252 Finchley Road

Daylight and Sunlight Report to St Andrews Church

Client:	Gapland Ltd
Prepared by:	Michael Harper
Reference:	1093
Date:	5th March 2012

Waldrams

Chartered Surveyors

e: michael.harper@waldrams.com

t: 07710 439125

Contents

Executive Summary

1. This report provides detailed analysis of the daylight and sunlight to the rooms and windows in St Andrews Church with the proposal by Parritt Leng in place. This report has been written for planning purposes.

2. Local planning policy refers to the BRE Guidelines as the principal reference in determining the acceptability of proposals in terms of daylight and sunlight. The methods and approach recommended in the BRE Guidelines have been used in the analysis included within this report. A detailed computer analysis has been used to calculate accurately the numerical results in three dimensions.

3. There are no specific Guidelines for daylight and sunlight to churches, however the criteria for residential use would act as a proxy for acceptable levels of daylight and sunlight to allow sufficient light into the church through the stained glass windows so as to ensure that the stained glass windows will not be harmed in planning terms.

4. The daylight and sunlight results show that all the rooms and windows in St Andrews Church will meet the BRE Guidelines' recommendations since no window will lose more than 20% of its existing daylight or sunlight with the proposal in place and will thus be in accordance with local policy on daylight and sunlight. In particular, sunlight to the church will be unaffected in planning terms and all windows that need to assessed for sunlight will lose no sunlight whatsoever with the proposal in place.

1. Introduction

This report provides analysis of the daylight and sunlight to St Andrews Church for the planning appeal scheme by Parritt Leng.

The report has been written by Waldrams Chartered Surveyors, specialists in provision of daylight and sunlight.

This report has been written for planning purposes to demonstrate that St Andrews Church, located to the south of the proposal, meets acceptable levels of daylight and sunlight as specified within the BRE Guidelines and thus local planning policy.

Summary of how daylight and sunlight are considered for planning

Daylight and sunlight are planning considerations. The main reference used by local planning authorities to determine the acceptability of proposals in terms of their internal daylight and sunlight and the impact on daylight and sunlight to the surrounding properties is the Building Research Establishment (BRE) Guidelines, used in conjunction with British Standard BS8206 Part 2. The BRE Guidelines provide scientific, objective methods for establishing the acceptability of daylight and sunlight internal to the scheme and the surrounding properties. In practice it is principally the main habitable rooms internal to the scheme and within the surrounding residential properties which are sensitive in terms of loss of daylight and sunlight.

There are no specific Guidelines for daylight and sunlight to churches however the criteria for residential use would act as a proxy for acceptable levels of daylight and sunlight to allow sufficient light through the stained glass windows so as not to be harmed in planning terms.

The BRE Guidelines specify that the daylight and sunlight results be considered flexibly and in the context of the site. Clearly there would be a higher expectation for daylight and sunlight in a rural or suburban environment than in a dense city centre location. The important factor in

all cases is that the levels of daylight and sunlight are appropriate, taking into account all the planning policy requirements of the site. The BRE Guidelines acknowledge this in the introduction where the BRE Guidelines state:

> "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and thus this document should not be seen as an instrument of planning policy. Its aim is to help rather constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values."

(Page 1, BRE Guidelines)

Thus, the numerical figures should not be rigidly applied, but instead used as part of the overall evaluation of the daylight and sunlight to the surroundings in context of the site, its existing massing, and the need for regeneration and local planning policy guidance for the site. In particular existing local precedents or recent planning consents may provide a good indication as to appropriate levels in the vicinity.

According to the BRE Guidelines a building will retain the potential for good interior daylighting provided that the Vertical Sky Component is in excess of 27%.

The method for assessing internal daylight is:

- Vertical Sky Component (VSC) and if below 27%
- Average Daylight Factor (ADF);

and for internal sunlight it is:

- Annual Probable Sunlight Hours (APSH).

The ADF measure of daylight takes into account the main factors which affect the actual daylight appearance of a room including the area of the window.

ADF provides an absolute measure of daylight expressed as a ratio of daylight for the room in question as a proportion of the daylight outside at any moment in time. The ADF for a living room should be above 1.5% (i.e. the room should enjoy a minimum of 1.5% of the average external daylight at any moment in time), whilst that for a bedroom and kitchen should be in excess of 1% and 2% respectively. ADF is dependent on the area of sky visibility, which is closely related to VSC, the area of the window serving the room, the glazing transmittance, the total area of the room's surfaces and the internal reflectance of the room.

The test for sunlight is calculated for each main south facing window to habitable rooms and in particular living rooms. The BRE Guidelines state that any south facing window may potentially receive up to 1486 hours of sunlight per year on average, representing 100% of the annual probable sunlight hours (APSH). Of this, each main window to a main habitable room may be adversely affected if it has less that 25% of the total APSH across the whole year or less that 5% APSH during the winter months (defined as the 6 months from September 21st through to March 21st).

Method used for calculating the daylight and sunlight results

The analysis provided in this report utilises state-of-the-art software to calculate in three dimensions the internal ADF for daylight and APSH for sunlight following the methods specified in the BRE Guidelines. A three dimensional accurate computer model has been created for the existing site in context of the immediate surrounding properties which either could be affected by the proposal or which could materially affect the result of a potentially affected room and window.

Daylight and sunlight levels comparing the existing and proposed daylight (VSC, daylight distribution and ADF) and sunlight (APSH) situation are then calculated. These results are provided in Appendix 2.

2. Sources of information used in the report

Parritt Leng
Received 30.8.2011
21111P-BASEMENT_F0(1).dwg
010611_Design and Access statement report.pdf
010611_A-100 Proposed Ground Floor Plan_A3.pdf
010611_A-101 Proposed First Floor Plan.pdf
010611_A-102 Proposed Second Floor Plan.pdf
010611_A-103 Proposed Third Floor Plan.pdf
010611_A-104 Proposed Fourth Floor Plan.pdf
010611_A-105 Proposed Fifth Floor Plan.pdf
010611_A-106 Proposed Roof Plan.pdf
010611_A-200 Proposed Elevations_A3.pdf
010611_A-210 Proposed Elevations_A3.pdf
010611_A-300 Proposed Sections.pdf
010611_A-320 Proposed Solar Panels Sections.pdf
010611_Area Schedule Rev 03.pdf
010611_Area Schedule Total Built Rev 02.pdf

Site Photographs
Ordnance Survey

References:

BRE Guidelines (BR 209):- Site layout planning for daylight and sunlight: a guide to good practice, by PJ Littlefair (1991), revised 2011.

These Guidelines provide the basis of the analysis described in this report. Please refer to this document for a detailed description as to the approach, methodology and implementation of the numerical analysis used in this report. A summary of the approach and methods recommended by the BRE Guidelines is included in the Introduction (Section 1) of this report.

3. Daylight and Sunlight Analysis to St Andrews Church

Drawing 0026/01 in Appendix 1 shows a plan view of the church and the rooms and window references correlating to the results in Appendix 2.

All rooms and windows within the church have been analysed for daylight (VSC, daylight distribution and ADF) and sunlight (APSH).

The results included in Appendix 2, show that the daylight to all windows within the church will meet the BRE Guidelines' VSC criteria, since all windows lose less that 20% of their existing VSC. Therefore, St Andrews Church meets the BRE Guidelines in terms of daylight.

In terms of sunlight, only those windows which face within 90 degrees of due south need to be analysed in relation to sunlight according to the BRE Guidelines.

The sunlight results included in Appendix 2 show that all windows to the south facing rooms within St Andrews Church meet the BRE Guidelines' APSH sunlight criteria, since no window will lose more than 20% of its existing sunlight with the proposal in place, showing that sunlight to these south facing windows all meet the BRE Guideline criteria. Furthermore, sunlight to the church will be unaffected in planning terms and all windows that need to assessed for sunlight will lose no sunlight whatsoever with the proposal in place.

Overall therefore, daylight and sunlight to all rooms and windows in the church are acceptable and in accordance with the BRE Guidelines. Therefore we consider that they will retain acceptable daylight and sunlight for the use as a church and the light to the stained glass windows will not be harmfully affected. We thus consider that daylight and sunlight to the church will be in accordance with planning policy.

4. Conclusion

This report provides the daylight and sunlight to St Andrews Church to the south of the proposal for the planning appeal scheme.

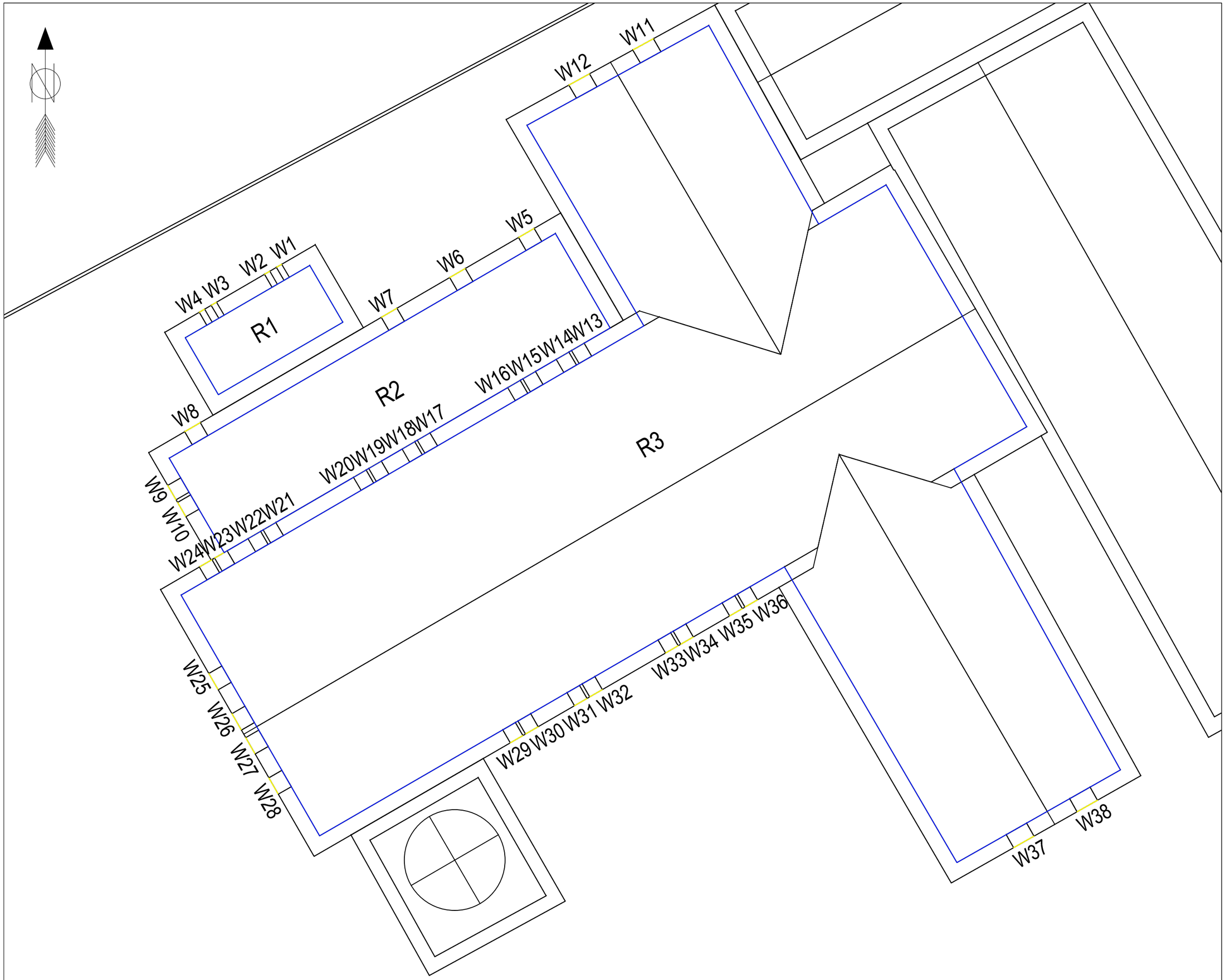
The daylight and sunlight analysis is based on the methods laid out in the BRE Guidelines, used by planning officers to determine acceptability of daylight and sunlight.

The daylight and sunlight results show that all rooms and windows in St Andrews Church will meet the BRE Guidelines' daylight and sunlight criteria, since no window will lose more than 20% of its existing daylight or sunlight with the proposal in place.

Overall therefore daylight and sunlight with the proposal in place to St Andrews Church will be acceptable and fully in accordance with local planning policy.

Appendix 1

Drawings



Sources of Information

Parritt Leng

21111P-BASEMENT-F0 (1).dwg
010611_Design and Access statement report.pdf
010611_A-100 PROPOSED GROUND FLOOR PLAN_A3.pdf
010611_A-101 PROPOSED FIRST FLOOR PLAN.pdf
010611_A-102 PROPOSED SECOND FLOOR PLAN.pdf
010611_A-103 PROPOSED THIRD FLOOR PLAN.pdf
010611_A-104 PROPOSED FOURTH FLOOR PLAN.pdf
010611_A-105 PROPOSED FIFTH FLOOR PLAN.pdf
010611_A-106 PROPOSED ROOF PLAN_A3.pdf
010611_A-200 PROPOSED ELEVATIONS_A3.pdf
010611_A-210 PROPOSED ELEVATIONS_A3.pdf
010611_A-300 PROPOSED SECTIONS.pdf
010611_A-320 PROPOSED SOLAR PANELS SECTIONS.pdf
010611_Area Schedule Rev 03.pdf
010611_Area Schedule Total Built Rev 02.pdf

Received 30/08/2011

Site Photographs
Ordnance Survey

Waldrams

Chartered Surveyors

Rights of Light
Daylight and sunlight

Project	Finchley Road London
Drawing	Plan view of St. Andrew's Church

Date	21/02/2012	Scale	NTS
Drawn By	PS	Checked By	IT
Drawing No.			Rev.
0026		01	01

Appendix 2

Daylight and sunlight results

Address	Room	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Window	Room Use	EXISTING ADF	EXISTING TOTAL	PROPOSED ADF	PROPOSED TOTAL	TOTAL LOSS	%LOSS ADF
St. Andrew's Church															
Ground	R1	W1	22.30	19.90	2.41	10.79	R1	W1	Unknown	0.04		0.03			
		W2	22.73	20.06	2.68	11.78		W2		0.04		0.03			
		W3	23.75	21.58	2.17	9.14		W3		0.04		0.04			
		W4	24.02	22.16	1.86	7.76		W4		0.04	0.16	0.04	0.14	0.02	13.92
Ground	R2	W5	17.26	17.05	0.21	1.23	R2	W5	Unknown	0.10		0.10			
		W6	22.77	22.57	0.20	0.86		W6		0.13		0.13			
		W7	18.55	18.91	-0.36	-1.94		W7		0.11		0.11			
		W8	22.03	21.96	0.07	0.30		W8		0.12		0.12			
		W9	31.17	31.16	0.01	0.03		W9		0.13		0.13			
		W10	29.49	29.48	0.01	0.03		W10		0.13	0.73	0.13	0.73	0.00	-0.15
Ground	R3	W11	35.68	34.39	1.29	3.61	R3	W11	Unknown	0.07		0.07			
		W12	34.27	33.19	1.08	3.16		W12		0.07		0.06			
		W13	31.50	31.34	0.16	0.51		W13		0.01		0.01			
		W14	32.22	32.02	0.19	0.59		W14		0.01		0.01			
		W15	33.40	33.20	0.20	0.61		W15		0.01		0.01			
		W16	33.79	33.62	0.17	0.50		W16		0.01		0.01			
		W17	35.01	35.05	-0.04	-0.13		W17		0.01		0.01			
		W18	35.11	35.17	-0.07	-0.19		W18		0.01		0.01			
		W19	35.27	35.40	-0.13	-0.37		W19		0.01		0.01			
		W20	35.33	35.48	-0.15	-0.43		W20		0.01		0.01			
		W21	35.58	35.80	-0.22	-0.61		W21		0.01		0.01			
		W22	35.62	35.84	-0.22	-0.62		W22		0.01		0.01			
		W23	35.70	35.91	-0.21	-0.58		W23		0.01		0.01			
		W24	35.74	35.94	-0.20	-0.55		W24		0.01		0.01			
		W25	36.43	36.43	0.00	0.00		W25		0.08		0.08			
		W26	36.68	36.68	0.00	0.00		W26		0.09		0.09			
		W27	36.67	36.67	0.00	0.00		W27		0.09		0.09			
		W28	36.38	36.38	0.00	0.00		W28		0.08		0.08			
		W29	23.55	23.55	0.00	0.00		W29		0.01		0.01			
		W30	25.32	25.32	0.00	0.00		W30		0.01		0.01			
		W31	29.63	29.63	0.00	0.00		W31		0.01		0.01			
		W32	30.51	30.51	0.00	0.00		W32		0.01		0.01			
		W33	32.45	32.45	0.00	0.00		W33		0.01		0.01			
		W34	32.43	32.43	0.00	0.00		W34		0.01		0.01			
		W35	31.48	31.48	0.00	0.00		W35		0.01		0.01			
		W36	30.89	30.89	0.00	0.00		W36		0.01		0.01			
		W37	39.07	39.07	0.00	0.00		W37		0.07		0.07			
		W38	39.12	39.12	0.00	0.00		W38		0.07	0.88	0.07	0.87	0.00	0.39

Floor	Room/ Floor	Room use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
St. Andrew's Church							
Ground	R1	Unknown	112.67	55.43	50.98	4.45	8.03
Ground	R2	Unknown	579.92	547.92	547.92	0.00	0.00
Ground	R3	Unknown	4045.83	4041.22	4041.22	0.00	0.00

Floor	Room	Window	Room Use	EXISTING Total	EXISTING Winter	PROPOSED Total	PROPOSED Winter	% Loss Total	% Loss Winter
St. Andrew's Church									
Ground	R2	W9	Unknown	35	7	35	7	0.00	0.00
Ground	R2	W10	Unknown	35	7	35	7	0.00	0.00
Ground	R3	W25	Unknown	37	9	37	9	0.00	0.00
Ground	R3	W26	Unknown	37	9	37	9	0.00	0.00
Ground	R3	W27	Unknown	37	9	37	9	0.00	0.00
Ground	R3	W28	Unknown	37	9	37	9	0.00	0.00
Ground	R3	W29	Unknown	28	10	28	10	0.00	0.00
Ground	R3	W30	Unknown	31	11	31	11	0.00	0.00
Ground	R3	W31	Unknown	38	15	38	15	0.00	0.00
Ground	R3	W32	Unknown	41	16	41	16	0.00	0.00
Ground	R3	W33	Unknown	41	15	41	15	0.00	0.00
Ground	R3	W34	Unknown	41	15	41	15	0.00	0.00
Ground	R3	W35	Unknown	41	15	41	15	0.00	0.00
Ground	R3	W36	Unknown	41	15	41	15	0.00	0.00
Ground	R3	W37	Unknown	56	21	56	21	0.00	0.00
Ground	R3	W38	Unknown	56	21	56	21	0.00	0.00