Synopsis of Ambient Noise Levels and Car Wash Noise Readings: 1150 E Ogden Ave.

Attached please find a map of the proposed Naperville location with ambient sound level readings taken on 7-9-2018. Additionally, readings taken at our Plainfield location on 8/11/17 are included for comparison. As the numbers show, a significant reduction in the sound level occurs when the fabric rapid roll door is closed, as much as 9.4 dBA at 50' straight out from the exit. The exit on the Naperville site plan is positioned for vehicles to exit toward Ogden Ave in a northwesterly direction.

This exit side is the loudest point in the car wash, and the noise is directed away from any residential. At 50' straight line from center exit (approximately the middle of Ogden Ave), the reading is 82.8 dBA. With the fabric rollup door closed this drops to 73.4 dBA.

Perpendicular to the exit, at 50' the levels are 69.1 dBA with the door open and 63.9 with the door closed.

Readings at the site taken on 7-9-18 show the ambient dBA levels to be 70.4 dBA on the sidewalk in front of the site, 57.4 dBA at the fence-line nearest Ogden Ave., and 53.0 dBA at the fence line farthest from Ogden. Readings were not taken on the residential side of the fence line.

Along the south lot line is a dilapidated solid wooden fence, anticipated to be replaced with a high quality vinyl fence, in addition to arbor vitae and other sound absorbing plantings forming another barrier to the noise at the fence-line. This will drop the readings at minimum, another 4.0 dBA from the entrance of the wash.

Projecting this out to 100' toward the residences you will experience another 5 dBA drop due to a loss of 5 dBA when doubling the distance in a semi free field. This should demonstrate the noise to be within the allowable range for the State of Illinois Noise Ordinance Limits Class A Residential Standards

The central vacuum system registers 62.5 dBA at 50' and 55.5 dBA at 100'. For perspective, the central vacuum system is quiet enough to have a normal conversation while standing within 10 feet of the separator unit or any of the 14 vacuum stalls. In the case of the Naperville location , Ogden Avenue road noise would overtake the noise from the central vac, demonstrating that the central vac unit is not a contributor to the overall noise.

July 9, 2018

Car Wash Partners
Mt Steve Timmer

Preliminary Review – Sound Pressure Level Monitoring Project at 1150 East Ogden Avenue, Naperville, Illinois.

A *Norsonic nor140 Sound Analyzer*, equipped with a Type 1225 microphone with preamplifier and foam windscreen, was used to collect the data. This instrument meets the Type I precision requirements defined in ANSI S1.4 for acoustical measurement devices.

Sound Analyzer Calibration: The sound level instrument was acoustically calibrated using a sound level calibrator with a known sound pressure level and accuracy of +/- 0.5 dB. The calibration checks were performed before and after the measurement series and upon any significant change in recording conditions (i.e. battery change operation, significant temperature change, etc.). The calibration frequency was 1,000 Hz producing 114 dB output. A calibration level change exceeding +/- 1.0 dB would require that the measurement series be repeated. Note this magnitude of deviation was not experienced during the survey at the site.

The calibrator is checked annually and per the manufacturer's specification, the analyzer is calibrated at a minimum of once every other year. Both calibrations are performed to verify compliance with the U.S. National Institute of Standards and Technology specifications.

Daytime sound pressure levels for the Naperville Project Site were recorded on July 9, 2018 beginning at 7:34 AM.

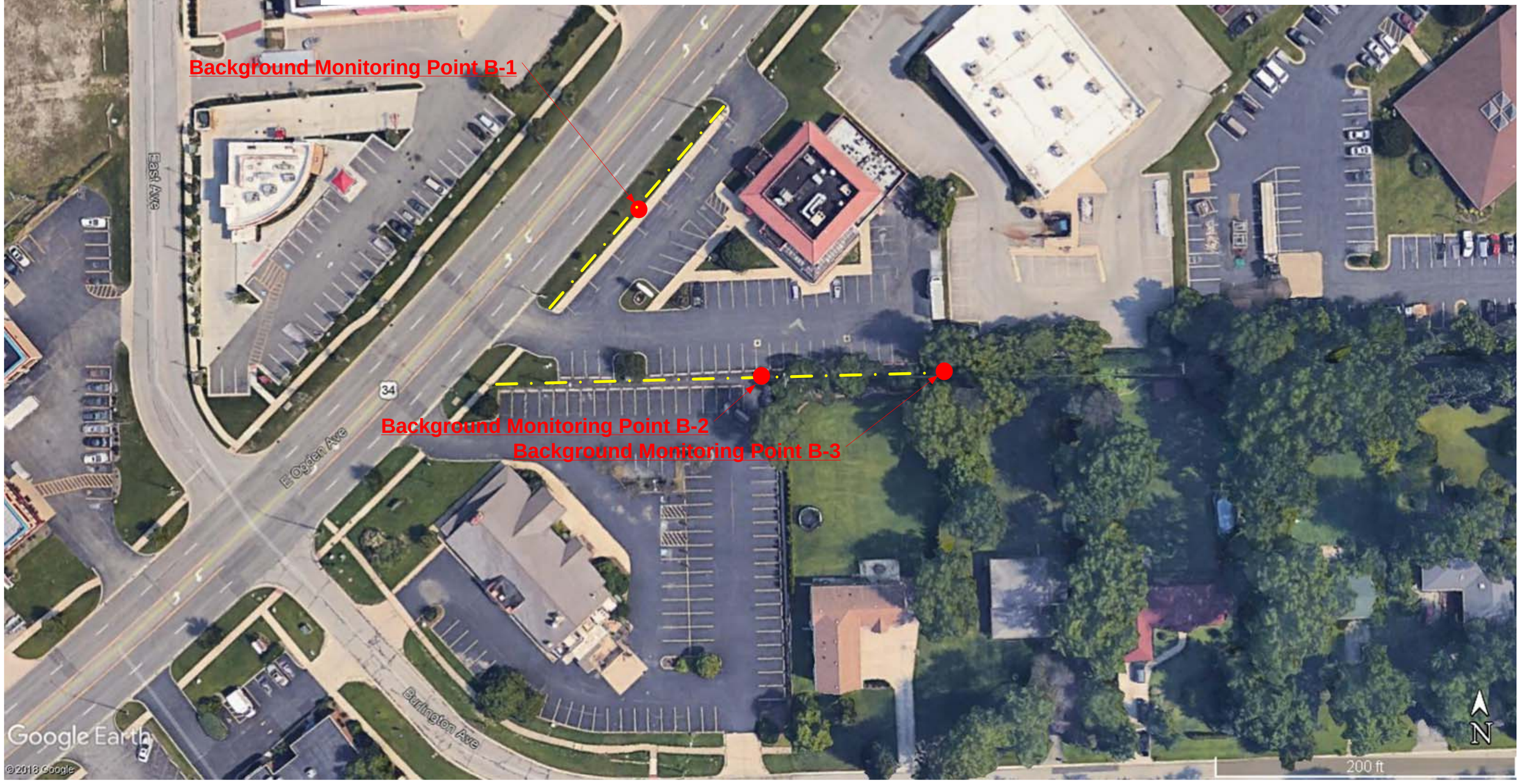
The field summary records are provided as an attachment.

Car Wash Partners
Naperville Property
1150 East Ogden Ave.
Draft Summary

Monitoring Location	Date	Duration	LAeq	Lfeq										
			dB(A)	8.0 Hz	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1.0 kHz	2.0 kHz	4.0 kHz	8.0 kHz	16.0 kHz
B-1	(2018/07/09 07:35:53.00)	(0:20:0.0)	70.3	54.4	58	62.7	66.1	61.6	59.4	59.1	62.9	58.7	48.7	40.3	34.1
B-2	(2018/07/09 07:59:35.00)	(0:20:0.0)	57.4	54.3	55.5	57.1	59.8	56.6	51.9	48.3	48.1	44.5	36.7	25.3	13.7
B-3	(2018/07/09 08:21:40.00)	(0:20:0.0)	53	47.8	54.6	59.3	58.3	53.4	48.8	44.4	43.8	39.7	33.8	23.2	12.7

State of Illinois Noise Ordinance Limits Class A Residential Standards		Octave Band Center Frequency, Hertz										
	dB(A)	8.0 Hz	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16.0 kHz
Night Time	51.2*			69	67	62	54	47	41	36	32	32	
Day Time	60.7*			75	74	69	64	58	52	47	43	40	

* The A-weighted sound level limits were calculated using the octave band sound pressure level limits. The state of Illinois noise ordinance does not list A-weighted sound level limits.



Mostardi Platt
Acoustical Test Data Sheet

Client: CAR WASH PARTNERS
Project: PRE-CONSTRUCTION BACKGROUND
Location:

Test Personnel #1: TIM KINSLEY
Affiliation: MOSTARDI PLATT
Test Personnel #2:
Affiliation:
Start Date / Time: 7/9/18 7:30AM
End Date / Time: 7/9/18
Day of Week: MONDAY
Day of Week: MONDAY

Ambient Conditions
Source:
Dry bulb temperature: 75-80
Relative humidity: 60-65%
Wind speed: 5-10 MPH
Wind direction: SW
Sky conditions: CLEAR-FEW CLOUDS
PROPERTY @ 1150 EAST OGDEN AVE, NAPERVILLE FORMER LAS PALMAS RESTAURANT PROPERTY

Observations: (include audible noise sources, discrete tones, variations in sound level over time, etc.)
WITNESS OF TESTING BY STEVE TIMMER OF CAR WASH PARTNERS - NORMAL MORNING TRAFFIC

Sound Testing Equipment

Device	Manufacturer	Model Number	Serial Number	ANSI Type	Last Calibration Date
Mostardi's Sound Level Meter					
Sound Level Meter	Norsonic	Type 140	1405769	1	12/8/2017
Microphone/Preamplifier	Norsonic	Type 1225 / 1209	15639 / 180257	N/A	12/8/2017
Acoustical Calibrator	Norsonic	Type 1251	35072	N/A	12/8/2017

Mostardi Platt *Survey Conducted By:* TIM KINSLEY	Project Name: Car Wash Partners Located on Ogden Ave. Naperville, IL Background Measurements - July 9, 2018				
Measurement Observations			Record or File Number	dB(A), if noted	Additional Comments / Remarks
ID	Description /Observation Date and Time	Location			
1	BACKGROUND @ STREET 7/9/2018 7:35AM	B-1	0002	70.3	AT SIDEWALK SETUP 20MIN
2	BACKGROUND@FENCE LINE 7/9/18 7:59AM	B-2	0003	57.4	CLOSEST TO OGDEN
3	BACKGROUND@FENCE LINE 7/9/18 8:21AM	B-3	0005	53.0	BACK CORNER OF PROPERTY (E.)
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

AT FENCE LINE BIRD NOISE

DISTANT JET NOISE @ 8:05AM – B-2 RUNNING
" " " @ 8:17AM – " "
" " " 8:20AM " "
" " " 8:23 AM – B-3 RUNNING

Project Name: Car Wash Partners
Located on Ogden Ave. Naperville, IL
Background Measurements - July 9, 2018

Norsonic Nor140 Calibration Records						
MP's Instrument - Serial Number ===>					1405769	
Project Test Status / Conditions / Comments	Calibration Frequency, Hz	Calibration Level (dB)	Initial Measured Level (dB)	Final Measured Level (dB)	Sensitivity Setting (dB)	Date / Time
PROJ SITE – INITIAL	1000	114.0	114	114	-25.3	7/9/18 7:30 AM
FINAL	1000	114.0	113.9	113.9	25.3	7/9/18 8:45AM
	1000	114.0				
	1000	114.0				
	1000	114.0				
	1000	114.0				
	1000	114.0				
	1000	114.0				
	1000	114.0				
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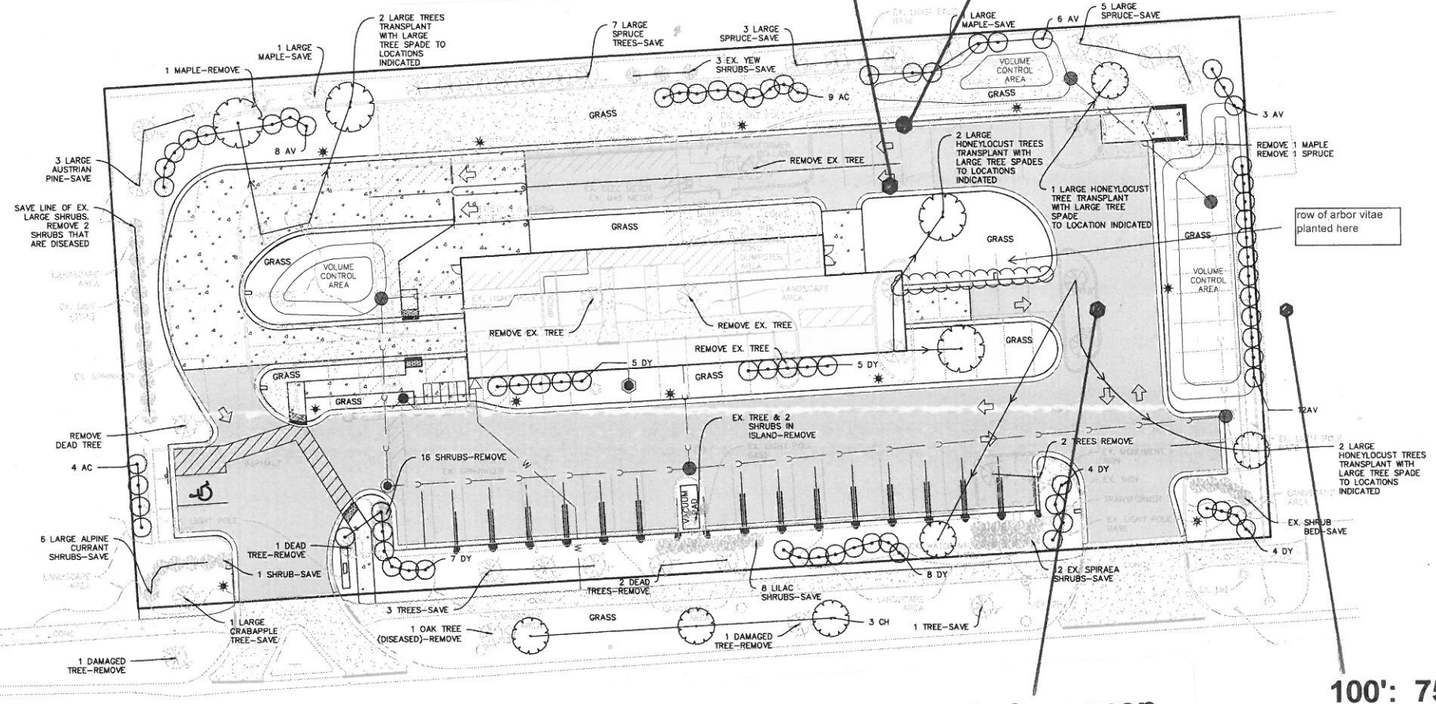
	1000	114.0				
	1000	114.0				
	1000	114.0				
	1000	114.0				
	1000	114.0				
	1000	114.0				

50': 69.1 dBA with door open

50': 63.9 dBA with door closed

75': 66.6 dBA with door open

75': 60.1 dBA with door closed



50': 82.8 dBA with door open

50': 73.4 dBA with door closed

50': 62.5 dBA with only the central vac running

100': 75.1 dBA with door open

100': 67.4 dBA with door closed

100': ~55.5 dBA with only the central vac running. Road noise from Rt 59 was louder.

NORTH

20 0 10 20

1" = 20' GRAPHIC SCALE

LEGEND

- EXISTING TREE
- EXISTING SHRUB
- PROPOSED TREE
- PROPOSED SHRUB

PLANT SCHEDULE					
KEY	QUANTITY	COMMON NAME	SCIENTIFIC NAME	SIZE	ROOTING
DY	33	DENSE YEW	TAXUS DENSI	24–30"	B&B
AV	29	ARROWWOOD VIBURNUM	VIBURNUM DENTATUM	36"	B&B
AC	13	ALPINE CURRANT	RIBES ALPINUM	24–30"	B&B
CH	3	COMMON HACKBERRY	CELTIS OCCIDONTALIS	2–1/2" CAL	B&B

NOTE:

1. PRIOR TO TRANS
2. LARGE TREE SPAL [illegible] TREES.
3. AT TIME OF TRANSPLANTING OF TREES, THOROUGHLY WATER AT NEW LOCATIONS.
4. PRUNE AND REMOVE DAMAGED BRANCHES IN LOWER PORTION OF TREES - 15 SPRUCE AND 3 AUSTRIAN PINE.
5. PROTECT TREES TO BE SAVED DURING CONSTRUCTION WITH SAFETY FENCE, PLACE AT DRIPLINE OF TREES.
6. ALL TREE AND SHRUBS TO RECEIVE 3" DEPTH OF SHREDDED WOOD MULCH. PLACE MULCH FROM THE TRUNK OUTWARD TO 3' MINIMUM.
7. LANDSCAPE CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES WITHIN 7 DAYS OF START OF PLANTING.
8. LANDSCAPE CONTRACTOR TO WATER AND MAINTAIN NEW AND TRANSPLANTED TREES AND SHRUBS FOR 90 DAYS.
9. LANDSCAPE CONTRACTOR TO REMOVE AND REPLACE DEAD OR DECLINING PLANTS AT 12 MONTHS FOLLOWING COMPLETION OF WORK.
10. CONTACT LANDSCAPE ARCHITECT IF SITE CONDITIONS REQUIRE THE MOVING/ADJUSTMENT OF PLANT LOCATIONS.
11. IN PITS WHERE TREES ARE TRANSPLANTED FROM COMPACT SOIL UNDER PAVED SURFACES.

Plan prepared by:

STATE of ILLINOIS REGISTERED LANDSCAPE ARCHITECT

Randall John Brockway License #157.001042

Phone: (708) 567-6455

DATE: 06-07-2017 DESCRIPTION: ISSUED FOR REVIEW

MeritCorp
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Aurora, IL 60504 Palatine, IL 60067
Office 630.554.6655 Office 847.496.4170
www.meritcorp.com Lic. No. 184-005860

WASH-U SCHAUMBURG
522 W. GOLF ROAD
SCHAUMBURG, IL

LANDSCAPE PLAN

PROJECT NO. M17018

DRAWN BY: YL

CHECKED BY: RB

SHEET NO. 1/1

PREMIER SAFETY
CALIBRATION LABORATORY

Calibration Certificate No. S4054721

Instrument:	**Sound Level Meter**
Model:	**2900**
Manufacturer:	**Quest**
Serial number:	**CDC030005**
Tested with:	**Microphone QE7052 s/n 19836**
Type (class):	**2**
Customer:	**SOUND SEAL**
Tel/Fax:	**630-270-1792 /**

Date Calibrated: **8/9/2017** *Cal Due:* **8/09/2018**

Status:	**Received**	**Sent**
In tolerance:	**X**	**X**
Out of tolerance:		
See comments:		

Contains non-accredited tests: __**Yes** **X** **No**
Calibration service: __ **Basic** **X** **Standard**
Address: **401 AIRPORT RD. N.**
AURORA, IL 60542

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/22/2012
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31079	June 22. 2017	Norsonic SA	June 22, 2018
DS-360-SRS	Function Generator	123268	June 22, 2017	SRS	June 22, 2018
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	July 14, 2017	Agilent Provider #93107	July 14,2018
SD700-Extech	Meteo Station	Q769118	June 22,2017	INNOCAL	June 22, 2018
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	34103	July 18, 2017	Scantek, Inc./ NVLAP	July 18, 2018

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
23.0	102.00	40.0

Calibrated by:	Steven Boertmann	**Authorized signatory:**	Dale Taylor
Signature	STEVEN BOERTMANN	Signature	DALE TAYLOR
Date	8-9-17	Date	8-9-17

Results summary: Device complies with following clauses of mentioned specifications:

CLAUSES [1] FROM IEC/ANSI STANDARDS REFERENCED IN PROCEDURES:	RESULT[2,3]	EXPANDED UNCERTAINTY (coverage factor 2) [dB]
INDICATION AT THE CALIBRATION CHECK FREQUENCY - ANSI S1.4 CLAUSE 3.2	Passed	0.20.15
LEVEL LINEARITY TEST - ANSI S1.4-1983, CLAUSE 6.9 & 6.10	Passed	0.25
WEIGHTING NETWORK TEST: A NETWORK - ANSI S1.4-1983 CLAUSE 8.2.1	Passed	0.25
WEIGHTING NETWORK TEST: C NETWORK - ANSI S1.4-1983 CLAUSE 8.2.1	Passed	0.25
WEIGHTING NETWORK TEST: LINEAR NETWORK - ANSI S1.4-1983 CLAUSE 8.2.1	Passed	0.25
OVERLOAD DETECTOR TEST: A-NETWORK - ANSI S1.4-1983 CLAUSE 8.3.1	Passed	0.25
F/S/I/PEAK TEST: STEADY STATE RESPONSE - ANSI S1.4 1983 CLAUSE 6.4	Passed	0.25
FAST-SLOW TEST: OVERSHOOT TEST - ANSI S1.4 1983 CLAUSE 8.4.1	Passed	0.25
SINGLE SINE WAVE BURST - ANSI S1.4 1983 CLAUSE 8.4.1 & 8.4.3	Passed	0.25
RMS DETECTOR TEST: CONTINUOUS SINE WAVE BURST - ANSI S1.4-1983 CLAUSE 8.4.2	Passed	0.25

[1] The results of this calibration apply only to the instrument type with serial number identified in this report.

[2] Parameters are certified at actual environmental conditions.

[3]

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger.
Compliance with any standard cannot be claimed based solely on the periodic tests.

Tests made with the following attachments to the instrument:

Microphone: Quest QE7052 s/n 19836 for acoustical test
Preamplifier: none
Other: line adaptor ADP005 (18pF) for electrical tests and 1448 (18pF) for noise test
Accompanying acoustical calibrator: Quest QC-10 s/n QI0070106
Windscreen: none

Measured Data: in Test Report # of ... pages.

Place of Calibration: Premier Safety
46410 Continental Dr.
Chesterfield, MI 48047
Ph/Fax: 586-840-3220/ -3221
www.premier safety.com

2900 s/n: CDC030005 ID:
Date: 8/9/2017 By: SB
Due: 8/09/2018