Appendix FEIR-7

Supplemental Noise Analyses

Our Lady of Mt. Lebanon Project (Final EIR)

Noise Calculations Worksheets

Provided by Acoustical Engineering Services

Loading Dock Noise Analysis

a) **Single Loading Dock Analysis** (Response to Comment 1-86)
b) **8-ft High Noise Barrier Analysis** (Response to Comment 1-87)
c) **Acoustical Plaster Analysis** (Response to Comment 1-88)

AES
ACOUSTICAL ENGINEERING SERVICES

Loading and Trash Compactor Noise Calculations

Project: Our Lady of Mt. Lebanon Project

With 8ft Wall

LOADING

	Estimated Noise Levels, Leq from SOUNDPLAN		Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	1	1	0
R1	59.3	51.7	48.5	54.5	0.0
R1U	68.2	60.6	57.4	63.4	0.0
R2	35.6	28.0	24.8	30.8	0.0
R2U	35.1	27.5	24.3	30.3	0.0
R3	38.0	30.4	27.2	33.2	0.0
R3U	37.3	29.7	26.5	32.5	0.0
R4	26.6	19.2	15.8	21.8	0.0

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	44.1	41.3	38.1	44.1	0.0
R1U	36.1	33.3	30.1	36.1	0.0
R2	14.7	12.8	8.7	14.7	0.0
R2U	14.7	12.8	8.7	14.7	0.0
R3	0.3	6.3	-5.7	0.3	0.0
R3U	0.6	6.4	-5.4	0.6	0.0
R4	-8.0	5.8	-14.0	-8.0	0.0

Receptor	Project CNEL	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	52.1	64.7	64.9	0.2	59.4	61.5	63.6
R1U	60.6	64.7	66.1	1.4	68.2	61.5	69.0
R2	28.1	63.7	63.7	0.0	35.6	61.0	61.0
R2U	27.7	63.7	63.7	0.0	35.1	61.0	61.0
R3	30.4	66.8	66.8	0.0	38.0	64.8	64.8
R3U	29.7	66.8	66.8	0.0	37.3	64.8	64.8
R4	19.4	62.9	62.9	0.0	26.6	60.3	60.3

Receptor	Ambient	Project	Amb+Project	Criteria	Exceedance
R1	61.5	68.2	69.0	66.5	2.5
R2	61.0	35.6	61.0	66.0	0.0
R3	64.8	38.0	64.8	69.8	0.0
R4	60.3	26.6	60.3	65.3	0.0

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ACOUSTICAL ENGINEERING SERVICES

Loading and Trash Compactor Noise Calculations

Project: Our Lady of Mt. Lebanon Project

With Acoustical Plaster

LOADING

	Estimated Noise Levels, Leq from SOUNDPLAN		Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	1	1	0
R1	60.3	52.7	49.5	55.5	0.0
R1U	68.8	61.2	58.0	64.0	0.0
R2	35.6	28.0	24.8	30.8	0.0
R2U	35.1	27.5	24.3	30.3	0.0
R3	36.5	28.9	25.7	31.7	0.0
R3U	36.1	28.5	25.3	31.3	0.0
R4	26.4	19.0	15.6	21.6	0.0

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	44.1	41.3	38.1	44.1	0.0
R1U	36.1	33.3	30.1	36.1	0.0
R2	14.7	12.8	8.7	14.7	0.0
R2U	14.7	12.8	8.7	14.7	0.0
R3	0.3	6.3	-5.7	0.3	0.0
R3U	0.6	6.4	-5.4	0.6	0.0
R4	-8.0	5.8	-14.0	-8.0	0.0

Receptor	Project CNEL	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	53.0	64.7	65.0	0.3	60.4	61.5	64.0
R1U	61.2	64.7	66.3	1.6	68.8	61.5	69.5
R2	28.1	63.7	63.7	0.0	35.6	61.0	61.0
R2U	27.7	63.7	63.7	0.0	35.1	61.0	61.0
R3	28.9	66.8	66.8	0.0	36.5	64.8	64.8
R3U	28.5	66.8	66.8	0.0	36.1	64.8	64.8
R4	19.2	62.9	62.9	0.0	26.4	60.3	60.3

Receptor	Ambient	Project	Amb+Project	Criteria	Exceedance
R1	61.5	68.8	69.5	66.5	3.0
R2	61.0	35.6	61.0	66.0	0.0
R3	64.8	36.5	64.8	69.8	0.0
R4	60.3	26.4	60.3	65.3	0.0

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ACOUSTICAL ENGINEERING SERVICES

Loading and Trash Compactor Noise Calculations

Project: Our Lady of Mt. Lebanon Project

LOADING ***- SINGLE LOADING***

	Estimated Noise Levels, Leq from SOUNDPLAN		Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	1	1	0
R1	60.7	53.1	49.9	55.9	0.0
R1U	68.7	61.1	57.9	63.9	0.0
R2	33.3	25.7	22.5	28.5	0.0
R2U	33.1	25.5	22.3	28.3	0.0
R3	27.8	20.3	17.0	23.0	0.0
R3U	27.0	19.6	16.2	22.2	0.0
R4	25.3	18.0	14.5	20.5	0.0

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	44.1	41.3	38.1	44.1	0.0
R1U	36.1	33.3	30.1	36.1	0.0
R2	14.7	12.8	8.7	14.7	0.0
R2U	14.7	12.8	8.7	14.7	0.0
R3	0.3	6.3	-5.7	0.3	0.0
R3U	0.6	6.4	-5.4	0.6	0.0
R4	-8.0	5.8	-14.0	-8.0	0.0

Receptor	Project CNEL	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	53.4	64.7	65.0	0.3	60.8	61.5	64.2
R1U	61.1	64.7	66.3	1.6	68.7	61.5	69.5
R2	26.0	63.7	63.7	0.0	33.4	61.0	61.0
R2U	25.8	63.7	63.7	0.0	33.2	61.0	61.0
R3	20.5	66.8	66.8	0.0	27.8	64.8	64.8
R3U	19.8	66.8	66.8	0.0	27.0	64.8	64.8
R4	18.2	62.9	62.9	0.0	25.3	60.3	60.3

Receptor	Ambient	Project	Amb+Project	Criteria	Exceedance
R1	61.5	68.7	69.5	66.5	3.0
R2	61.0	33.4	61.0	66.0	0.0
R3	64.8	27.8	64.8	69.8	0.0
R4	60.3	25.3	60.3	65.3	0.0

Our Lady of Mt. Lebanon Project
Source Levels in dB(A) - Loading w 8ft Wall

Name	Source type	Lw dB(A)	
Loading East Side	Point	101.9	
Loading West Side	Point	101.9	

Our Lady of Mt. Lebanon Project
Assessed contribution level - Loading w 8ft Wall

Source	Source type	Leq dB(A)	
Receiver R1 Fl G Leq,d 59.3 dB(A)			
Loading East Side	Point	50.8	
Loading West Side	Point	58.7	
Receiver R1 Fl F2 Leq,d 68.2 dB(A)			
Loading East Side	Point	50.1	
Loading West Side	Point	68.1	
Receiver R2 Fl G Leq,d 35.6 dB(A)			
Loading East Side	Point	31.6	
Loading West Side	Point	33.3	
Receiver R2 Fl F2 Leq,d 35.1 dB(A)			
Loading East Side	Point	30.9	
Loading West Side	Point	33.1	
Receiver R3 Fl G Leq,d 38.0 dB(A)			
Loading East Side	Point	37.6	
Loading West Side	Point	27.8	
Receiver R3 Fl F2 Leq,d 37.3 dB(A)			
Loading East Side	Point	36.8	
Loading West Side	Point	27.0	
Receiver R4 Fl G Leq,d 26.6 dB(A)			
Loading East Side	Point	20.8	
Loading West Side	Point	25.3	

Our Lady of Mt. Lebanon Project
Source Levels in dB(A) - Loading w Acoustics Plaster

Name	Source type	Lw dB(A)	
Loading East Side	Point	101.9	
Loading West Side	Point	101.9	

Our Lady of Mt. Lebanon Project
Assessed contribution level - Loading w Acoustics Plaster

Source	Source type	Leq dB(A)	
Receiver R1 Fl G Leq,d 60.3 dB(A)			
Loading East Side	Point	50.8	
Loading West Side	Point	59.7	
Receiver R1 Fl F2 Leq,d 68.8 dB(A)			
Loading East Side	Point	50.1	
Loading West Side	Point	68.7	
Receiver R2 Fl G Leq,d 35.6 dB(A)			
Loading East Side	Point	31.6	
Loading West Side	Point	33.3	
Receiver R2 Fl F2 Leq,d 35.1 dB(A)			
Loading East Side	Point	30.9	
Loading West Side	Point	33.1	
Receiver R3 Fl G Leq,d 36.5 dB(A)			
Loading East Side	Point	35.9	
Loading West Side	Point	27.8	
Receiver R3 Fl F2 Leq,d 36.1 dB(A)			
Loading East Side	Point	35.5	
Loading West Side	Point	27.0	
Receiver R4 Fl G Leq,d 26.4 dB(A)			
Loading East Side	Point	20.1	
Loading West Side	Point	25.3	

Our Lady of Mt. Lebanon Project
Source Levels in dB(A) - Loading w 6ft Wall (Single)

Name	Source type	Lw dB(A)	
Loading West Side	Point	101.9	

Our Lady of Mt. Lebanon Project
Assessed contribution level - Loading w 6ft Wall (Single)

Source	Source type	Leq dB(A)	
Receiver R1 Fl G Leq,d 60.7 dB(A)			
Loading West Side	Point	60.7	
Receiver R1 Fl F2 Leq,d 68.7 dB(A)			
Loading West Side	Point	68.7	
Receiver R2 Fl G Leq,d 33.3 dB(A)			
Loading West Side	Point	33.3	
Receiver R2 Fl F2 Leq,d 33.1 dB(A)			
Loading West Side	Point	33.1	
Receiver R3 Fl G Leq,d 27.8 dB(A)			
Loading West Side	Point	27.8	
Receiver R3 Fl F2 Leq,d 27.0 dB(A)			
Loading West Side	Point	27.0	
Receiver R4 Fl G Leq,d 25.3 dB(A)			
Loading West Side	Point	25.3	

Special Event Traffic Noise Analysis

Response to Comment 6-18

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Traffic Noise Calculations - Event Traffic

Project: Our Lady of Mt. Lebanon Project

	Ambient Noise Levels, dBA Leq		Estimated "Existing + Project" Traffic Noise Levels, dBA Leq (from TNM Model)			Project + Ambient Noise Levels, dBA Leq			Noise Increase, dBA Leq		
Receptor	Day	Night	Pk. Hr.	Pre-Event	Post-Event	Pk. Hr.	Pre-Event	Post-Event	Pk. Hr.	Pre-Event	Post-Event
R1	61.5	57	55.3	55.9	58	62.4	62.6	60.5	0.9	1.1	3.5

Eyestone Environmental 6 September 2021
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Our Lady of Mt. Lebanon
RUN: Alley Traffic - EWP Peak Hour

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	%		
Alley - West	20.0	point1	1	0.0	0.0	0.00	Stop	0.00	50	Average	
		point2	2	80.0	0.0	0.00					
Alley - East	20.0	point3	3	80.0	0.0	0.00	Stop	0.00	50	Average	
		point4	4	290.0	0.0	0.00					

Eyestone Environmental **6 September 2021**
Sean Bui **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Our Lady of Mt. Lebanon**
RUN: **Alley Traffic - EWP Peak Hour**

Roadway	Points		Segment									
Name	Name	No.	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
Alley - West	point1	1	28	25	0	0	0	0	0	0	0	0
	point2	2										
Alley - East	point3	3	24	25	0	0	0	0	0	0	0	0
	point4	4										

Eyestone Environmental						**6 September 2021**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**Our Lady of Mt. Lebanon**										
RUN:	**Alley Traffic - EWP Peak Hour**										
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	
Receptor R1	1	1	115.0	20.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

6 September 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Our Lady of Mt. Lebanon
RUN: Alley Traffic - EWP Peak Hour
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
Receptor R1	1	1	0.0	55.3	66	55.3	10	----	55.3	0.0	8	-8.0

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

Eyestone Environmental **6 September 2021**
Sean Bui **TNM 2.5**

INPUT: ROADWAYS **Average pavement type shall be used unless**
PROJECT/CONTRACT: **Our Lady of Mt. Lebanon** **a State highway agency substantiates the use**
RUN: **Alley Traffic - EWP Pre-Event** **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	%		
Alley - West	20.0	point1	1	0.0	0.0	0.00	Stop	0.00	50	Average	
		point2	2	80.0	0.0	0.00					
Alley - East	20.0	point3	3	80.0	0.0	0.00	Stop	0.00	50	Average	
		point4	4	290.0	0.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes **Our Lady of Mt. Lebanon**

Eyestone Environmental				**6 September 2021**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**Our Lady of Mt. Lebanon**											
RUN:	**Alley Traffic - EWP Pre-Event**											
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
Alley - West	point1	1	57	25	0	0	0	0	0	0	0	0
	point2	2										
Alley - East	point3	3	24	25	0	0	0	0	0	0	0	0
	point4	4										

Eyestone Environmental						**6 September 2021**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**Our Lady of Mt. Lebanon**										
RUN:	**Alley Traffic - EWP Pre-Event**										
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	
Receptor R1	1	1	115.0	20.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

6 September 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Our Lady of Mt. Lebanon
RUN: Alley Traffic - EWP Pre-Event
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
Receptor R1	1	1	0.0	55.9	66	55.9	10	----	55.9	0.0	8	-8.0

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

Eyestone Environmental 6 September 2021
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Our Lady of Mt. Lebanon
RUN: Alley Traffic - EWP Post-Event

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	%		
Alley - West	20.0	point1	1	0.0	0.0	0.00	Stop	0.00	50	Average	
		point2	2	80.0	0.0	0.00					
Alley - East	20.0	point3	3	80.0	0.0	0.00	Stop	0.00	50	Average	
		point4	4	290.0	0.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes **Our Lady of Mt. Lebanon**

Eyestone Environmental				**6 September 2021**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**Our Lady of Mt. Lebanon**											
RUN:	**Alley Traffic - EWP Post-Event**											
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
Alley - West	point1	1	109	25	0	0	0	0	0	0	0	0
	point2	2										
Alley - East	point3	3	37	25	0	0	0	0	0	0	0	0
	point4	4										

Eyestone Environmental						**6 September 2021**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**Our Lady of Mt. Lebanon**										
RUN:	**Alley Traffic - EWP Post-Event**										
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	
Receptor R1	1	1	115.0	20.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

6 September 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Our Lady of Mt. Lebanon
RUN: Alley Traffic - EWP Post-Event
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
Receptor R1	1	1	0.0	58.0	66	58.0	10	----	58.0	0.0	8	-8.0

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

Multipurpose Room Noise Calculations

a) **With Doors to the Courtyard and Alley Open (**Response to Comment 6-19)
b) **With Doors to the Courtyard Open (**Response to Comment 6-20)
c) **Guests Waiting for Rideshare** (Response to Comment 21-5)

AES
ACOUSTICAL ENGINEERING SERVICES

Outdoor Noise Calculations - Multipurpose Room (Event)

Project: Our Lady of Mt. Lebanon Project

With Courtyard and North Doors Open

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**	**2**
R1			46.3	48.3	46.3	44.5	39.8
R1U			40.4	42.4	40.4	38.6	33.9
R2			26.5	28.5	26.5	24.7	20.0
R2U			27.0	29.0	27.0	25.2	20.5
R3			47.6	49.6	47.6	45.8	41.1
R3U			47.6	49.6	47.6	45.8	41.1
R4			18.7	20.7	18.7	16.9	12.2

Receptor	Project (CNEL)	Ambient (CNEL)	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	48.3	64.7	64.8	0.1	46.3	57.0	57.4
R1U	42.4	64.7	64.7	0.0	40.4	57.0	57.1
R2	28.5	63.7	63.7	0.0	26.5	58.4	58.4
R2U	29.0	63.7	63.7	0.0	27.0	58.4	58.4
R3	49.6	66.8	66.9	0.1	47.6	61.1	61.3
R3U	49.6	66.8	66.9	0.1	47.6	61.1	61.3
R4	20.7	62.9	62.9	0.0	18.7	57.6	57.6

Receptor	Ambient	Project	Amb+Project	Criteria	Exceedance
R1	57.0	46.3	57.4	62.0	0.0
R2	58.4	27.0	58.4	63.4	0.0
R3	61.1	47.6	61.3	66.1	0.0
R4	57.6	18.7	57.6	62.6	0.0

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ACOUSTICAL ENGINEERING SERVICES

Outdoor Noise Calculations - Multipurpose Room (Event)

Project: Our Lady of Mt. Lebanon Project

With Courtyard Doors Open

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**	**2**
R1			40.7	42.7	40.7	38.9	34.2
R1U			30.4	32.4	30.4	28.6	23.9
R2			26.0	28.0	26.0	24.2	19.5
R2U			26.4	28.4	26.4	24.6	19.9
R3			47.5	49.5	47.5	45.7	41.0
R3U			47.5	49.5	47.5	45.7	41.0
R4			18.6	20.6	18.6	16.8	12.1

Receptor	Project (CNEL)	Ambient (CNEL)	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	42.7	64.7	64.7	0.0	40.7	57.0	57.1
R1U	32.4	64.7	64.7	0.0	30.4	57.0	57.0
R2	28.0	63.7	63.7	0.0	26.0	58.4	58.4
R2U	28.4	63.7	63.7	0.0	26.4	58.4	58.4
R3	49.5	66.8	66.9	0.1	47.5	61.1	61.3
R3U	49.5	66.8	66.9	0.1	47.5	61.1	61.3
R4	20.6	62.9	62.9	0.0	18.6	57.6	57.6

Receptor	Ambient	Project	Amb+Project	Criteria	Exceedance
R1	57.0	40.7	57.1	62.0	0.0
R2	58.4	26.4	58.4	63.4	0.0
R3	61.1	47.5	61.3	66.1	0.0
R4	57.6	18.6	57.6	62.6	0.0

Our Lady of Mt. Lebanon Project
Source Levels in dB(A) - Event Center - N Door (Outdoor)

Name	Source type	Lw dB(A)	
Door to Alley	Area	78.3	
Doors to Courtyard	Area	93.1	
Facade 01 - South	Area	55.8	
Facade 03 - North	Area	55.2	

Our Lady of Mt. Lebanon Project
Assessed contribution level - Event Center - N Door (Outdoor)

Source	Source type	Leq,n dB(A)	
Receiver R1 Fl G Leq,d 43.9 dB(A)			
Facade 01 - South	Area	-3.7	
Doors to Courtyard	Area	39.3	
Facade 03 - North	Area	20.7	
Door to Alley	Area	42.0	
Receiver R1 Fl F2 Leq,d 39.0 dB(A)			
Facade 01 - South	Area	-0.6	
Doors to Courtyard	Area	28.5	
Facade 03 - North	Area	16.7	
Door to Alley	Area	38.6	
Receiver R1b Fl G Leq,d 46.3 dB(A)			
Facade 01 - South	Area	-1.3	
Doors to Courtyard	Area	40.7	
Facade 03 - North	Area	21.8	
Door to Alley	Area	44.9	
Receiver R1b Fl F2 Leq,d 40.4 dB(A)			
Facade 01 - South	Area	1.1	
Doors to Courtyard	Area	30.2	
Facade 03 - North	Area	17.3	
Door to Alley	Area	40.0	
Receiver R2 Fl G Leq,d 26.5 dB(A)			
Facade 01 - South	Area	-5.1	
Doors to Courtyard	Area	26.0	
Facade 03 - North	Area	0.4	
Door to Alley	Area	17.2	
Receiver R2 Fl F2 Leq,d 27.0 dB(A)			
Facade 01 - South	Area	-3.1	
Doors to Courtyard	Area	26.4	
Facade 03 - North	Area	1.3	
Door to Alley	Area	17.9	
Receiver R3 Fl G Leq,d 47.6 dB(A)			
Facade 01 - South	Area	10.4	
Doors to Courtyard	Area	47.6	
Facade 03 - North	Area	-11.4	
Door to Alley	Area	4.7	
Receiver R3 Fl F2 Leq,d 47.6 dB(A)			
Facade 01 - South	Area	11.0	
Doors to Courtyard	Area	47.6	
Facade 03 - North	Area	-7.7	

Our Lady of Mt. Lebanon Project
Assessed contribution level - Event Center - N Door (Outdoor)

Source	Source type	Leq,n dB(A)	
Door to Alley	Area	8.3	
Receiver R4 Fl G Leq,d 18.7 dB(A)			
Facade 01 - South	Area	-13.7	
Doors to Courtyard	Area	18.6	
Facade 03 - North	Area	-22.5	
Door to Alley	Area	-4.2	

Our Lady of Mt. Lebanon Project
Source Levels in dB(A) - Event Center - S Door (Outdoor)

Name	Source type	Lw dB(A)	
Door to Alley	Area	38.1	
Doors to Courtyard	Area	93.1	
Facade 01 - South	Area	55.8	
Facade 03 - North	Area	55.2	

Our Lady of Mt. Lebanon Project
Assessed contribution level - Event Center - S Door (Outdoor)

Source	Source type	Leq,d dB(A)	
Receiver R1 Fl G Leq,d 39.3 dB(A)			
Facade 01 - South	Area	-3.7	
Doors to Courtyard	Area	39.3	
Facade 03 - North	Area	20.7	
Door to Alley	Area	1.6	
Receiver R1 Fl F2 Leq,d 28.7 dB(A)			
Facade 01 - South	Area	-0.5	
Doors to Courtyard	Area	28.4	
Facade 03 - North	Area	16.7	
Door to Alley	Area	-1.5	
Receiver R1b Fl G Leq,d 40.7 dB(A)			
Facade 01 - South	Area	-1.3	
Doors to Courtyard	Area	40.7	
Facade 03 - North	Area	21.8	
Door to Alley	Area	4.6	
Receiver R1b Fl F2 Leq,d 30.4 dB(A)			
Facade 01 - South	Area	1.1	
Doors to Courtyard	Area	30.2	
Facade 03 - North	Area	17.3	
Door to Alley	Area	-0.1	
Receiver R2 Fl G Leq,d 26.0 dB(A)			
Facade 01 - South	Area	-5.1	
Doors to Courtyard	Area	25.9	
Facade 03 - North	Area	0.4	
Door to Alley	Area	-20.0	
Receiver R2 Fl F2 Leq,d 26.4 dB(A)			
Facade 01 - South	Area	-3.1	
Doors to Courtyard	Area	26.4	
Facade 03 - North	Area	1.3	
Door to Alley	Area	-19.3	
Receiver R3 Fl G Leq,d 47.5 dB(A)			
Facade 01 - South	Area	10.4	
Doors to Courtyard	Area	47.5	
Facade 03 - North	Area	-11.4	
Door to Alley	Area	-32.5	
Receiver R3 Fl F2 Leq,d 47.5 dB(A)			
Facade 01 - South	Area	11.0	
Doors to Courtyard	Area	47.5	
Facade 03 - North	Area	-7.7	

Our Lady of Mt. Lebanon Project
Assessed contribution level - Event Center - S Door (Outdoor)

Source	Source type	Leq,d dB(A)	
Door to Alley	Area	-29.3	
Receiver R4 Fl G Leq,d 18.6 dB(A)			
Facade 01 - South	Area	-13.7	
Doors to Courtyard	Area	18.6	
Facade 03 - North	Area	-22.5	
Door to Alley	Area	-41.9	

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ACOUSTICAL ENGINEERING SERVICES

Outdoor Noise Calculations - Guest Waiting for Rideshare

Project: Our Lady of Mt. Lebanon 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	17.6	24.3	17.6	17.6	17.6
R1U	33.2	39.9	33.2	33.2	33.2
R2	38.5	45.2	38.5	38.5	38.5
R2U	38.5	45.2	38.5	38.5	38.5
R3	42.7	49.4	42.7	42.7	42.7
R3U	42.0	48.7	42.0	42.0	42.0
R4	15.4	22.1	15.4	15.4	15.4

Receptor	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	ambient (Leq)	Ambient + Project (Leq)
R1	64.7	64.7	0.0	57.0	57.0
R1U	64.7	64.7	0.0	57.0	57.0
R2	63.7	63.8	0.1	58.4	58.4
R2U	63.7	63.8	0.1	58.4	58.4
R3	66.8	66.9	0.1	61.1	61.2
R3U	66.8	66.8	0.1	61.1	61.2
R4	62.9	62.9	0.0	57.6	57.6

Our Lady of Mt. Lebanon Project
Source Levels in dB(A) - Event Center - Guest Leaving

Name	Source type	Lw dB(A)	
Event Center - Guest Leaving	Area	85.6	

Our Lady of Mt. Lebanon Project
Assessed contribution level - Event Center - Guest Leaving

Source	Source type	Leq dB(A)	
Receiver R1 Fl G Leq,d 17.6 dB(A)			
Event Center - Guest Leaving	Area	17.6	
Receiver R1 Fl F2 Leq,d 33.2 dB(A)			
Event Center - Guest Leaving	Area	33.2	
Receiver R2 Fl G Leq,d 38.5 dB(A)			
Event Center - Guest Leaving	Area	38.5	
Receiver R2 Fl F2 Leq,d 38.5 dB(A)			
Event Center - Guest Leaving	Area	38.5	
Receiver R3 Fl G Leq,d 42.7 dB(A)			
Event Center - Guest Leaving	Area	42.7	
Receiver R3 Fl F2 Leq,d 42.6 dB(A)			
Event Center - Guest Leaving	Area	42.6	
Receiver R4 Fl G Leq,d 15.4 dB(A)			
Event Center - Guest Leaving	Area	15.4	