HOWE GASTMEIER CHAPNIK LIMITED
2000 Argentia Road
Plaza 1, Suite 203
Mississauga, ON
L5N 1P7 Canada

Tel: (905) 826-4044
Fax: (905) 826-4940

Acoustic Assessment Report
Silvercreek Solar Park Facility
Aylmer, Ontario

Prepared for

Silvercreek Solar Park Inc.
49588 Vienna Line
Aylmer, Ontario
N5H 2R2

Prepared by

LICENSED PROFESSIONAL ENGINEER
I. R. BONSMA
100100550
29-Nov-12
PROVINCE OF ONTARIO

Ian Bonsma, PEng

Reviewed by,

Corey Kinart, PEng

November 29, 2012

VERSION CONTROL

Silvercreek Solar Park Facility, 49588 Vienna Line, Aylmer, Ontario

Ver.	Date	Version Description	Prepared By
1	29-May-12	Original Acoustic Assessment Report supporting an application for a Renewable Energy Approval	P. Chocensky
2	29-Nov-12	Updated Acoustic Assessment Report to address revised Inverter locations	I. Bonsma

EXECUTIVE SUMMARY

Silvercreek Solar Park Inc. retained HGC Engineering to undertake an Acoustic Assessment of their proposed solar facility in Aylmer, Ontario. The study is required in support of an application for a Renewable Energy Approval ("REA") from the Ontario Ministry of The Environment ("MOE"), under the Environmental Protection Act, pursuant to Ontario Regulation 359/09. The assessment considers all acoustically significant sound sources currently proposed for use at the facility.

Sound emissions from key items of proposed equipment were based on information provided by the manufacturer. The source sound levels were used as input to a predictive acoustical model to quantify the environmental sound emissions associated with the facility. Acoustic assessment criteria were established in accordance with the sound level limits in MOE guideline NPC-232. This assessment has been updated to reflect revised inverter collection house locations.

The predictive analysis indicates that the sound emissions of the facility will be within the sound level limits as set out in MOE guideline NPC-232 during normal 'predictable worst case' operations at all identified noise sensitive receptors.

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ACOUSTIC ASSESSMENT REPORT CHECK-LIST

Company Name: Silvercreek Solar Park Inc.

Company Address: 49588 Vienna Line

Aylmer, Ontario N5H 2R2

Location of Facility: Same as above

The attached Acoustic Assessment Report was prepared in accordance with the guidance in the ministry document "Information to be Submitted for Approval of Stationary Source of Sound" (NPC 233) dated October 1995 and the minimum required information identified in the check-list on the reverse of this sheet has been submitted.

Company Contact:

Name: Dave Moerman

Representing: Silvercreek Solar Park Inc.

Phone Number: 519 617 9463

Signature:

Date: Nov 27 2012

Technical Contact:

Name: Ian Bonsma, PEng

Representing: HGC Engineering

Phone Number: 905-826-4044

Signature:

Date: November 29, 2012

ACOUSTIC ASSESSMENT REPORT CHECK-LIST

	Required Information		
		Submitted	Explanation/Reference
1.0	**Introduction** (Project Background and Overview)	☒ Yes	Section 1
2.0	**Facility Description**		
	2.1 Operating hours of facility and significant Noise Sources	☒ Yes	Section 2
	2.2 Site Plan identifying all significant Noise Sources	☒ Yes	Figure 3
3.0	**Noise Source Summary**		
	3.1 ***Noise Source Summary Table***	☒ Yes	Appendix A
	3.2 Source noise emissions specifications	☒ Yes	Appendix A
	3.3 Source power/capacity ratings	☒ Yes	Appendix A
	3.4 Noise control equipment description and acoustical specifications	☐ Yes	N/A
4.0	**Point of Reception Noise Impact Calculations**		
	4.1 ***Point of Reception Noise Impact Table***	☒ Yes	Appendix A
	4.2 Point(s) of Reception (POR) list and description	☒ Yes	Section 4
	4.3 Land-use Zoning Plan	☒ Yes	Appendix B
	4.4 Scaled Area Location Plan	☒ Yes	Figure 1
	4.5 Procedure used to assess noise impacts at each POR	☒ Yes	Appendix D
	4.6 List of parameters/assumptions used in calculations	☒ Yes	Appendix D
5.0	**Acoustic Assessment Summary**		
	5.1 ***Acoustic Assessment Summary Table***	☒ Yes	Appendix A
	5.2 Rationale for selecting applicable noise guideline limits	☒ Yes	Appendix E
	5.3 Predictable Worst Case Impacts Operating Scenario	☒ Yes	Figure 4
6.0	**Conclusions**		
	6.1 Statement of compliance with selected noise performance limits	☒ Yes	Section 7
7.0	**Appendices** (provide details such as)	☒ Yes	
	Listing of Insignificant Noise Sources	☐ Yes	N/A
	Manufacturer's Noise Specifications	☒ Yes	Appendix C
	Calculations	☒ Yes	Appendices F & G
	Instrumentation	☐ Yes	N/A
	Meteorology during Sound Level Measurements	☐ Yes	N/A
	Raw Data from Measurements	☐ Yes	N/A
	Drawings (Facility / Equipment)	☒ Yes	Figure 3, Appendix C

1 INTRODUCTION

The Silvercreek Solar Park ("Silvercreek") facility is proposed to be located at 49588 Vienna Line in Aylmer, Ontario. A scaled location map of the surrounding area is included as Figure 1. The main transformer station for the Silvercreek site is proposed to be constructed in a separate location, approximately 10 km to the north, in the Town of Aylmer. This assessment therefore, addresses sound emissions from the main solar facility, while the transformer station sound emissions are subject to a separate Acoustic Assessment Report by HGC Engineering.

The purpose of this assessment is to evaluate the sound emissions of the facility under a predictable worst case operating scenario, which is defined as an hour when typical full operation of the stationary sources under consideration could coincide with an hour of low background sound.

This report has been prepared in accordance with the Ontario Ministry of The Environment ("MOE") guideline documents NPC-233 "Information to be Submitted for Approval of Stationary Sources of Sound", dated October 1995 [1], and "Supporting Information for the Preparation of an Acoustic Assessment Report", dated November 2003 [2].

Zoning maps identifying the land uses surrounding the subject facility, obtained from the Township of Malahide, are included as Appendix B. The lands surrounding the Silvercreek facility are generally zoned for agricultural use. Forty-five points of reception have been considered in this assessment in order to represent the existing residential dwellings and vacant lots, which permit noise-sensitive use, within 1000 m of the proposed equipment at the solar facility, labelled as locations R01 through R45 in Figure 2. One house (marked as location O1 in Figure 2), located on the property/parcel of the project, is owned by the proponent and has not been included in this assessment pursuant to Ontario Regulation 359/09 [3].

The proposed site is rural in nature, both acoustically and in general character, with agricultural land uses widely in evidence, including scattered dwellings near the major roadways. Therefore, the area is best characterized as a "Class 3" rural area, under MOE noise assessment guidelines.

UPDATES ADDRESSED IN THIS ASSESSMENT REPORT

This report replaces the following acoustic report: *Acoustic Assessment Report Silvercreek Solar Park Facility*, dated May 29, 2012 [4]. This update has been prepared to address changes to the proposed inverter collection house locations. Table 1 provides a comparison between the inverter collection house coordinates included in the May 29, 2012 Acoustic Assessment Report, and the current proposed locations.

Table 1: Proposed Inverter Collection Houses Coordinates Changes

Source ID	Original UTM Coordinates 29-May-12		Proposed UTM Coordinates 26-Nov-12		Difference between Original and Proposed Coordinates (m)
	Easting	Northing	Easting	Northing	
NS-01	501781	4727093	501802	4727093	21
NS-02	501791	4727093	501817	4727093	26
NS-03	501876	4727093	501802	4727218	145
NS-04	501886	4727093	502035	4727218	194
NS-05	502041	4727093	502035	4727093	6
NS-06	502067	4727093	502050	4727093	17
NS-07	502156	4727160	502154	4727165	5
NS-08	502156	4727221	502154	4727226	5

2 FACILITY DESCRIPTION

The Silvercreek Solar Park is a proposed 10 MW solar electrical generation project. The farm will consist of numerous solar panels and up to eight collection houses. The primary sound sources associated with the facility will be the collection houses which include a secondary transformer and two inverters. The inverters are power semiconductor devices which synthesize alternating current ("A/C") from the direct current produced by the solar panels. The primary transformer typically included for similar solar projects will be located at another site and is not part of this assessment. The solar panels themselves are passive, direct current devices and do not produce sound. They are thus not considered as sources in this assessment.

The facility will operate 24 hours per day, 7 days per week.

3 SOUND SOURCE SUMMARY

A Sound Source Summary is included as Table A1 in Appendix A, which lists the sources associated with the facility, in the standard format required by the MOE. Each noise source has been assigned an identification number of the form NS-## (e.g. NS-01). Figure 3 shows the location of each source.

The site plan for the proposed development includes eight 1250 kW inverter collection houses which will be distributed throughout the site. Each inverter collection house (NS-01 through NS-08) will include two 625 kW inverters and a small 1.25 MVA transformer. Sound emissions of the inverter house installations are based on the manufacturer's sound data of a 1760 kW inverter collection house, included as Appendix C. The manufacturer indicates that both inverter installations have equivalent sound emissions, as both inverter units use the same main ventilation fans. A typical sound level spectrum for an inverter hut was utilized in these calculations.

The sound power levels for the inverter collection houses were input to a predictive computer model (see Appendix D) to quantify the sound emissions of the site during a predictable worst case hour of operation. For the purposes of this assessment, all sources at the facility were assumed to operate 24 hours per day, seven days per week.

4 POINT OF RECEPTION SUMMARY

The forty-five receptors chosen to represent the noise sensitive receptors and vacant lots surrounding the site are shown as locations R01 through R45 in Figure 2.

Each dwelling was assumed to be a two-storey structure, with the respective points of reception representing an upper storey window. In general, upper storey windows are the most potentially impacted point on the properties since they are most exposed to elevated sources at the subject site and benefit least from ground absorption. Where vacant lots were identified, the assumed future location of the dwelling was selected to be consistent with the typical building pattern in

the area. The selected points of reception are described briefly in Table A3, the Acoustic Assessment Summary Table.

5 ASSESSMENT CRITERIA

The area surrounding the subject facility is a "Rural" (Class 3) acoustical environment. Accordingly, the relevant document for defining the applicable sound level limits is MOE guidelines NPC-232 [5]. The details by which the applicable sound level limits were established for the assessment of this facility are provided in Appendix E. For the purposes of this assessment, the applicable sound level criterion at all locations is 40 dBA. This limit is included in Table A3 of Appendix A.

Some types of sound have a special quality which may tend to increase their audibility and potential for disturbance or annoyance. For tonal sound, MOE guidelines [6] stipulate that a penalty of 5 dBA is to be added to the measured source level. A tonal sound is defined as one which has a "pronounced audible tonal quality such as a whine, screech, buzz or hum". A/C transformers and inverters typically exhibit a humming character at twice the line frequency (120 Hz) and harmonics thereof, as a result of magnetostrictive forces in the windings and semiconductors. In the subsequent analysis, a tonal penalty has been applied to the sound of all sources.

6 IMPACT ASSESSMENT

The predictive analysis indicates that the sound levels of the subject facility will be in the range of 26 to 38 dBA at all key points of reception, which is within the applicable MOE sound level limit.

The results of the analysis are summarized in Table A3 and are shown graphically in Figure 4. Details of the prediction methods are summarized in Appendix D, and sample calculation results are included as Appendices F and G.

7 CONCLUSIONS

The acoustical analysis indicates that the predicted sound levels of the Silvercreek solar facility will be within the applicable sound level limits specified in MOE guideline NPC-232, during all hours of the day and night, under typical "predictable worst case" operating conditions at all identified off-site receptor locations.

REFERENCES

1. Ontario Ministry of Environment Publication NPC-233, *Information to be Submitted for Approval of Stationary Sources of Sound*, October, 1995.

2. Ontario Ministry of Environment Guide, *Supporting Information for the Preparation of an Acoustic Assessment Report*, November 2003.

3. Environmental Protection Act, *ONTARIO REGULATION 359/09*, Part 1, Section 1, Subsection (6), October 1, 2009.

4. Howe Gastmeier Chapnik Limited, *Acoustic Assessment Report Silvercreek Solar Park Facility*, May 29, 2012.

5. Ontario Ministry of the Environment Publication NPC-232, *Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)*, October, 1995.

6. Ontario Ministry of the Environment Publication NPC-104, *Sound Level Adjustments*, August, 1978.

7. International Organization for Standardization, *Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation*, ISO-9613-2, Switzerland, 1996.

8. Google Maps Aerial Imagery, Internet Application: *maps.google.com*

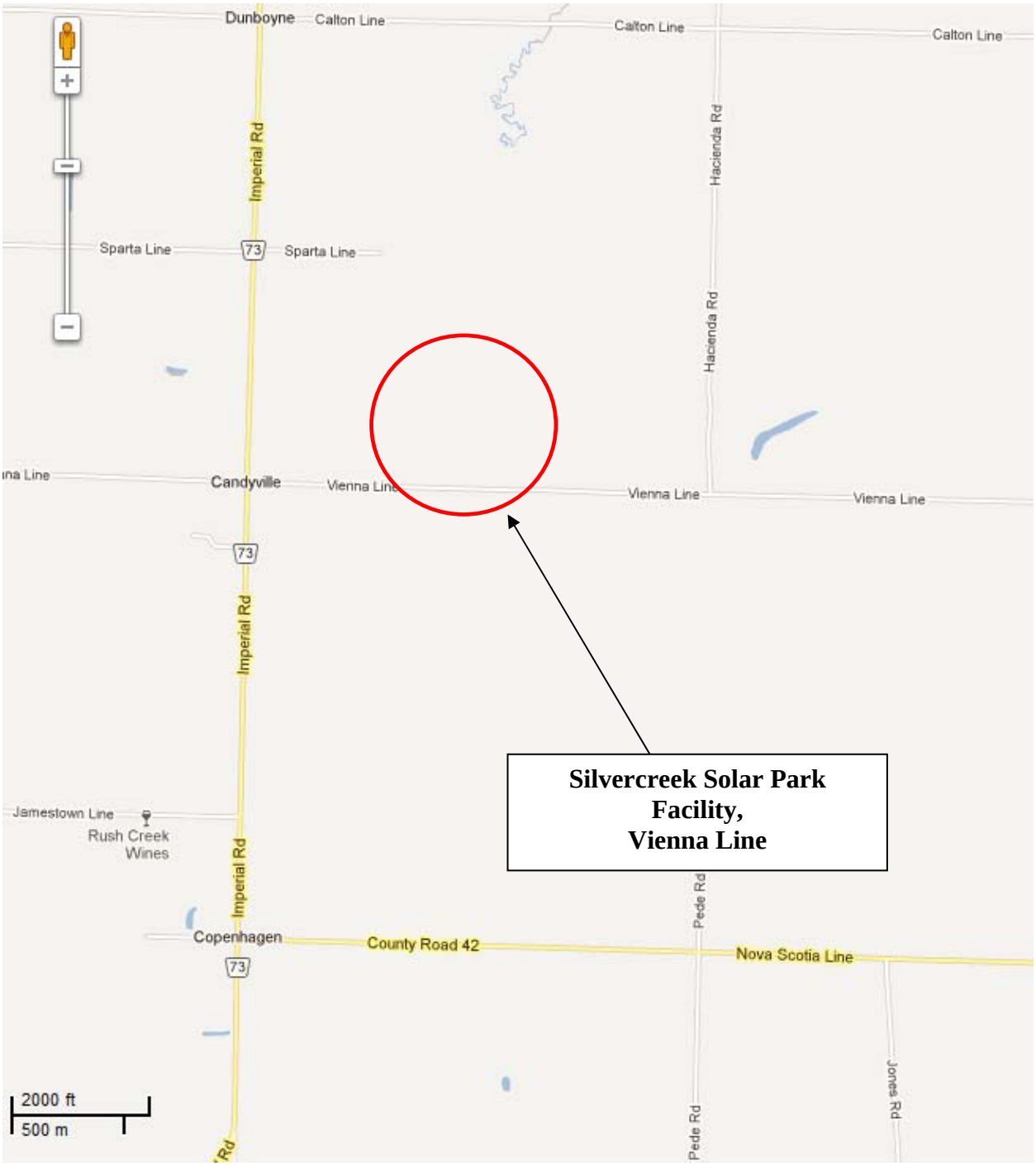


Figure 1: Location Map

Figure 2: Location of Points of Reception
Proposed Silvercreek Solar Park

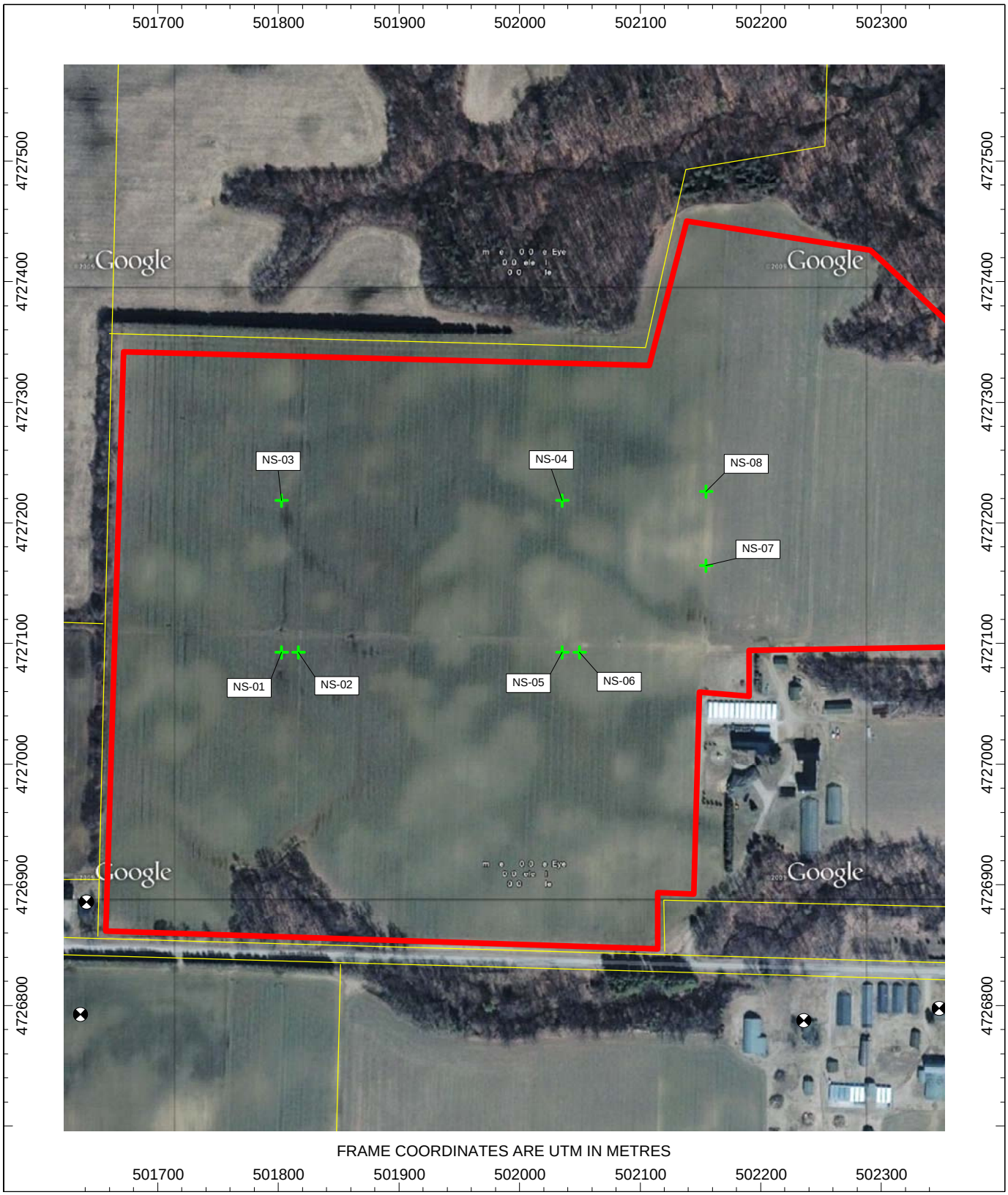


Figure 3: Location of Sound Sources
Proposed Silvercreek Solar Park

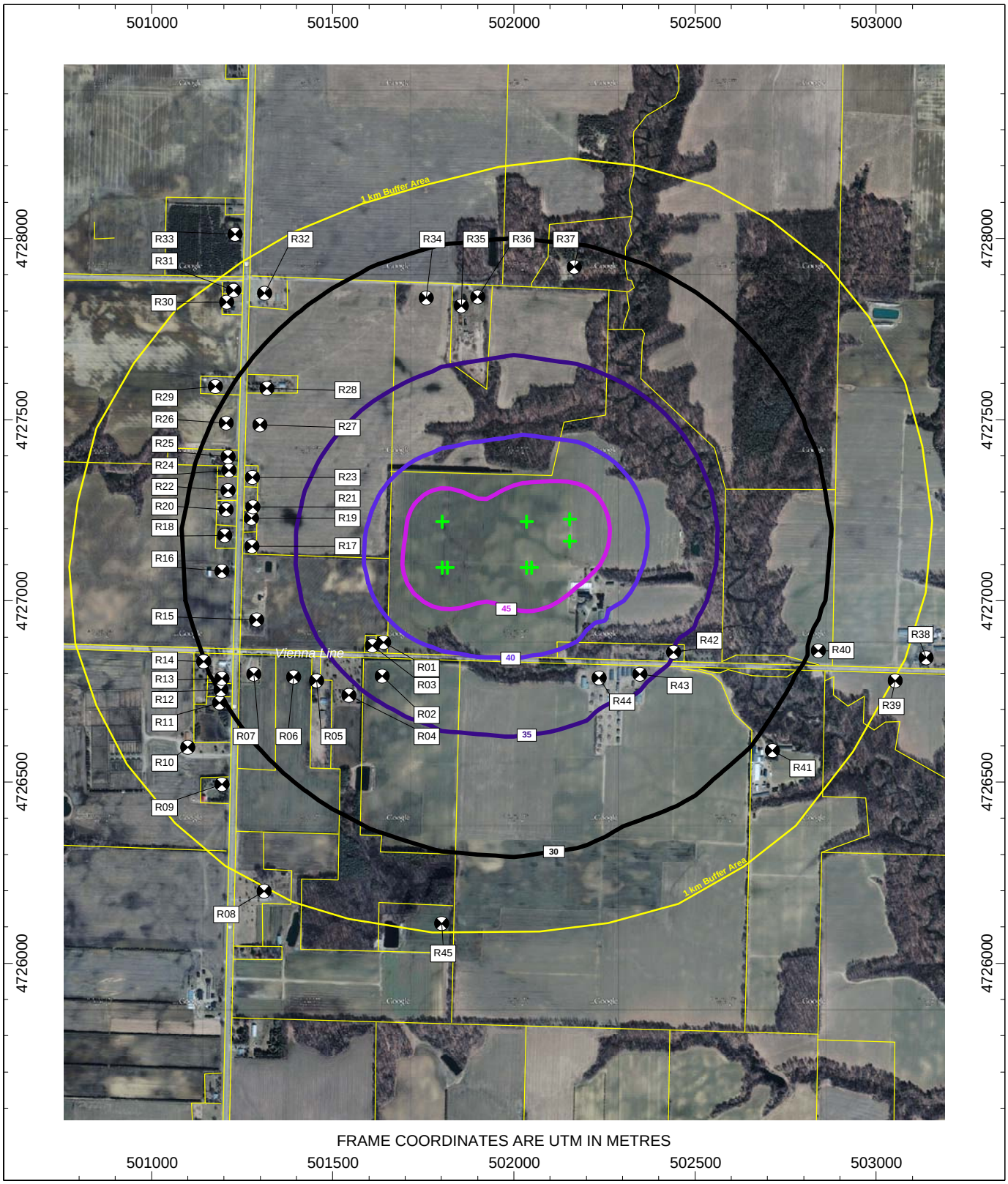


Figure 4: Predicted Sound Levels Leq (dBA)
Proposed Silvercreek Solar Park
Sound Level Grid Calculated at 4.5m

APPENDIX A
Acoustic Assessment Summary Tables

VERSION CONTROL

Silvercreek Solar Park Facility, 49588 Vienna Line, Aylmer, Ontario

Tables Ver.	Date	Issued as Part of AAR?	Version Description	Prepared By
1.0	29-May-12	Y	Original version of tables as part of Ver. 1 of Acoustic Assessment Report	P. Chocensky
2.0	29-Nov-12	Y	Updated version of tables as part of Ver. 2 of the Acoustic Assessment Report	I. Bonsma

Table A1: Noise Source Summary Table

Source ID	Source Description	UTM Coordinates [m]		Sound Power Level [dBA re 10^-12 W]	Source Location	Sound Characteristic	Noise Control Measure
		X	Y				
NS-01	Inverter House 1	501802	4727093	97	O	T	U
NS-02	Inverter House 2	501817	4727093	97	O	T	U
NS-03	Inverter House 3	501802	4727218	97	O	T	U
NS-04	Inverter House 4	502035	4727218	97	O	T	U
NS-05	Inverter House 5	502035	4727093	97	O	T	U
NS-06	Inverter House 6	502050	4727093	97	O	T	U
NS-07	Inverter House 7	502154	4727165	97	O	T	U
NS-08	Inverter House 8	502154	4727226	97	O	T	U

Legend

Sound Characteristics
S: Steady
Q: Quasi-steady impulsive
I: Impulsive
B: Buzzing
T: Tonal (includes 5 dBA penalty)
C: Cyclically varying
O: Occasional

Noise Control Measures
S: Silencer, Acoustic Louvre, Muffler
A: Acoustic Lining, Plenum
B: Barrier, Berm, Screening
L: Lagging (Acoustical Wrapping)
E: Acoustic Enclosure
O: Other
U: Currently Uncontrolled

Source Location
O: Outdoors
I: Indoors

Table A2: Point of Reception Noise Impact Table

Source ID	Source Name	Point of Reception									
		R01		R02		R03		R04		R05	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	263	33	343	30	290	32	438	28	467	27
NS-02	Inverter House 2	272	32	350	30	300	32	446	28	478	27
NS-03	Inverter House 3	370	30	457	27	393	29	545	26	560	25
NS-04	Inverter House 4	516	26	584	25	546	26	686	23	727	23
NS-05	Inverter House 5	445	28	499	27	478	27	605	25	659	24
NS-06	Inverter House 6	458	27	511	26	491	27	617	24	672	24
NS-07	Inverter House 7	584	25	638	24	617	24	744	22	798	22
NS-08	Inverter House 8	616	24	676	23	648	24	781	22	830	21

Source ID	Source Name	Point of Reception									
		R06		R07		R08		R09		R10	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	510	26	598	25	1020	19	853	21	860	21
NS-02	Inverter House 2	521	26	610	25	1027	19	864	21	872	21
NS-03	Inverter House 3	593	25	669	24	1132	18	946	20	939	20
NS-04	Inverter House 4	773	22	862	21	1251	17	1110	18	1124	18
NS-05	Inverter House 5	711	23	808	22	1150	18	1032	19	1059	19
NS-06	Inverter House 6	724	23	822	21	1159	18	1044	19	1072	19
NS-07	Inverter House 7	849	21	946	20	1282	17	1171	18	1198	17
NS-08	Inverter House 8	878	21	971	20	1329	16	1208	17	1229	17

Source ID	Source Name	Point of Reception									
		R11		R12		R13		R14		R15	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	720	23	698	23	681	23	708	23	532	26
NS-02	Inverter House 2	732	23	711	23	694	23	722	23	546	26
NS-03	Inverter House 3	792	22	767	22	747	22	763	22	579	25
NS-04	Inverter House 4	984	19	963	20	946	20	971	20	793	22
NS-05	Inverter House 5	926	20	909	20	895	21	929	20	759	22
NS-06	Inverter House 6	940	20	922	20	909	20	942	20	773	22
NS-07	Inverter House 7	1065	19	1046	19	1032	19	1064	19	891	21
NS-08	Inverter House 8	1092	18	1072	19	1057	19	1085	18	908	20

Source ID	Source Name	Point of Reception									
		R16		R17		R18		R19		R20	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	608	25	529	26	606	25	544	26	617	24
NS-02	Inverter House 2	623	24	543	26	621	24	557	25	631	24
NS-03	Inverter House 3	623	24	530	26	601	25	526	26	597	25
NS-04	Inverter House 4	852	21	761	22	834	21	759	22	830	21
NS-05	Inverter House 5	841	21	761	22	837	21	771	22	844	21
NS-06	Inverter House 6	856	21	775	22	852	21	785	22	858	21
NS-07	Inverter House 7	964	20	878	21	952	20	881	21	952	20
NS-08	Inverter House 8	971	20	881	21	953	20	878	21	949	20

Source ID	Source Name	Point of Reception									
		R21		R22		R23		R24		R25	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	549	26	628	24	580	25	646	24	666	24
NS-02	Inverter House 2	562	25	642	24	593	25	660	24	679	23
NS-03	Inverter House 3	524	26	598	25	538	26	605	25	618	24
NS-04	Inverter House 4	757	22	829	21	767	22	834	21	844	21
NS-05	Inverter House 5	774	22	851	21	796	22	864	21	879	21
NS-06	Inverter House 6	788	22	865	21	810	22	877	21	893	21
NS-07	Inverter House 7	880	21	954	20	894	21	961	20	972	20
NS-08	Inverter House 8	875	21	947	20	884	21	950	20	959	20

Source ID	Source Name	Point of Reception									
		R26		R27		R28		R29		R30	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	717	23	638	24	691	23	801	22	943	20
NS-02	Inverter House 2	729	23	649	24	701	23	812	22	952	20
NS-03	Inverter House 3	656	24	569	25	608	25	729	23	849	21
NS-04	Inverter House 4	873	21	782	22	805	22	936	20	1025	19
NS-05	Inverter House 5	920	20	834	21	870	21	993	19	1105	18
NS-06	Inverter House 6	933	20	847	21	882	21	1006	19	1115	18
NS-07	Inverter House 7	1003	19	913	20	936	20	1067	19	1154	18
NS-08	Inverter House 8	985	19	893	21	910	20	1044	19	1120	18

Source ID	Source Name	Point of Reception									
		R31		R32		R33		R34		R35	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	957	20	901	20	1083	18	744	22	723	23
NS-02	Inverter House 2	966	20	909	20	1091	18	745	22	723	23
NS-03	Inverter House 3	860	21	799	22	978	20	619	24	598	25
NS-04	Inverter House 4	1030	19	959	20	1130	18	676	23	622	24
NS-05	Inverter House 5	1113	18	1046	19	1222	17	793	22	744	22
NS-06	Inverter House 6	1123	18	1056	19	1232	17	798	22	747	22
NS-07	Inverter House 7	1158	18	1085	18	1254	17	779	22	715	23
NS-08	Inverter House 8	1122	18	1048	19	1213	17	727	23	660	24

Source ID	Source Name	Point of Reception									
		R36		R37		R38		R39		R40	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	752	22	906	20	1359	15	1289	17	1063	19
NS-02	Inverter House 2	750	22	900	20	1344	15	1275	17	1049	19
NS-03	Inverter House 3	627	24	792	22	1387	16	1325	16	1097	18
NS-04	Inverter House 4	634	24	715	23	1165	18	1108	18	880	21
NS-05	Inverter House 5	758	22	839	21	1131	18	1064	19	837	21
NS-06	Inverter House 6	760	22	837	21	1117	18	1051	19	824	21
NS-07	Inverter House 7	720	23	757	22	1035	19	977	20	750	22
NS-08	Inverter House 8	662	24	696	23	1055	19	1003	19	776	22

Source ID	Source Name	Point of Reception									
		R41		R42		R43		R44		R45	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House 1	1042	19	681	23	620	24	530	26	983	19
NS-02	Inverter House 2	1030	19	667	24	608	25	518	26	983	19
NS-03	Inverter House 3	1109	18	733	23	689	23	611	25	1109	18
NS-04	Inverter House 4	927	20	543	26	525	25	475	27	1134	18
NS-05	Inverter House 5	846	21	469	27	430	28	365	30	1011	19
NS-06	Inverter House 6	835	21	456	26	420	28	357	30	1014	19
NS-07	Inverter House 7	804	22	420	28	415	28	386	28	1113	18
NS-08	Inverter House 8	849	21	466	27	470	27	446	26	1171	18

Note: Reported sound levels include all adjustment factors (time weighting, tonal penalty), as applicable.

Table A3: Acoustic Assessment Summary Table

Point of Reception	Point of Reception Description	UTM Coordinates [m]		Sound Level at Point of Reception, LEQ [dBA]	Verified by Acoustic Audit	Performance Limit, LEQ [dBA]	Compliance with Performance Limit
		X	Y				
R01	Existing Dwelling	501641	4726886	38	No	40	Yes
R02	Vacant Lot	501636	4726793	36	No	40	Yes
R03	Existing Dwelling	501609	4726877	38	No	40	Yes
R04	Existing Dwelling	501544	4726739	34	No	40	Yes
R05	Existing Dwelling	501456	4726779	34	No	40	Yes
R06	Vacant Lot	501392	4726790	33	No	40	Yes
R07	Existing Dwelling	501283	4726798	32	No	40	Yes
R08	Existing Dwelling	501311	4726198	27	No	40	Yes
R09	Existing Dwelling	501194	4726494	28	No	40	Yes
R10	Existing Dwelling	501099	4726596	28	No	40	Yes
R11	Existing Dwelling	501187	4726719	30	No	40	Yes
R12	Existing Dwelling	501192	4726754	30	No	40	Yes
R13	Existing Dwelling	501194	4726786	30	No	40	Yes
R14	Existing Dwelling	501144	4726832	30	No	40	Yes
R15	Existing Dwelling	501290	4726948	33	No	40	Yes
R16	Existing Dwelling	501194	4727082	32	No	40	Yes
R17	Existing Dwelling	501277	4727150	33	No	40	Yes
R18	Existing Dwelling	501202	4727180	32	No	40	Yes
R19	Existing Dwelling	501276	4727228	33	No	40	Yes
R20	Existing Dwelling	501206	4727251	32	No	40	Yes
R21	Existing Dwelling	501280	4727260	33	No	40	Yes
R22	Existing Dwelling	501211	4727304	31	No	40	Yes
R23	Existing Dwelling	501278	4727340	32	No	40	Yes
R24	Existing Dwelling	501214	4727359	31	No	40	Yes
R25	Existing Dwelling	501211	4727398	31	No	40	Yes
R26	Vacant Lot	501205	4727491	31	No	40	Yes
R27	Vacant Lot	501300	4727486	32	No	40	Yes
R28	Existing Dwelling	501319	4727587	31	No	40	Yes
R29	Existing Dwelling	501176	4727591	30	No	40	Yes
R30	Existing Dwelling	501208	4727824	28	No	40	Yes
R31	Existing Dwelling	501226	4727857	28	No	40	Yes
R32	Existing Dwelling	501312	4727849	29	No	40	Yes
R33	Existing Dwelling	501230	4728012	27	No	40	Yes
R34	Vacant Lot	501758	4727835	32	No	40	Yes
R35	Existing Dwelling	501855	4727814	32	No	40	Yes
R36	Existing Dwelling	501901	4727838	32	No	40	Yes
R37	Existing Dwelling	502167	4727922	31	No	40	Yes
R38	Existing Dwelling	503138	4726842	26	No	40	Yes
R39	Vacant Lot	503052	4726779	27	No	40	Yes
R40	Vacant Lot	502841	4726863	30	No	40	Yes
R41	Existing Dwelling	502714	4726587	29	No	40	Yes
R42	Existing Dwelling	502441	4726859	35	No	40	Yes
R43	Existing Dwelling	502348	4726797	36	No	40	Yes
R44	Existing Dwelling	502236	4726787	37	No	40	Yes
R45	Vacant Lot	501800	4726110	28	No	40	Yes

APPENDIX B
Zoning Maps

SECTION 3 ZONES AND ZONING MAP

3.1 ESTABLISHMENT OF ZONES

For the purposes of this By-law, the maps hereto attached as Schedule "A" (Maps 1 to 130 inclusive), Schedule "B", Schedule "C", Schedule "D" (Maps D1 to D4 inclusive), Schedules "E", Schedule "F" (Maps F1 to F4 inclusive), Schedule "G", Schedule "H", Schedule "I", Schedule "J", Schedule "K", Schedule "L", Schedule "M", and Schedule "N" (Maps N1 to N14 inclusive), shall be referred to as the "Zoning Maps" for the Township of Malahide and the zoning maps shall be divided into one or more of the following zones:

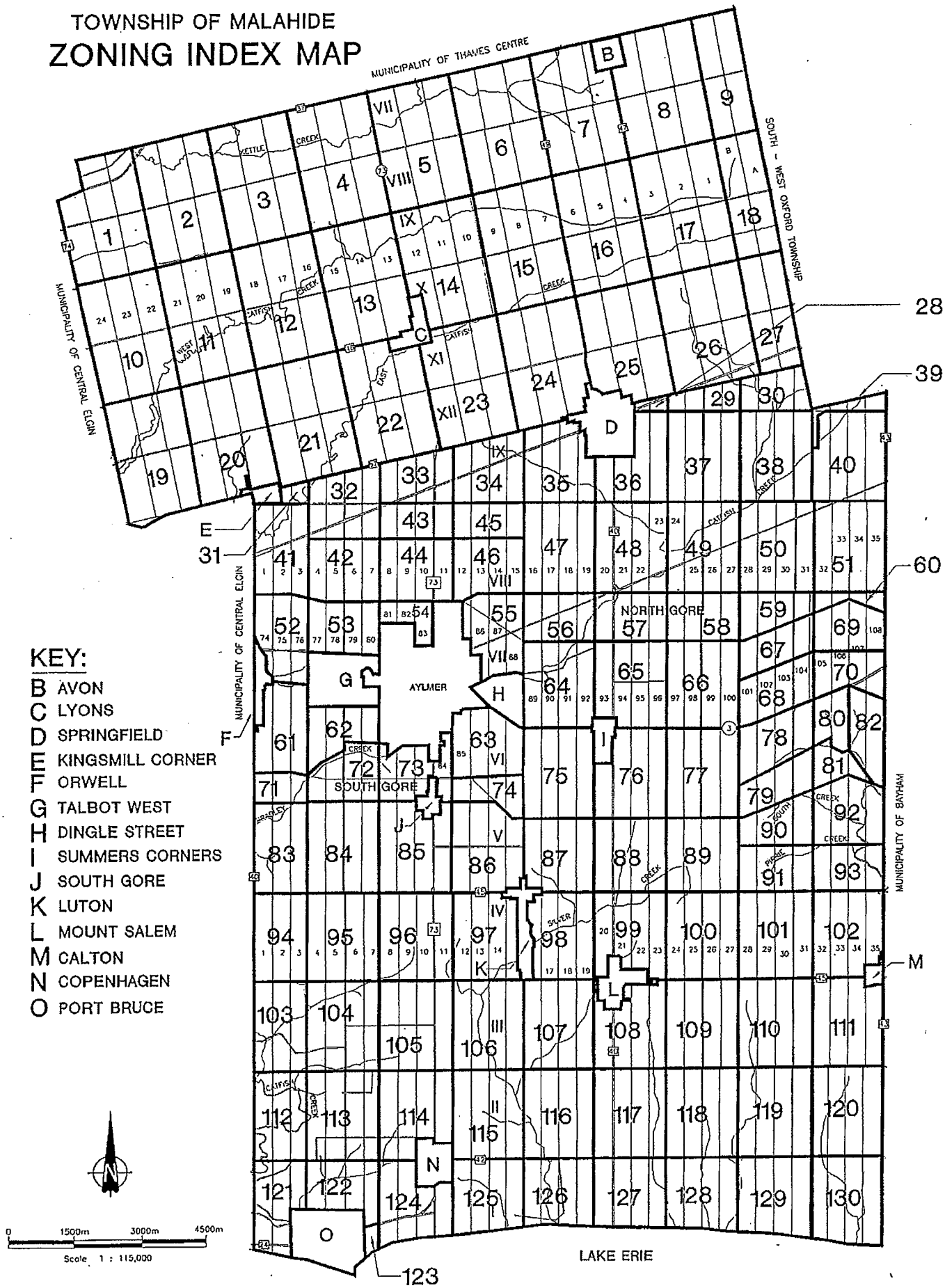
ZONE	SYMBOL
Agricultural	A1
Special Agricultural	A2
Agriculture Residential	AR
Hamlet Residential	HR
Village Residential	VR
Mobile Home Park	MH
Recreation Residential	RR
Rural Commercial	RC
Highway Commercial	HWC
Hamlet Commercial	HC
Village General Commercial	VC1
Village Local Commercial	VC2
Local Enterprise	LE
Farm Industrial	M1
Rural Industrial	M2
Village Industrial	M3
Extractive Industrial	M4
Institutional	I
Lakeshore Recreation	LR
Open Space	OS
Floodway	FW
Flood Fringe	FF
Hazard Land	HL
Temporary	T

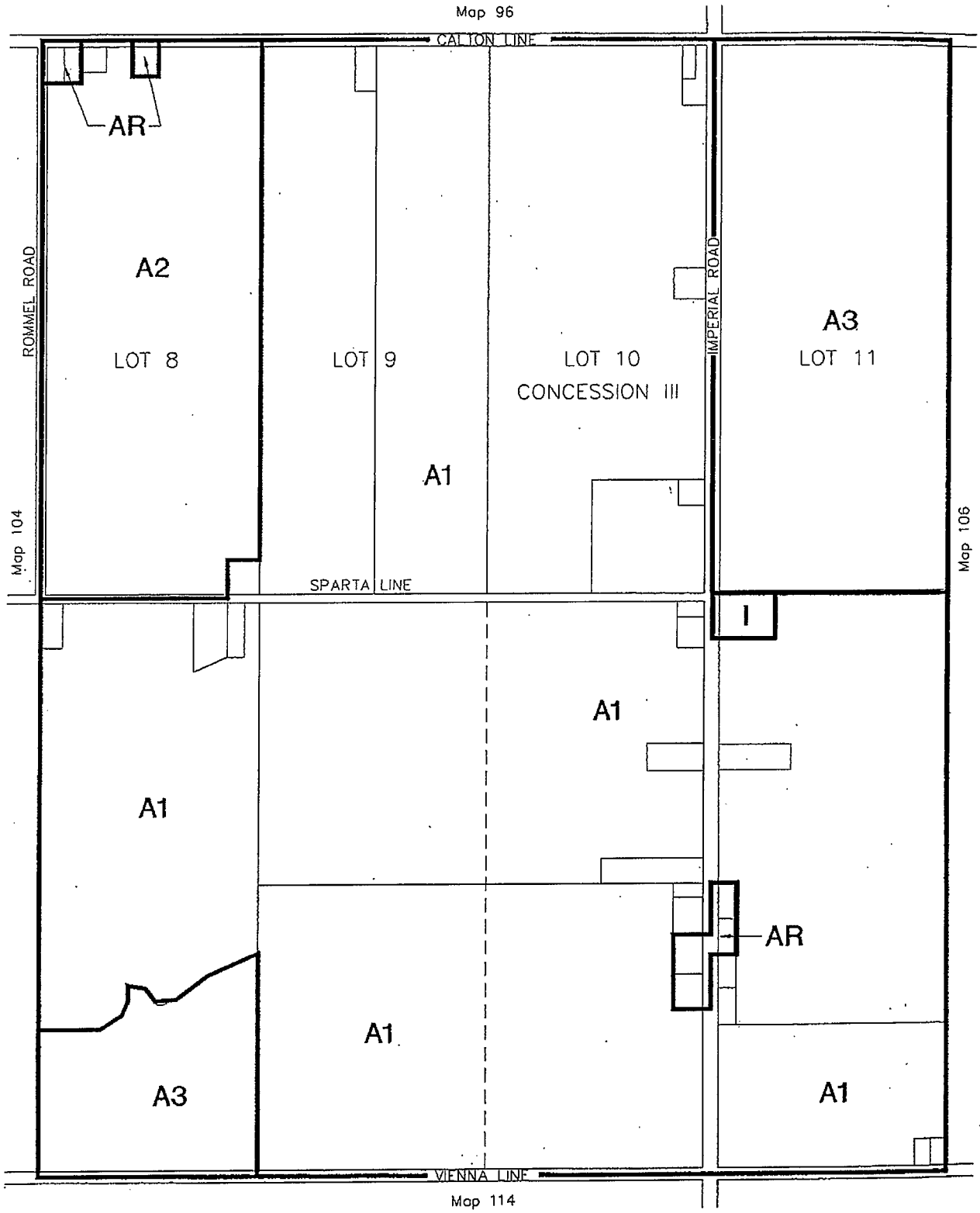
3.2 USE OF ZONE SYMBOLS

The symbols listed in Section 3.1 shall be used to refer to land, buildings, and structures and the uses thereof permitted by this By-law in the said zones, and wherever in this By-law the "Zone" is used, preceded by any of the said symbols, such zones shall mean any area within the Municipality delineated on the zoning map and designated thereon by the said symbol.

TOWNSHIP OF MALAHIDE

ZONING INDEX MAP



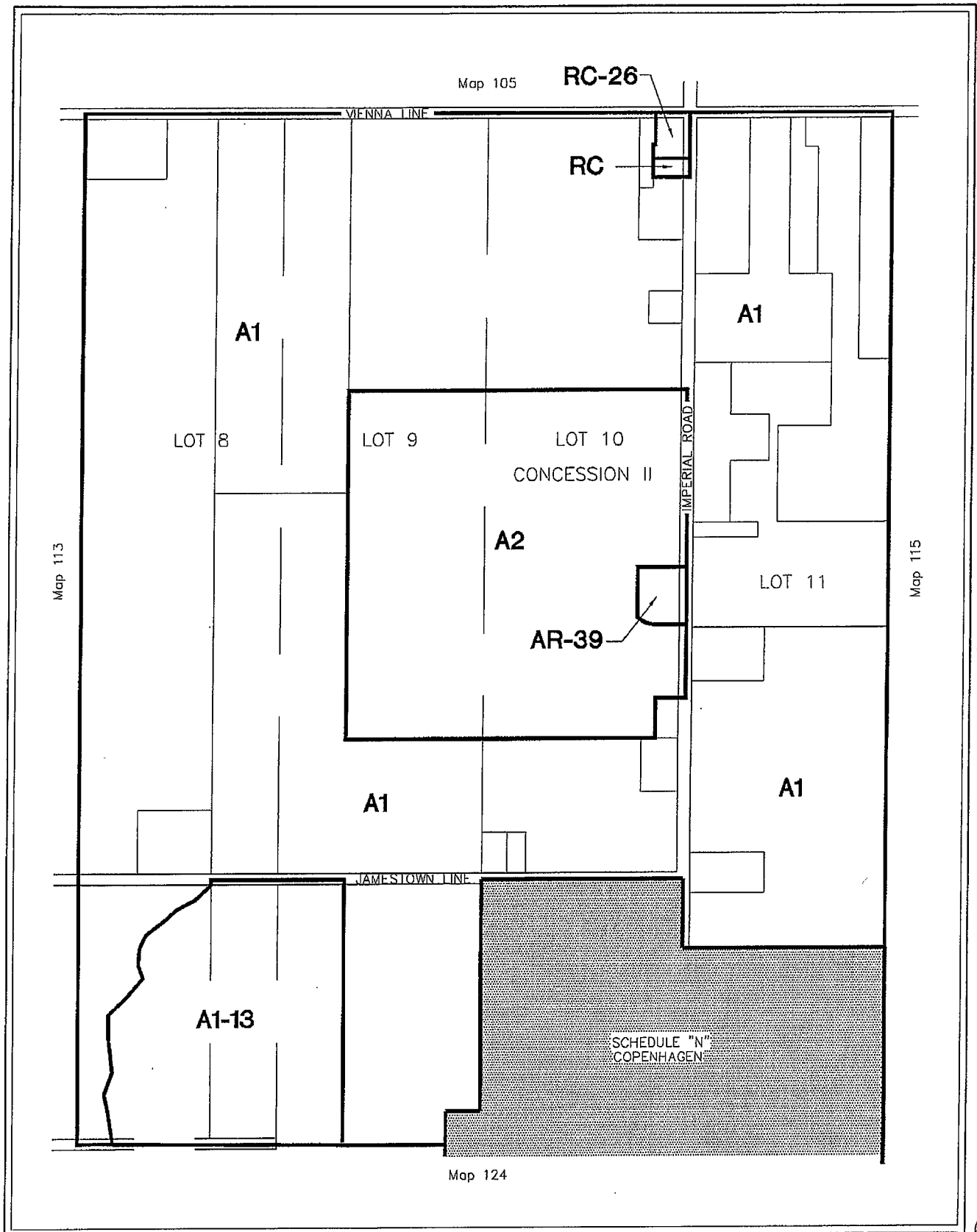


TOWNSHIP OF MALAHIDE
SCHEDULE 'A'

N

0 250m 500m
Scale 1 : 10,000

105



TOWNSHIP OF MALAHIDE
SCHEDULE 'A'

N

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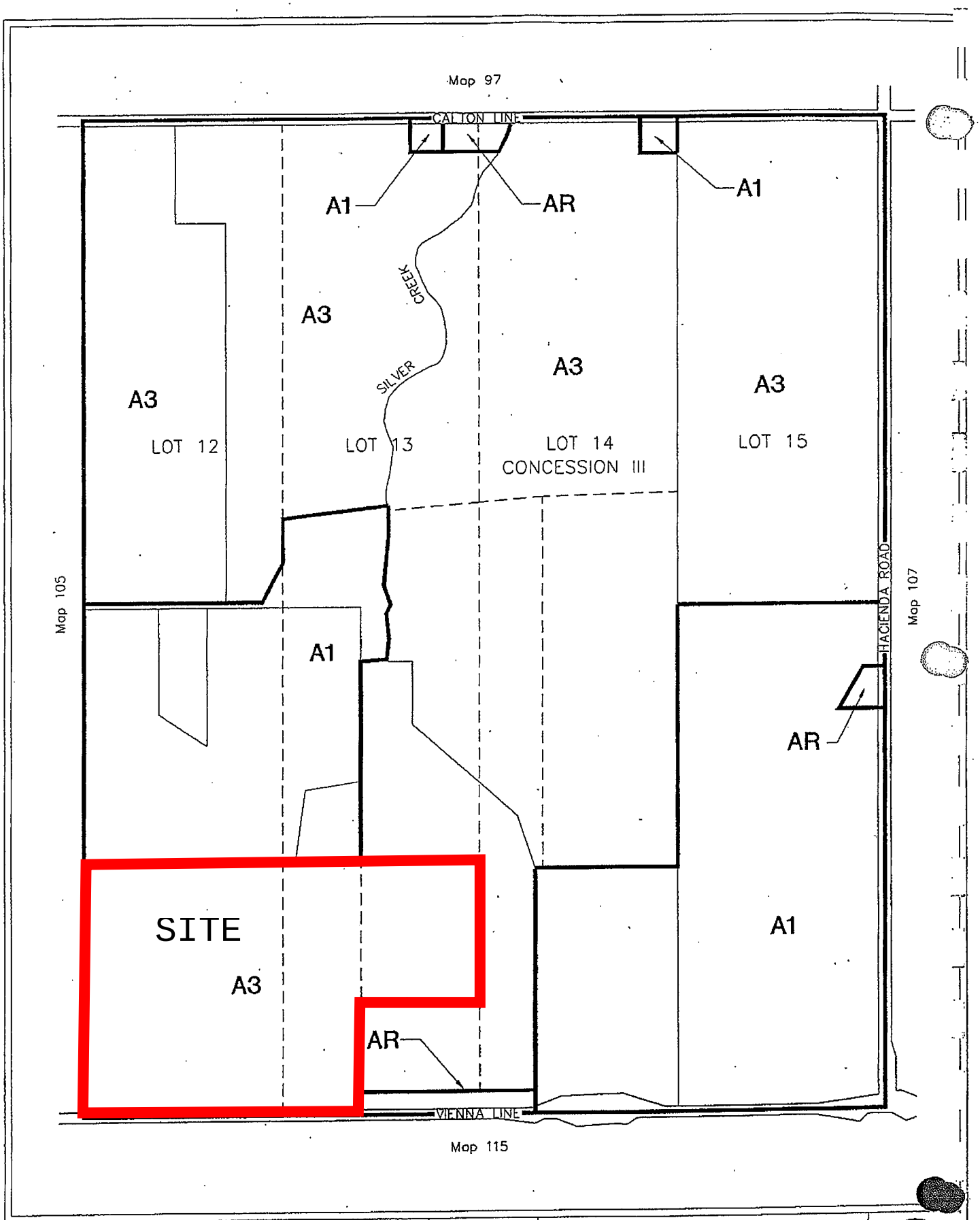
Scale 1 : 10,000

114

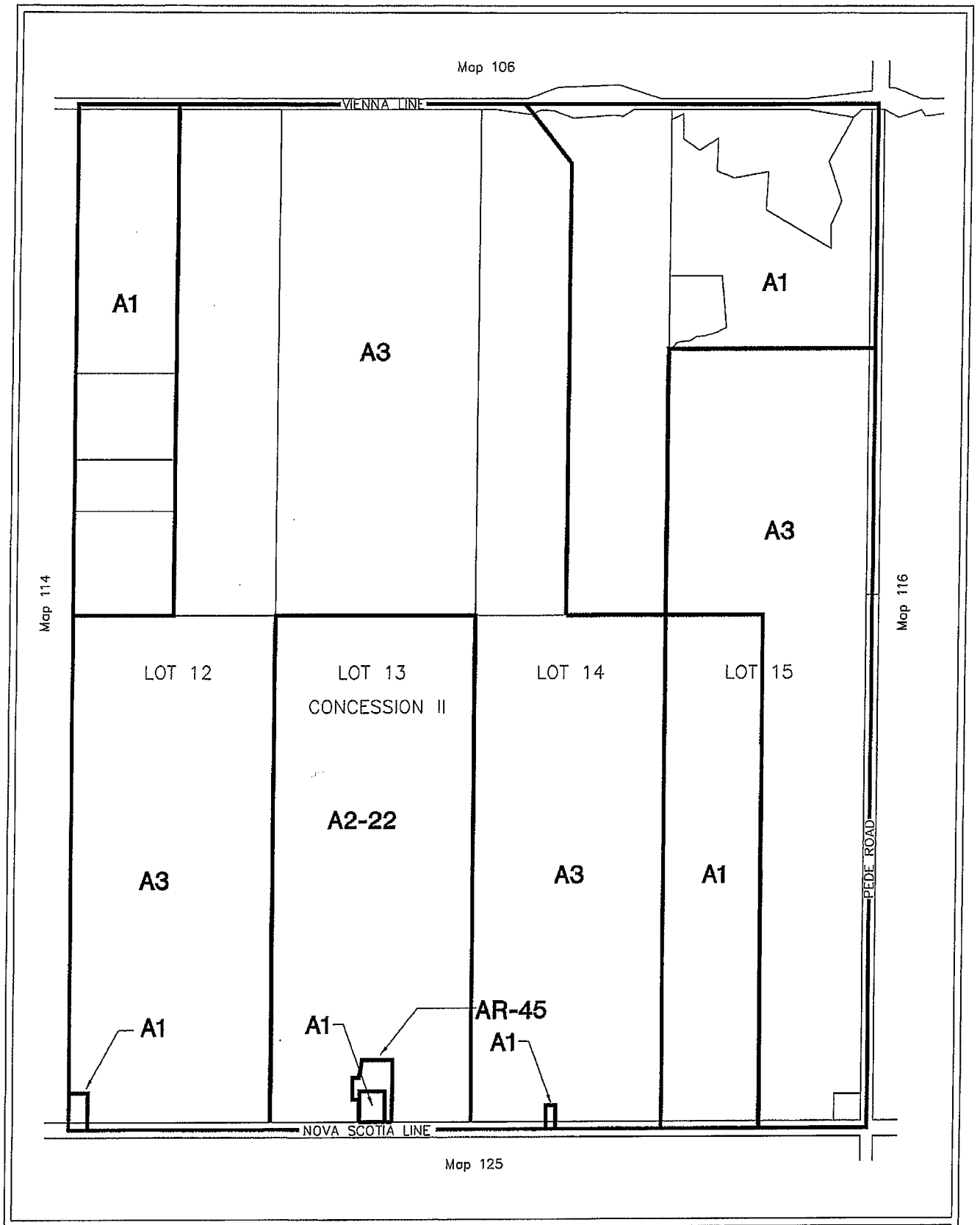


TOWNSHIP OF MALAHIDE
SCHEDULE 'A'

N

0 250m 500m
Scale 1 : 10,000

106



TOWNSHIP OF MALAHIDE
SCHEDULE 'A'

N

0 250m 500m
Scale 1 : 10,000

115

APPENDIX C
Equipment Sound Data

Test Report

1. Test Noise emission test	File name / designation TR_60100_MV-PP_TT_01_0412.docx
Project/device designation: MV-PP	**Corresponding test specification:** TS_60100_MV-PP_TT_01_4611.docx
Name of test technician: Frank Lachenit/Sebahattin Akyol/Frank VandeVeegate	**Measurement location / date:** Building 2, Denver / 2011-11-22 - 2011-12-09

EUT hardware:

Material / assembly / order number	Version:	S/N
SC-800-CP-10	A1	01851 90001
SC-800-CP-10	A1	01851 90000
Cooper MV transformer	0000YA 65X9BS	11590 01631

(Device type, serial number, hardware version of assemblies)

EUT software:

Firmware:	Version:
1.13.09.R / 1.15.01.R	

(Firmware OCU and DSP)

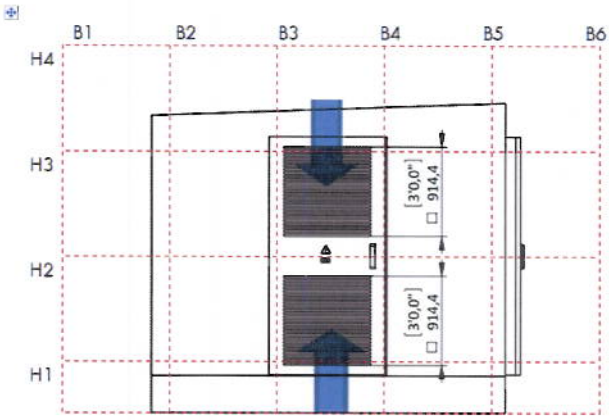
2 Equipment

Designation	Comment, measuring range, toler-ance	Type / SMA inv. no.	Next calibration
ScopeCorder DL750		SMA-US-A 00016	2012-06
LEM HAX 2000-S current transformer		SMA-DE-A 00843	2012-11
LEM HAX 2000-S current transformer		SMA-DE-A 00844	2012-11
LEM HAX 2000-S current transformer		SMA-DE-A 00845	2012-11
Differential probe		SMA-US-A 00005	2012-06
Brüel & Kjaer hand-held analyzer type 2250		210.13162	Device is calibrated prior to use with calibrator 210.13163
Sound calibrator type 4231		210.13163	2013-11
Prepolarized free-field ½" microphone type 4189		2771953	2012-06

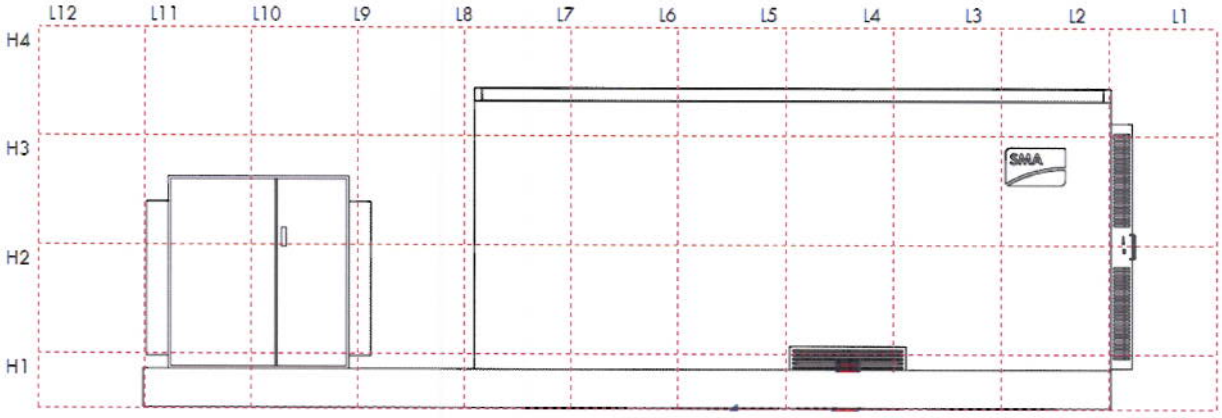
(Measurement range/tolerance may not apply to measurements with low requirements for accuracy)

3 Setup

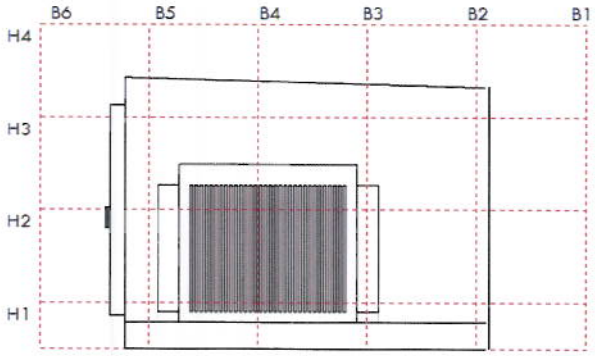
Front



left



back



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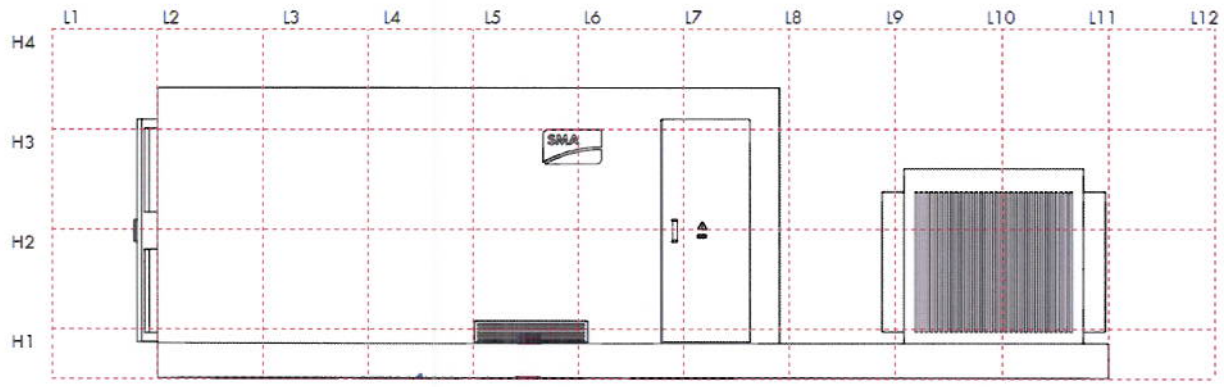
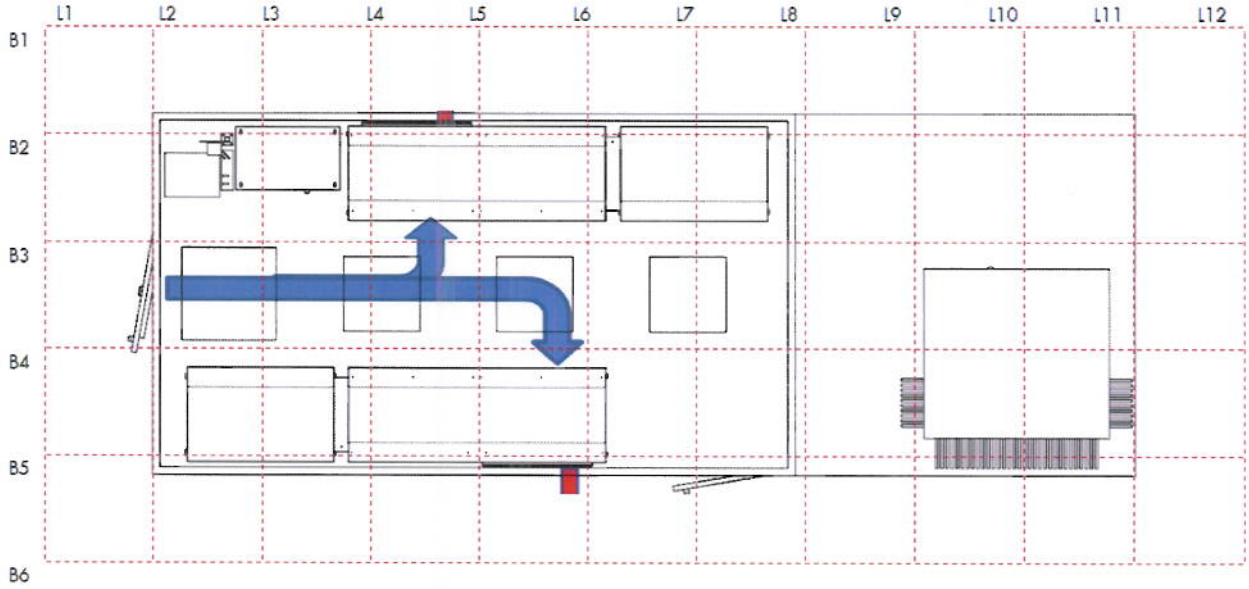


roof



(Setup: e.g., photos, circuitry, details)

4 Results

Operating conditions

P = 880kW; Udc = 820V; Tambient = 20°C

Calculated sound power Lwa:

L_{wa} =91.98dB

Furthermore, at representative measuring points the sound pressure level for one-third octave center frequencies was determined.

One-third octave center frequency (Hz)	sound pressure Level (dB_A)
63	44,7
125	47,9
250	53,5
500	56,2
1000	50,3
2000	49,9
4000	34,7
8000	20,6

The calculated sound power of this frequencies (only for information)

One-third octave center frequency (Hz)	sound power level (dB_A)
63	65.1
125	68.3
250	73.9
500	76.6
1000	70.7
2000	70.3
4000	55.2
8000	41.1

APPENDIX D
Details of Predictive Acoustical Modeling

The predictive model used for this Assessment (*Cadna-A version 4.3.143*) is based on the methods from ISO Standard 9613-2.2 “Acoustics - Attenuation of Sound During Propagation Outdoors” [7], which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures (or by topography and foliage where applicable). This modeling technique is acceptable to the MOE.

The subject site and surrounding area were modelled as flat ground based on review of aerial imagery. Ground attenuation was assumed to be spectral for all sources, with the ground factor (G) assumed to be 0.7 in all areas. The temperature and relative humidity were assumed to be 10° C and 70%, respectively.

The predictive modelling considered one order of reflection, with both on-site and off-site shielding/reflections afforded by buildings, walls, etc., with spectral absorptive characteristics applied to structures as appropriate. No credit has been assumed in the model for self shielding of the sources on site by the arrays of solar panels themselves. In this regard the predictions are conservative (i.e. they may tend to overpredict the sound levels slightly).

All sources were modeled as point sources of sound and are shown as crosses in Figures 3 and 4.

There are no known solar facilities (existing or proposed) within 5 km of the subject site.

APPENDIX E
Acoustic Assessment Criteria

The MOE noise assessment guidelines draw a distinction between sound produced by traffic sources and that produced by industrial or commercial activities, which are classified as *stationary sources of sound*. In essence, the sound from the stationary sources is evaluated against (i.e. compared to) the typical background sound at any potentially impacted, sound-sensitive points of reception (e.g., residences). Background sound is considered to include road traffic sound and other typical sounds, but excludes the sound of the facility under assessment. MOE Publication NPC-232, "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)," is a guideline for developing applicable sound level limits. In general, the acceptability limits for stationary sources are site dependent, and are based on the existing ambient background sound levels in the area of the subject site.

MOE Publication NPC-232 states that the sound level limit for a stationary source that operates during daytime and nighttime hours in a Class 3 (rural) environment is the lower of the minimum one-hour L_{EQ} ambient (background) sound level or the minimum one-hour ninetieth percentile L_{90} sound level plus 10 dB (i.e. L_{90} + 10 dB) at any potentially impacted residential point of reception. In addition, NPC-232 also states exclusionary minimum limits of 45 dBA during daytime hours (07:00 – 19:00) and 40 dBA during nighttime hours (19:00 – 07:00).

Based on the rural nature of the area surrounding the subject site, background sound levels are expected to fall below the exclusionary minimum limits stipulated in NPC-232 during the quietest hours of the day and night. Given that the equipment at the subject facility will be energized during the day and night with steady sound emissions when daylight conditions allow, the most stringent nighttime criterion of 40 dBA is the applicable sound level limit at all points of reception.

APPENDIX F
Sample Calculation Results - Condensed, Overall dBA Format

In the following tables of calculation results, the column headings for the various sound attenuation mechanisms follow the terminology of ISO Standard 9613-2. Lx is the A-weighted, one-hour energy-equivalent (or logarithmic-mean impulse) source sound power level, which includes the effects of any source-abatement measures included in the model, and any time-averaging effects for intermittent sources. Lr is the A-weighted, one-hour energy-equivalent (or logarithmic-mean impulse) sound level at the point of reception. The results are presented in terms of overall A-weighted results, at the most impacted off-site point of reception.

R01	Existing Dwelling	4726886	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	59.4	0	0.0	3.3	0.0	1.6	0.0	0.0	0.0	0.0	32.8
NS-02	Inverter House 2	4727093	0.5	97.0	59.7	0	0.0	3.3	0.0	1.6	0.0	0.0	0.0	0.0	32.5
NS-03	Inverter House 3	4727219	0.5	97.0	62.4	0	0.0	3.2	0.0	1.9	0.0	0.0	0.0	0.0	29.6
NS-04	Inverter House 4	4727219	0.5	97.0	65.3	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	26.3
NS-05	Inverter House 5	4727093	0.5	97.0	64.0	0	0.0	3.2	0.0	2.1	0.0	0.0	0.0	0.0	27.7
NS-06	Inverter House 6	4727093	0.5	97.0	64.2	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.5
NS-07	Inverter House 7	4727165	0.5	97.0	66.3	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	25.0
NS-08	Inverter House 8	4727226	0.5	97.0	66.8	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.5

R02	Vacant Lot	4726793	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	61.7	0	0.0	3.2	0.0	1.8	0.0	0.0	0.0	0.0	30.3
NS-02	Inverter House 2	4727093	0.5	97.0	61.9	0	0.0	3.2	0.0	1.8	0.0	0.0	0.0	0.0	30.1
NS-03	Inverter House 3	4727219	0.5	97.0	64.2	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.5
NS-04	Inverter House 4	4727219	0.5	97.0	66.3	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	25.0
NS-05	Inverter House 5	4727093	0.5	97.0	65.0	0	0.0	3.2	0.0	2.3	0.0	0.0	0.0	0.0	26.6
NS-06	Inverter House 6	4727093	0.5	97.0	65.2	0	0.0	3.2	0.0	2.3	0.0	0.0	0.0	0.0	26.4
NS-07	Inverter House 7	4727165	0.5	97.0	67.1	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.1
NS-08	Inverter House 8	4727226	0.5	97.0	67.6	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.5

R03	Existing Dwelling	4726877	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	60.3	0	0.0	3.3	0.0	1.6	0.0	0.0	0.0	0.0	31.9
NS-02	Inverter House 2	4727093	0.5	97.0	60.5	0	0.0	3.3	0.0	1.7	0.0	0.0	0.0	0.0	31.6
NS-03	Inverter House 3	4727219	0.5	97.0	62.9	0	0.0	3.2	0.0	2.0	0.0	0.0	0.0	0.0	29.0
NS-04	Inverter House 4	4727219	0.5	97.0	65.8	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	25.7
NS-05	Inverter House 5	4727093	0.5	97.0	64.6	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.0
NS-06	Inverter House 6	4727093	0.5	97.0	64.8	0	0.0	3.2	0.0	2.3	0.0	0.0	0.0	0.0	26.8
NS-07	Inverter House 7	4727165	0.5	97.0	66.8	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.4
NS-08	Inverter House 8	4727226	0.5	97.0	67.2	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	23.9

R04	Existing Dwelling	4726739	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	63.8	0	0.0	3.2	0.0	2.1	0.0	0.0	0.0	0.0	27.9
NS-02	Inverter House 2	4727093	0.5	97.0	64.0	0	0.0	3.2	0.0	2.1	0.0	0.0	0.0	0.0	27.7
NS-03	Inverter House 3	4727219	0.5	97.0	65.7	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	25.7
NS-04	Inverter House 4	4727219	0.5	97.0	67.7	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.3
NS-05	Inverter House 5	4727093	0.5	97.0	66.6	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.6
NS-06	Inverter House 6	4727093	0.5	97.0	66.8	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.4
NS-07	Inverter House 7	4727165	0.5	97.0	68.4	0	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	22.5
NS-08	Inverter House 8	4727226	0.5	97.0	68.9	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	22.0

R05	Existing Dwelling	4726779	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	64.4	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.3
NS-02	Inverter House 2	4727093	0.5	97.0	64.6	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.0
NS-03	Inverter House 3	4727219	0.5	97.0	66.0	0	0.0	3.2	0.0	2.5	0.0	0.0	0.0	0.0	25.4
NS-04	Inverter House 4	4727219	0.5	97.0	68.2	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	22.7
NS-05	Inverter House 5	4727093	0.5	97.0	67.4	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.8
NS-06	Inverter House 6	4727093	0.5	97.0	67.5	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.6
NS-07	Inverter House 7	4727165	0.5	97.0	69.0	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.7
NS-08	Inverter House 8	4727226	0.5	97.0	69.4	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.3

R06	Vacant Lot	4726790	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	65.2	0	0.0	3.2	0.0	2.3	0.0	0.0	0.0	0.0	26.4
NS-02	Inverter House 2	4727093	0.5	97.0	65.4	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	26.2
NS-03	Inverter House 3	4727219	0.5	97.0	66.5	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.8
NS-04	Inverter House 4	4727219	0.5	97.0	68.8	0	0.0	3.2	0.0	3.1	0.0	0.0	0.0	0.0	22.1
NS-05	Inverter House 5	4727093	0.5	97.0	68.0	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	23.0
NS-06	Inverter House 6	4727093	0.5	97.0	68.2	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	22.8
NS-07	Inverter House 7	4727165	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.1
NS-08	Inverter House 8	4727226	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

R07	Existing Dwelling	4726798	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	66.5	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.8
NS-02	Inverter House 2	4727093	0.5	97.0	66.7	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.6
NS-03	Inverter House 3	4727219	0.5	97.0	67.5	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.6
NS-04	Inverter House 4	4727219	0.5	97.0	69.7	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.9
NS-05	Inverter House 5	4727093	0.5	97.0	69.2	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.6
NS-06	Inverter House 6	4727093	0.5	97.0	69.3	0	0.0	3.2	0.0	3.2	0.0	0.0	0.0	0.0	21.4
NS-07	Inverter House 7	4727165	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.9
NS-08	Inverter House 8	4727226	0.5	97.0	70.8	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.6

R08	Existing Dwelling	4726199	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	71.2	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	19.1
NS-02	Inverter House 2	4727093	0.5	97.0	71.2	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	19.0
NS-03	Inverter House 3	4727219	0.5	97.0	72.1	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	17.9
NS-04	Inverter House 4	4727219	0.5	97.0	72.9	0	0.0	3.1	0.0	4.2	0.0	0.0	0.0	0.0	16.8
NS-05	Inverter House 5	4727093	0.5	97.0	72.2	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	17.8
NS-06	Inverter House 6	4727093	0.5	97.0	72.3	0	0.0	3.1	0.0	4.0	0.0	0.0	0.0	0.0	17.7
NS-07	Inverter House 7	4727165	0.5	97.0	73.2	0	0.0	3.1	0.0	4.2	0.0	0.0	0.0	0.0	16.6
NS-08	Inverter House 8	4727226	0.5	97.0	73.5	0	0.0	3.1	0.0	4.3	0.0	0.0	0.0	0.0	16.2

R09	Existing Dwelling	4726494	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.0
NS-02	Inverter House 2	4727093	0.5	97.0	69.7	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.9
NS-03	Inverter House 3	4727219	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.9
NS-04	Inverter House 4	4727219	0.5	97.0	71.9	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.2
NS-05	Inverter House 5	4727093	0.5	97.0	71.3	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	19.0
NS-06	Inverter House 6	4727093	0.5	97.0	71.4	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.8
NS-07	Inverter House 7	4727165	0.5	97.0	72.4	0	0.0	3.1	0.0	4.0	0.0	0.0	0.0	0.0	17.6
NS-08	Inverter House 8	4727226	0.5	97.0	72.6	0	0.0	3.1	0.0	4.1	0.0	0.0	0.0	0.0	17.2

R10	Existing Dwelling	4726597	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	69.7	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.9
NS-02	Inverter House 2	4727093	0.5	97.0	69.8	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.8
NS-03	Inverter House 3	4727219	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	20.0
NS-04	Inverter House 4	4727219	0.5	97.0	72.0	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.0
NS-05	Inverter House 5	4727093	0.5	97.0	71.5	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.7
NS-06	Inverter House 6	4727093	0.5	97.0	71.6	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.5
NS-07	Inverter House 7	4727165	0.5	97.0	72.6	0	0.0	3.1	0.0	4.0	0.0	0.0	0.0	0.0	17.3
NS-08	Inverter House 8	4727226	0.5	97.0	72.8	0	0.0	3.1	0.0	4.1	0.0	0.0	0.0	0.0	17.0

R11	Existing Dwelling	4726719	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	68.2	0	0.0	3.1	0.0	2.9	0.0	0.0	0.0	0.0	22.8
NS-02	Inverter House 2	4727093	0.5	97.0	68.3	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.6
NS-03	Inverter House 3	4727219	0.5	97.0	69.0	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.8
NS-04	Inverter House 4	4727219	0.5	97.0	70.9	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.5
NS-05	Inverter House 5	4727093	0.5	97.0	70.3	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.1
NS-06	Inverter House 6	4727093	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	20.0
NS-07	Inverter House 7	4727165	0.5	97.0	71.6	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.6
NS-08	Inverter House 8	4727226	0.5	97.0	71.8	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.3

R12	Existing Dwelling	4726754	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	67.9	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	23.1
NS-02	Inverter House 2	4727093	0.5	97.0	68.0	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	23.0
NS-03	Inverter House 3	4727219	0.5	97.0	68.7	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	22.2
NS-04	Inverter House 4	4727219	0.5	97.0	70.7	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.7
NS-05	Inverter House 5	4727093	0.5	97.0	70.2	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.3
NS-06	Inverter House 6	4727093	0.5	97.0	70.3	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.2
NS-07	Inverter House 7	4727165	0.5	97.0	71.4	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.8
NS-08	Inverter House 8	4727226	0.5	97.0	71.6	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.5

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

R13	Existing Dwelling	4726786	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	67.7	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.4
NS-02	Inverter House 2	4727093	0.5	97.0	67.8	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	23.2
NS-03	Inverter House 3	4727219	0.5	97.0	68.5	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.4
NS-04	Inverter House 4	4727219	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.9
NS-05	Inverter House 5	4727093	0.5	97.0	70.0	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.5
NS-06	Inverter House 6	4727093	0.5	97.0	70.2	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.3
NS-07	Inverter House 7	4727165	0.5	97.0	71.3	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	19.0
NS-08	Inverter House 8	4727226	0.5	97.0	71.5	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.7

R14	Existing Dwelling	4726833	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	68.0	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	23.0
NS-02	Inverter House 2	4727093	0.5	97.0	68.2	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	22.8
NS-03	Inverter House 3	4727219	0.5	97.0	68.7	0	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	22.2
NS-04	Inverter House 4	4727219	0.5	97.0	70.8	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.6
NS-05	Inverter House 5	4727093	0.5	97.0	70.4	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	20.1
NS-06	Inverter House 6	4727093	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.9
NS-07	Inverter House 7	4727165	0.5	97.0	71.5	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.6
NS-08	Inverter House 8	4727226	0.5	97.0	71.7	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.4

R15	Existing Dwelling	4726948	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	65.5	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	25.9
NS-02	Inverter House 2	4727093	0.5	97.0	65.8	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	25.7
NS-03	Inverter House 3	4727219	0.5	97.0	66.3	0	0.0	3.2	0.0	2.5	0.0	0.0	0.0	0.0	25.1
NS-04	Inverter House 4	4727219	0.5	97.0	69.0	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.8
NS-05	Inverter House 5	4727093	0.5	97.0	68.6	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.3
NS-06	Inverter House 6	4727093	0.5	97.0	68.8	0	0.0	3.2	0.0	3.1	0.0	0.0	0.0	0.0	22.1
NS-07	Inverter House 7	4727165	0.5	97.0	70.0	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.6
NS-08	Inverter House 8	4727226	0.5	97.0	70.2	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.4

R16	Existing Dwelling	4727082	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	66.7	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.6
NS-02	Inverter House 2	4727093	0.5	97.0	66.9	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.3
NS-03	Inverter House 3	4727219	0.5	97.0	66.9	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.3
NS-04	Inverter House 4	4727219	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.0
NS-05	Inverter House 5	4727093	0.5	97.0	69.5	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.2
NS-06	Inverter House 6	4727093	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.0
NS-07	Inverter House 7	4727165	0.5	97.0	70.7	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.7
NS-08	Inverter House 8	4727226	0.5	97.0	70.8	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.6

R17	Existing Dwelling	4727151	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	65.5	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	26.0
NS-02	Inverter House 2	4727093	0.5	97.0	65.7	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	25.7
NS-03	Inverter House 3	4727219	0.5	97.0	65.5	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	26.0
NS-04	Inverter House 4	4727219	0.5	97.0	68.6	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.2
NS-05	Inverter House 5	4727093	0.5	97.0	68.6	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.2
NS-06	Inverter House 6	4727093	0.5	97.0	68.8	0	0.0	3.2	0.0	3.1	0.0	0.0	0.0	0.0	22.0
NS-07	Inverter House 7	4727165	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7
NS-08	Inverter House 8	4727226	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7

R18	Existing Dwelling	4727180	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	66.7	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.6
NS-02	Inverter House 2	4727093	0.5	97.0	66.9	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.4
NS-03	Inverter House 3	4727219	0.5	97.0	66.6	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.7
NS-04	Inverter House 4	4727219	0.5	97.0	69.4	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.3
NS-05	Inverter House 5	4727093	0.5	97.0	69.5	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.2
NS-06	Inverter House 6	4727093	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.0
NS-07	Inverter House 7	4727165	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.8
NS-08	Inverter House 8	4727226	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.8

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

R19	Existing Dwelling	4727228	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	65.7	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	25.7
NS-02	Inverter House 2	4727093	0.5	97.0	65.9	0	0.0	3.2	0.0	2.5	0.0	0.0	0.0	0.0	25.5
NS-03	Inverter House 3	4727219	0.5	97.0	65.4	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	26.1
NS-04	Inverter House 4	4727219	0.5	97.0	68.6	0	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	22.3
NS-05	Inverter House 5	4727093	0.5	97.0	68.7	0	0.0	3.2	0.0	3.1	0.0	0.0	0.0	0.0	22.1
NS-06	Inverter House 6	4727093	0.5	97.0	68.9	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.9
NS-07	Inverter House 7	4727165	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7
NS-08	Inverter House 8	4727226	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7

R20	Existing Dwelling	4727251	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	66.8	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.4
NS-02	Inverter House 2	4727093	0.5	97.0	67.0	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.2
NS-03	Inverter House 3	4727219	0.5	97.0	66.5	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.8
NS-04	Inverter House 4	4727219	0.5	97.0	69.4	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.3
NS-05	Inverter House 5	4727093	0.5	97.0	69.5	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.1
NS-06	Inverter House 6	4727093	0.5	97.0	69.7	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.0
NS-07	Inverter House 7	4727165	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.8
NS-08	Inverter House 8	4727226	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.9

R21	Existing Dwelling	4727260	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	65.8	0	0.0	3.2	0.0	2.5	0.0	0.0	0.0	0.0	25.6
NS-02	Inverter House 2	4727093	0.5	97.0	66.0	0	0.0	3.2	0.0	2.5	0.0	0.0	0.0	0.0	25.4
NS-03	Inverter House 3	4727219	0.5	97.0	65.4	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	26.1
NS-04	Inverter House 4	4727219	0.5	97.0	68.6	0	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	22.3
NS-05	Inverter House 5	4727093	0.5	97.0	68.8	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	22.1
NS-06	Inverter House 6	4727093	0.5	97.0	68.9	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.9
NS-07	Inverter House 7	4727165	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7
NS-08	Inverter House 8	4727226	0.5	97.0	69.8	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7

R22	Existing Dwelling	4727304	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	67.0	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.2
NS-02	Inverter House 2	4727093	0.5	97.0	67.2	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.0
NS-03	Inverter House 3	4727219	0.5	97.0	66.5	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.8
NS-04	Inverter House 4	4727219	0.5	97.0	69.4	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.3
NS-05	Inverter House 5	4727093	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.0
NS-06	Inverter House 6	4727093	0.5	97.0	69.7	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.9
NS-07	Inverter House 7	4727165	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.8
NS-08	Inverter House 8	4727226	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.9

R23	Existing Dwelling	4727340	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	66.3	0	0.0	3.2	0.0	2.5	0.0	0.0	0.0	0.0	25.1
NS-02	Inverter House 2	4727093	0.5	97.0	66.5	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.9
NS-03	Inverter House 3	4727219	0.5	97.0	65.6	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	25.8
NS-04	Inverter House 4	4727219	0.5	97.0	68.7	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.2
NS-05	Inverter House 5	4727093	0.5	97.0	69.0	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.8
NS-06	Inverter House 6	4727093	0.5	97.0	69.2	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.6
NS-07	Inverter House 7	4727165	0.5	97.0	70.0	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.5
NS-08	Inverter House 8	4727226	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.6

R24	Existing Dwelling	4727360	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	67.2	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.0
NS-02	Inverter House 2	4727093	0.5	97.0	67.4	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.7
NS-03	Inverter House 3	4727219	0.5	97.0	66.6	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.6
NS-04	Inverter House 4	4727219	0.5	97.0	69.4	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.3
NS-05	Inverter House 5	4727093	0.5	97.0	69.7	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.9
NS-06	Inverter House 6	4727093	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7
NS-07	Inverter House 7	4727165	0.5	97.0	70.7	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.7
NS-08	Inverter House 8	4727226	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.9

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

R25	Existing Dwelling	4727398	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	67.5	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.6
NS-02	Inverter House 2	4727093	0.5	97.0	67.6	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.4
NS-03	Inverter House 3	4727219	0.5	97.0	66.8	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.4
NS-04	Inverter House 4	4727219	0.5	97.0	69.5	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.1
NS-05	Inverter House 5	4727093	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7
NS-06	Inverter House 6	4727093	0.5	97.0	70.0	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.5
NS-07	Inverter House 7	4727165	0.5	97.0	70.8	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.6
NS-08	Inverter House 8	4727226	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.8

R26	Vacant Lot	4727491	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	68.1	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	22.9
NS-02	Inverter House 2	4727093	0.5	97.0	68.3	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.7
NS-03	Inverter House 3	4727219	0.5	97.0	67.3	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.8
NS-04	Inverter House 4	4727219	0.5	97.0	69.8	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.8
NS-05	Inverter House 5	4727093	0.5	97.0	70.3	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.2
NS-06	Inverter House 6	4727093	0.5	97.0	70.4	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	20.1
NS-07	Inverter House 7	4727165	0.5	97.0	71.0	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.3
NS-08	Inverter House 8	4727226	0.5	97.0	70.9	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.5

R27	Vacant Lot	4727486	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	67.1	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.1
NS-02	Inverter House 2	4727093	0.5	97.0	67.3	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	23.9
NS-03	Inverter House 3	4727219	0.5	97.0	66.1	0	0.0	3.2	0.0	2.5	0.0	0.0	0.0	0.0	25.3
NS-04	Inverter House 4	4727219	0.5	97.0	68.9	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.9
NS-05	Inverter House 5	4727093	0.5	97.0	69.4	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.3
NS-06	Inverter House 6	4727093	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.1
NS-07	Inverter House 7	4727165	0.5	97.0	70.2	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.3
NS-08	Inverter House 8	4727226	0.5	97.0	70.0	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.5

R28	Existing Dwelling	4727587	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	67.8	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	23.2
NS-02	Inverter House 2	4727093	0.5	97.0	67.9	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	23.1
NS-03	Inverter House 3	4727219	0.5	97.0	66.7	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.6
NS-04	Inverter House 4	4727219	0.5	97.0	69.1	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.6
NS-05	Inverter House 5	4727093	0.5	97.0	69.8	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.8
NS-06	Inverter House 6	4727093	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7
NS-07	Inverter House 7	4727165	0.5	97.0	70.4	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	20.0
NS-08	Inverter House 8	4727226	0.5	97.0	70.2	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.3

R29	Existing Dwelling	4727591	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	69.1	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.7
NS-02	Inverter House 2	4727093	0.5	97.0	69.2	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.6
NS-03	Inverter House 3	4727219	0.5	97.0	68.3	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.7
NS-04	Inverter House 4	4727219	0.5	97.0	70.4	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	20.0
NS-05	Inverter House 5	4727093	0.5	97.0	70.9	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.4
NS-06	Inverter House 6	4727093	0.5	97.0	71.1	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.2
NS-07	Inverter House 7	4727165	0.5	97.0	71.6	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.6
NS-08	Inverter House 8	4727226	0.5	97.0	71.4	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.8

R30	Existing Dwelling	4727824	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	70.5	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.9
NS-02	Inverter House 2	4727093	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.8
NS-03	Inverter House 3	4727219	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.1
NS-04	Inverter House 4	4727219	0.5	97.0	71.2	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	19.0
NS-05	Inverter House 5	4727093	0.5	97.0	71.9	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.2
NS-06	Inverter House 6	4727093	0.5	97.0	72.0	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.1
NS-07	Inverter House 7	4727165	0.5	97.0	72.2	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	17.7
NS-08	Inverter House 8	4727226	0.5	97.0	72.0	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.1

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

R31	Existing Dwelling	4727857	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.8
NS-02	Inverter House 2	4727093	0.5	97.0	70.7	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.7
NS-03	Inverter House 3	4727219	0.5	97.0	69.7	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.9
NS-04	Inverter House 4	4727219	0.5	97.0	71.3	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	19.0
NS-05	Inverter House 5	4727093	0.5	97.0	71.9	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.1
NS-06	Inverter House 6	4727093	0.5	97.0	72.0	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.0
NS-07	Inverter House 7	4727165	0.5	97.0	72.3	0	0.0	3.1	0.0	4.0	0.0	0.0	0.0	0.0	17.7
NS-08	Inverter House 8	4727226	0.5	97.0	72.0	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.0

R32	Existing Dwelling	4727849	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	70.1	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.4
NS-02	Inverter House 2	4727093	0.5	97.0	70.2	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.3
NS-03	Inverter House 3	4727219	0.5	97.0	69.1	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.7
NS-04	Inverter House 4	4727219	0.5	97.0	70.6	0	0.0	3.1	0.0	3.5	0.0	0.0	0.0	0.0	19.8
NS-05	Inverter House 5	4727093	0.5	97.0	71.4	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.8
NS-06	Inverter House 6	4727093	0.5	97.0	71.5	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.7
NS-07	Inverter House 7	4727165	0.5	97.0	71.7	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.4
NS-08	Inverter House 8	4727226	0.5	97.0	71.4	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.8

R33	Existing Dwelling	4728012	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	71.7	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.4
NS-02	Inverter House 2	4727093	0.5	97.0	71.8	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.4
NS-03	Inverter House 3	4727219	0.5	97.0	70.8	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.5
NS-04	Inverter House 4	4727219	0.5	97.0	72.1	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.0
NS-05	Inverter House 5	4727093	0.5	97.0	72.7	0	0.0	3.1	0.0	4.1	0.0	0.0	0.0	0.0	17.1
NS-06	Inverter House 6	4727093	0.5	97.0	72.8	0	0.0	3.1	0.0	4.1	0.0	0.0	0.0	0.0	17.0
NS-07	Inverter House 7	4727165	0.5	97.0	73.0	0	0.0	3.1	0.0	4.2	0.0	0.0	0.0	0.0	16.8
NS-08	Inverter House 8	4727226	0.5	97.0	72.7	0	0.0	3.1	0.0	4.1	0.0	0.0	0.0	0.0	17.2

R34	Vacant Lot	4727836	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	68.4	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.5
NS-02	Inverter House 2	4727093	0.5	97.0	68.4	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.5
NS-03	Inverter House 3	4727219	0.5	97.0	66.8	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.4
NS-04	Inverter House 4	4727219	0.5	97.0	67.6	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.5
NS-05	Inverter House 5	4727093	0.5	97.0	69.0	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.8
NS-06	Inverter House 6	4727093	0.5	97.0	69.0	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.7
NS-07	Inverter House 7	4727165	0.5	97.0	68.8	0	0.0	3.2	0.0	3.1	0.0	0.0	0.0	0.0	22.0
NS-08	Inverter House 8	4727226	0.5	97.0	68.2	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.7

R35	Existing Dwelling	4727814	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	68.2	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	22.8
NS-02	Inverter House 2	4727093	0.5	97.0	68.2	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	22.8
NS-03	Inverter House 3	4727219	0.5	97.0	66.5	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.8
NS-04	Inverter House 4	4727219	0.5	97.0	66.9	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.4
NS-05	Inverter House 5	4727093	0.5	97.0	68.4	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.5
NS-06	Inverter House 6	4727093	0.5	97.0	68.5	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.4
NS-07	Inverter House 7	4727165	0.5	97.0	68.1	0	0.0	3.1	0.0	2.9	0.0	0.0	0.0	0.0	22.9
NS-08	Inverter House 8	4727226	0.5	97.0	67.4	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.7

R36	Existing Dwelling	4727838	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	68.5	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.4
NS-02	Inverter House 2	4727093	0.5	97.0	68.5	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.4
NS-03	Inverter House 3	4727219	0.5	97.0	67.0	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.3
NS-04	Inverter House 4	4727219	0.5	97.0	67.0	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.2
NS-05	Inverter House 5	4727093	0.5	97.0	68.6	0	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	22.3
NS-06	Inverter House 6	4727093	0.5	97.0	68.6	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.2
NS-07	Inverter House 7	4727165	0.5	97.0	68.1	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	22.8
NS-08	Inverter House 8	4727226	0.5	97.0	67.4	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.7

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

R37	Existing Dwelling	4727922	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	70.1	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.4
NS-02	Inverter House 2	4727093	0.5	97.0	70.1	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.4
NS-03	Inverter House 3	4727219	0.5	97.0	69.0	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.8
NS-04	Inverter House 4	4727219	0.5	97.0	68.1	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	22.9
NS-05	Inverter House 5	4727093	0.5	97.0	69.5	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.2
NS-06	Inverter House 6	4727093	0.5	97.0	69.5	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.2
NS-07	Inverter House 7	4727165	0.5	97.0	68.6	0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	22.3
NS-08	Inverter House 8	4727226	0.5	97.0	67.9	0	0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	23.2

R38	Existing Dwelling	4726843	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	73.7	0	0.0	4.3	1.1	3.2	0.0	0.0	0.0	0.0	14.9
NS-02	Inverter House 2	4727093	0.5	97.0	73.6	0	0.0	4.3	1.1	3.2	0.0	0.0	0.0	0.0	15.0
NS-03	Inverter House 3	4727219	0.5	97.0	73.8	0	0.0	3.1	0.0	4.4	0.0	0.0	0.0	0.0	15.7
NS-04	Inverter House 4	4727219	0.5	97.0	72.3	0	0.0	3.1	0.0	4.0	0.0	0.0	0.0	0.0	17.6
NS-05	Inverter House 5	4727093	0.5	97.0	72.1	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.0
NS-06	Inverter House 6	4727093	0.5	97.0	72.0	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.1
NS-07	Inverter House 7	4727165	0.5	97.0	71.3	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.9
NS-08	Inverter House 8	4727226	0.5	97.0	71.5	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.7

R39	Vacant Lot	4726779	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	73.2	0	0.0	3.1	0.0	4.2	0.0	0.0	0.0	0.0	16.5
NS-02	Inverter House 2	4727093	0.5	97.0	73.1	0	0.0	3.1	0.0	4.2	0.0	0.0	0.0	0.0	16.6
NS-03	Inverter House 3	4727219	0.5	97.0	73.4	0	0.0	3.1	0.0	4.3	0.0	0.0	0.0	0.0	16.2
NS-04	Inverter House 4	4727219	0.5	97.0	71.9	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.2
NS-05	Inverter House 5	4727093	0.5	97.0	71.5	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.6
NS-06	Inverter House 6	4727093	0.5	97.0	71.4	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.8
NS-07	Inverter House 7	4727165	0.5	97.0	70.8	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.6
NS-08	Inverter House 8	4727226	0.5	97.0	71.0	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.3

R40	Vacant Lot	4726863	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	71.5	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.6
NS-02	Inverter House 2	4727093	0.5	97.0	71.4	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.8
NS-03	Inverter House 3	4727219	0.5	97.0	71.8	0	0.0	3.1	0.0	3.8	0.0	0.0	0.0	0.0	18.3
NS-04	Inverter House 4	4727219	0.5	97.0	69.9	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	20.7
NS-05	Inverter House 5	4727093	0.5	97.0	69.5	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.2
NS-06	Inverter House 6	4727093	0.5	97.0	69.3	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.4
NS-07	Inverter House 7	4727165	0.5	97.0	68.5	0	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	22.4
NS-08	Inverter House 8	4727226	0.5	97.0	68.8	0	0.0	3.2	0.0	3.1	0.0	0.0	0.0	0.0	22.0

R41	Existing Dwelling	4726587	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	71.4	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	18.9
NS-02	Inverter House 2	4727093	0.5	97.0	71.3	0	0.0	3.1	0.0	3.7	0.0	0.0	0.0	0.0	19.0
NS-03	Inverter House 3	4727219	0.5	97.0	71.9	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.2
NS-04	Inverter House 4	4727219	0.5	97.0	70.3	0	0.0	3.1	0.0	3.4	0.0	0.0	0.0	0.0	20.1
NS-05	Inverter House 5	4727093	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.1
NS-06	Inverter House 6	4727093	0.5	97.0	69.4	0	0.0	3.1	0.0	3.2	0.0	0.0	0.0	0.0	21.3
NS-07	Inverter House 7	4727165	0.5	97.0	69.1	0	0.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	21.7
NS-08	Inverter House 8	4727226	0.5	97.0	69.6	0	0.0	3.1	0.0	3.3	0.0	0.0	0.0	0.0	21.1

R42	Existing Dwelling	4726859	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	67.7	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.4
NS-02	Inverter House 2	4727093	0.5	97.0	67.5	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.6
NS-03	Inverter House 3	4727219	0.5	97.0	68.3	0	0.0	3.1	0.0	3.0	0.0	0.0	0.0	0.0	22.6
NS-04	Inverter House 4	4727219	0.5	97.0	65.7	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	25.8
NS-05	Inverter House 5	4727093	0.5	97.0	64.4	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.2
NS-06	Inverter House 6	4727093	0.5	97.0	64.2	0	0.0	3.9	1.0	1.5	0.0	0.0	0.0	0.0	26.5
NS-07	Inverter House 7	4727165	0.5	97.0	63.5	0	0.0	3.2	0.0	2.1	0.0	0.0	0.0	0.0	28.3
NS-08	Inverter House 8	4727226	0.5	97.0	64.4	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.3

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

R43	Existing Dwelling	4726798	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	66.9	0	0.0	3.2	0.0	2.7	0.0	0.0	0.0	0.0	24.4
NS-02	Inverter House 2	4727093	0.5	97.0	66.7	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.6
NS-03	Inverter House 3	4727219	0.5	97.0	67.8	0	0.0	3.2	0.0	2.8	0.0	0.0	0.0	0.0	23.3
NS-04	Inverter House 4	4727219	0.5	97.0	65.4	0	0.0	3.9	1.3	1.6	0.0	0.0	0.0	0.0	24.8
NS-05	Inverter House 5	4727093	0.5	97.0	63.7	0	0.0	3.2	0.0	2.1	0.0	0.0	0.0	0.0	28.1
NS-06	Inverter House 6	4727093	0.5	97.0	63.5	0	0.0	3.2	0.0	2.1	0.0	0.0	0.0	0.0	28.3
NS-07	Inverter House 7	4727165	0.5	97.0	63.4	0	0.0	3.2	0.0	2.0	0.0	0.0	0.0	0.0	28.4
NS-08	Inverter House 8	4727226	0.5	97.0	64.5	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.2

R44	Existing Dwelling	4726788	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	65.5	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	26.0
NS-02	Inverter House 2	4727093	0.5	97.0	65.3	0	0.0	3.2	0.0	2.4	0.0	0.0	0.0	0.0	26.2
NS-03	Inverter House 3	4727219	0.5	97.0	66.7	0	0.0	3.2	0.0	2.6	0.0	0.0	0.0	0.0	24.5
NS-04	Inverter House 4	4727219	0.5	97.0	64.5	0	0.0	3.2	0.0	2.2	0.0	0.0	0.0	0.0	27.1
NS-05	Inverter House 5	4727093	0.5	97.0	62.3	0	0.0	3.2	0.0	1.9	0.0	0.0	0.0	0.0	29.7
NS-06	Inverter House 6	4727093	0.5	97.0	62.1	0	0.0	3.2	0.0	1.9	0.0	0.0	0.0	0.0	29.9
NS-07	Inverter House 7	4727165	0.5	97.0	62.7	0	0.0	3.9	1.5	1.3	0.0	0.0	0.0	0.0	27.7
NS-08	Inverter House 8	4727226	0.5	97.0	64.0	0	0.0	3.9	1.4	1.4	0.0	0.0	0.0	0.0	26.4

R45	Vacant Lot	4726110	4.5												
Src ID	Src Name	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House 1	4727093	0.5	97.0	70.9	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.5
NS-02	Inverter House 2	4727093	0.5	97.0	70.9	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.5
NS-03	Inverter House 3	4727219	0.5	97.0	71.9	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.2
NS-04	Inverter House 4	4727219	0.5	97.0	72.1	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	17.9
NS-05	Inverter House 5	4727093	0.5	97.0	71.1	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.2
NS-06	Inverter House 6	4727093	0.5	97.0	71.1	0	0.0	3.1	0.0	3.6	0.0	0.0	0.0	0.0	19.2
NS-07	Inverter House 7	4727165	0.5	97.0	71.9	0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	0.0	18.1
NS-08	Inverter House 8	4727226	0.5	97.0	72.4	0	0.0	3.1	0.0	4.0	0.0	0.0	0.0	0.0	17.6

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

APPENDIX G
Sample Calculation Results – Octave Band Format

In the following tables of calculation results, the column headings for the various sound attenuation mechanisms follow the terminology of ISO Standard 9613-2. Lx is the A-weighted, one-hour energy-equivalent (or logarithmic-mean impulse) source sound power level, which includes the effects of any source-abatement measures included in the model, and any time-averaging effects for intermittent sources. Lr is the A-weighted, one-hour energy-equivalent (or logarithmic-mean impulse) sound level at the point of reception. The results are presented in terms of full octave band sound levels, at the most impacted off-site point of reception.

R01	Existing Dwelling		501641	4726886	4.5													
Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-01	Inverter House 1	63	501802	4727093	0.5	73.8	59.4	0	0.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0	18.7	63
NS-01	Inverter House 1	125	501802	4727093	0.5	84.6	59.4	0	0.0	1.7	0.0	0.1	0.0	0.0	0.0	0.0	23.4	125
NS-01	Inverter House 1	250	501802	4727093	0.5	91.2	59.4	0	0.0	5.5	0.0	0.3	0.0	0.0	0.0	0.0	26.0	250
NS-01	Inverter House 1	500	501802	4727093	0.5	93.0	59.4	0	0.0	7.4	0.0	0.5	0.0	0.0	0.0	0.0	25.7	500
NS-01	Inverter House 1	1000	501802	4727093	0.5	89.4	59.4	0	0.0	1.5	0.0	1.0	0.0	0.0	0.0	0.0	27.6	1000
NS-01	Inverter House 1	2000	501802	4727093	0.5	84.8	59.4	0	0.0	-1.3	0.0	2.5	0.0	0.0	0.0	0.0	24.2	2000
NS-01	Inverter House 1	4000	501802	4727093	0.5	75.7	59.4	0	0.0	-1.3	0.0	8.6	0.0	0.0	0.0	0.0	9.0	4000
NS-01	Inverter House 1	8000	501802	4727093	0.5	83.4	59.4	0	0.0	-1.3	0.0	30.7	0.0	0.0	0.0	0.0	-5.4	8000
NS-02	Inverter House 2	63	501817	4727093	0.5	73.8	59.7	0	0.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0	18.4	63
NS-02	Inverter House 2	125	501817	4727093	0.5	84.6	59.7	0	0.0	1.8	0.0	0.1	0.0	0.0	0.0	0.0	23.1	125
NS-02	Inverter House 2	250	501817	4727093	0.5	91.2	59.7	0	0.0	5.5	0.0	0.3	0.0	0.0	0.0	0.0	25.7	250
NS-02	Inverter House 2	500	501817	4727093	0.5	93.0	59.7	0	0.0	7.4	0.0	0.5	0.0	0.0	0.0	0.0	25.4	500
NS-02	Inverter House 2	1000	501817	4727093	0.5	89.4	59.7	0	0.0	1.5	0.0	1.0	0.0	0.0	0.0	0.0	27.3	1000
NS-02	Inverter House 2	2000	501817	4727093	0.5	84.8	59.7	0	0.0	-1.3	0.0	2.6	0.0	0.0	0.0	0.0	23.8	2000
NS-02	Inverter House 2	4000	501817	4727093	0.5	75.7	59.7	0	0.0	-1.3	0.0	8.9	0.0	0.0	0.0	0.0	8.4	4000
NS-02	Inverter House 2	8000	501817	4727093	0.5	83.4	59.7	0	0.0	-1.3	0.0	31.7	0.0	0.0	0.0	0.0	-6.7	8000
NS-03	Inverter House 3	63	501802	4727219	0.5	73.8	62.4	0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	16.2	63
NS-03	Inverter House 3	125	501802	4727219	0.5	84.6	62.4	0	0.0	2.2	0.0	0.2	0.0	0.0	0.0	0.0	19.9	125
NS-03	Inverter House 3	250	501802	4727219	0.5	91.2	62.4	0	0.0	5.4	0.0	0.4	0.0	0.0	0.0	0.0	23.0	250
NS-03	Inverter House 3	500	501802	4727219	0.5	93.0	62.4	0	0.0	7.3	0.0	0.7	0.0	0.0	0.0	0.0	22.6	500
NS-03	Inverter House 3	1000	501802	4727219	0.5	89.4	62.4	0	0.0	1.4	0.0	1.4	0.0	0.0	0.0	0.0	24.3	1000
NS-03	Inverter House 3	2000	501802	4727219	0.5	84.8	62.4	0	0.0	-1.4	0.0	3.6	0.0	0.0	0.0	0.0	20.3	2000
NS-03	Inverter House 3	4000	501802	4727219	0.5	75.7	62.4	0	0.0	-1.4	0.0	12.1	0.0	0.0	0.0	0.0	2.7	4000
NS-03	Inverter House 3	8000	501802	4727219	0.5	83.4	62.4	0	0.0	-1.4	0.0	43.2	0.0	0.0	0.0	0.0	-20.8	8000
NS-04	Inverter House 4	63	502035	4727219	0.5	73.8	65.3	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	13.6	63
NS-04	Inverter House 4	125	502035	4727219	0.5	84.6	65.3	0	0.0	3.1	0.0	0.2	0.0	0.0	0.0	0.0	16.1	125
NS-04	Inverter House 4	250	502035	4727219	0.5	91.2	65.3	0	0.0	5.3	0.0	0.5	0.0	0.0	0.0	0.0	20.1	250
NS-04	Inverter House 4	500	502035	4727219	0.5	93.0	65.3	0	0.0	7.2	0.0	1.0	0.0	0.0	0.0	0.0	19.6	500
NS-04	Inverter House 4	1000	502035	4727219	0.5	89.4	65.3	0	0.0	1.3	0.0	1.9	0.0	0.0	0.0	0.0	21.0	1000
NS-04	Inverter House 4	2000	502035	4727219	0.5	84.8	65.3	0	0.0	-1.5	0.0	5.0	0.0	0.0	0.0	0.0	16.1	2000
NS-04	Inverter House 4	4000	502035	4727219	0.5	75.7	65.3	0	0.0	-1.5	0.0	16.9	0.0	0.0	0.0	0.0	-4.9	4000
NS-04	Inverter House 4	8000	502035	4727219	0.5	83.4	65.3	0	0.0	-1.5	0.0	60.3	0.0	0.0	0.0	0.0	-40.6	8000
NS-05	Inverter House 5	63	502035	4727093	0.5	73.8	64.0	0	0.0	-5.0	0.0	0.1	0.0	0.0	0.0	0.0	14.8	63
NS-05	Inverter House 5	125	502035	4727093	0.5	84.6	64.0	0	0.0	2.7	0.0	0.2	0.0	0.0	0.0	0.0	17.8	125
NS-05	Inverter House 5	250	502035	4727093	0.5	91.2	64.0	0	0.0	5.4	0.0	0.5	0.0	0.0	0.0	0.0	21.4	250
NS-05	Inverter House 5	500	502035	4727093	0.5	93.0	64.0	0	0.0	7.2	0.0	0.9	0.0	0.0	0.0	0.0	20.9	500
NS-05	Inverter House 5	1000	502035	4727093	0.5	89.4	64.0	0	0.0	1.3	0.0	1.6	0.0	0.0	0.0	0.0	22.5	1000
NS-05	Inverter House 5	2000	502035	4727093	0.5	84.8	64.0	0	0.0	-1.5	0.0	4.3	0.0	0.0	0.0	0.0	18.0	2000
NS-05	Inverter House 5	4000	502035	4727093	0.5	75.7	64.0	0	0.0	-1.5	0.0	14.6	0.0	0.0	0.0	0.0	-1.4	4000
NS-05	Inverter House 5	8000	502035	4727093	0.5	83.4	64.0	0	0.0	-1.5	0.0	52.1	0.0	0.0	0.0	0.0	-31.1	8000
NS-06	Inverter House 6	63	502050	4727093	0.5	73.8	64.2	0	0.0	-5.0	0.0	0.1	0.0	0.0	0.0	0.0	14.6	63
NS-06	Inverter House 6	125	502050	4727093	0.5	84.6	64.2	0	0.0	2.7	0.0	0.2	0.0	0.0	0.0	0.0	17.5	125
NS-06	Inverter House 6	250	502050	4727093	0.5	91.2	64.2	0	0.0	5.4	0.0	0.5	0.0	0.0	0.0	0.0	21.2	250
NS-06	Inverter House 6	500	502050	4727093	0.5	93.0	64.2	0	0.0	7.2	0.0	0.9	0.0	0.0	0.0	0.0	20.7	500
NS-06	Inverter House 6	1000	502050	4727093	0.5	89.4	64.2	0	0.0	1.3	0.0	1.7	0.0	0.0	0.0	0.0	22.2	1000
NS-06	Inverter House 6	2000	502050	4727093	0.5	84.8	64.2	0	0.0	-1.5	0.0	4.4	0.0	0.0	0.0	0.0	17.7	2000
NS-06	Inverter House 6	4000	502050	4727093	0.5	75.7	64.2	0	0.0	-1.5	0.0	15.0	0.0	0.0	0.0	0.0	-2.0	4000
NS-06	Inverter House 6	8000	502050	4727093	0.5	83.4	64.2	0	0.0	-1.5	0.0	53.5	0.0	0.0	0.0	0.0	-32.8	8000
NS-07	Inverter House 7	63	502154	4727165	0.5	73.8	66.3	0	0.0	-5.2	0.0	0.1	0.0	0.0	0.0	0.0	12.6	63
NS-07	Inverter House 7	125	502154	4727165	0.5	84.6	66.3	0	0.0	3.5	0.0	0.2	0.0	0.0	0.0	0.0	14.6	125
NS-07	Inverter House 7	250	502154	4727165	0.5	91.2	66.3	0	0.0	5.3	0.0	0.6	0.0	0.0	0.0	0.0	19.0	250
NS-07	Inverter House 7	500	502154	4727165	0.5	93.0	66.3	0	0.0	7.2	0.0	1.1	0.0	0.0	0.0	0.0	18.4	500
NS-07	Inverter House 7	1000	502154	4727165	0.5	89.4	66.3	0	0.0	1.2	0.0	2.1	0.0	0.0	0.0	0.0	19.7	1000
NS-07	Inverter House 7	2000	502154	4727165	0.5	84.8	66.3	0	0.0	-1.6	0.0	5.7	0.0	0.0	0.0	0.0	14.4	2000
NS-07	Inverter House 7	4000	502154	4727165	0.5	75.7	66.3	0	0.0	-1.6	0.0	19.2	0.0	0.0	0.0	0.0	-8.2	4000
NS-07	Inverter House 7	8000	502154	4727165	0.5	83.4	66.3	0	0.0	-1.6	0.0	68.3	0.0	0.0	0.0	0.0	-49.7	8000
NS-08	Inverter House 8	63	502155	4727226	0.5	73.8	66.8	0	0.0	-5.3	0.0	0.1	0.0	0.0	0.0	0.0	12.2	63
NS-08	Inverter House 8	125	502155	4727226	0.5	84.6	66.8	0	0.0	3.6	0.0	0.3	0.0	0.0	0.0	0.0	13.9	125
NS-08	Inverter House 8	250	502155	4727226	0.5	91.2	66.8	0	0.0	5.3	0.0	0.6	0.0	0.0	0.0	0.0	18.5	250
NS-08	Inverter House 8	500	502155	4727226	0.5	93.0	66.8	0	0.0	7.2	0.0	1.2	0.0	0.0	0.0	0.0	17.9	500
NS-08	Inverter House 8	1000	502155	4727226	0.5	89.4	66.8	0	0.0	1.2	0.0	2.3	0.0	0.0	0.0	0.0	19.1	1000
NS-08	Inverter House 8	2000	502155	4727226	0.5	84.8	66.8	0	0.0	-1.6	0.0	6.0	0.0	0.0	0.0	0.0	13.6	2000
NS-08	Inverter House 8	4000	502155	4727226	0.5	75.7	66.8	0	0.0	-1.6	0.0	20.2	0.0	0.0	0.0	0.0	-9.7	4000
NS-08	Inverter House 8	8000	502155	4727226	0.5	83.4	66.8	0	0.0	-1.6	0.0	72.0	0.0	0.0	0.0	0.0	-53.8	8000

WhereL Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl