12:33:26 PM	No	66.7	72.7	70.5	59.6
12:34:26 PM	No	70.4	82.6	70.5	65.6
12:35:26 PM	No	66.2	72	69.7	57.4
12:36:26 PM	No	69.9	74	72	65.4
12:37:26 PM	No	64.9	72.7	70.1	55.3
12:38:26 PM	No	69.0	72.2	71.5	64.3
12:39:26 PM	No	66.3	70	68.5	61.3
		67.3			

Time	Overload	Leq	Lmax	Lpeak	L10
10:56:33 PM	No	61.8	68.9	66.8	49.6
10:57:33 PM	No	64.2	70.7	68.7	51.8
10:58:33 PM	No	58.8	70	64.1	42.6
10:59:33 PM	No	62.4	70.7	67	43.7
11:00:33 PM	No	66.8	73.1	70.6	57.7
11:01:33 PM	No	65.5	73.6	70	53.5
11:02:33 PM	No	62.2	70	66	50.9
11:03:33 PM	No	62.0	72	66.8	43
11:04:33 PM	No	66.1	73.4	70.3	52.8
11:05:33 PM	No	65.1	72.5	69.8	50.8
11:06:33 PM	No	64.0	71.9	68.1	49.2
11:07:33 PM	No	68.0	73.9	70.9	60.5
11:08:33 PM	No	62.7	70.3	67	52.5
11:09:33 PM	No	60.0	69.8	64.7	43
11:10:33 PM	No	62.5	69.7	67.1	51
		64.2			

Location: R5
Date: 8/20/2019

AES
Acoustical Engineering Services

Time	Overload	Leq	Lmax	L10	L90
12:46:33 PM	No	57.1	63.5	60.9	51.3
12:47:33 PM	No	58.8	67.7	61.9	50.6
12:48:33 PM	No	59.7	67.8	64.1	52.1
12:49:33 PM	No	57.6	63.3	60	53.8
12:50:33 PM	No	56.9	65.5	58.9	50.4
12:51:33 PM	No	59.2	65.8	61.5	53.8
12:52:33 PM	No	61.1	70	65.4	53.8
12:53:33 PM	No	57.4	62.3	58.8	55.3
12:54:33 PM	No	56.7	64.1	60.7	48.5
12:55:33 PM	No	57.5	62.9	60.7	51.9
12:56:33 PM	No	57.6	69.4	59.8	46.9
12:57:33 PM	No	58.1	67.8	59.4	49.3
12:58:33 PM	No	58.3	70.7	59	49.1
12:59:33 PM	No	59.9	67.8	64	50.5
1:00:33 PM	No	61.4	70.1	67.1	46.9
		58.8			

Time	Overload	Leq	Lmax	L10	L90
11:15:14 PM	No	55	66.1	58.4	42.5
11:16:14 PM	No	53	60.2	56.5	44.7
11:17:14 PM	No	52.6	59.9	56.2	45
11:18:14 PM	No	51.7	58.9	55.7	42.9
11:19:14 PM	No	50.4	58.8	55.2	41.6
11:20:14 PM	No	51.3	58	56	43.7
11:21:14 PM	No	55	60.6	58.1	46
11:22:14 PM	No	54.4	64	57.9	47.1
11:23:14 PM	No	53.6	58.6	56.9	46.9
11:24:14 PM	No	51	56.7	54.4	44.9
11:25:14 PM	No	56.1	60.2	58.7	48.1
11:26:14 PM	No	52.3	58	56.3	42.8
11:27:14 PM	No	51.6	57.7	54.6	43.5
11:28:14 PM	No	50.7	57.7	54.4	41.7
11:29:14 PM	No	53.1	60.2	57.7	41.6
		53.1			

Location: R6
Date: 8/20/2019

AES
Acoustical Engineering Services

Time	Overload	Leq	Lmax	L10	L90
11:42:06 AM	No	49.5	51.9	51.1	47.2
11:43:06 AM	No	51.1	54.7	52.8	48.1
11:44:06 AM	No	50	55.6	52.3	46.3
11:45:06 AM	No	51.7	55.1	53.5	48.4
11:46:06 AM	No	49.6	51.7	50.5	48.8
11:47:06 AM	No	50.6	53.6	51.6	48.9
11:48:06 AM	No	49.3	53.1	52	46.7
11:49:06 AM	No	50.4	53.2	51.9	48.1
11:50:06 AM	No	49.9	52.5	51.6	47.6
11:51:06 AM	No	50.3	53.1	52.2	48
11:52:06 AM	No	51.7	57.1	53.7	46.5
11:53:06 AM	No	50.4	55.5	52.6	47.2
11:54:06 AM	No	52.2	55.8	54.9	46.5
11:55:06 AM	No	50.7	56.1	53.5	47.6
11:56:06 AM	No	52.6	56.8	54	48.4
		50.8			

Time	Overload	Leq	Lmax	L10	L90
10:17:37 PM	No	51	53.8	52.7	48.4
10:18:37 PM	No	46.6	49.9	48.1	43.4
10:19:37 PM	No	49.3	52.2	51.6	44.3
10:20:37 PM	No	50.8	53.5	52.5	47.8
10:21:37 PM	No	49.4	52.6	51.4	44.5
10:22:37 PM	No	49.2	53.6	52.4	44.7
10:23:37 PM	No	48.2	53.1	51	44.6
10:24:37 PM	No	49	53.5	52.2	44.5
10:25:37 PM	No	49.2	52.9	51.3	46.1
10:26:37 PM	No	49.7	52.9	52.1	46.8
10:27:37 PM	No	51.9	55.4	53.7	49.2
10:28:37 PM	No	49.5	53.5	52.7	44
10:29:37 PM	No	47.2	51.7	50.1	43.1
10:30:37 PM	No	48.7	51.6	50.8	47.1
10:31:37 PM	No	49.7	53.7	52.7	46.4
		49.5			

Construction Noise & Vibration Calculations

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project
On-Site Construction Noise Analysis

PRIOR TO MITIGATION Estimated Construction Noise Levels, dBA Leq

Rec.	Description	Closest Distance	Site Prep/ Demo	Grading/ Excavation	Mat Foundation	Foundation/ Concrete	Building Construction	Finishes/ Architect. Coating	Paving Landscaping	Infrastructure
R1		10	97.5	92.5	89.2	97.2	97.4	88.5	94.4	60.4
R2		10	97.5	92.5	89.2	97.2	97.4	88.5	94.4	83.0
R3		425	70.0	66.7	63.5	68.6	67.6	62.2	66.0	60.9
R4		315	72.5	69.2	66.0	71.0	70.1	64.9	68.5	63.0
R5		155	69.9	64.8	61.5	66.4	66.0	59.9	64.3	51.0
R6		10	97.5	92.5	89.2	97.2	97.4	88.5	94.4	67.4

WITH MITIGATION MEASURES Estimated Construction Noise Levels, dBA Leq

Rec.	Noise Reduction by Mitigation Measures	Closest Distance	Site Prep/ Demo	Grading/ Excavation	Mat Foundation	Foundation/ Concrete	Building Construction	Finishes/ Architect. Coating	Paving Landscaping	Infrastructure
R1	15	10	82.5	77.5	74.2	82.2	82.4	73.5	79.4	55.4
R2	15	10	82.5	77.5	74.2	82.2	82.4	73.5	79.4	83.0
R3	9	425	61.0	57.7	54.5	59.6	58.6	53.2	57.0	60.9
R4	5	315	67.5	64.2	61.0	66.0	65.1	59.9	63.5	63.0
R5	7	155	62.9	57.8	54.5	59.4	59.0	52.9	57.3	46.0
R6	15	10	82.5	77.5	74.2	82.2	82.4	73.5	79.4	57.4

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Water Truck	1	82	10%	50	0
Rubber Tired Loaders	1	79	40%	50	0
Rubber Tired Dozers	1	82	40%	75	0
Concrete/Industrial Saw	1	90	20%	75	0
Tractors/Loaders/Backhoes	1	84	40%	100	0
Rubber Tired Loaders	1	79	40%	100	0
Rubber Tired Dozers	1	82	40%	125	0
Air Compressor	1	78	40%	125	0
	10				

Receptor: ***R1***

Results:

1-hour Leq: 97.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Water Truck	1	82	10%	50	0
Excavator	1	81	40%	50	0
Rubber Tired Loaders	1	79	40%	75	0
Rubber Tired Dozers	1	82	40%	75	0
Forklift	1	75	20%	100	0
Welders	1	74	40%	100	0
Excavator	1	81	40%	125	0

9

Receptor: ***R1***

Results:

1-hour Leq: 92.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Mat Foundation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	20%	10	0
Cement/Mortar Mixers	1	79	40%	25	0
Welders	1	74	40%	50	0
Pumps	1	81	20%	50	0
Cement/Mortar Mixers	1	79	40%	75	0
Welders	1	74	40%	75	0
Pumps	2	81	20%	100	0
	8				

Receptor: ***R1***

Results:

1-hour Leq: 89.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Foundation/Concrete***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Plate Compactors	1	83	20%	25	0
Crane (Mobile)	1	81	16%	50	0
Forklift	1	75	20%	50	0
Pumps	1	81	20%	75	0
Welders	1	74	40%	75	0
Rough Terrain Forklifts	1	83	40%	100	0
Crane (Tower)	1	81	16%	100	0
Plate Compactors	1	83	20%	125	0
Forklift	1	75	20%	125	0
Pumps	1	81	20%	150	0
Welders	1	74	40%	150	0
Rough Terrain Forklifts	1	83	40%	175	0
Plate Compactors	2	83	20%	175	0
	15				

Receptor: ***R1***

Results:

1-hour Leq: 97.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saws	1	90	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Crane (Mobile)	1	81	16%	50	0
Forklift	3	75	20%	50	0
Air Compressor	2	78	40%	75	0
Aerial Lifts	2	75	20%	75	0
Crane (Tower)	1	81	16%	100	0
Welders	1	74	40%	100	0

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Receptor: ***R1***

Results:

1-hour Leq: 97.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Finishes/Architectural Coating***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	10	0
Aerial Lift	1	75	20%	25	0
Fork Lift	1	75	20%	50	0
Air Compressor	1	78	40%	50	0
Aerial Lift	1	75	20%	75	0
Fork Lift	1	75	20%	75	0
Air Compressor	2	78	40%	100	0
Aerial Lift	2	75	20%	100	0
Fork Lift	1	75	20%	125	0
	11				

Receptor: ***R1***

Results:

1-hour Leq: 88.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Paving Landscaping***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Tractors/Loaders/Backhoes	1	84	40%	10	0
Plate Compactors	1	83	20%	25	0
Paving Equipment	1	77	50%	50	0
Cement/Mortar Mixers	1	79	40%	50	0
Trencher	1	80	50%	75	0
Skid Steer Loaders	2	79	40%	75	0
	7				

Receptor: ***R1***

Results:

1-hour Leq: 94.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Off-Site Infrastructure***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/Loader	1	79	40%	270	0

1

Receptor: ***R1***

Results:

1-hour Leq: 60.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Water Truck	1	82	10%	50	0
Rubber Tired Loaders	1	79	40%	50	0
Rubber Tired Dozers	1	82	40%	75	0
Concrete/Industrial Saw	1	90	20%	75	0
Tractors/Loaders/Backhoes	1	84	40%	100	0
Rubber Tired Loaders	1	79	40%	100	0
Rubber Tired Dozers	1	82	40%	125	0
Air Compressor	1	78	40%	125	0
	10				

Receptor: ***R2***

Results:

1-hour Leq: 97.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Water Truck	1	82	10%	50	0
Excavator	1	81	40%	50	0
Rubber Tired Loaders	1	79	40%	75	0
Rubber Tired Dozers	1	82	40%	75	0
Forklift	1	75	20%	100	0
Welders	1	74	40%	100	0
Excavator	1	81	40%	125	0

9

Receptor: ***R2***

Results:

1-hour Leq: 92.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Mat Foundation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	20%	10	0
Cement/Mortar Mixers	1	79	40%	25	0
Welders	1	74	40%	50	0
Pumps	1	81	20%	50	0
Cement/Mortar Mixers	1	79	40%	75	0
Welders	1	74	40%	75	0
Pumps	2	81	20%	100	0
	8				

Receptor: ***R2***

Results:

1-hour Leq: 89.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Foundation/Concrete***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Plate Compactors	1	83	20%	25	0
Crane (Mobile)	1	81	16%	50	0
Forklift	1	75	20%	50	0
Pumps	1	81	20%	75	0
Welders	1	74	40%	75	0
Rough Terrain Forklifts	1	83	40%	100	0
Crane (Tower)	1	81	16%	100	0
Plate Compactors	1	83	20%	125	0
Forklift	1	75	20%	125	0
Pumps	1	81	20%	150	0
Welders	1	74	40%	150	0
Rough Terrain Forklifts	1	83	40%	175	0
Plate Compactors	2	83	20%	175	0
	15				

Receptor: ***R2***

Results:

1-hour Leq: 97.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saws	1	90	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Crane (Mobile)	1	81	16%	50	0
Forklift	3	75	20%	50	0
Air Compressor	2	78	40%	75	0
Aerial Lifts	2	75	20%	75	0
Crane (Tower)	1	81	16%	100	0
Welders	1	74	40%	100	0

12

Receptor: ***R2***

Results:

1-hour Leq: 97.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Finishes/Architectural Coating***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	10	0
Aerial Lift	1	75	20%	25	0
Fork Lift	1	75	20%	50	0
Air Compressor	1	78	40%	50	0
Aerial Lift	1	75	20%	75	0
Fork Lift	1	75	20%	75	0
Air Compressor	2	78	40%	100	0
Aerial Lift	2	75	20%	100	0
Fork Lift	1	75	20%	125	0
	11				

Receptor: ***R2***

Results:

1-hour Leq: 88.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Paving Landscaping***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Tractors/Loaders/Backhoes	1	84	40%	10	0
Plate Compactors	1	83	20%	25	0
Paving Equipment	1	77	50%	50	0
Cement/Mortar Mixers	1	79	40%	50	0
Trencher	1	80	50%	75	0
Skid Steer Loaders	2	79	40%	75	0
	7				

Receptor: ***R2***

Results:

1-hour Leq: 94.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Off-Site Infrastructure***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/Loader	1	79	40%	20	0
	1				

Receptor: ***R2***

Results:

1-hour Leq: 83.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	425	0
Tractors/Loaders/Backhoes	1	84	40%	425	0
Water Truck	1	82	10%	445	0
Rubber Tired Loaders	1	79	40%	445	0
Rubber Tired Dozers	1	82	40%	465	0
Concrete/Industrial Saw	1	90	20%	465	0
Tractors/Loaders/Backhoes	1	84	40%	485	0
Rubber Tired Loaders	1	79	40%	485	0
Rubber Tired Dozers	1	82	40%	505	0
Air Compressor	1	78	40%	505	0
	10				

Receptor: ***R3***

Results:

1-hour Leq: 70.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	425	0
Tractors/Loaders/Backhoes	1	84	40%	425	0
Water Truck	1	82	10%	445	0
Excavator	1	81	40%	445	0
Rubber Tired Loaders	1	79	40%	465	0
Rubber Tired Dozers	1	82	40%	465	0
Forklift	1	75	20%	485	0
Welders	1	74	40%	485	0
Excavator	1	81	40%	505	0

9

Receptor: ***R3***

Results:

1-hour Leq: 66.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Mat Foundation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	20%	425	0
Cement/Mortar Mixers	1	79	40%	425	0
Welders	1	74	40%	445	0
Pumps	1	81	20%	445	0
Cement/Mortar Mixers	1	79	40%	465	0
Welders	1	74	40%	465	0
Pumps	2	81	20%	485	0
	8				

Receptor: ***R3***

Results:

1-hour Leq: 63.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Foundation/Concrete***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	425	0
Plate Compactors	1	83	20%	425	0
Crane (Mobile)	1	81	16%	445	0
Forklift	1	75	20%	445	0
Pumps	1	81	20%	465	0
Welders	1	74	40%	465	0
Rough Terrain Forklifts	1	83	40%	485	0
Crane (Tower)	1	81	16%	485	0
Plate Compactors	1	83	20%	505	0
Forklift	1	75	20%	505	0
Pumps	1	81	20%	525	0
Welders	1	74	40%	525	0
Rough Terrain Forklifts	1	83	40%	545	0
Plate Compactors	2	83	20%	545	0
	15				

Receptor: ***R3***

Results:

1-hour Leq: 68.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saws	1	90	20%	425	0
Tractors/Loaders/Backhoes	1	84	40%	425	0
Crane (Mobile)	1	81	16%	445	0
Forklift	3	75	20%	445	0
Air Compressor	2	78	40%	465	0
Aerial Lifts	2	75	20%	465	0
Crane (Tower)	1	81	16%	485	0
Welders	1	74	40%	485	0

12

Receptor: ***R3***

Results:

1-hour Leq: 67.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Finishes/Architectural Coating***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	430	0
Aerial Lift	1	75	20%	430	0
Fork Lift	1	75	20%	450	0
Air Compressor	1	78	40%	450	0
Aerial Lift	1	75	20%	470	0
Fork Lift	1	75	20%	470	0
Air Compressor	2	78	40%	490	0
Aerial Lift	2	75	20%	490	0
Fork Lift	1	75	20%	510	0

11

Receptor: ***R3***

Results:

1-hour Leq: 62.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Paving Landscaping***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Tractors/Loaders/Backhoes	1	84	40%	425	0
Plate Compactors	1	83	20%	425	0
Paving Equipment	1	77	50%	445	0
Cement/Mortar Mixers	1	79	40%	445	0
Trencher	1	80	50%	465	0
Skid Steer Loaders	2	79	40%	465	0
	7				

Receptor: ***R3***

Results:

1-hour Leq: 66.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Off-Site Infrastructure***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/Loader	1	79	40%	255	0

1

Receptor: ***R3***

Results:

1-hour Leq: 60.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	315	0
Tractors/Loaders/Backhoes	1	84	40%	315	0
Water Truck	1	82	10%	335	0
Rubber Tired Loaders	1	79	40%	335	0
Rubber Tired Dozers	1	82	40%	355	0
Concrete/Industrial Saw	1	90	20%	355	0
Tractors/Loaders/Backhoes	1	84	40%	375	0
Rubber Tired Loaders	1	79	40%	375	0
Rubber Tired Dozers	1	82	40%	395	0
Air Compressor	1	78	40%	395	0
	10				

Receptor: ***R4***

Results:

1-hour Leq: 72.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	315	0
Tractors/Loaders/Backhoes	1	84	40%	315	0
Water Truck	1	82	10%	335	0
Excavator	1	81	40%	335	0
Rubber Tired Loaders	1	79	40%	355	0
Rubber Tired Dozers	1	82	40%	355	0
Forklift	1	75	20%	375	0
Welders	1	74	40%	375	0
Excavator	1	81	40%	395	0

9

Receptor: ***R4***

Results:

1-hour Leq: 69.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Mat Foundation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	20%	315	0
Cement/Mortar Mixers	1	79	40%	315	0
Welders	1	74	40%	335	0
Pumps	1	81	20%	335	0
Cement/Mortar Mixers	1	79	40%	355	0
Welders	1	74	40%	355	0
Pumps	2	81	20%	375	0
	8				

Receptor: ***R4***

Results:

1-hour Leq: 66.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Foundation/Concrete***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	315	0
Plate Compactors	1	83	20%	315	0
Crane (Mobile)	1	81	16%	335	0
Forklift	1	75	20%	335	0
Pumps	1	81	20%	355	0
Welders	1	74	40%	355	0
Rough Terrain Forklifts	1	83	40%	375	0
Crane (Tower)	1	81	16%	375	0
Plate Compactors	1	83	20%	395	0
Forklift	1	75	20%	395	0
Pumps	1	81	20%	415	0
Welders	1	74	40%	415	0
Rough Terrain Forklifts	1	83	40%	435	0
Plate Compactors	2	83	20%	435	0
	15				

Receptor: ***R4***

Results:

1-hour Leq: 71.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saws	1	90	20%	315	0
Tractors/Loaders/Backhoes	1	84	40%	315	0
Crane (Mobile)	1	81	16%	335	0
Forklift	3	75	20%	335	0
Air Compressor	2	78	40%	355	0
Aerial Lifts	2	75	20%	355	0
Crane (Tower)	1	81	16%	375	0
Welders	1	74	40%	375	0
	12				

Receptor: ***R4***

Results:

1-hour Leq: 70.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Finishes/Architectural Coating***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	310	0
Aerial Lift	1	75	20%	310	0
Fork Lift	1	75	20%	330	0
Air Compressor	1	78	40%	330	0
Aerial Lift	1	75	20%	350	0
Fork Lift	1	75	20%	350	0
Air Compressor	2	78	40%	370	0
Aerial Lift	2	75	20%	370	0
Fork Lift	1	75	20%	390	0
	11				

Receptor: ***R4***

Results:

1-hour Leq: 64.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Paving Landscaping***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Tractors/Loaders/Backhoes	1	84	40%	315	0
Plate Compactors	1	83	20%	315	0
Paving Equipment	1	77	50%	335	0
Cement/Mortar Mixers	1	79	40%	335	0
Trencher	1	80	50%	355	0
Skid Steer Loaders	2	79	40%	355	0
	7				

Receptor: ***R4***

Results:

1-hour Leq: 68.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Off-Site Infrastructure***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/Loader	1	79	40%	200	0
	1				

Receptor: ***R4***

Results:

1-hour Leq: 63.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	155	10
Tractors/Loaders/Backhoes	1	84	40%	155	10
Water Truck	1	82	10%	180	10
Rubber Tired Loaders	1	79	40%	180	10
Rubber Tired Dozers	1	82	40%	205	10
Concrete/Industrial Saw	1	90	20%	205	10
Tractors/Loaders/Backhoes	1	84	40%	100	10
Rubber Tired Loaders	1	79	40%	100	10
Rubber Tired Dozers	1	82	40%	125	10
Air Compressor	1	78	40%	125	10
	10				

Receptor: ***R5***

Results:

1-hour Leq: 69.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	155	10
Tractors/Loaders/Backhoes	1	84	40%	155	10
Water Truck	1	82	10%	175	10
Excavator	1	81	40%	175	10
Rubber Tired Loaders	1	79	40%	195	10
Rubber Tired Dozers	1	82	40%	195	10
Forklift	1	75	20%	215	10
Welders	1	74	40%	215	10
Excavator	1	81	40%	235	10

9

Receptor: ***R5***

Results:

1-hour Leq: 64.8

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Mat Foundation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	20%	155	10
Cement/Mortar Mixers	1	79	40%	155	10
Welders	1	74	40%	175	10
Pumps	1	81	20%	175	10
Cement/Mortar Mixers	1	79	40%	195	10
Welders	1	74	40%	195	10
Pumps	2	81	20%	215	10
	8				

Receptor: ***R5***

Results:

1-hour Leq: 61.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Foundation/Concrete***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	155	10
Plate Compactors	1	83	20%	155	10
Crane (Mobile)	1	81	16%	175	10
Forklift	1	75	20%	175	10
Pumps	1	81	20%	195	10
Welders	1	74	40%	195	10
Rough Terrain Forklifts	1	83	40%	215	10
Crane (Tower)	1	81	16%	215	10
Plate Compactors	1	83	20%	235	10
Forklift	1	75	20%	235	10
Pumps	1	81	20%	255	10
Welders	1	74	40%	255	10
Rough Terrain Forklifts	1	83	40%	275	10
Plate Compactors	2	83	20%	275	10
	15				

Receptor: ***R5***

Results:

1-hour Leq: 66.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saws	1	90	20%	155	10
Tractors/Loaders/Backhoes	1	84	40%	155	10
Crane (Mobile)	1	81	16%	175	10
Forklift	3	75	20%	175	10
Air Compressor	2	78	40%	195	10
Aerial Lifts	2	75	20%	195	10
Crane (Tower)	1	81	16%	215	10
Welders	1	74	40%	215	10

12

Receptor: ***R5***

Results:

1-hour Leq: 66.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Finishes/Architectural Coating***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	160	10
Aerial Lift	1	75	20%	160	10
Fork Lift	1	75	20%	180	10
Air Compressor	1	78	40%	180	10
Aerial Lift	1	75	20%	200	10
Fork Lift	1	75	20%	200	10
Air Compressor	2	78	40%	220	10
Aerial Lift	2	75	20%	220	10
Fork Lift	1	75	20%	240	10
	11				

Receptor: ***R5***

Results:

1-hour Leq: 59.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Paving Landscaping***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Tractors/Loaders/Backhoes	1	84	40%	155	10
Plate Compactors	1	83	20%	155	10
Paving Equipment	1	77	50%	175	10
Cement/Mortar Mixers	1	79	40%	175	10
Trencher	1	80	50%	195	10
Skid Steer Loaders	2	79	40%	195	10

7

Receptor: ***R5***

Results:

1-hour Leq: 64.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Off-Site Infrastructure***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/Loader	1	79	40%	250	10

1

Receptor: ***R5***

Results:

1-hour Leq: 51.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Water Truck	1	82	10%	50	0
Rubber Tired Loaders	1	79	40%	50	0
Rubber Tired Dozers	1	82	40%	75	0
Concrete/Industrial Saw	1	90	20%	75	0
Tractors/Loaders/Backhoes	1	84	40%	100	0
Rubber Tired Loaders	1	79	40%	100	0
Rubber Tired Dozers	1	82	40%	125	0
Air Compressor	1	78	40%	125	0
	10				

Receptor: ***R6***

Results:

1-hour Leq: 97.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Water Truck	1	82	10%	50	0
Excavator	1	81	40%	50	0
Rubber Tired Loaders	1	79	40%	75	0
Rubber Tired Dozers	1	82	40%	75	0
Forklift	1	75	20%	100	0
Welders	1	74	40%	100	0
Excavator	1	81	40%	125	0

9

Receptor: ***R6***

Results:

1-hour Leq: 92.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Mat Foundation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	20%	10	0
Cement/Mortar Mixers	1	79	40%	25	0
Welders	1	74	40%	50	0
Pumps	1	81	20%	50	0
Cement/Mortar Mixers	1	79	40%	75	0
Welders	1	74	40%	75	0
Pumps	2	81	20%	100	0
	8				

Receptor: ***R6***

Results:

1-hour Leq: 89.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Foundation/Concrete***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Plate Compactors	1	83	20%	25	0
Crane (Mobile)	1	81	16%	50	0
Forklift	1	75	20%	50	0
Pumps	1	81	20%	75	0
Welders	1	74	40%	75	0
Rough Terrain Forklifts	1	83	40%	100	0
Crane (Tower)	1	81	16%	100	0
Plate Compactors	1	83	20%	125	0
Forklift	1	75	20%	125	0
Pumps	1	81	20%	150	0
Welders	1	74	40%	150	0
Rough Terrain Forklifts	1	83	40%	175	0
Plate Compactors	2	83	20%	175	0
	15				

Receptor: ***R6***

Results:

1-hour Leq: 97.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saws	1	90	20%	10	0
Tractors/Loaders/Backhoes	1	84	40%	25	0
Crane (Mobile)	1	81	16%	50	0
Forklift	3	75	20%	50	0
Air Compressor	2	78	40%	75	0
Aerial Lifts	2	75	20%	75	0
Crane (Tower)	1	81	16%	100	0
Welders	1	74	40%	100	0

12

Receptor: ***R6***

Results:

1-hour Leq: 97.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Finishes/Architectural Coating***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	10	0
Aerial Lift	1	75	20%	25	0
Fork Lift	1	75	20%	50	0
Air Compressor	1	78	40%	50	0
Aerial Lift	1	75	20%	75	0
Fork Lift	1	75	20%	75	0
Air Compressor	2	78	40%	100	0
Aerial Lift	2	75	20%	100	0
Fork Lift	1	75	20%	125	0
	11				

Receptor: ***R6***

Results:

1-hour Leq: 88.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Paving Landscaping***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Tractors/Loaders/Backhoes	1	84	40%	10	0
Plate Compactors	1	83	20%	25	0
Paving Equipment	1	77	50%	50	0
Cement/Mortar Mixers	1	79	40%	50	0
Trencher	1	80	50%	75	0
Skid Steer Loaders	2	79	40%	75	0
	7				

Receptor: ***R6***

Results:

1-hour Leq: 94.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Construction Phase: ***Off-Site Infrastructure***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/Loader	1	79	40%	120	0
	1				

Receptor: ***R6***

Results:

1-hour Leq: 67.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: Bellwood Project

Off-Site Construction Traffic (Trucks and Workers)

	Maximum Number of Truck One Way Trips (delivery/haul)		Worker Trips		Project Construction Traffic Noise Levels, dBA (from TNM)				
		Per Hour (8-		Trips during		Century Park			La
Phase	Per Day	hr day)	Daily Trips	Pk Hr.	Olympic	East	Pico	Overland	Cienega
1. Site Prep/Demolition	30	2	30	12	58.0	57.3	57.3	58.0	57.3
2. Grading/Excavation	172	13	30	12	65.3	64.6	64.6	65.3	64.6
3. Mat Foundation	400	13	30	12	65.3	64.6	64.6	65.3	64.6
4. Foundation/Concrete	100	7	100	40	63.4	62.7	62.7	63.4	62.7
5. Building Construction	50	4	180	72	62.6	61.8	61.8	62.6	61.8
6. Finishes/Arch. Coating	50	4	200	80	62.8	62.0	62.0	62.8	62.0
7. Paving/Landscaping	20	2	40	16	58.3	57.6	57.6	58.3	57.6
Mat foundation - 12 hours				Ambient, dBA	67.3	61.5	65.8	62.3	64.6
Grading - 6 hours				Significance Criteria, dBA	72.3	66.5	70.8	67.3	69.6
Trucks are one-way				Existing Traffic Volume	4686	1242	3333	1477	2522

	Project + Ambient Noise Levels, dBA				
		Century Park			La
	Olympic	East	Pico	Overland	Cienega
1. Site Prep/Demolition	67.8	62.9	66.4	63.7	65.3
2. Grading/Excavation	69.4	66.3	68.3	67.1	67.6
3. Mat Foundation	69.4	66.3	68.3	67.1	67.6
4. Foundation/Concrete	68.8	65.2	67.5	65.9	66.8
5. Building Construction	68.6	64.7	67.3	65.5	66.4
6. Finishes/Arch. Coating	68.6	64.8	67.3	65.6	66.5
8. Paving/Landscaping	67.8	63.0	66.4	63.8	65.4
Ambient, dBA	67.3	61.5	65.8	62.3	64.6
Significance Criteria, dBA	72.3	66.5	70.8	67.3	69.6

	Increase over Ambient, dBA				
		Century Park			La
	Olympic	East	Pico	Overland	Cienega
1. Site Prep/Demolition	0.5	1.4	0.6	1.4	0.7
2. Grading/Excavation	2.1	4.8	2.5	4.8	3.0
3. Mat Foundation	2.1	4.8	2.5	4.8	3.0
4. Foundation/Concrete	1.5	3.7	1.7	3.6	2.2
5. Building Construction	1.3	3.2	1.5	3.2	1.8
6. Finishes/Arch. Coating	1.3	3.3	1.5	3.3	1.9
8. Paving/Landscaping	0.5	1.5	0.6	1.5	0.8
Impact	No	No	No	No	No

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Bellwood Project
RUN: Demo Phase

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points					Flow Control				
Name	Width	Name	No.	Coordinates (pavement)						Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **20 April 2020**
Sean Bui **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Bellwood Project**
RUN: **Demo Phase**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	12	35	0	0	2	35	0	0	0	0
	point2	2										

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Bellwood Project
RUN: Demo Phase

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Along Olympic Blvd & Overland	1	1	250.0	25.0	0.00	4.92	0.00	71	5.0	0.0	Y
Along Pico Blvd. CPE & La Cienega	10	1	250.0	30.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

20 April 2020
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Bellwood Project
RUN: Demo Phase
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Along Olympic Blvd & Overland	1	1	0.0	58.0	71	58.0	5	----	58.0	0.0	0	0.0
Along Pico Blvd. CPE & La Cienega	10	1	0.0	57.3	66	57.3	10	----	57.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 1 February 2021
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Bellwood Project
RUN: Grading/Excavation Phase

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental				**1 February 2021**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**Bellwood Project**											
RUN:	**Grading/Excavation Phase**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	12	35	0	0	13	35	0	0	0	0
	point2	2										

Eyestone Environmental						**1 February 2021**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**Bellwood Project**										
RUN:	**Grading/Excavation Phase**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Along Olympic Blvd & Overland	1	1	250.0	25.0	0.00	4.92	0.00	71	5.0	0.0	Y
Along Pico Blvd. CPE & La Cienega	10	1	250.0	30.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

1 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Bellwood Project
RUN: Grading/Excavation Phase
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Along Olympic Blvd & Overland	1	1	0.0	65.3	71	65.3	5	----	65.3	0.0	0	0.0
Along Pico Blvd. CPE & La Cienega	10	1	0.0	64.6	66	64.6	10	----	64.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 1 February 2021
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Bellwood Project
RUN: Mat Foundation Phase

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental				**1 February 2021**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**Bellwood Project**											
RUN:	**Mat Foundation Phase**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	12	35	0	0	13	35	0	0	0	0
	point2	2										

Eyestone Environmental 1 February 2021
Sean Bui TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Bellwood Project
RUN: Mat Foundation Phase

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Along Olympic Blvd & Overland	1	1	250.0	25.0	0.00	4.92	0.00	71	5.0	0.0	Y
Along Pico Blvd. CPE & La Cienega	10	1	250.0	30.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

1 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Bellwood Project
RUN: Mat Foundation Phase
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Along Olympic Blvd & Overland	1	1	0.0	65.3	71	65.3	5	----	65.3	0.0	0	0.0
Along Pico Blvd. CPE & La Cienega	10	1	0.0	64.6	66	64.6	10	----	64.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Bellwood Project
RUN: Foundation/Concrete Phase

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement) X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **20 April 2020**
Sean Bui **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Bellwood Project**
RUN: **Foundation/Concrete Phase**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	40	35	0	0	7	35	0	0	0	0
	point2	2										

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Bellwood Project
RUN: Foundation/Concrete Phase

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Along Olympic Blvd & Overland	1	1	250.0	25.0	0.00	4.92	0.00	71	5.0	0.0	Y
Along Pico Blvd. CPE & La Cienega	10	1	250.0	30.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

20 April 2020
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Bellwood Project
RUN: Foundation/Concrete Phase
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Along Olympic Blvd & Overland	1	1	0.0	63.4	71	63.4	5	----	63.4	0.0	0	0.0
Along Pico Blvd. CPE & La Cienega	10	1	0.0	62.7	66	62.7	10	----	62.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Bellwood Project
RUN: Building Construction Phase

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points					Flow Control				
Name	Width	Name	No.	Coordinates (pavement)						Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **20 April 2020**
Sean Bui **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Bellwood Project**
RUN: **Building Construction Phase**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	72	35	0	0	4	35	0	0	0	0
	point2	2										

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Bellwood Project
RUN: Building Construction Phase

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Along Olympic Blvd & Overland	1	1	250.0	25.0	0.00	4.92	0.00	71	5.0	0.0	Y
Along Pico Blvd. CPE & La Cienega	10	1	250.0	30.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

20 April 2020
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Bellwood Project
RUN: Building Construction Phase
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Along Olympic Blvd & Overland	1	1	0.0	62.6	71	62.6	5	----	62.6	0.0	0	0.0
Along Pico Blvd. CPE & La Cienega	10	1	0.0	61.8	66	61.8	10	----	61.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Bellwood Project
RUN: Finishes/Arch. Coating Phase

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **20 April 2020**
Sean Bui **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Bellwood Project**
RUN: **Finishes/Arch. Coating Phase**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	80	35	0	0	4	35	0	0	0	0
	point2	2										

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Bellwood Project
RUN: Finishes/Arch. Coating Phase

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Along Olympic Blvd & Overland	1	1	250.0	25.0	0.00	4.92	0.00	71	5.0	0.0	Y
Along Pico Blvd. CPE & La Cienega	10	1	250.0	30.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

20 April 2020
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Bellwood Project
RUN: Finishes/Arch. Coating Phase
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Along Olympic Blvd & Overland	1	1	0.0	62.8	71	62.8	5	----	62.8	0.0	0	0.0
Along Pico Blvd. CPE & La Cienega	10	1	0.0	62.0	66	62.0	10	----	62.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Bellwood Project
RUN: Paving/Landscaping Phase

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **20 April 2020**
Sean Bui **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Bellwood Project**
RUN: **Paving/Landscaping Phase**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	16	35	0	0	2	35	0	0	0	0
	point2	2										

Eyestone Environmental 20 April 2020
Sean Bui TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Bellwood Project
RUN: Paving/Landscaping Phase

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Along Olympic Blvd & Overland	1	1	250.0	25.0	0.00	4.92	0.00	71	5.0	0.0	Y
Along Pico Blvd. CPE & La Cienega	10	1	250.0	30.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

20 April 2020
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Bellwood Project
RUN: Paving/Landscaping Phase
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Along Olympic Blvd & Overland	1	1	0.0	58.3	71	58.3	5	----	58.3	0.0	0	0.0
Along Pico Blvd. CPE & La Cienega	10	1	0.0	57.6	66	57.6	10	----	57.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project EIR

Construction Vibration Impacts - Prior to Mitigations

Reference Levels at 25 feet are based on FTA, 2006 (Transit Noise and Vibration Impact Assessment)
Calculations using FTA procedure with n= **1.5** (for receptors 25 feet or greater)
n= **1.1** (for receptors less than 25 feet, per Caltrans procedure)

ON-SITE CONSTRUCTION ACTIVITIES

Table 1: Construction Equipment Vibration Levels (PPV) - Building Damages

Equipment	Reference Vibration Levels at 25 ft., PPV	Estimated Vibration Levels at nearest off-site building structures (distance in feet), PPV						
		Multi-story Courtyard Marriott	Residential buildings along Ortron Ave.	Residential buildings along Keswick Ave.	Residential buildings along Kerwood Ave.	Commercial Building on Bellwood Ave.	Single-story commercial building on Olympic	4-Story Commercial Building on Olympic
		10	30	30	5	5	5	5
Large Bulldozer	0.089	0.244	0.068	0.068	0.523	0.523	0.523	0.523
Caisson Drilling	0.089	0.244	0.068	0.068	0.523	0.523	0.523	0.523
Loaded Trucks	0.076	0.208	0.058	0.058	0.446	0.446	0.446	0.446
Jackhammer	0.035	0.096	0.027	0.027	0.206	0.206	0.206	0.206
Small bulldozer	0.003	0.008	0.002	0.002	0.018	0.018	0.018	0.018
Significance Threshold, PPV		0.5	0.2	0.2	0.2	0.2	0.2	0.5

Table 2: Construction Equipment Vibration Levels (VdB) - Human Annoyance

Equipment	Reference Vibration Levels at 25 ft., VdB	Estimated Vibration Levels at Off-Site Receptors (at note distance in feet), VdB						
		R1	R2	R3	R4	R5	R6	
		30	10	425	315	155	15	
Large Bulldozer	87	85	99	50	54	63	94	
Caisson Drilling	87	85	99	50	54	63	94	
Loaded Trucks	86	84	98	49	53	62	93	
Jackhammer	79	77	91	42	46	55	86	
Small bulldozer	58	56	70	21	25	34	65	
Significance Threshold, VdB		72	72	72	72	72	72	

OFF-SITE CONSTRUCTION HAUL TRUCKS

Table 3: Off-Site Haul Trucks - Building Damage

Equipment	Reference Vibration Levels at 50 ft., PPV	Estimated Vibration Levels at noted distance in feet, PPV						
		10	20					
Typical road surface	0.00565	0.063	0.022					
Significance Threshold, PPV		0.12	0.12					

Ref. Levels based on FTA Figure 7-3 (converted from VdB to PPV)

Table 4: Off-Site Haul Trucks - Human Annoyance

Equipment	Reference Vibration Levels at 50 ft., VdB	Estimated Vibration Levels at noted distance in feet, VdB						
		20	25	30	40	60	80	
Typical road surface	63	75	72	70	66	61	57	
Significance Threshold, VdB		72	72	72	72	72	72	

Ref. Levels based on FTA Figure 7-3

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Project: Bellwood Project EIR

Construction Vibration Impacts - with Mitigations

Reference Levels at 25 feet are based on FTA, 2006 (Transit Noise and Vibration Impact Assessment)
Calculations using FTA procedure with n= **1.5** (for receptors 25 feet or greater)
n= **1.1** (for receptors less than 25 feet, per Caltrans procedure)

ON-SITE CONSTRUCTION ACTIVITIES

Table 1: Construction Equipment Vibration Levels (PPV) - Building Damages

Equipment	Reference Vibration Levels at 25 ft., PPV	Estimated Vibration Levels at nearest off-site building structures (distance in feet), PPV						
		Multi-story Courtyard Marriott	Residential buildings along Ortron Ave.	Residential buildings along Keswick Ave.	Residential buildings along Kerwood Ave.	Commercial Building on Bellwood Ave.	Single-story commercial building on Olympic	4-Story Commercial Building on Olympic
		10	30	30	13	13	13	6
Large Bulldozer	0.089	0.244	0.068	0.068	0.183	0.183	0.183	0.428
Caisson Drilling	0.089	0.244	0.068	0.068	0.183	0.183	0.183	0.428
Loaded Trucks	0.076	0.208	0.058	0.058	0.156	0.156	0.156	0.365
Jackhammer	0.035	0.096	0.027	0.027	0.168	0.168	0.168	0.168
Small bulldozer	0.003	0.008	0.002	0.002	0.048	0.023	0.048	0.014
Significance Threshold, PPV		0.5	0.2	0.2	0.2	0.2	0.2	0.5

Table 2: Construction Equipment Vibration Levels (VdB) - Human Annoyance

Equipment	Reference Vibration Levels at 25 ft., VdB	Estimated Vibration Levels at Off-Site Receptors (at note distance in feet), VdB						
		R1	R2	R3	R4	R5	R6	
		30	10	425	315	155	15	
Large Bulldozer	87	85	99	50	54	63	94	
Caisson Drilling	87	85	99	50	54	63	94	
Loaded Trucks	86	84	98	49	53	62	93	
Jackhammer	79	77	91	42	46	55	86	
Small bulldozer	58	56	70	21	25	34	65	
Significance Threshold, VdB		72	72	72	72	72	72	

OFF-SITE CONSTRUCTION HAUL TRUCKS

Table 3: Off-Site Haul Trucks - Building Damage

Equipment	Reference Vibration Levels at 50 ft., PPV	Estimated Vibration Levels at noted distance in feet, PPV						
		10	20					
Typical road surface	0.00565	0.063	0.022					
Significance Threshold, PPV		0.12	0.12					

Ref. Levels based on FTA Figure 7-3 (converted from VdB to PPV)

Table 4: Off-Site Haul Trucks - Human Annoyance

Equipment	Reference Vibration Levels at 50 ft., VdB	Estimated Vibration Levels at noted distance in feet, VdB						
		20	25	30	40	60	80	
Typical road surface	63	75	72	70	66	61	57	
Significance Threshold, VdB		72	72	72	72	72	72	

Ref. Levels based on FTA Figure 7-3

Operation Noise Calculations

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Project Composite Noise Calculations (CNEL)

Project: Bellwood Project

Receptor	Ambient	Traffic[a]	Mechanical	Loading	Outdoor	Project Composite	Ambient + Project	Increase
R1	59.8	0.0	60.6	21.8	57.6	62.4	64.3	4.5
R2	60.6	0.0	48.5	57.2	45.1	57.9	62.5	1.9
R3	60.2	0.0	43.1	18.8	26.5	43.2	60.3	0.1
R4	69.7	0.0	45.0	10.9	39.3	46.0	69.7	0.0
R5	59.6	0.0	50.6	18.8	39.0	50.9	60.1	0.5
R6	54.5	0.0	48.3	21.3	40.7	49.0	55.5	1.0

[a] - No Project traffic noise, as Project-related would be less than existing conditions.

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Outdoor Mechanical Equipment Noise Calculations

Project: Bellwood Project

	Estimated Noise Levels, Leq from SOUNDPLAN		Hours of Operations Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	12	3	9
R1	53.9	60.6	53.9	53.9	53.9
R2	41.8	48.5	41.8	41.8	41.8
R3	36.4	43.1	36.4	36.4	36.4
R4	38.3	45.0	38.3	38.3	38.3
R5	43.9	50.6	43.9	43.9	43.9
R6	41.6	48.3	41.6	41.6	41.6

Receptor	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	ambient (Leq)	Ambient + Project (Leq)	Increase (Leq)
R1	59.8	63.2	3.4	52.1	56.1	4.0
R2	60.6	60.9	0.3	55.2	55.4	0.2
R3	60.2	60.3	0.1	55.2	55.3	0.1
R4	69.7	69.7	0.0	64.2	64.2	0.0
R5	59.6	60.1	0.5	53.1	53.6	0.5
R6	54.5	55.4	0.9	49.5	50.2	0.7

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Outdoor Noise Calculations

Project: Bellwood Project

ALL LEVEL

	Estimated noise levels, Leq (FROM SOUNDPLAN)				Hours of Operations Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Sound System	Occupants	Total, Leq	CNEL	12	**2**	**0**
R1	50.4	58.1	58.8	57.6	58.8	57.0	0.0
R2	23.2	46.3	46.3	45.1	46.3	44.5	0.0
R3	4.9	27.6	27.6	26.5	27.6	25.8	0.0
R4	20.2	40.5	40.5	39.3	40.5	38.7	0.0
R5	28.5	39.9	40.2	39.0	40.2	38.4	0.0
R6	32.3	41.4	41.9	40.7	41.9	40.1	0.0

TOTAL COMBINED

Receptor	Project (CNEL)	Ambient (CNEL)	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	57.6	59.8	61.9	2.1	58.8	56.3	60.7
R2	45.1	60.6	60.8	0.1	46.3	58.2	58.5
R3	26.5	60.2	60.2	0.0	27.6	56.7	56.7
R4	39.3	69.7	69.7	0.0	40.5	67.3	67.3
R5	39.0	59.6	59.6	0.0	40.2	58.8	58.9
R6	40.7	54.5	54.6	0.2	41.9	50.8	51.3

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Loading and Trash Compactor Noise Calculations

Project: Bellwood Project

LOADING & TRASH COMPACTOR

	Estimated Noise Levels, Leq from SOUNDPLAN		Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	3	3	0
R1	24.5	21.8	18.5	24.5	0.0
R2	60.0	57.2	54.0	60.0	0.0
R3	21.4	18.8	15.4	21.4	0.0
R4	12.1	10.9	6.1	12.1	0.0
R5	21.4	18.8	15.4	21.4	0.0
R6	24.0	21.3	18.0	24.0	0.0

Receptor	Project CNEL	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	21.8	59.8	59.8	0.0	24.5	56.3	56.3
R2	57.2	60.6	62.2	1.6	60.0	58.2	62.2
R3	18.8	60.2	60.2	0.0	21.4	56.7	56.7
R4	10.9	69.7	69.7	0.0	12.1	67.3	67.3
R5	18.8	59.6	59.6	0.0	21.4	58.8	58.8
R6	21.3	54.5	54.5	0.0	24.0	50.8	50.8

Bellwood
Source Levels in dB(A) - Mechanical

Name	Source type	Lw dB(A)	
Mechanical N1	Point	90.0	
Mechanical N2	Point	90.0	
Mechanical N3	Point	90.0	
Mechanical N4	Point	90.0	
Mechanical N5	Point	90.0	
Mechanical N6	Point	90.0	
Mechanical S1	Point	90.0	
Mechanical S2	Point	90.0	
Mechanical S3	Point	90.0	
Mechanical S4	Point	90.0	

Bellwood
Assessed contribution level - Mechanical

Source	Ld dB(A)	
Receiver R1 Ld 53.9 dB(A)		
Mechanical N1	29.9	
Mechanical N2	32.0	
Mechanical N3	25.3	
Mechanical N4	26.5	
Mechanical N5	25.0	
Mechanical N6	25.3	
Mechanical S1	47.6	
Mechanical S2	46.2	
Mechanical S3	50.5	
Mechanical S4	44.5	
Receiver R2 Ld 41.8 dB(A)		
Mechanical N1	34.3	
Mechanical N2	34.1	
Mechanical N3	34.0	
Mechanical N4	33.9	
Mechanical N5	33.5	
Mechanical N6	33.7	
Mechanical S1	20.1	
Mechanical S2	17.9	
Mechanical S3	19.7	
Mechanical S4	17.7	
Receiver R3 Ld 36.4 dB(A)		
Mechanical N1	27.5	
Mechanical N2	27.4	
Mechanical N3	27.3	
Mechanical N4	25.0	
Mechanical N5	28.2	
Mechanical N6	30.3	
Mechanical S1	21.8	
Mechanical S2	23.1	
Mechanical S3	21.8	
Mechanical S4	22.2	
Receiver R4 Ld 38.3 dB(A)		
Mechanical N1	28.0	
Mechanical N2	27.6	
Mechanical N3	27.6	
Mechanical N4	30.9	
Mechanical N5	30.8	
Mechanical N6	30.6	

Bellwood
Assessed contribution level - Mechanical

Source	Ld dB(A)	
Mechanical S1	24.9	
Mechanical S2	25.6	
Mechanical S3	24.5	
Mechanical S4	25.7	
Receiver R5 Ld 43.9 dB(A)		
Mechanical N1	17.1	
Mechanical N2	16.4	
Mechanical N3	17.1	
Mechanical N4	17.4	
Mechanical N5	17.3	
Mechanical N6	16.9	
Mechanical S1	35.5	
Mechanical S2	35.3	
Mechanical S3	39.4	
Mechanical S4	39.4	
Receiver R6 Ld 41.6 dB(A)		
Mechanical N1	17.2	
Mechanical N2	16.3	
Mechanical N3	17.0	
Mechanical N4	17.9	
Mechanical N5	16.9	
Mechanical N6	16.5	
Mechanical S1	34.5	
Mechanical S2	33.9	
Mechanical S3	36.2	
Mechanical S4	36.7	

Bellwood
Source Levels in dB(A) - People

Name	Source type	Lw dB(A)	
People Level 1 Bistro Terrace	Area	89.7	
People Level 1 Terrace (Center)	Area	91.4	
People Level 1 Terrace (MC)	Area	92.2	
People Level 2 Terrace (MC)	Area	89.9	
People Level 3 Terrace	Area	85.8	
People Level 4 Terrace (S)	Area	85.8	
People Level 4 Terrace (SW)	Area	85.8	
People Level 5 Terrace	Area	85.8	
People Level 6 Terrace 1	Area	83.6	
People Level 6 Terrace 2	Area	83.8	
People Level 6 Terrace 3	Area	85.8	
People Level 6 Terrace 4	Area	85.8	
People Level P1 Courtyard	Area	95.2	

Bellwood
Assessed contribution level - People

Source	Ld dB(A)	
Receiver R1 Ld 58.1 dB(A)		
People Level P1 Courtyard	56.0	
People Level 1 Terrace (MC)	29.7	
People Level 1 Terrace (Center)	53.1	
People Level 1 Bistro Terrace	22.5	
People Level 2 Terrace (MC)	23.6	
People Level 3 Terrace	29.4	
People Level 4 Terrace (SW)	41.5	
People Level 4 Terrace (S)	41.6	
People Level 5 Terrace	34.9	
People Level 6 Terrace 1	20.5	
People Level 6 Terrace 2	31.2	
People Level 6 Terrace 4	21.2	
People Level 6 Terrace 3	37.8	
Receiver R2 Ld 46.3 dB(A)		
People Level P1 Courtyard	26.7	
People Level 1 Terrace (MC)	26.4	
People Level 1 Terrace (Center)	26.3	
People Level 1 Bistro Terrace	45.6	
People Level 2 Terrace (MC)	35.9	
People Level 3 Terrace	19.0	
People Level 4 Terrace (SW)	11.3	
People Level 4 Terrace (S)	14.5	
People Level 5 Terrace	13.4	
People Level 6 Terrace 1	11.3	
People Level 6 Terrace 2	10.5	
People Level 6 Terrace 4	31.5	
People Level 6 Terrace 3	14.3	
Receiver R3 Ld 27.6 dB(A)		
People Level P1 Courtyard	16.9	
People Level 1 Terrace (MC)	11.8	
People Level 1 Terrace (Center)	12.6	
People Level 1 Bistro Terrace	14.6	
People Level 2 Terrace (MC)	14.4	
People Level 3 Terrace	6.3	
People Level 4 Terrace (SW)	9.3	
People Level 4 Terrace (S)	11.8	
People Level 5 Terrace	11.7	
People Level 6 Terrace 1	10.2	
People Level 6 Terrace 2	8.2	

Bellwood
Assessed contribution level - People

Source	Ld dB(A)	
People Level 6 Terrace 4	25.6	
People Level 6 Terrace 3	12.1	
Receiver R4 Ld 40.5 dB(A)		
People Level P1 Courtyard	21.6	
People Level 1 Terrace (MC)	14.6	
People Level 1 Terrace (Center)	22.9	
People Level 1 Bistro Terrace	39.2	
People Level 2 Terrace (MC)	13.1	
People Level 3 Terrace	13.1	
People Level 4 Terrace (SW)	18.9	
People Level 4 Terrace (S)	12.9	
People Level 5 Terrace	27.0	
People Level 6 Terrace 1	31.0	
People Level 6 Terrace 2	21.5	
People Level 6 Terrace 4	24.8	
People Level 6 Terrace 3	17.0	
Receiver R5 Ld 39.9 dB(A)		
People Level P1 Courtyard	26.3	
People Level 1 Terrace (MC)	16.5	
People Level 1 Terrace (Center)	22.5	
People Level 1 Bistro Terrace	24.4	
People Level 2 Terrace (MC)	12.9	
People Level 3 Terrace	12.4	
People Level 4 Terrace (SW)	30.4	
People Level 4 Terrace (S)	17.5	
People Level 5 Terrace	33.8	
People Level 6 Terrace 1	34.6	
People Level 6 Terrace 2	33.2	
People Level 6 Terrace 4	11.7	
People Level 6 Terrace 3	22.9	
Receiver R6 Ld 41.4 dB(A)		
People Level P1 Courtyard	30.9	
People Level 1 Terrace (MC)	19.8	
People Level 1 Terrace (Center)	28.0	
People Level 1 Bistro Terrace	26.1	
People Level 2 Terrace (MC)	16.3	
People Level 3 Terrace	14.5	
People Level 4 Terrace (SW)	27.0	
People Level 4 Terrace (S)	15.7	
People Level 5 Terrace	37.2	

Bellwood
Assessed contribution level - People

Source	Ld dB(A)	
People Level 6 Terrace 1	35.9	
People Level 6 Terrace 2	31.9	
People Level 6 Terrace 4	11.1	
People Level 6 Terrace 3	18.1	

Bellwood
Source Levels in dB(A) - speakers

Name	Source type	Lw dB(A)	
Speakers Level P1 Courtyard 1	Point	94.2	
Speakers Level P1 Courtyard 2	Point	94.2	
Speakers Level P1 Courtyard 3	Point	94.2	
Speakers Level P1 Courtyard 4	Point	94.2	
Speakers Level P1 Courtyard 5	Point	94.2	

Bellwood
Assessed contribution level - speakers

Source	Ld dB(A)	
Receiver R1 Ld 50.4 dB(A)		
Speakers Level P1 Courtyard 1	43.7	
Speakers Level P1 Courtyard 2	41.7	
Speakers Level P1 Courtyard 3	42.4	
Speakers Level P1 Courtyard 4	40.3	
Speakers Level P1 Courtyard 5	46.4	
Receiver R2 Ld 23.2 dB(A)		
Speakers Level P1 Courtyard 1	13.4	
Speakers Level P1 Courtyard 2	11.9	
Speakers Level P1 Courtyard 3	19.3	
Speakers Level P1 Courtyard 4	17.4	
Speakers Level P1 Courtyard 5	14.9	
Receiver R3 Ld 4.9 dB(A)		
Speakers Level P1 Courtyard 1	-2.9	
Speakers Level P1 Courtyard 2	-2.6	
Speakers Level P1 Courtyard 3	-3.7	
Speakers Level P1 Courtyard 4	-3.5	
Speakers Level P1 Courtyard 5	0.6	
Receiver R4 Ld 20.2 dB(A)		
Speakers Level P1 Courtyard 1	9.1	
Speakers Level P1 Courtyard 2	8.5	
Speakers Level P1 Courtyard 3	17.8	
Speakers Level P1 Courtyard 4	13.3	
Speakers Level P1 Courtyard 5	9.3	
Receiver R5 Ld 28.5 dB(A)		
Speakers Level P1 Courtyard 1	20.1	
Speakers Level P1 Courtyard 2	23.4	
Speakers Level P1 Courtyard 3	23.9	
Speakers Level P1 Courtyard 4	18.6	
Speakers Level P1 Courtyard 5	18.1	
Receiver R6 Ld 32.3 dB(A)		
Speakers Level P1 Courtyard 1	23.4	
Speakers Level P1 Courtyard 2	27.5	
Speakers Level P1 Courtyard 3	27.3	
Speakers Level P1 Courtyard 4	23.8	
Speakers Level P1 Courtyard 5	21.3	

Bellwood
Source Levels in dB(A) - Loading

Name	Source type	Lw dB(A)	
Loading	Point	100.6	
Trash Compactor (inside)	Point	77.7	

Bellwood
Assessed contribution level - Loading

Source	Ld dB(A)	
Receiver R1 Ld 24.5 dB(A)		
Loading	24.5	
Trash Compactor (inside)	3.1	
Receiver R2 Ld 60.0 dB(A)		
Loading	59.9	
Trash Compactor (inside)	43.4	
Receiver R3 Ld 21.4 dB(A)		
Loading	21.4	
Trash Compactor (inside)	-1.5	
Receiver R4 Ld 12.1 dB(A)		
Loading	12.0	
Trash Compactor (inside)	-4.4	
Receiver R5 Ld 21.4 dB(A)		
Loading	21.4	
Trash Compactor (inside)	-7.6	
Receiver R6 Ld 24.0 dB(A)		
Loading	24.0	
Trash Compactor (inside)	-5.2	

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations

Project: Bellwood Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

EXISTING CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Beverly Glen Boulevard										
- Between Santa Monica Blvd. and Olympic Blvd.	60	10	40	35	2,166	21,660	10%	0	0	72.2
- Between Olympic Blvd. and Pico Blvd.	60	10	40	35	1,762	17,620	10%	0	0	71.3
Century Park West										
- Between Santa Monica Blvd. and Olympic Blvd.	70	10	45	35	1,242	12,420	10%	0	0	69.3
Avenue of the Stars										
- Between Santa Monica Blvd. and Olympic Blvd.	100	10	60	35	2,108	21,080	10%	0	0	70.3
Motor Avenue										
- Between Pico Blvd. and Cresta Dr.	50	10	35	35	1,749	17,490	10%	0	0	71.9
Kenwood Avenue										
- Between Olympic Blvd. and Pico Blvd.	30	10	25	25	274	2,740	10%	0	0	65.4
Santa Monica Boulevard										
- Between Beverly Glen Blvd. and Century Park W	80	30	70	35	4,569	45,690	10%	0	0	73.1
- Between Century Park West and Avenue of the	80	30	70	35	4,361	43,610	10%	0	0	72.9
Olympic Boulevard										
- Between Overland Ave. and Beverly Glen Blvd.	70	10	45	35	4,783	47,830	10%	0	0	75.2
- Between Beverly Glen Blvd. and Century Park W	80	10	50	35	4,686	46,860	10%	0	0	74.6
- Between Century Park West and Avenue of the	80	10	50	35	4,522	45,220	10%	0	0	74.4
Pico Boulevard										
- Between Overland Ave. and Beverly Glen Blvd.	70	10	45	35	3,706	37,060	10%	0	0	74.0
- Between Beverly Glen Blvd. and Motor Ave.	70	10	45	35	3,338	33,380	10%	0	0	73.6

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 1/21/2021

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations

Project: Bellwood Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

EXISTING + PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Beverly Glen Boulevard										
- Between Santa Monica Blvd. and Olympic Blvd.	60	10	40	35	2,165	21,650	10%	0	0	72.2
- Between Olympic Blvd. and Pico Blvd.	60	10	40	35	1,760	17,600	10%	0	0	71.3
Century Park West										
- Between Santa Monica Blvd. and Olympic Blvd.	70	10	45	35	1,240	12,400	10%	0	0	69.3
Avenue of the Stars										
- Between Santa Monica Blvd. and Olympic Blvd.	100	10	60	35	2,108	21,080	10%	0	0	70.3
Motor Avenue										
- Between Pico Blvd. and Cresta Dr.	50	10	35	35	1,749	17,490	10%	0	0	71.9
Kenwood Avenue										
- Between Olympic Blvd. and Pico Blvd.	30	10	25	25	275	2,750	10%	0	0	65.4
Santa Monica Boulevard										
- Between Beverly Glen Blvd. and Century Park W	80	30	70	35	4,569	45,690	10%	0	0	73.1
- Between Century Park West and Avenue of the	80	30	70	35	4,359	43,590	10%	0	0	72.8
Olympic Boulevard										
- Between Overland Ave. and Beverly Glen Blvd.	70	10	45	35	4,780	47,800	10%	0	0	75.1
- Between Beverly Glen Blvd. and Century Park W	80	10	50	35	4,678	46,780	10%	0	0	74.6
- Between Century Park West and Avenue of the	80	10	50	35	4,516	45,160	10%	0	0	74.4
Pico Boulevard										
- Between Overland Ave. and Beverly Glen Blvd.	70	10	45	35	3,704	37,040	10%	0	0	74.0
- Between Beverly Glen Blvd. and Motor Ave.	70	10	45	35	3,338	33,380	10%	0	0	73.6

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 1/21/2021

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations

Project: Bellwood Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

FUTURE NO PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Beverly Glen Boulevard										
- Between Santa Monica Blvd. and Olympic Blvd.	60	10	40	35	2,275	22,750	10%	0	0	72.4
- Between Olympic Blvd. and Pico Blvd.	60	10	40	35	1,840	18,400	10%	0	0	71.5
Century Park West										
- Between Santa Monica Blvd. and Olympic Blvd.	70	10	45	35	1,305	13,050	10%	0	0	69.5
Avenue of the Stars										
- Between Santa Monica Blvd. and Olympic Blvd.	100	10	60	35	2,833	28,330	10%	0	0	71.6
Motor Avenue										
- Between Pico Blvd. and Cresta Dr.	50	10	35	35	2,000	20,000	10%	0	0	72.5
Kenwood Avenue										
- Between Olympic Blvd. and Pico Blvd.	30	10	25	25	285	2,850	10%	0	0	65.6
Santa Monica Boulevard										
- Between Beverly Glen Blvd. and Century Park W	80	30	70	35	5,221	52,210	10%	0	0	73.6
- Between Century Park West and Avenue of the	80	30	70	35	4,973	49,730	10%	0	0	73.4
Olympic Boulevard										
- Between Overland Ave. and Beverly Glen Blvd.	70	10	45	35	5,080	50,800	10%	0	0	75.4
- Between Beverly Glen Blvd. and Century Park W	80	10	50	35	4,968	49,680	10%	0	0	74.8
- Between Century Park West and Avenue of the	80	10	50	35	4,790	47,900	10%	0	0	74.7
Pico Boulevard										
- Between Overland Ave. and Beverly Glen Blvd.	70	10	45	35	4,186	41,860	10%	0	0	74.6
- Between Beverly Glen Blvd. and Motor Ave.	70	10	45	35	3,784	37,840	10%	0	0	74.1

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 1/21/2021

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations

Project: Bellwood Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

FUTURE + PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Beverly Glen Boulevard										
- Between Santa Monica Blvd. and Olympic Blvd.	60	10	40	35	2,273	22,730	10%	0	0	72.4
- Between Olympic Blvd. and Pico Blvd.	60	10	40	35	1,838	18,380	10%	0	0	71.5
Century Park West										
- Between Santa Monica Blvd. and Olympic Blvd.	70	10	45	35	1,303	13,030	10%	0	0	69.5
Avenue of the Stars										
- Between Santa Monica Blvd. and Olympic Blvd.	100	10	60	35	2,833	28,330	10%	0	0	71.6
Motor Avenue										
- Between Pico Blvd. and Cresta Dr.	50	10	35	35	2,000	20,000	10%	0	0	72.5
Kenwood Avenue										
- Between Olympic Blvd. and Pico Blvd.	30	10	25	25	286	2,860	10%	0	0	65.6
Santa Monica Boulevard										
- Between Beverly Glen Blvd. and Century Park W	80	30	70	35	5,221	52,210	10%	0	0	73.6
- Between Century Park West and Avenue of the	80	30	70	35	4,972	49,720	10%	0	0	73.4
Olympic Boulevard										
- Between Overland Ave. and Beverly Glen Blvd.	70	10	45	35	5,077	50,770	10%	0	0	75.4
- Between Beverly Glen Blvd. and Century Park W	80	10	50	35	4,960	49,600	10%	0	0	74.8
- Between Century Park West and Avenue of the	80	10	50	35	4,784	47,840	10%	0	0	74.7
Pico Boulevard										
- Between Overland Ave. and Beverly Glen Blvd.	70	10	45	35	4,184	41,840	10%	0	0	74.6
- Between Beverly Glen Blvd. and Motor Ave.	70	10	45	35	3,784	37,840	10%	0	0	74.1

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 1/21/2021

Project Alternatives Calculations

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***
Alternatives Analysis (50% Reduction)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Tractors/Loaders/Backhoes		84	40%		
Water Truck	1	82	10%	50	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	75	0
Concrete/Industrial Saw		90	20%		
Tractors/Loaders/Backhoes	1	84	40%	100	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	125	0
Air Compressor		78	40%		
	5				

Receptor: ***R1***

Results:

1-hour Leq: **97.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***
Alternatives Analysis (50% Reduction)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Tractors/Loaders/Backhoes		84	40%		
Water Truck	1	82	10%	50	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	75	0
Concrete/Industrial Saw		90	20%		
Tractors/Loaders/Backhoes	1	84	40%	100	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	125	0
Air Compressor		78	40%		
	5				

Receptor: ***R2***

Results:

1-hour Leq: 97.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***
Alternatives Analysis (50% Reduction)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	425	0
Tractors/Loaders/Backhoes		84	40%		
Water Truck	1	82	10%	445	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	465	0
Concrete/Industrial Saw		90	20%		
Tractors/Loaders/Backhoes	1	84	40%	485	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	505	0
Air Compressor		78	40%		
	5				

Receptor: ***R3***

Results:

1-hour Leq: 67.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***
Alternatives Analysis (50% Reduction)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	315	0
Tractors/Loaders/Backhoes		84	40%		
Water Truck	1	82	10%	335	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	355	0
Concrete/Industrial Saw		90	20%		
Tractors/Loaders/Backhoes	1	84	40%	375	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	395	0
Air Compressor		78	40%		
	5				

Receptor: ***R4***

Results:

1-hour Leq: 69.8

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***
Alternatives Analysis (50% Reduction)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	155	10
Tractors/Loaders/Backhoes		84	40%		
Water Truck	1	82	10%	180	10
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	205	10
Concrete/Industrial Saw		90	20%		
Tractors/Loaders/Backhoes	1	84	40%	100	10
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	125	10
Air Compressor		78	40%		
	5				

Receptor: ***R5***

Results:

1-hour Leq: **67.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Site Prep/ Demolition***
Alternatives Analysis (50% Reduction)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	10	0
Tractors/Loaders/Backhoes		84	40%		
Water Truck	1	82	10%	50	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	75	0
Concrete/Industrial Saw		90	20%		
Tractors/Loaders/Backhoes	1	84	40%	100	0
Rubber Tired Loaders		79	40%		
Rubber Tired Dozers	1	82	40%	125	0
Air Compressor		78	40%		
	5				

Receptor: ***R6***

Results:

1-hour Leq: 97.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***
Alternatives Analysis (Central Location Development)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	30	0
Tractors/Loaders/Backhoes	1	84	40%	30	0
Water Truck	1	82	10%	55	0
Excavator	1	81	40%	55	0
Rubber Tired Loaders	1	79	40%	80	0
Rubber Tired Dozers	1	82	40%	80	0
Forklift	1	75	20%	100	0
Welders	1	74	40%	100	0
Excavator	1	81	40%	125	0

9

Receptor: ***R1***

Results:

1-hour Leq: **87.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***
Alternatives Analysis (Central Location Development)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	30	0
Tractors/Loaders/Backhoes	1	84	40%	30	0
Water Truck	1	82	10%	55	0
Excavator	1	81	40%	55	0
Rubber Tired Loaders	1	79	40%	80	0
Rubber Tired Dozers	1	82	40%	80	0
Forklift	1	75	20%	100	0
Welders	1	74	40%	100	0
Excavator	1	81	40%	125	0
	9				

Receptor: ***R2***

Results:

1-hour Leq: 87.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***
Alternatives Analysis (Central Location Development)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	445	0
Tractors/Loaders/Backhoes	1	84	40%	445	0
Water Truck	1	82	10%	465	0
Excavator	1	81	40%	465	0
Rubber Tired Loaders	1	79	40%	485	0
Rubber Tired Dozers	1	82	40%	485	0
Forklift	1	75	20%	505	0
Welders	1	74	40%	505	0
Excavator	1	81	40%	525	0

9

Receptor: ***R3***

Results:

1-hour Leq: 66.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***
Alternatives Analysis (Central Location Development)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	335	0
Tractors/Loaders/Backhoes	1	84	40%	335	0
Water Truck	1	82	10%	355	0
Excavator	1	81	40%	355	0
Rubber Tired Loaders	1	79	40%	375	0
Rubber Tired Dozers	1	82	40%	375	0
Forklift	1	75	20%	395	0
Welders	1	74	40%	395	0
Excavator	1	81	40%	415	0
	9				

Receptor: ***R4***

Results:

1-hour Leq: 68.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***
Alternatives Analysis (Central Location Development)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	175	10
Tractors/Loaders/Backhoes	1	84	40%	175	10
Water Truck	1	82	10%	195	10
Excavator	1	81	40%	195	10
Rubber Tired Loaders	1	79	40%	215	10
Rubber Tired Dozers	1	82	40%	215	10
Forklift	1	75	20%	235	10
Welders	1	74	40%	235	10
Excavator	1	81	40%	255	10
	9				

Receptor: ***R5***

Results:

1-hour Leq: 63.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Bellwood Project

Construction Phase: ***Grading/Excavation***
Alternatives Analysis (Central Location Development)

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	30	0
Tractors/Loaders/Backhoes	1	84	40%	30	0
Water Truck	1	82	10%	55	0
Excavator	1	81	40%	55	0
Rubber Tired Loaders	1	79	40%	80	0
Rubber Tired Dozers	1	82	40%	80	0
Forklift	1	75	20%	100	0
Welders	1	74	40%	100	0
Excavator	1	81	40%	125	0

9

Receptor: ***R6***

Results:

1-hour Leq: 87.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Bellwood Project

Off-Site Traffic - Alternatives Analysis

Olympic Boulevard (between Beverly Glen and Century Park West)

Scenario	Project	Alternative 2	Alternative 3
Existing, ADT	46860		
Existing SPL, dBA CNEL	74.6		
Existing With Project, ADT	46780		
EWP SPL, dBA CNEL	74.6		
% Increased	0.998		
Noise increase, dBA	0.0		
Project Trips, ADT	-75	638	-116
% to roadway		100%	100%
Project Alt, ADT (roadway)		638	-116
Existing With Project Alt, ADT		47498	46744
% Increased		*1.4%*	*-0.2%*
Noise increase, dBA		*0.1*	*0.0*
Increased Relative to Project		*0.1*	*0.0*

Kenwood Avenue (between Olympic Blvd. and Cresta Dr.)

Scenario	Project	Alternative 2	Alternative 3
Existing, ADT	2740		
Existing SPL, dBA CNEL	65.4		
Existing With Project, ADT	2750		
EWP SPL, dBA CNEL	65.4		
% Increased	1.004		
Noise increase, dBA	0.0		
Project Trips, ADT	-75	638	-116
% to roadway		5%	5%
Project Alt, ADT (roadway)		32	-6
Existing With Project Alt, ADT		2772	2734
% Increased		*1.2%*	*-0.2%*
Noise increase, dBA		*0.1*	*0.0*
Increased Relative to Project		*0.1*	*0.0*