Tabulated results

Skylight to habitable rooms
VSC

Report *Check > 27% or ratio > 0.8*

Group	Floor	Win	Ref	Existing	Proposed	Ratio	Result
B1	F0	W1	1.0.1	39.3	37.2	0.94	Pass
B1	F0	W2	1.0.2	39.3	36.6	0.93	Pass
B1	F0	W3	1.0.3	39.3	36.2	0.92	Pass
B1	F0	W4	1.0.4	39.2	33.5	0.85	Pass
B1	F0	W5	1.0.5	39.2	33.5	0.85	Pass
B1	F0	W6	1.0.6	39.2	33.7	0.86	Pass
B2	F0	W1	2.0.1	37.4	36.6	0.98	Pass
B2	F0	W2	2.0.2	35.3	35.3	1.00	Pass
B2	F0	W3	2.0.3	37.3	37.1	0.99	Pass
B2	F1	W1	2.1.1	39.2	38.1	0.97	Pass
B2	F1	W2	2.1.2	39.2	38.0	0.97	Pass
B2	F1	W3	2.1.3	38.7	38.5	1.00	Pass
B2	F1	W4	2.1.4	38.7	38.5	1.00	Pass
B3	F0	W1	3.0.1	35.1	34.5	0.98	Pass
B3	F0	W2	3.0.2	26.4	26.3	1.00	Pass
B3	F0	W3	3.0.3	35.5	34.7	0.98	Pass
B3	F0	W4	3.0.4	36.1	35.0	0.97	Pass
B3	F1	W1	3.1.1	37.4	36.8	0.99	Pass
B3	F1	W2	3.1.2	37.9	37.2	0.98	Pass
B4	F0	W1	4.0.1	29.9	28.2	0.94	Pass
B4	F1	W1	4.1.1	33.2	31.7	0.95	Pass
B4	F1	W2	4.1.2	37.9	36.4	0.96	Pass
B5	F0	W1	5.0.1	37.9	36.8	0.97	Pass
B5	F0	W2	5.0.2	37.7	36.6	0.97	Pass
B5	F0	W3	5.0.3	35.8	35.4	0.99	Pass
B5	F0	W4	5.0.4	36.7	36.2	0.99	Pass
B5	F0	W5	5.0.5	36.8	36.2	0.98	Pass
B5	F0	W6	5.0.6	37.0	36.3	0.98	Pass
B5	F0	W7	5.0.7	38.1	35.0	0.92	Pass
B5	F0	W8	5.0.8	37.5	34.4	0.92	Pass
B5	F1	W1	5.1.1	39.0	38.2	0.98	Pass
B5	F1	W2	5.1.2	39.0	38.2	0.98	Pass
B5	F1	W3	5.1.3	38.9	38.1	0.98	Pass
B5	F1	W4	5.1.4	38.7	37.9	0.98	Pass
B5	F1	W5	5.1.5	38.1	37.9	0.99	Pass
B5	F1	W6	5.1.6	38.3	38.0	0.99	Pass
B5	F1	W7	5.1.7	38.5	38.0	0.99	Pass
B5	F1	W8	5.1.8	38.6	38.0	0.98	Pass
B5	F1	W9	5.1.9	39.1	36.6	0.93	Pass
B5	F1	W10	5.1.10	39.3	36.8	0.94	Pass

Note: When the proposed value exceeds the minimum requirement the ratio check is not required, and the result is coloured grey.

Conclusion

When tested with the new development in place
100% of the tested windows comply with the 27%, 0.8 ratio requirements for habitable rooms.

The average change ratio for VSC is **0.96**

The proposed development complies with the requirements of the BRE guidelines in relation to skylight availability for neighbours.

Adjacent Properties - Sunlight into living spaces

Tests for the amount of sunlight that windows to living room and/or conservatory can receive over both annual and winter periods.

> ***3.2.3 To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90°of due south. . . .***
>
> ***3.2.11 . . . sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:***
> ***• receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and***
> ***• receives less than 0.8 times its former sunlight hours during either period and***
> ***• has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.***

While not all windows relate to living rooms, we have for completeness tested all of them. Note only windows which face within 90°of due South require testing and those that do not, are notionally labelled as "North" in the table below.

The results are tabulated below:

Sunlight on windows to living room spaces check

Annual - 25% and Winter - 5%

Design				*Check > 25% or ratio > 0.8*				*Check > 5% or ratio > 0.8*			
Group	Floor	Win	Ref	Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result
B1	F0	W1	1.0.1	52.8	51.1	0.97	Pass	19.3	19.3	1.00	Pass
B1	F0	W2	1.0.2	52.8	49.0	0.93	Pass	19.3	19.3	1.00	Pass
B1	F0	W3	1.0.3	52.8	49.0	0.93	Pass	19.3	19.3	1.00	Pass
B1	F0	W4	1.0.4	52.8	43.0	0.82	Pass	19.3	16.5	0.85	Pass
B1	F0	W5	1.0.5	52.8	43.7	0.83	Pass	19.3	15.9	0.83	Pass
B1	F0	W6	1.0.6	52.8	44.0	0.83	Pass	19.3	15.1	0.78	Pass
B2	F0	W1	2.0.1	85.6	83.5	0.98	Pass	29.5	27.4	0.93	Pass
B2	F0	W2	2.0.2	North	North		Pass	North	North		Pass
B2	F0	W3	2.0.3	North	North		Pass	North	North		Pass
B2	F1	W1	2.1.1	89.1	86.2	0.97	Pass	32.2	29.3	0.91	Pass
B2	F1	W2	2.1.2	89.1	86.0	0.97	Pass	32.2	29.1	0.90	Pass
B2	F1	W3	2.1.3	North	North		Pass	North	North		Pass
B2	F1	W4	2.1.4	North	North		Pass	North	North		Pass
B3	F0	W1	3.0.1	85.2	83.9	0.98	Pass	30.2	28.9	0.96	Pass
B3	F0	W2	3.0.2	56.2	56.2	1.00	Pass	17.3	17.3	1.00	Pass
B3	F0	W3	3.0.3	86.5	84.7	0.98	Pass	30.1	29.1	0.96	Pass
B3	F0	W4	3.0.4	87.3	85.3	0.98	Pass	30.9	29.7	0.96	Pass
B3	F1	W1	3.1.1	87.7	86.7	0.99	Pass	32.0	31.0	0.97	Pass
B3	F1	W2	3.1.2	88.6	87.6	0.99	Pass	32.2	31.2	0.97	Pass
B4	F0	W1	4.0.1	53.5	50.1	0.94	Pass	18.8	15.5	0.82	Pass
B4	F1	W1	4.1.1	64.7	62.5	0.97	Pass	19.2	17.0	0.89	Pass
B4	F1	W2	4.1.2	78.0	76.0	0.97	Pass	26.8	24.8	0.92	Pass
B5	F0	W1	5.0.1	70.6	70.6	1.00	Pass	24.8	24.8	1.00	Pass
B5	F0	W2	5.0.2	68.9	68.9	1.00	Pass	23.1	23.1	1.00	Pass
B5	F0	W3	5.0.3	North	North		Pass	North	North		Pass
B5	F0	W4	5.0.4	North	North		Pass	North	North		Pass
B5	F0	W5	5.0.5	North	North		Pass	North	North		Pass
B5	F0	W6	5.0.6	North	North		Pass	North	North		Pass
B5	F0	W7	5.0.7	74.9	72.5	0.97	Pass	28.2	25.8	0.91	Pass
B5	F0	W8	5.0.8	74.7	72.3	0.97	Pass	27.6	25.2	0.91	Pass
B5	F1	W1	5.1.1	72.5	72.5	1.00	Pass	26.7	26.7	1.00	Pass
B5	F1	W2	5.1.2	72.5	72.5	1.00	Pass	26.7	26.7	1.00	Pass
B5	F1	W3	5.1.3	72.5	72.5	1.00	Pass	26.7	26.7	1.00	Pass
B5	F1	W4	5.1.4	72.5	72.5	1.00	Pass	26.7	26.7	1.00	Pass
B5	F1	W5	5.1.5	North	North		Pass	North	North		Pass
B5	F1	W6	5.1.6	North	North		Pass	North	North		Pass
B5	F1	W7	5.1.7	North	North		Pass	North	North		Pass
B5	F1	W8	5.1.8	North	North		Pass	North	North		Pass
B5	F1	W9	5.1.9	74.5	73.1	0.98	Pass	28.0	26.7	0.95	Pass
B5	F1	W10	5.1.10	74.9	73.4	0.98	Pass	28.4	27.0	0.95	Pass

Note: When the proposed value exceeds the minimum requirement the ratio check is not required, and the result is coloured grey.

Conclusion

When tested with the proposed development in place:
100% of tested windows comply with the annual APSH and
100% with the winter WPSH requirements for sunlight or overall requirement.

The average change ratio for sunlight is APSH:**0.96** and WPSH: **0.94**

The proposed development complies with the requirements of the BRE guidelines in relation to both annual and winter sunlight availability to neighbours as it applies to living rooms and conservatories.

Adjacent Properties - Shadow/Sunlight - Gardens and Open spaces

Tests for the availability of sunlight in amenity areas.

Shadow/Sunlight - Clause 3.3.17

> *It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21 March.*

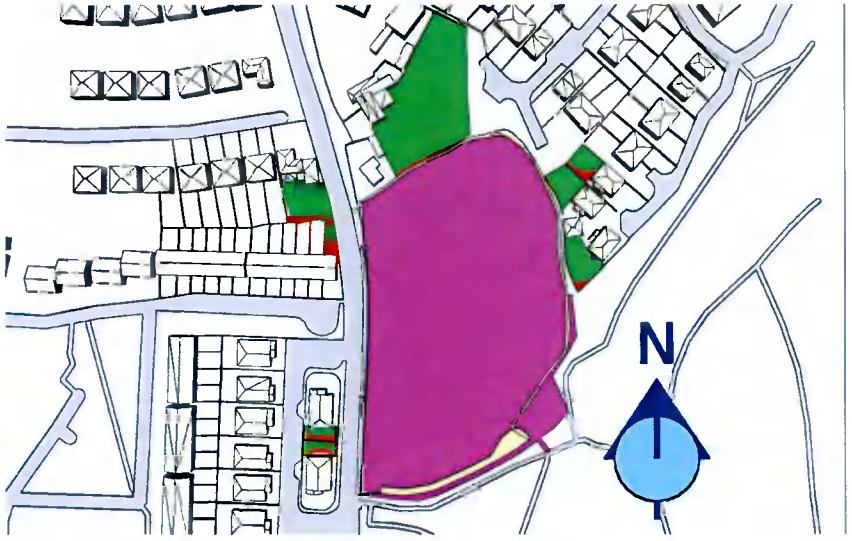
> *3.3.3 The availability of sunlight should be checked for all open spaces where it will be required. This would normally include:*
> - *gardens, usually the main back garden of a house*
> - *parks and playing fields*
> - *children's playgrounds*
> - *outdoor swimming pools and paddling pools*
> - *sitting out areas such as those between non-domestic buildings and in public squares*
> - *focal points for views such as a group of monuments or fountains.*

The amenities relevant rear gardens were tested.

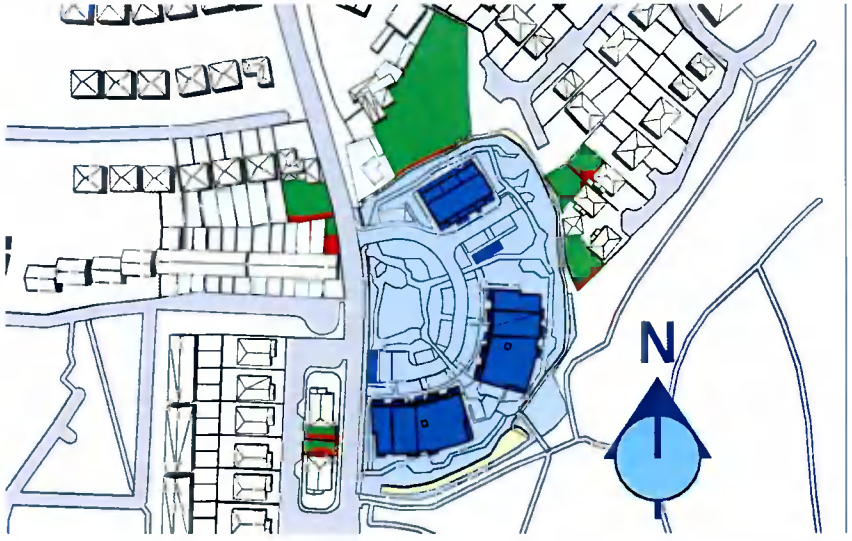
BRE 2-hour Shadow Plots

The graphic below indicates the areas which receive 2 hours of sunlight on the 21st March in accordance with the BRE guidelines.

- Green represents areas which exceed the 2-hour requirement - pass
- Red is less than the 2-hour requirement - fail
- Orange are marginal or borderline - just below the 2-hour requirement



Existing



Proposed

The results are tabulated below:

Shadow to amenity spaces

Design **2-hour Sunlight - 21st March**

Check > 50% or ratio > 0.8

Group	Area	Ref	Description	Existing	Proposed	Ratio	Result
B1	A1	1.A1	Amenity	59%	59%	1.00	Pass
B1	A2	1.A2	Amenity	59%	59%	1.00	Pass
B2	A1	2.A1	Amenity	40%	40%	1.00	Pass
B3	A1	3.A1	Amenity	84%	84%	1.00	Pass
B4	A1	4.A1	Amenity	98%	98%	1.00	Pass
B5	A1	5.A1	Amenity	72%	72%	1.00	Pass
B5	A2	5.A2	Amenity	95%	95%	1.00	Pass
B5	A3	5.A3	Amenity	93%	89%	0.95	Pass

Note: When the proposed value exceeds the minimum requirement the ratio check is not required, and the result is coloured grey.

Please note that passing the BRE requirements does not imply that shadows will not be cast over an amenity space at all. Shadows which are transient by nature may not impact on the percentage of the space which receives 2 hours of sunlight on the 21st of March.

Conclusion

100% of tested neighbouring amenity spaces pass the BRE 2-hours of sunlight on the 21st of March or 0.8 ratio requirement.

The average change ratio for the tested amenity spaces **0.99**

The proposed development complies with the requirements of the BRE guidelines for impact on amenity Sunlight/Shadow.

Summary - Adjacent Properties

Neighbouring properties will generally not be affected by the proposed development and the impacts on Skylight, Sunlight and Shadow have been tested in accordance with the best practice guidelines.

Change/Impact to neighbouring buildings in the adjoining residential areas.

- **Skylight- VSC**
  - **100%** of the tested windows comply with the 27%, 0.8 ratio requirements for habitable rooms.
  - The average change ratio for VSC is **0.96**
- **Sunlight APSH & WPSH**
  - **100%** of tested windows comply with the annual APSH and
  - **100%** with the winter WPSH requirements for sunlight or overall requirement.
  - The average change ratio for sunlight is APSH:**0.96** and WPSH: **0.94**
- **Shadow**
  - **100%** of tested neighbouring amenity spaces pass the 2-hour test requirements for the 21st March.
  - The average change ratio for shadow/sunlight is **0.99**

The potential impact of the proposed development on neighbours complies with the requirements of "Site layout planning for daylight and sunlight a guide to good practice Second Edition" - 2011 by Paul J Littlefair - BR209