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**BRE DAYLIGHT AND SUNLIGHT  
ASSESSMENT FOR:**

**264 Henley Road  
Caversham  
Reading  
RG4 6LS**



**DOCUMENT CONTROL**

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## 1. EXECUTIVE SUMMARY

This daylight & sunlight assessment has been prepared to support the planning application for the proposed development at 264 Henley Road, Caversham, Reading, RG4 6LS. This assessment has been produced based on planning drawings provided by 'Katu Architects'. The existing site consists of a three-storey residential House. The consented development and proposed development consists of converting and remodelling the existing residential house with a new rear extension.

The primary purpose of this daylight and sunlight assessment is to determine if as a result of the proposed extension there are any change in the daylight/ sunlight levels to neighbouring properties.

The methodology set out in this report is in accordance with BRE's "Site Layout Planning for daylight and Sunlight", 2nd edition 2011 which is accepted as good practice by planning authorities. The following assessments were carried out:

- 45-degree angle check & 25-degree angle check to establish simply if the proposed development will have an impact with regards to the obstruction of daylight/sunlight to existing neighbours
- 3-dimensional computer site model simulation for the proposed development, consented development and existing development to quantify
  - Vertical Sky Component (VSC)
  - Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH)

The 45-degree angle check & 25-degree angle check test demonstrates that two neighbouring properties (i.e. 262 Henley Road and 266 Henley Road) are potentially at risk of reduced daylight/sunlight levels. A total of **5 windows** have been identified on 266 Henley Road and a total of **7 windows** have been identified on 262 Henley Road which could potentially have a reduction in daylight/sunlight levels. To quantify this, a 3-dimensional computer site model has been constructed in the IES VE 2021 software. The 'RADIANCE' module has been used to calculate 'Vertical Sky Component' (VSC).

It is seen that all windows show the 'Pass' compliance in both the consented development as well as the proposed development. These VSC results are further analysed to consented VSC as a fraction of existing VSC and proposed VSC as a fraction of existing VSC. These fraction results for all windows are higher than the 0.8 Value this means that any changes in daylight wouldn't be noticeable and they all receive a VSC of  $\geq 27$ . **Hence all 12 windows passed the overall VSC compliance.**

This assessment determines if there is greater than a 20% change in VSC to the windows. Based on advice and precedents from the Greater London Authority (GLA) it should be noted that windows that achieve a VSC of  $>20$  will have good levels of daylight in urban settings, a VSC of  $>15$  is considered to be an appropriate level so therefore the results show that all the neighbouring windows are greater than this range and therefore are compliant.

The identified 12 windows of 266 and 262 Henley road face **North-West** orientation hence obstruction to sunlight will not be an issue as per the BRE guideline.

**Therefore Consented development as well as proposed development at 264 Henley Road, Caversham, Reading, RG4 6LS is considered to be a fully BRE complaint in terms of daylight and sunlight using the BRE methodology and guidance documents.**

## 2. CURRENT POLICIES, REGULATIONS AND BENCHMARK

### Regulations

- European workplace directive – Access to daylight required
- Building regulations – No minimum daylight standard

### Standards & Guides

- BS 8206-2 2008 Code of Practice for Daylighting
- BRE Designing Buildings for Daylighting
- Site Layout Planning for Daylight and Sunlight”, 2nd edition 2011

Recommendations for daylight in domestic buildings are to be found in British standard BS 8206-2. New developments should not reduce the Vertical Sky Component (VSC) below 27% or if it does it should not reduce it by more than 20% of the existing baseline scenario. In most urban areas the VSC levels are already below 27% for the majority of windows in a building. Planning authorities have tended to use the 20% reduction guideline when assessing the planning permission. The 20% reduction is used as this is perceived to be the level at which a building user will notice a change to the local lighting levels, anything less than this is not noticeable and therefore is satisfactory.

Comments by the Greater London Authority (GLA) in the context of a planning appeal are also noted: “It should, nevertheless, be noted that the 27% VSC target value is derived from a low-density suburban housing model. The independent daylight and sunlight review states that in an inner-city urban environment, VSC values of more than 20% should be considered as reasonably good and that VSC in the mid-teens should be acceptable. However, where the VSC value falls below 10% (to be in single figures), the availability of direct light from the sky will be poor.” Greater London Authority, representation hearing report D&P/3067/03 – Appendix 1, 18/11/2013.

## 3. SITE LOCATION AND DESCRIPTION

The proposed site is located at 264 Henley Road, Caversham, Reading, RG4 6LS. The key plan and aerial view of the site are shown in Figure 1 and Figure 2. The site is in the busy area of Henley Road. The proposed development is surrounded by various residential buildings.



**Figure 1: Key Plan of Site Location**



**Figure 2: Aerial Image of Site**

The existing site consists of a three storey residential house. The existing ground floor consists of a dining room, kitchen, hall and livingroom. and the existing first floor consist of 3 bedrooms and a bathroom. At the rear of the building, there is garden space.

The applicant wishes to convert/remodel the existing residential house and construct a new residential house with a rear extension.

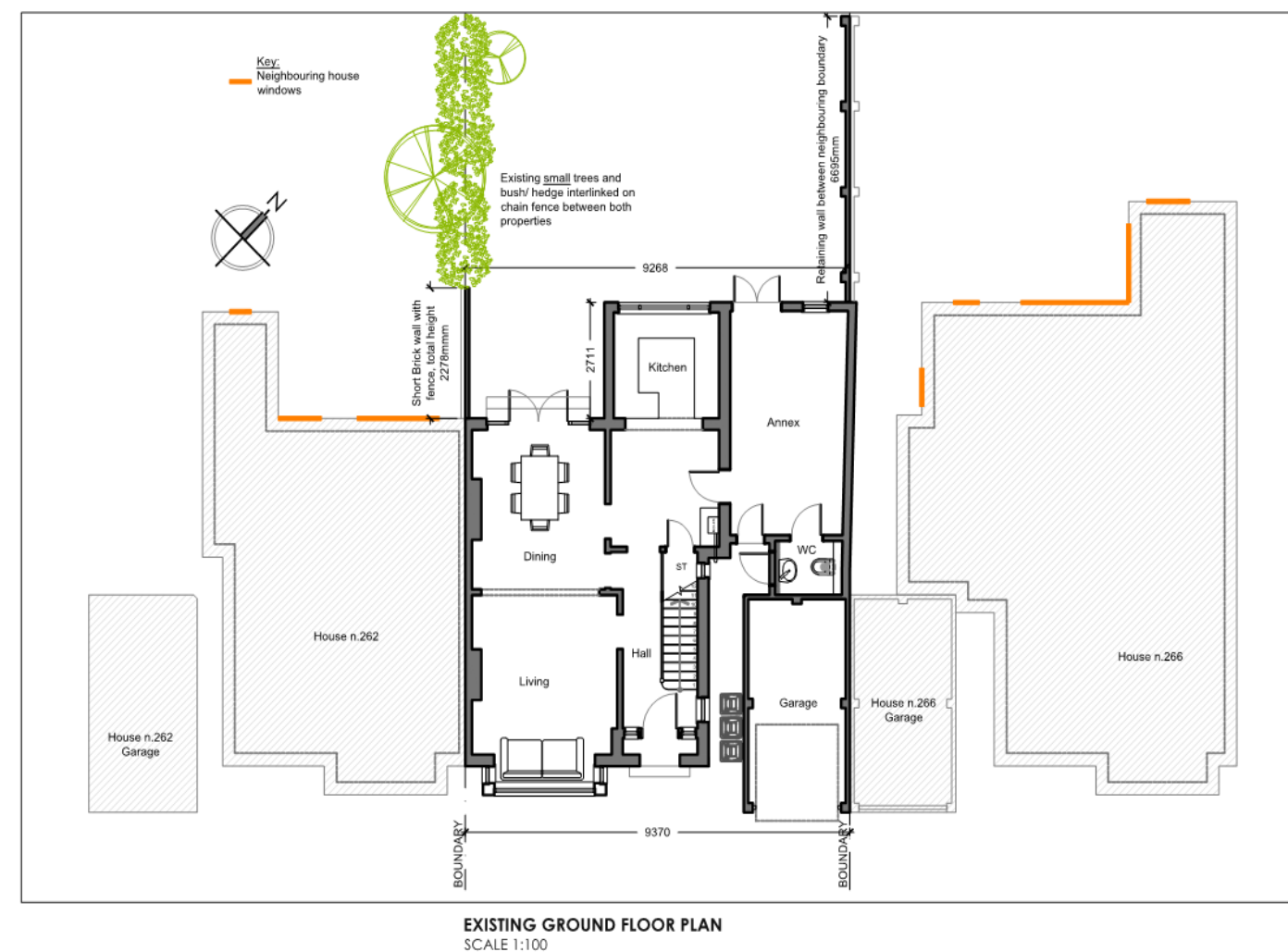


**Figure 3: Existing Ground Floor Plan**

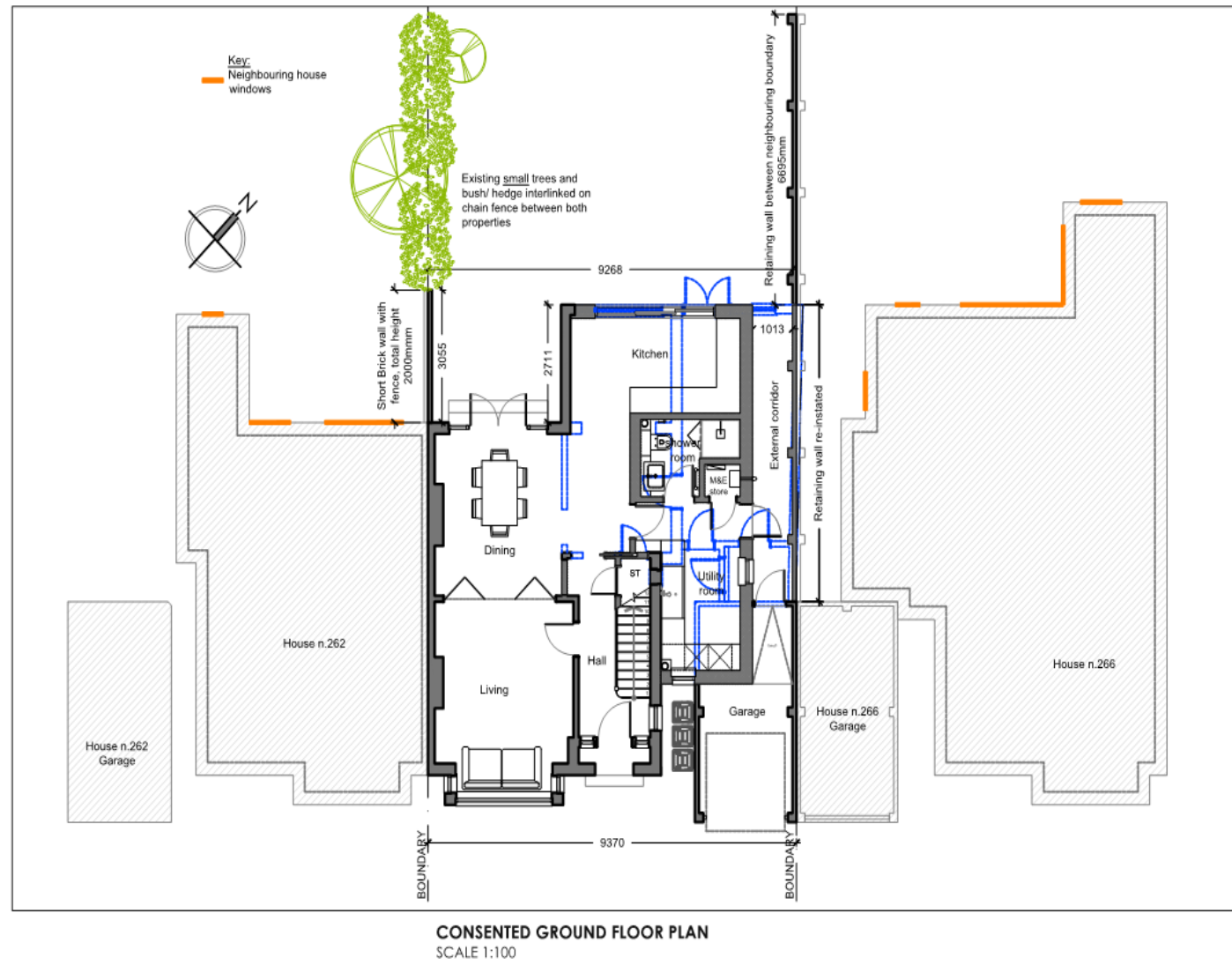


Figure 4: Consented Ground Floor Plan

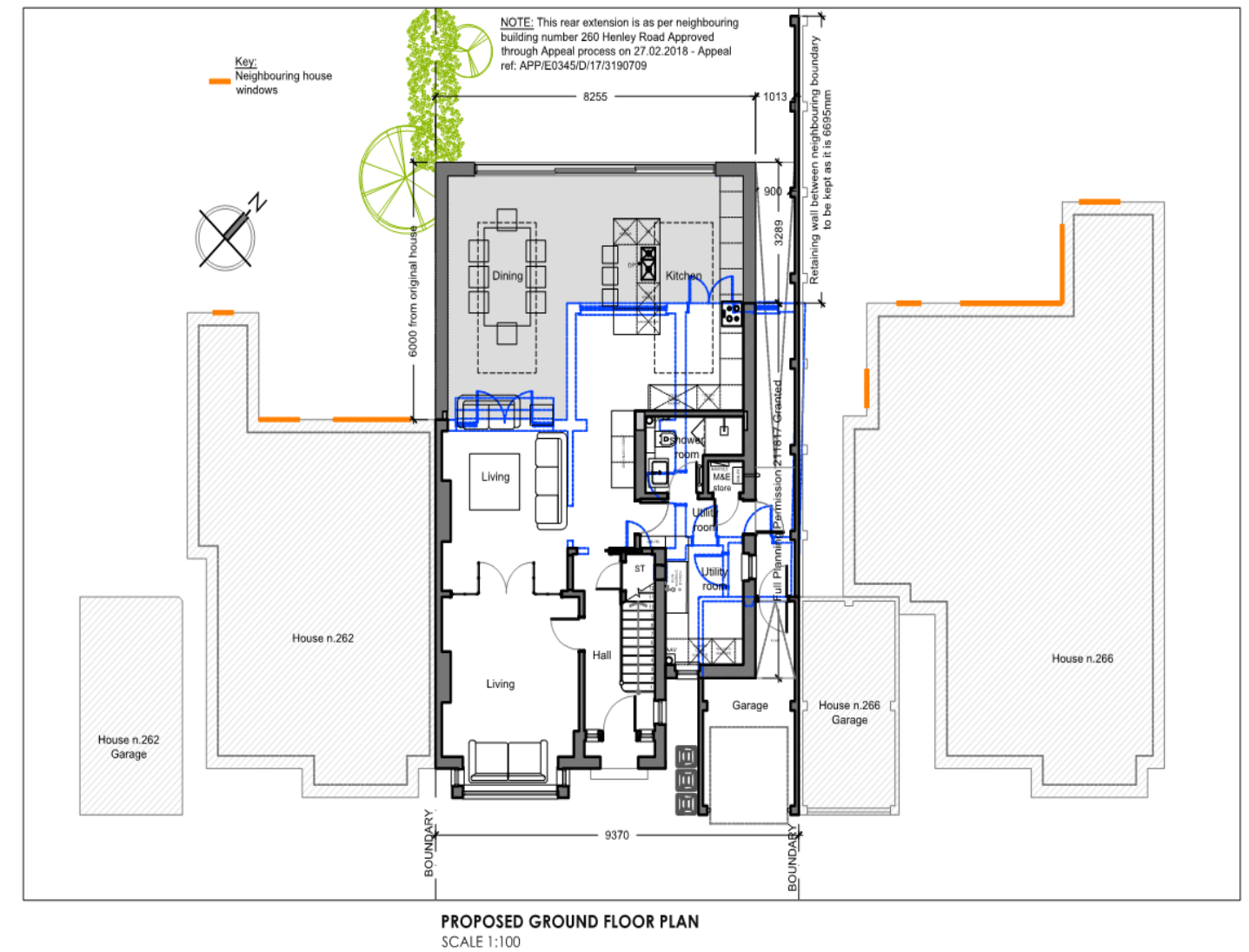


Figure 5: Proposed Ground Floor Plan

#### 4. METHODOLOGY FOR COMPLIANCE

The Building Research Establishment (BRE) has set out in their handbook “Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice”, 2nd edition, guidelines and methodology for the measurement and assessment of daylight and sunlight within proposed buildings. This document states that it is also intended to be used in conjunction with the interior daylight recommendations found within the British Standard BS8206-2:2008 and the Applications Manual on Window Design of the Chartered Institution of Buildings Services Engineers (CIBSE).

The first step in the methodology is to determine the key sensitive existing receptors that windows may be affected by due to the proposed development. Using the simple geometry, it will be determined whether the daylight to the existing buildings and amenity spaces is adversely affected and this will be carried out using a BRE compliant 45-degree angle check and 25-degree angle check method. Take the elevation of the window wall and draw diagonally down at an angle 45 degrees away from the near top corner of the extension. Then take the plan and draw diagonally back at an angle of 45 degrees towards the window wall from the end of the extension. If the centre of a main window of the next-door property lies on the extension side of both these 45-degree lines then the extension may well cause a significant reduction in the skylight received by the window.

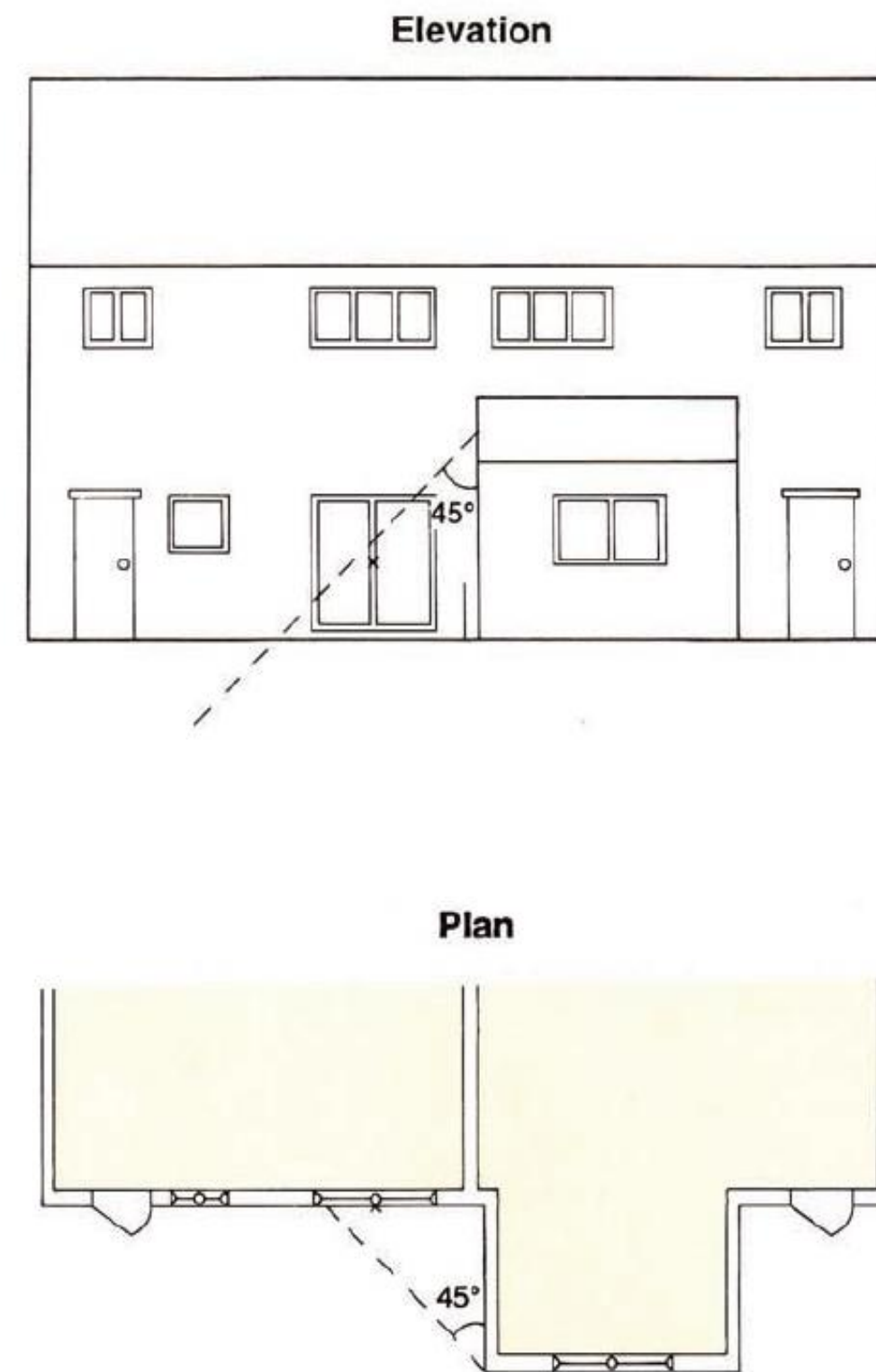
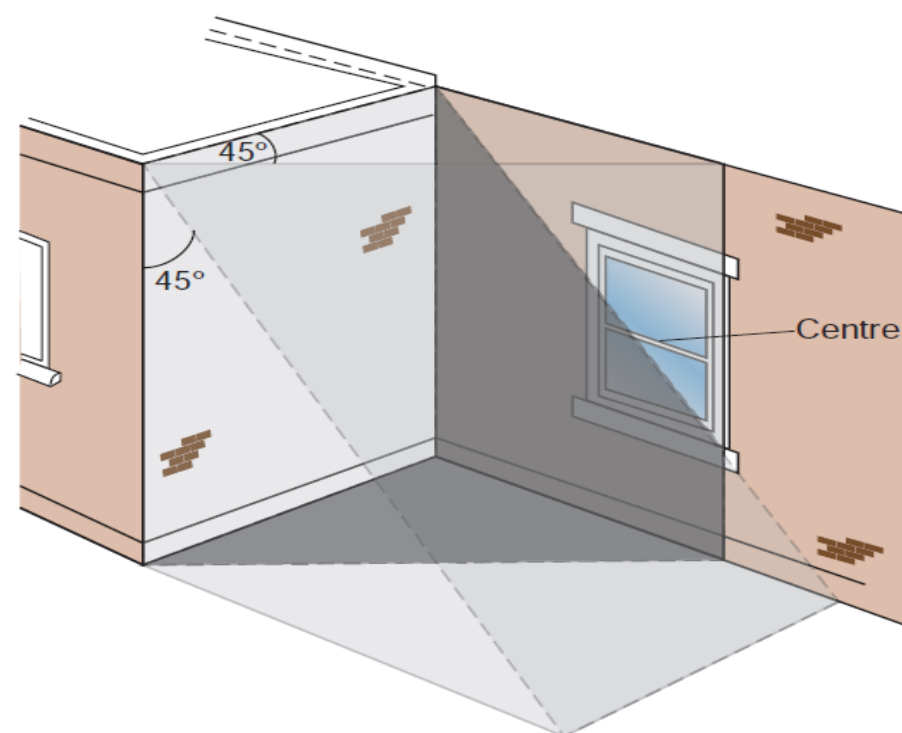


*Figure 6: Application of the 45 Degree approach to the Domestic Extension*

Like most of the rules of thumb, this “45-degree approach” needs to be interpreted flexibly. This approach deals with diffuse skylight only. Additional checks will need to be made for the sunlight which may be blocked. A VSC calculation can be used to quantify the loss of light.

The geometric assessment has been adapted to be used to create an arc of influence around the proposed development to determine which local buildings and spaces could potentially be impacted by an alteration to lighting levels.

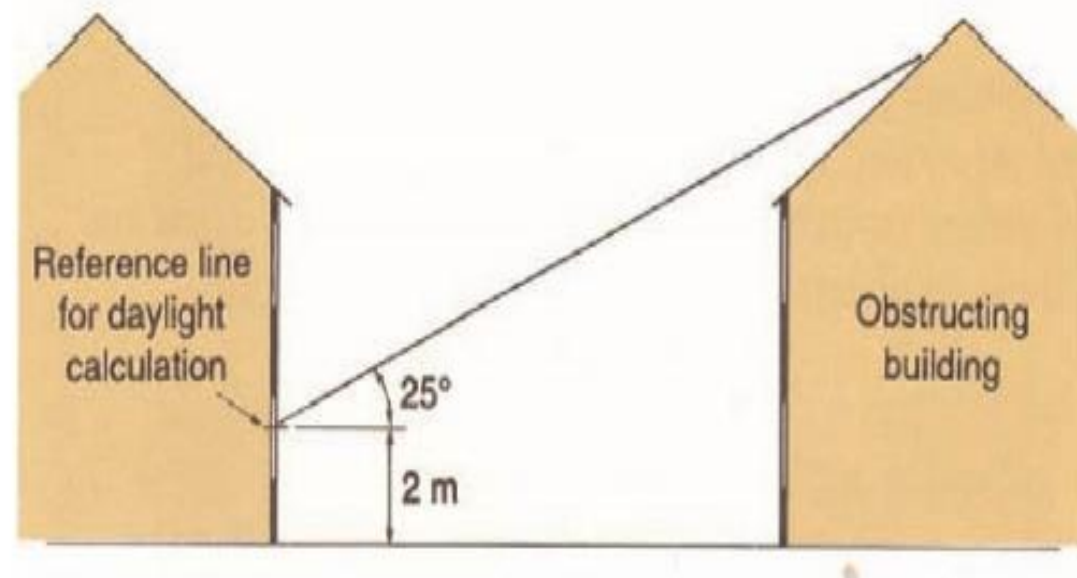


**Figure 7: BRE Daylight and Sunlight VSC Assessment Extract**

A plane is drawn at 25 degrees from the horizontal, at the centre of the existing window. If a new development intersects with this plane, the internal daylight levels of the surrounding windows may be reduced. When obstruction of the 25-degree plane occurs, a more detailed assessment involving the Vertical Sky Component (VSC) of the affected windows would need to be carried out.

The Vertical Sky Component is the ratio of the direct sky illuminance falling on the vertical wall at a reference point, to the simultaneous horizontal illuminance under an unobstructed sky. To maintain good levels of daylight, the Vertical Sky Component of a window needs to be 27% or greater. If the VSC is less than 27%, then a comparison of existing and proposed levels of VSC level would need to be calculated. Good levels of daylighting can still be achieved if VSC levels are within 0.8 of their former value. Otherwise, the Average Daylight Factor of the internal rooms would need to be calculated.

**Table 1: Assessment Compliance Requirements**

| PARAMETER | ASSESSMENT      | ACCEPTABILITY CRITERIA                                                                                                                                                                                                                                                         |
|-----------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Daylight  | 25° Angle Check | If any part of the new building or extension, measured in a vertical section perpendicular to the main window wall of an existing building, subtends an angle of more than 25° to the horizontal, then diffuse daylighting of the existing building may be adversely affected. |
| Daylight  | 45° Angle Check | If the Centre of the window lies within the 45° lines on both the plan & elevation, then the diffuse daylight of the existing building may be adversely affected.                                                                                                              |
| Daylight  | VSC Analysis    | If the VSC is less than 27% at the centre of an existing window and less than 0.8 times its former value.                                                                                                                                                                      |

The results of the VSC analysis are studied and if the VSC is greater than 27% then enough daylight is reaching the window and the levels of daylight experienced in the space would be suitable. If the VSC levels on the neighbouring windows pre or post development are less than 27% then these windows are lower than the guidance. An assessment is then undertaken to determine the percentage reduction. If post-development VSC values are greater than 0.8 times when compared with the pre-development stage value then overall compliance is passed.

To identify the affected existing neighbouring properties due to the addition of a rear extension to the consented development and proposed development, a 45-degree angle check and 25-degree angle check tests need to be carried out and these tests are discussed in the next chapter.

## 5. DAYLIGHT ASSESSMENT

### 5.1 STEP 1- 45 DEGREE TEST AND 25 DEGREE TEST

The proposed development consists of a rear extension/remodelling of the existing residential house. Due to the proposed rear extension and remodelling of the existing house concern was raised that there will be likely a loss of existing daylight levels.

Both the **45-degree test** and **25-degree test** are needed to be checked as per BRE compliance methodology. The 45-degree geometry check has been carried out at the ground floor windows of 262 Henley Road and 266 Henley Road to determine if as a result of the rear extension at 264 Henley Road influence its windows.

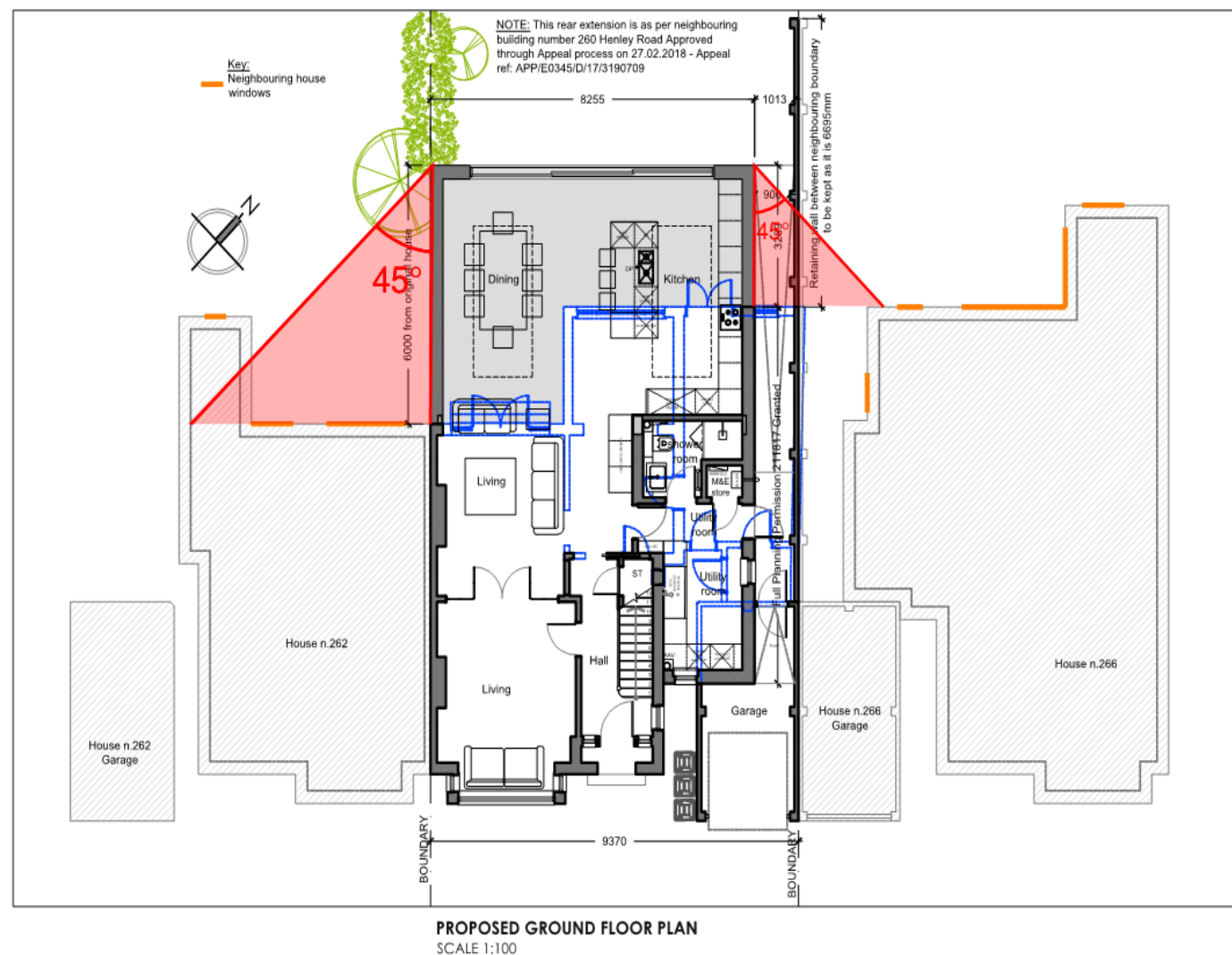


Figure 8: 45 Degree Horizontal Guide Check

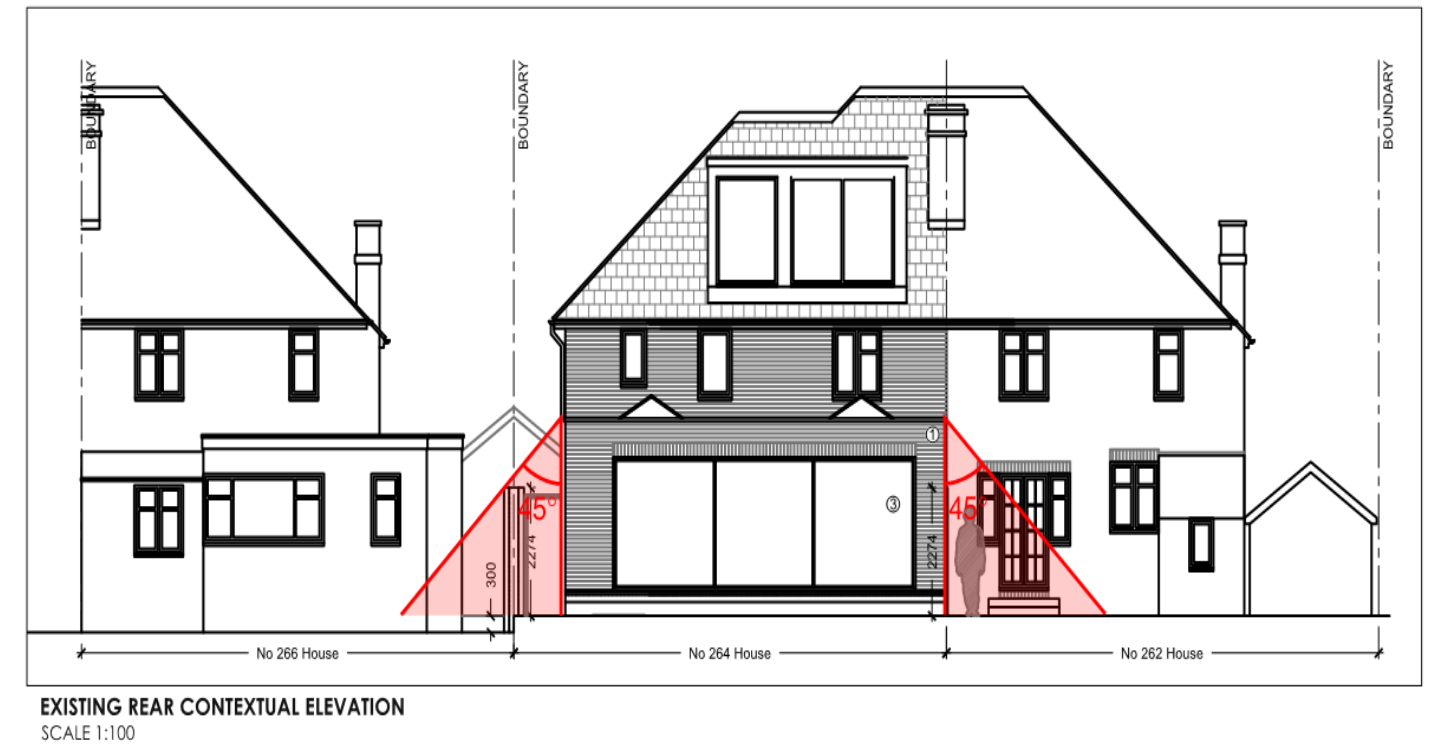


Figure 9: 45 Degree Vertical Guide Check

It is seen that a 45-degree test line cuts to the 262 and 266 Henley Road hence there will be likely a loss of existing daylight levels on the windows of 262 and 266 Henley Road

The 25-degree geometry check has been carried out to determine the 'Arc of Influence'. With the help of the following right angle trigonometry calculator "Arc of influence" is calculated. The "side B" is a zone of influence and affects the daylight levels of existing buildings if it is falling inside them.

Proposed building total height = 9.62 m

The arc of influence due to the proposed development is calculated as below,

Side A = 9.62 m – Window Centre @ 2.0 m = 7.62 m

Angle X = 25 degree

Side B is calculated from trigonometric relation which is an arc of influence,

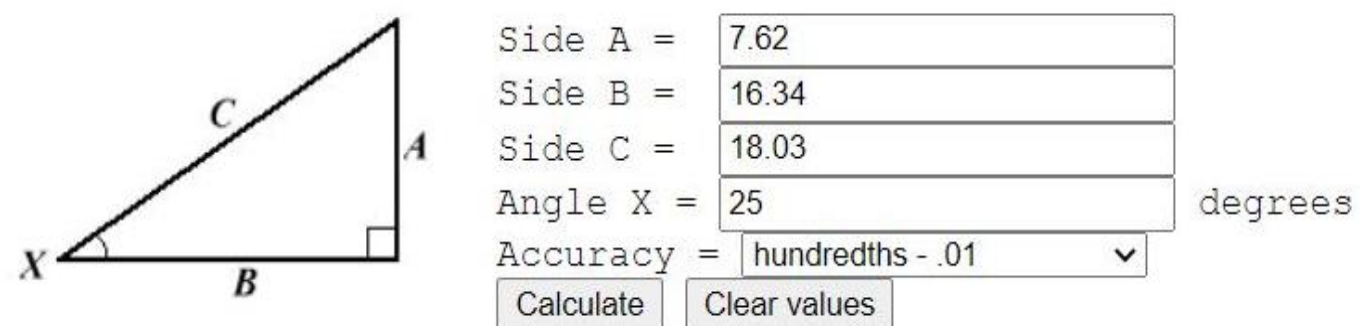


*Figure 10: 25 Degree Test for Proposed Development*

Hence Arc of influence (Side B) = **16.34 m**

Therefore, the arc of **16.34 m** diameter is drawn around the periphery of the proposed development. Figure 11 shows the 25-degree test. It is seen that arc of influence cuts the below neighbouring properties,

- 262 Henley Road
- 266 Henley Road

Hence, the above two properties are at risk of the potential loss of light due to the proposed development.



*Figure 11: 25 Degree Arc of Influence Test on Proposed Development*

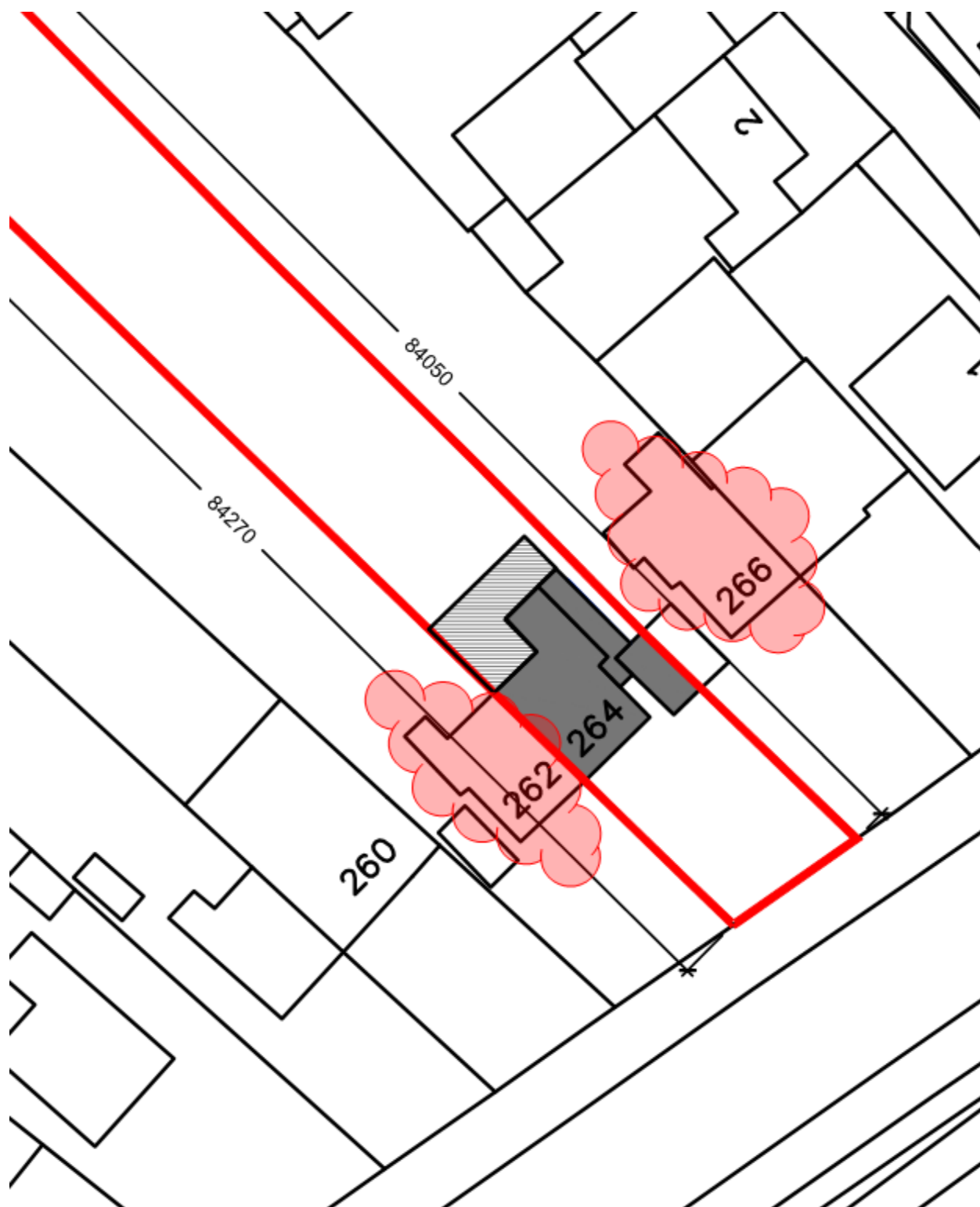


Figure 12: Buildings Identified as at Risk of a Potential Loss of Light



*Figure 13: Windows Identified as at Risk of Potential Loss of Light*

Step -1 i.e. 45 degrees test and 25 degrees test identifies 262 Henley Road and 266 Henley Road are likely affected due to proposed development and potentially at risk of a reduced level of natural light.

Therefore more detailed daylight assessment study is needed which involves constructing a 3-dimensional site computer model in IES VE software that will quantify the daylight loss on identified windows in terms of reduction in Vertical Sky Component (VSC). Hence, the next step involves constructing a 3-dimensional site model in IES VE software and VSC analysis to show the compliance as per BRE guidelines.

## 5.2 VSC ANALYSIS

The BRE document definition of the (VSC) is the Ratio of the part of illuminance, at a point on a given vertical plane that is received directly from a CIE standard overcast sky to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually, the 'given vertical plane' is the outside of a window wall.

The VSC does not include reflected light, either from the ground or from other buildings. The VSC is usually expressed as a percentage and the maximum value for a completely unobstructed window is slightly less than 40%. The recommendations set down in the BRE report, 'Site layout for daylight and sunlight, a guide to good practice', would indicate, for residential properties, that a VSC value of greater than 27% is acceptable. However, a 20% VSC is considered good for an urban area. It should be noted that the guide itself, within the introduction, states that the advice given was not mandatory and the guide should not be an instrument of planning policy, it aims to help rather constrain the designer.

Although it gives numerical guidelines, these should be interpreted flexibly. The introduction of the BRE's guide gives an example of urban areas being a case where there is a need for flexibility and altering the target values criteria where appropriate. Appendix F of the BRE guide is dedicated to the use of alternative values and demonstrates the criterion for skylight was determined.

However, as a general rule, the aim should be to minimise the impact on an existing property. This is particularly important where successive extensions are planned to the same building. In this case, the total impact on the skylight of all the extensions needs to be calculated and compared with the guidelines.

To present the VSC results on neighbouring property windows, referencing have been carried out which will help to analyse the VSC results.

**Table 2: Window Referencing for 266 Henley Road and 262 Henley Road**

| Property Reference | Total Count | Window URN                |
|--------------------|-------------|---------------------------|
| 266 Henley Road    | 5           | W1,W2,W3,W4 & W5          |
| 262 Henley Road    | 7           | W6,W7,W8,W9,W10,W11 & W12 |

Table 2 shows the window referencing for 266 Henley Road and 262 Henley Road High Street which are a potential risk of reduced light. Total 12 windows are potentially at risk of reduced natural daylight/sunlight due to the consented development and proposed development.

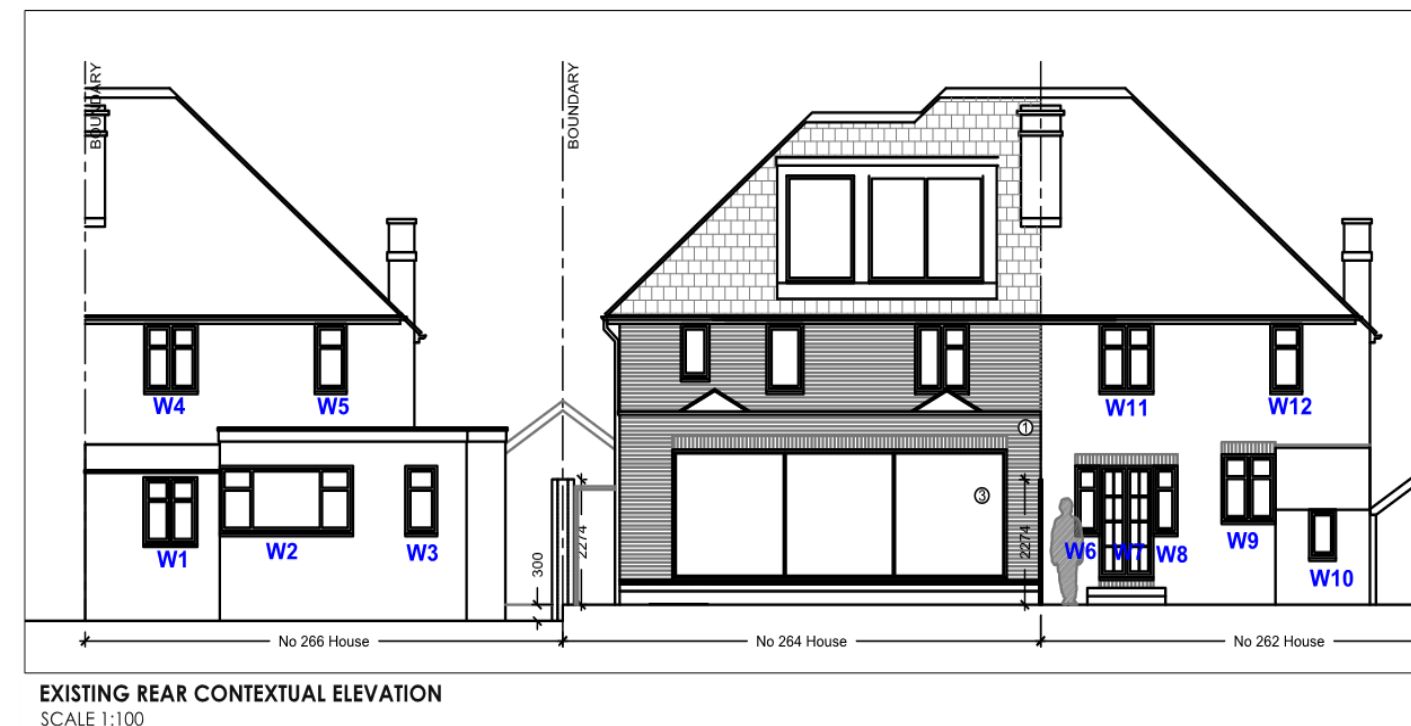


**Figure 14: Window Referencing for 266 & 262 Henley Road**

To quantify the daylight impact due to the proposed development on windows of 266 Henley Road and 262 Henley Road, a 3-dimensional computer site model is needed for the existing scheme, consented scheme and proposed scheme. Therefore 3-dimensional computer site models are constructed in IES VE software. The further section discusses the IES VE site models.

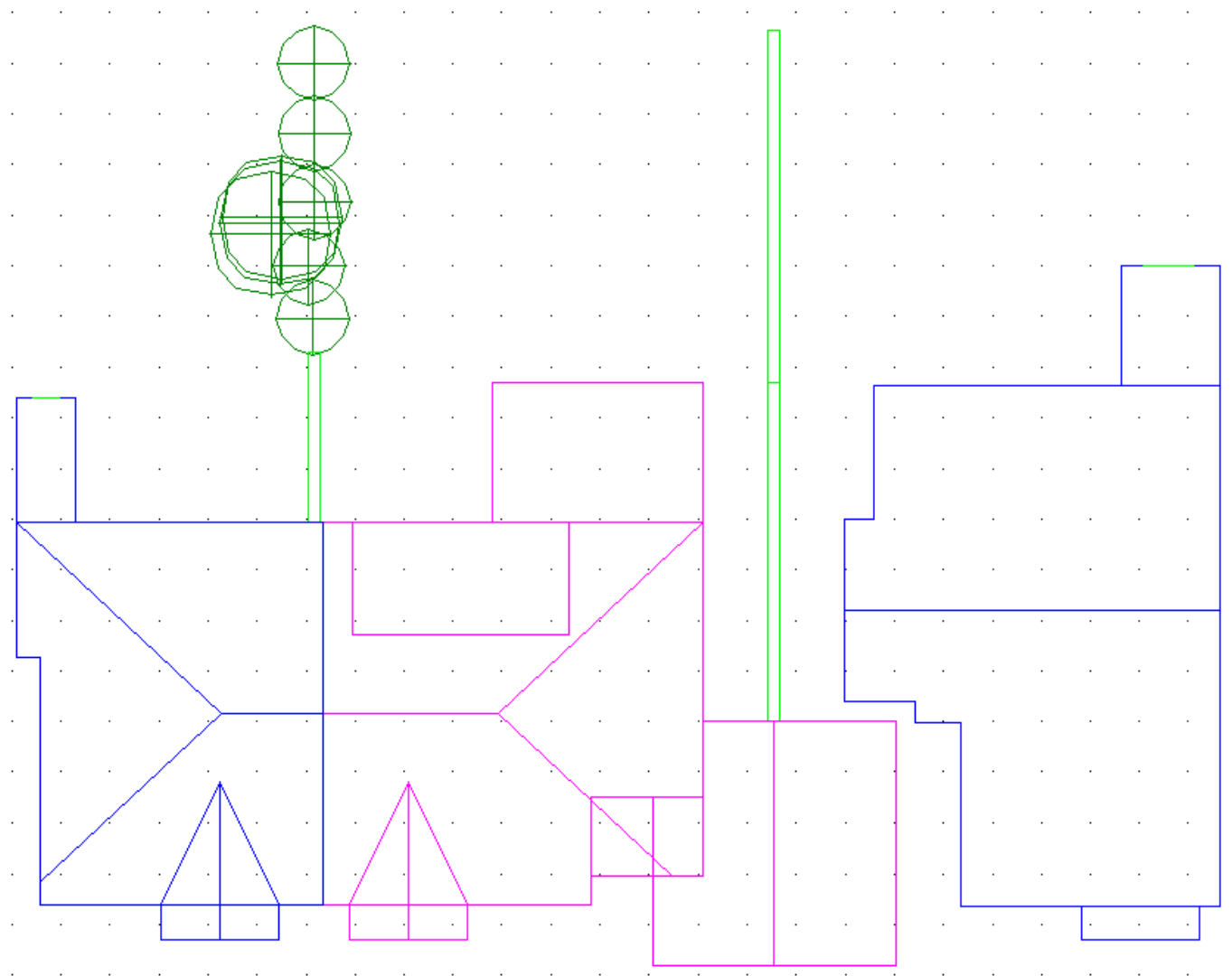


*Figure 15: 2-D Site Scenario for Consented Development in IES VE Software*

Figure 15 shows the 2-dimensional site scenario for the consented development in IES VE software. Figure 16 shows the 3-dimensional site scenario for the consented development in IES VE software.

To quantify the daylight loss, the consented development i.e. 264 Henley Road and adjacent neighbouring properties i.e. 266 and 262 Henley Road are modelled as per the consented drawings provided by 'Katu Architects'. The fences are modelled between 266 and 264 Henley Road and 264 and 262 Henley Road as per the drawings and available photographs.

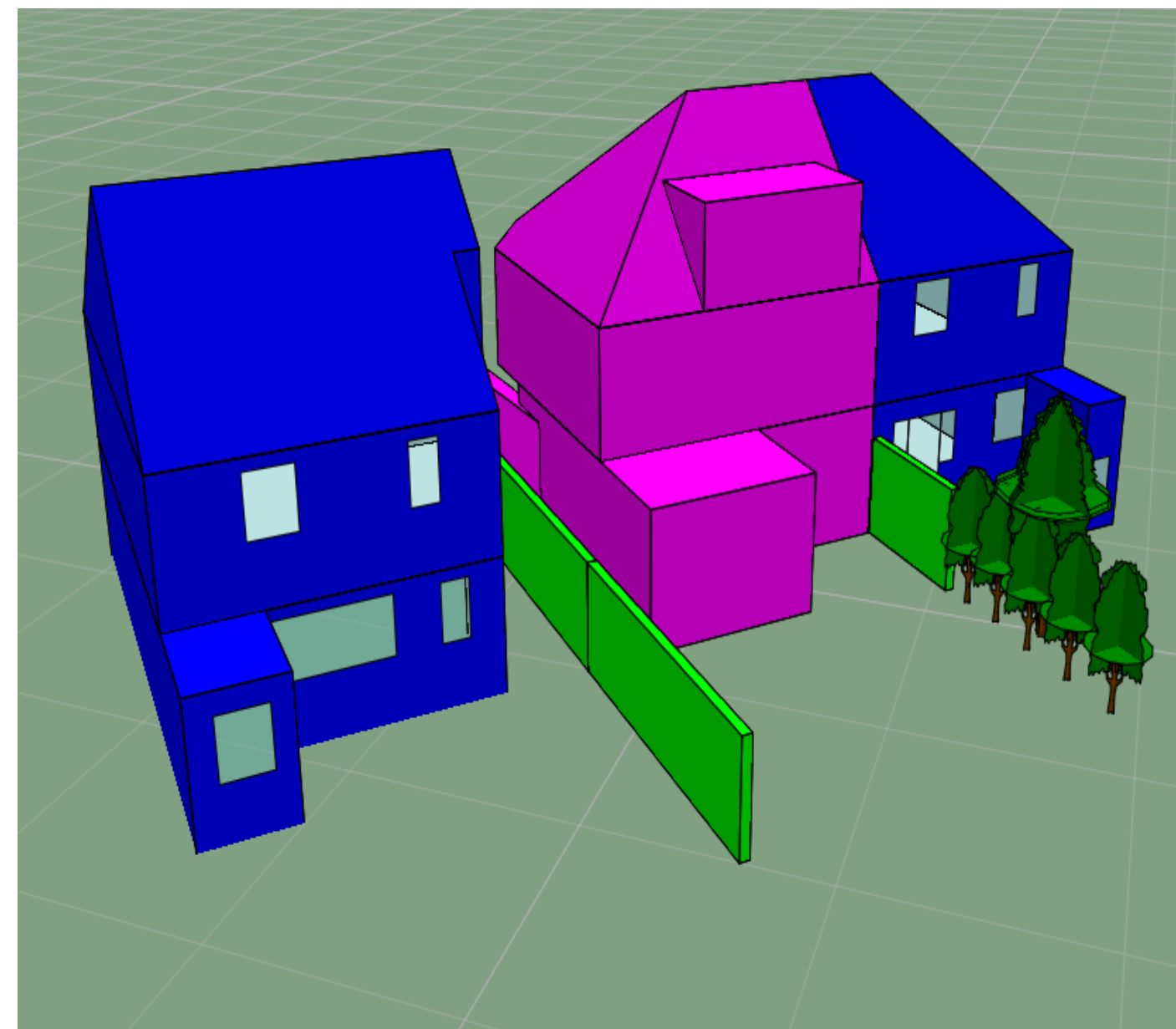


*Figure 16: 3-D Site Scenario for Consented Development in IES VE Software*

After completing the site model, the 'North' angle and 'Site Location' is inputted in the IES VE software before proceeding to the VSC calculations.

North angle in IES software is assigned as per the drawings provided by 'Katu Architects' so that modelled windows get correct orientation and site location in the IES model is assigned as 'London/Heathrow'.

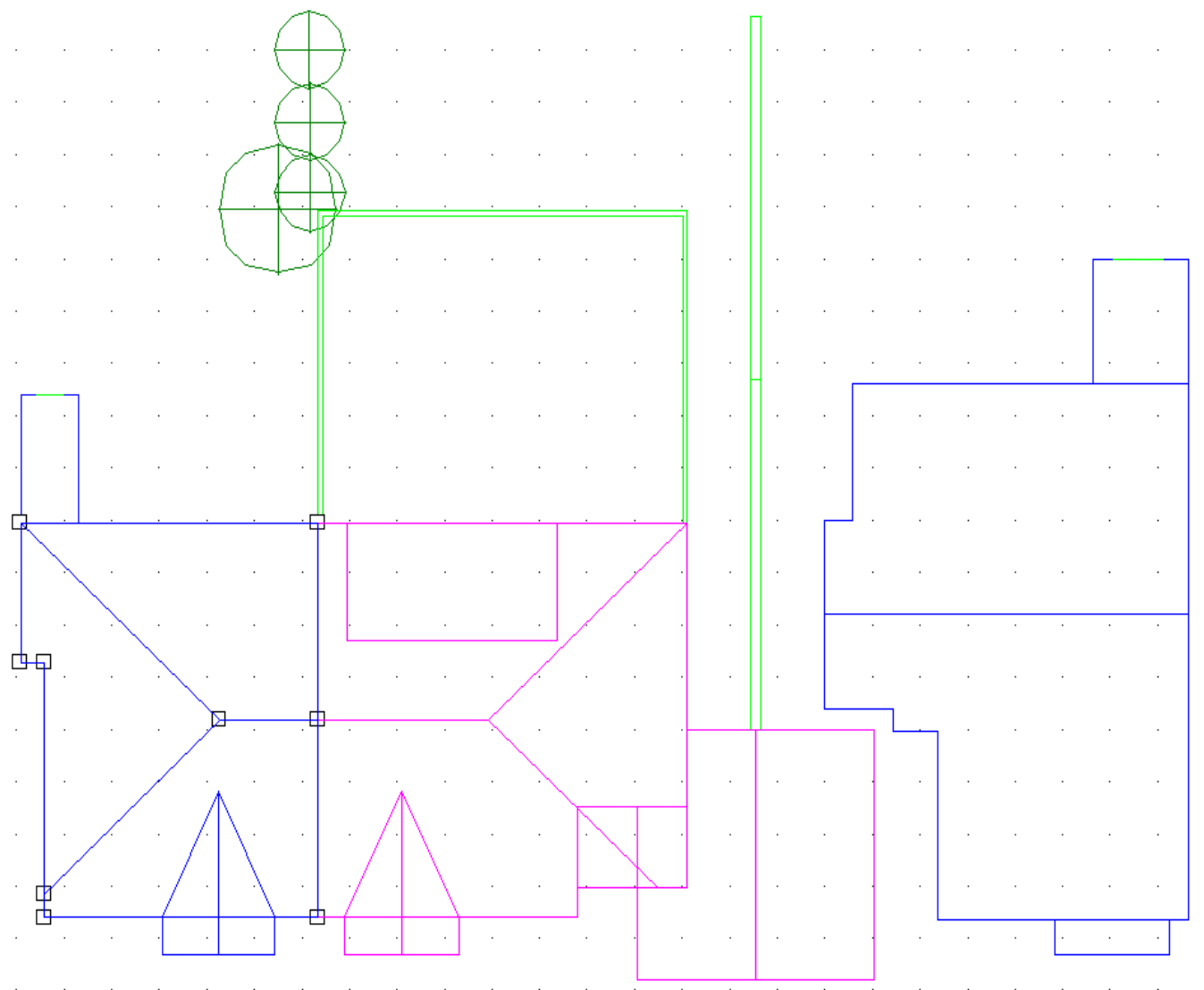


*Figure 17: 2-D Site Scenario for Proposed Development in IES VE Software*

Figure 17 shows the 2-dimensional site scenario for the proposed development in IES VE software. Figure 18 shows the 3-dimensional site scenario for the consented development in IES VE software.

To quantify the daylight loss, the proposed development i.e. 264 Henley Road and adjacent neighbouring properties i.e. 266 and 262 Henley Road are modelled as per the proposed drawings provided by 'Katu Architects'. The fences are modelled between 266 and 264 Henley Road and 264 and 262 Henley Road as per the drawings and available photographs.

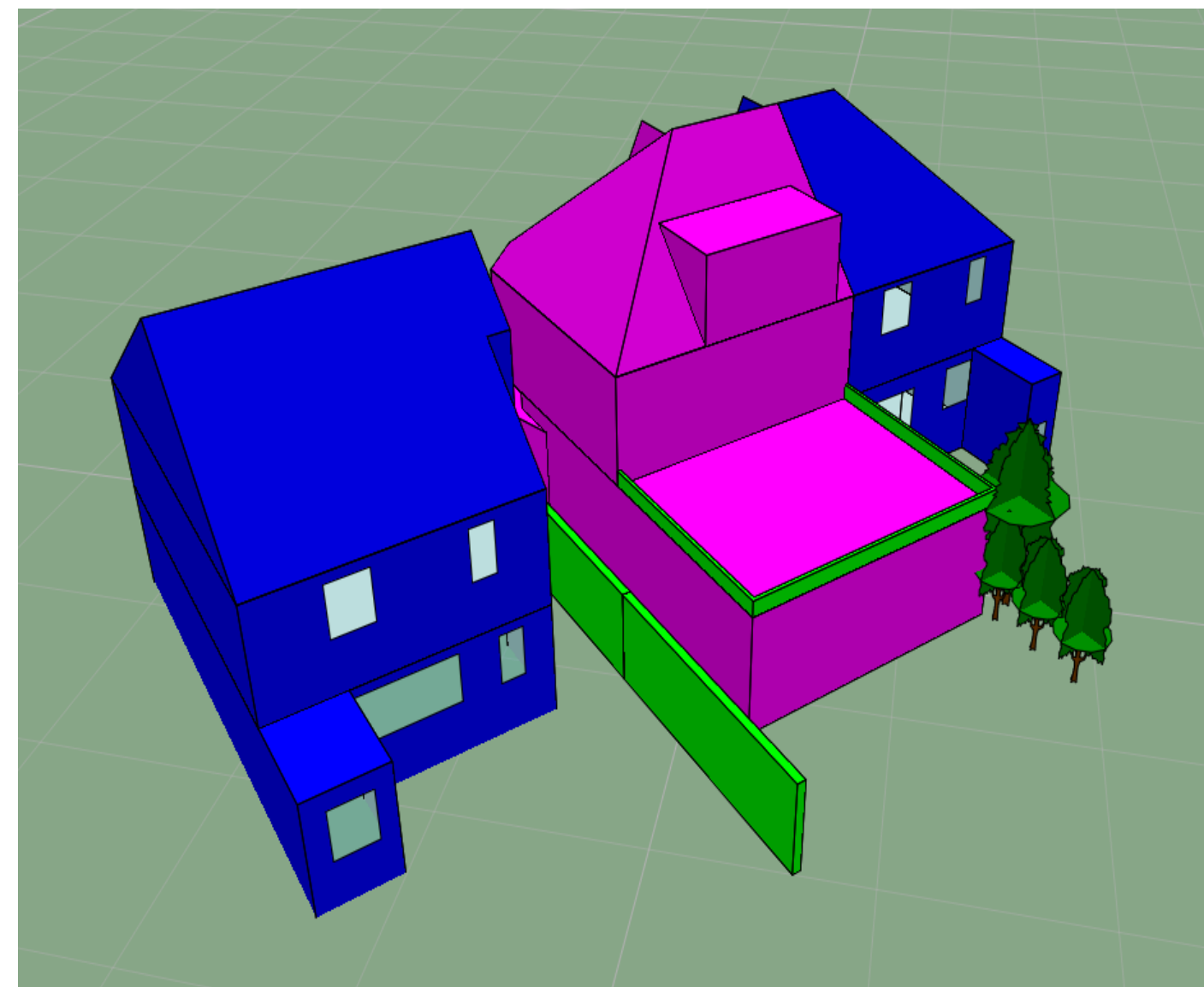


*Figure 18: 3-D Site Scenario for Proposed Development in IES VE Software*

After completing the site model, the 'North' angle and 'Site Location' is inputted in the IES VE software before proceeding to the VSC calculations.

North angle in IES software is assigned as per the drawings provided by 'Katu Architects' so that modelled windows get correct orientation and site location in the IES model is assigned as 'London/Heathrow'.

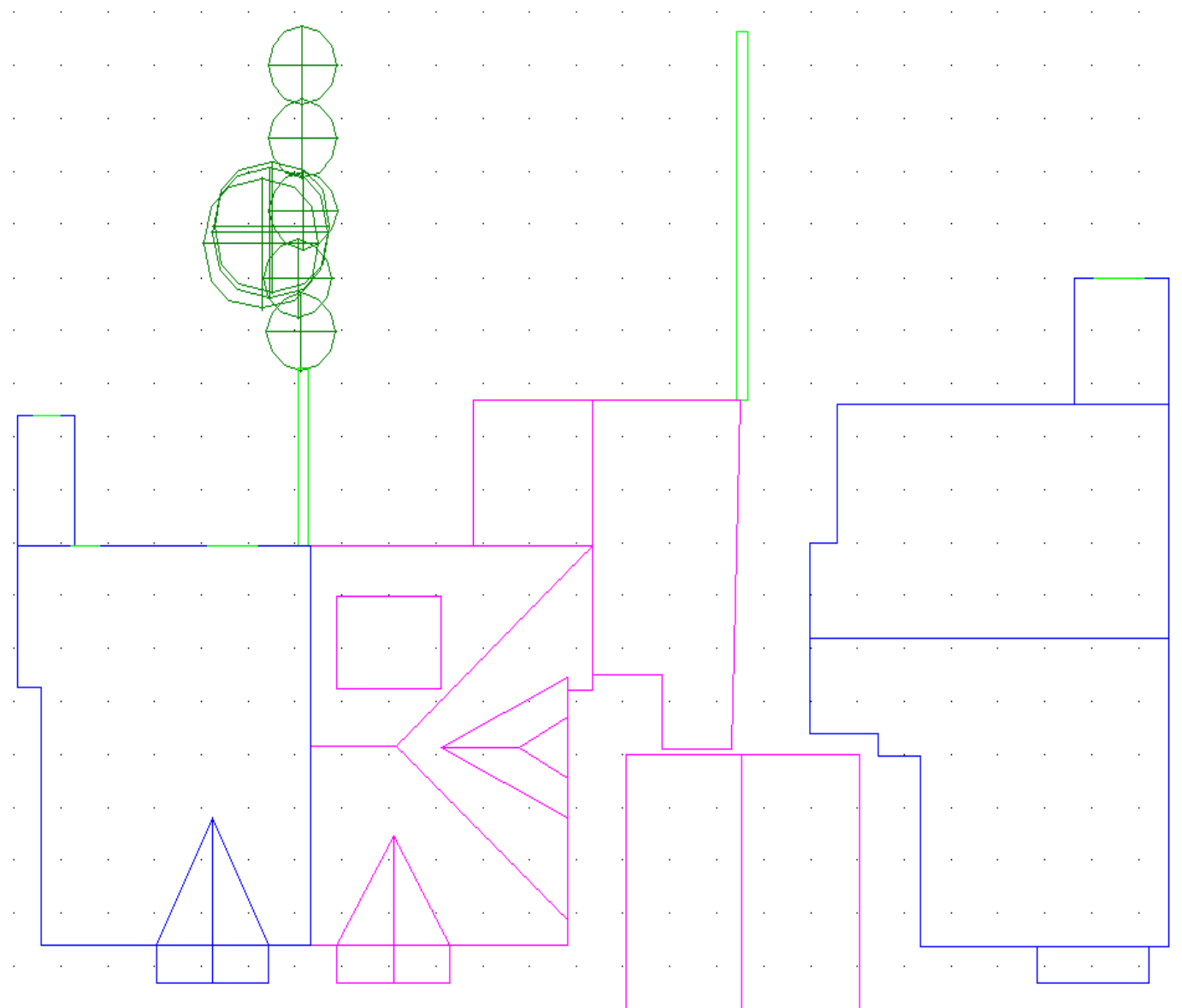


*Figure 19: 2-D Site Scenario for Existing Site in IES VE Software*

Figure 19 shows the 2-dimensional site scenario for the existing site in IES VE software. Figure 20 shows the 3-dimensional site scenario for the existing site in IES VE software.

To quantify the daylight loss, the existing site i.e. 264 Henley Road and adjacent neighbouring properties i.e. 266 and 262 Henley Road are modelled as per the existing drawings provided by 'Katu Architects'. The fences are modelled between 266 and 264 Henley Road and 264 and 262 Henley Road as per the drawings and available photographs.

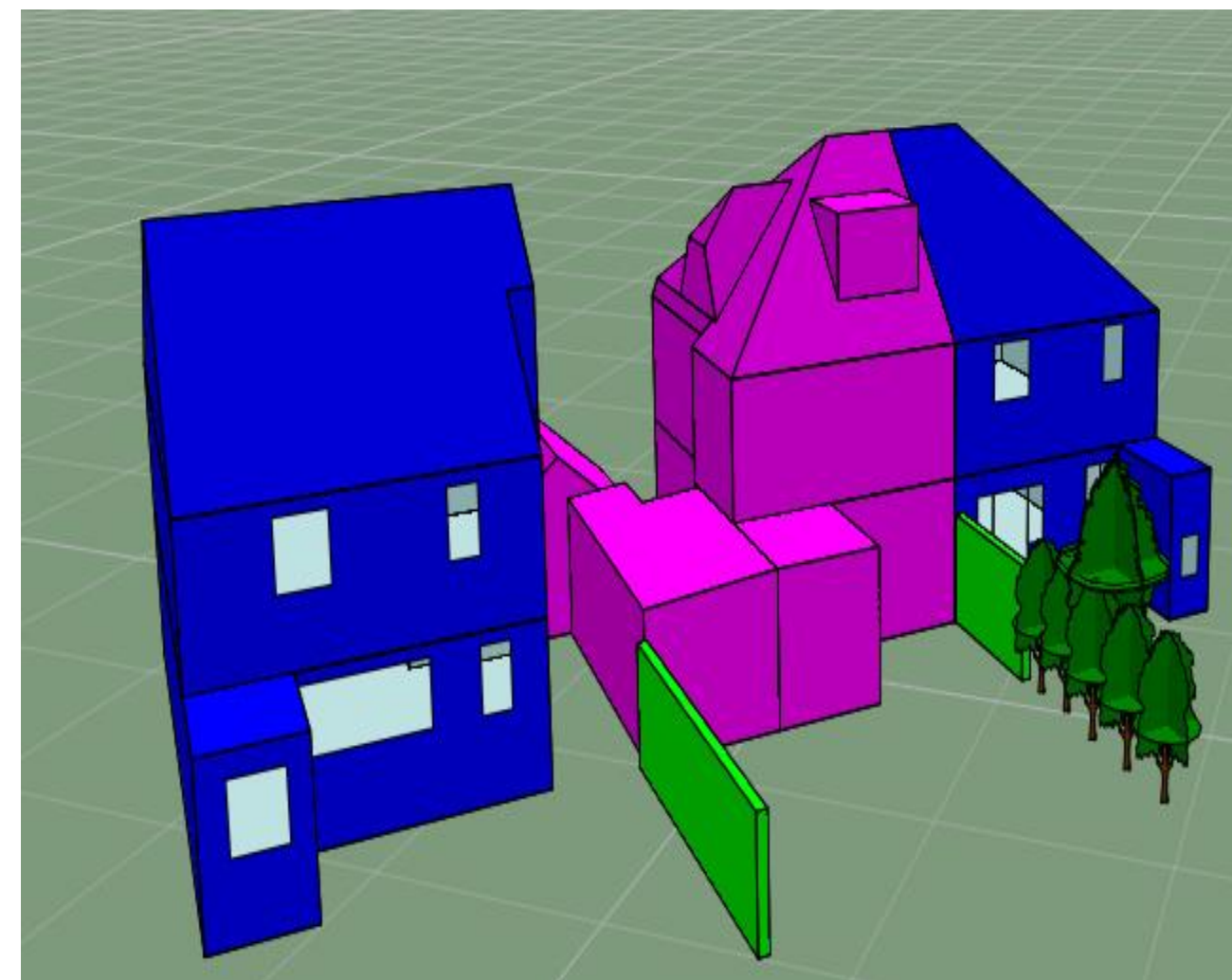


*Figure 20: 3-D Site Scenario for Existing Site in IES VE Software*

After completing the site model, the 'North' angle and 'Site Location' is inputted in the IES VE software before proceeding to the VSC calculations.

North angle in IES software is assigned as per the drawings provided by 'Katu Architects' so that all modelled windows get correct orientation and site location in the IES model is assigned as 'London/Heathrow'.

### 5.3 VSC RESULTS FOR 266 & 262 HENLEY ROAD

Based on the BRE guidelines, all VSC calculations have been carried out using the standard time frame of 21<sup>st</sup> September at 12.00. The site model is simulated to get the VSC results on each window. The site model is simulated in the Radiance package of IES VE software.

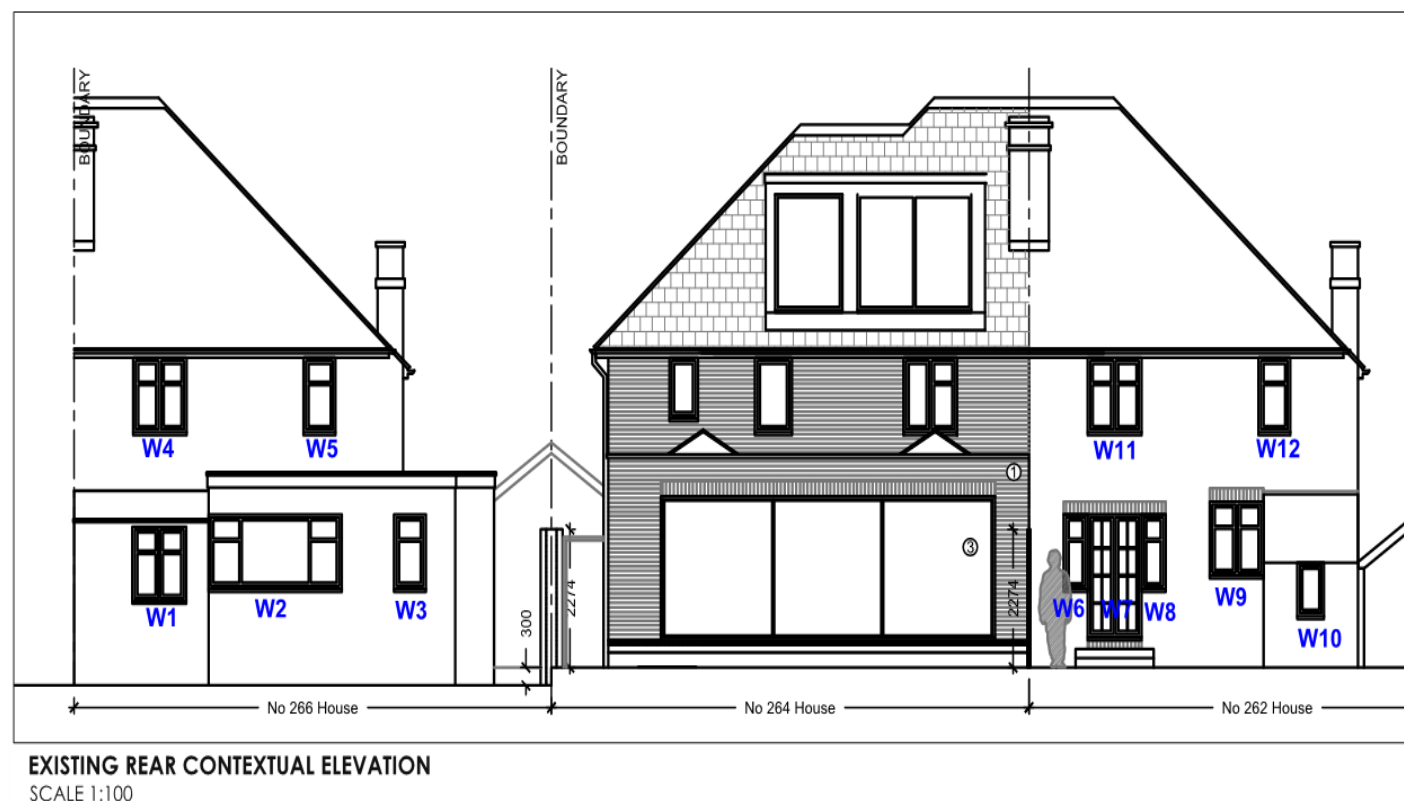


**Figure 21: Windows Referencing for 266 & 262 Henley Road**

Figure 21 shows the window numbering on each window for 266 & 262 Henley Road. To present the VSC results, window referencing have been carried out which will help to analyse the VSC results. These windows have been simulated for VSC results and the results are tabulated against each window.

The VSC results are compared with target VSC vs. existing achieved VSC vs. consented achieved VSC. Table 3 shows that VSC results for existing achieved VSC vs. consented VSC.

**Table 3: VSC Results of Existing and Consented Scenario**

| Vertical Sky Component (VSC) - Existing and Consented Scenario |            |                  |                       |            |                        |            |                                     |
|----------------------------------------------------------------|------------|------------------|-----------------------|------------|------------------------|------------|-------------------------------------|
| Building                                                       | Windows ID | Target - VSC >27 | Existing Achieved VSC | Compliance | Consented Achieved VSC | Compliance | Consented as a fraction of existing |
| No. 266 House                                                  | W1         | >27              | 39.87                 | PASS       | 39.76                  | PASS       | 1.00                                |
|                                                                | W2         | >27              | 35.67                 | PASS       | 35.33                  | PASS       | 0.99                                |
|                                                                | W3         | >27              | 39.36                 | PASS       | 38.83                  | PASS       | 0.99                                |
|                                                                | W5         | >27              | 39.80                 | PASS       | 39.9                   | PASS       | 1.00                                |
|                                                                | W6         | >27              | 39.89                 | PASS       | 39.85                  | PASS       | 1.00                                |
| No. 262 House                                                  | W6         | >27              | 34.96                 | PASS       | 34.85                  | PASS       | 1.00                                |
|                                                                | W7         | >27              | 34.68                 | PASS       | 34.58                  | PASS       | 1.00                                |
|                                                                | W8         | >27              | 37.44                 | PASS       | 37.39                  | PASS       | 1.00                                |
|                                                                | W9         | >27              | 28.33                 | PASS       | 28.28                  | PASS       | 1.00                                |
|                                                                | W10        | >27              | 39.95                 | PASS       | 39.95                  | PASS       | 1.00                                |
|                                                                | W11        | >27              | 39.82                 | PASS       | 39.76                  | PASS       | 1.00                                |
|                                                                | W12        | >27              | 39.89                 | PASS       | 39.89                  | PASS       | 1.00                                |

It is seen that all windows are passing the target VSC compliance in the existing as well as the consented scenario. These VSC results are further analysed to consented to VSC as a fraction of existing VSC. These fraction results are higher than the 0.8 Value. **Hence consented scheme 'pass' the overall VSC compliance.**

For the proposed scheme, the VSC results are further compared with target VSC vs. existing achieved VSC vs. proposed achieved VSC. Table 4 shows the VSC results for existing achieved VSC vs. proposed VSC.

**Table 4: VSC Results for Existing and Proposed Scenario**

| Vertical Sky Component (VSC) - Existing and Proposed Scenario |            |                  |                       |            |                       |            |                                    |
|---------------------------------------------------------------|------------|------------------|-----------------------|------------|-----------------------|------------|------------------------------------|
| Building                                                      | Windows ID | Target - VSC >27 | Existing Achieved VSC | Compliance | Proposed Achieved VSC | Compliance | Proposed as a fraction of existing |
| No. 266 House                                                 | W1         | >27              | 39.87                 | PASS       | 39.9                  | PASS       | 1.00                               |
|                                                               | W2         | >27              | 35.67                 | PASS       | 35.2                  | PASS       | 0.99                               |
|                                                               | W3         | >27              | 39.36                 | PASS       | 38.0                  | PASS       | 0.97                               |
|                                                               | W4         | >27              | 39.80                 | PASS       | 39.9                  | PASS       | 1.00                               |
|                                                               | W5         | >27              | 39.89                 | PASS       | 39.9                  | PASS       | 1.00                               |
| No. 262 House                                                 | W6         | >27              | 34.96                 | PASS       | 28.2                  | PASS       | 0.81                               |
|                                                               | W7         | >27              | 34.68                 | PASS       | 30.3                  | PASS       | 0.87                               |
|                                                               | W8         | >27              | 37.44                 | PASS       | 33.8                  | PASS       | 0.90                               |
|                                                               | W9         | >27              | 28.33                 | PASS       | 27.0                  | PASS       | 0.95                               |
|                                                               | W10        | >27              | 39.95                 | PASS       | 30.1                  | PASS       | 0.75                               |
|                                                               | W11        | >27              | 39.82                 | PASS       | 39.6                  | PASS       | 1.00                               |
|                                                               | W12        | >27              | 39.89                 | PASS       | 39.7                  | PASS       | 1.00                               |

It is seen that all windows are passing the target VSC compliance in the existing as well as the proposed scenario. These VSC results are further analysed to proposed VSC as a fraction of existing VSC. These fraction results are higher than the 0.8 Value. **Hence proposed scheme ‘pass’ the overall VSC compliance.**

This assessment determines if there is greater than a 20% change in VSC to the windows. Based on advice and precedents from the Greater London Authority (GLA) it should be noted that windows that achieve a VSC of >20 will have good levels of daylight and in town centres, a VSC of >15 is considered to be an appropriate level so therefore the results show that all the neighbouring windows are greater than this range and therefore the loss of light is minor and not noticable.

## 5.4 VSC CONCLUSION

It is seen that from the above result, windows at 266 & 262 Henley Road receive a loss of daylight due to the consented as well as proposed development. The loss of daylight due to the consented and proposed development is minor and therefore scheme should be fully acceptable.

## 6. SUNLIGHT ASSESSMENT

Annual Probable Sunlight Hours (APSH) is a measure of sunlight that a given window may expect over one year period. The BRE guidance recognizes that sunlight is less important than daylight in the amenity of a room and is heavily influenced by orientation. North facing windows may receive sunlight on only a handful of occasions in a year, and windows facing eastwards or westwards will only receive sunlight for some time of the day. Therefore, BRE guidance states that only windows with orientation within 90 degrees of south need to be assessed. Therefore, the surrounding properties located within 90 degrees of the south are required for sunlight assessment.

For sunlight studies, the APSH test calculates the percentage of statistically probable hours of sunlight received by each window in both the summer and winter months. From March 21st to September 21st – summer period and from the 21st September to 21st of March – Winter period.

In designing a new development or extension to the building it is necessary to take care of the access to sunlight. Access to sunlight is very important for existing dwellings as well as any nearby non-domestic buildings where there is a particular requirement for sunlight.

Obstruction to sunlight may become an issue if:

- Some part of a new development is situated within 90° of due south of the main window wall of an existing building.
- In the section drawn perpendicular to this existing window wall, the new development subtends an angle greater than 25° to the horizontal measured from a point 2 m above the ground.

To find out whether an existing building still receives enough sunlight, the British Standard can be used. 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. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. In non-domestic buildings any spaces which are deemed to have a special requirement for sunlight should be checked, they will normally face within 90° of due south anyway.

Access to sunlight should be checked for the main window of each room which faces within 90° of due south. Any reduction in sunlight access below this level should be kept to a minimum. If the available sunlight hours are both less than the amount given and less than 0.8 times their former value, either over the whole year or just during the winter months (21 September to 21 March), then the occupants of the existing building will notice the loss of sunlight. The room may appear colder and less cheerful and pleasant.

Table 5: Summary Criteria from BRE Report to Assess the Impact of Proposed Development

| PARAMETER | CRITERIA                               | ACCEPTABILITY CRITERIA                                               |
|-----------|----------------------------------------|----------------------------------------------------------------------|
| Sunlight  | Annual Probable Sunlight Hours. (APSH) | Reduction from existing not more than 20% when APSH is less than 392 |
|           | Winter Probable Sunlight Hours. (WPSH) | Reduction from existing not more than 20% when WPSH is less than 72  |

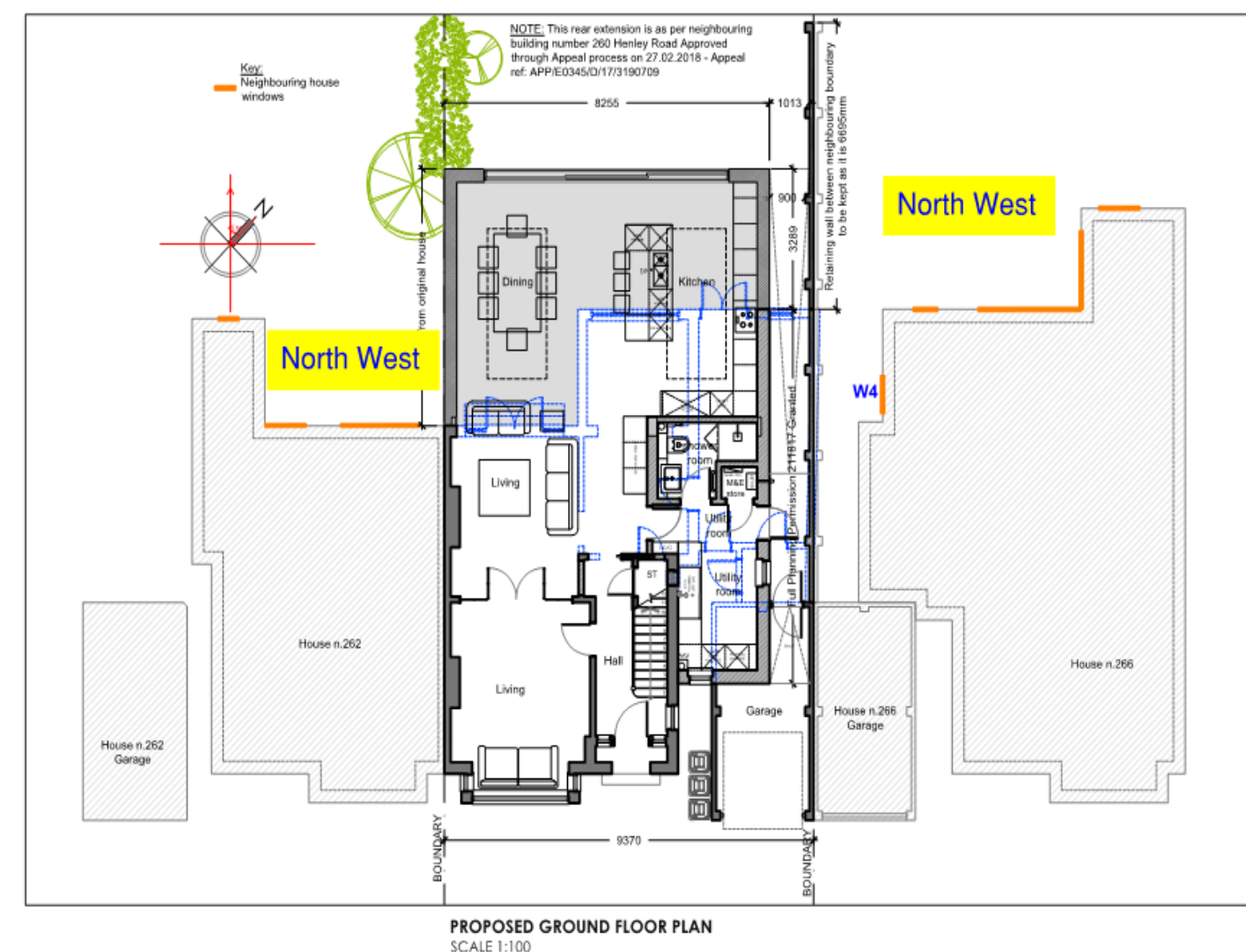


Figure 22: Identified Windows for APSH /WPSH Analysis

Figure 21 shows that all windows of 266 Henley Road & 262 Henley Road are at the **North-West** facing hence **obstruction to sunlight will not be affected as per the BRE guideline.**

## 7. CONCLUSION

This daylight & sunlight assessment has been prepared to support the planning application for the proposed development at 264 Henley Road, Caversham, Reading, RG4 6LS. This assessment has been produced based on planning drawings provided by 'Katu Architects'. The consented development and proposed development consists of the refurbishment and extension of the existing three-storey house into a new three-storey residential house with a rear extension.

The geometry tests 45-degree and 25-degree demonstrates that due to the proposed development existing **5 windows** of 266 Henley Road and the existing **7 windows** of 262 Henley Road are at risk of reduced daylight/sunlight levels. To quantify the reduction of daylight/sunlight levels, a 3-dimensional computer IES VE site model is constructed for the consented development, proposed development and Existing site.

The VSC results show that windows that are at possible risk of daylight achieve a VSC of >27. Consented VSC and proposed VSC fraction results are further analysed to existing VSC and show that there is a very minor change in the VSC for the proposed scenario when compared with the existing scenario. This assessment determines if there is greater than a 20% change in VSC to the windows. Based on advice and precedents from the Greater London Authority (GLA) it should be noted that windows that achieve a VSC of >20 will have good levels of daylight and in town centres, a VSC of >15 is considered to be an appropriate level.

**Therefore proposed development at 264 Henley Road, Caversham, Reading, RG4 6LS are considered to be a fully BRE complaint in terms of daylight and sunlight access and should be acceptable.**

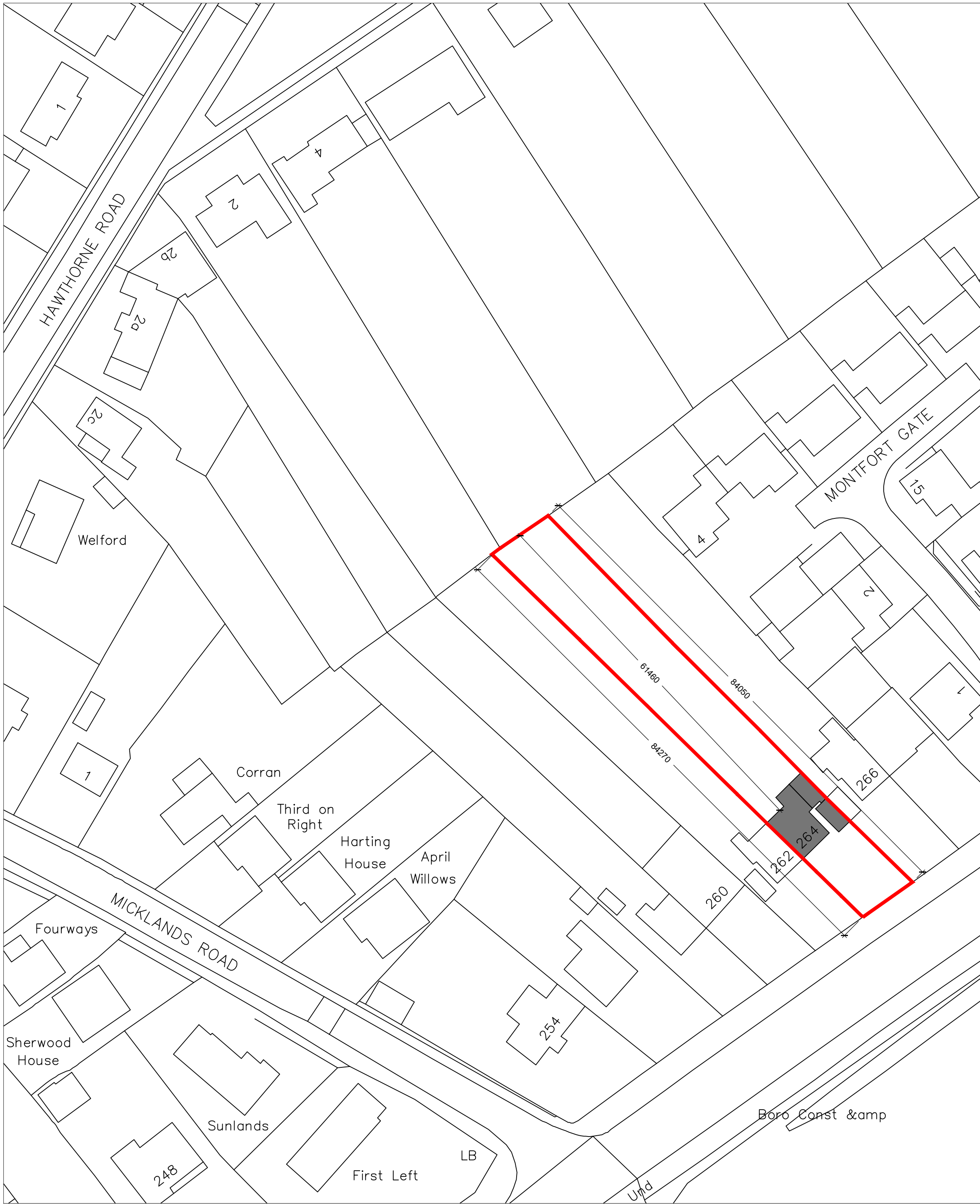
## 8. APPENDIX I DEVELOPMENT DRAWINGS

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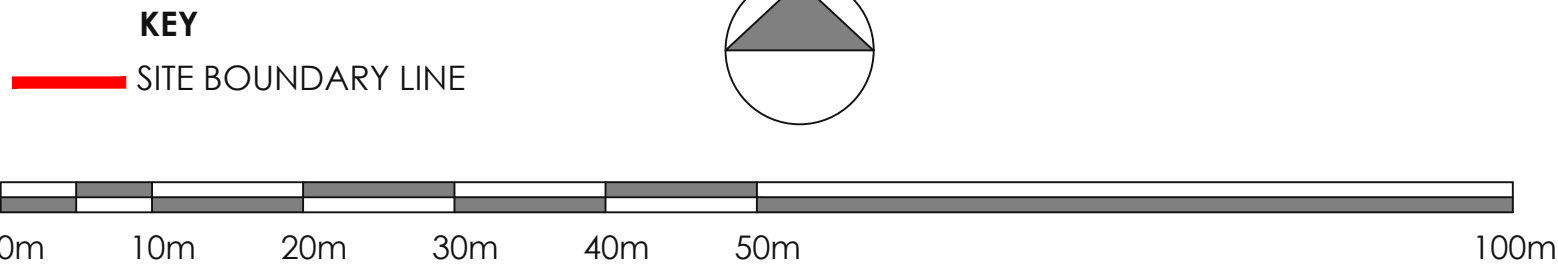
THE CONTRACTOR IS RESPONSIBLE FOR CHECKING DIMENSIONS, TOLERANCES AND REFERENCE. ANY DISCREPANCIES TO BE CHECKED WITH THE ARCHITECT BEFORE PROCEEDING WITH THE WORKS

WHERE AN ITEM IS COVERED BY DRAWINGS TO DIFFERENT SCALES, THE LARGER SCALE DRAWING IS TO BE WORKED TO

ALL WORK AND MATERIALS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS AND TO COMPLY WITH THE RELEVANT CODES OF PRACTICE AND BRITISH STANDARDS



OS SITE MAP - EXISTING BLOCK PLAN  
SCALE 1:500



## PLANNING

### OS SITE MAP EXISTING BLOCK PLAN

1:500 @ A1  
FEBRUARY 2022

005\_P-020

264 HENLEY ROAD,  
CAVERSHAM, READING  
RG4 6LS



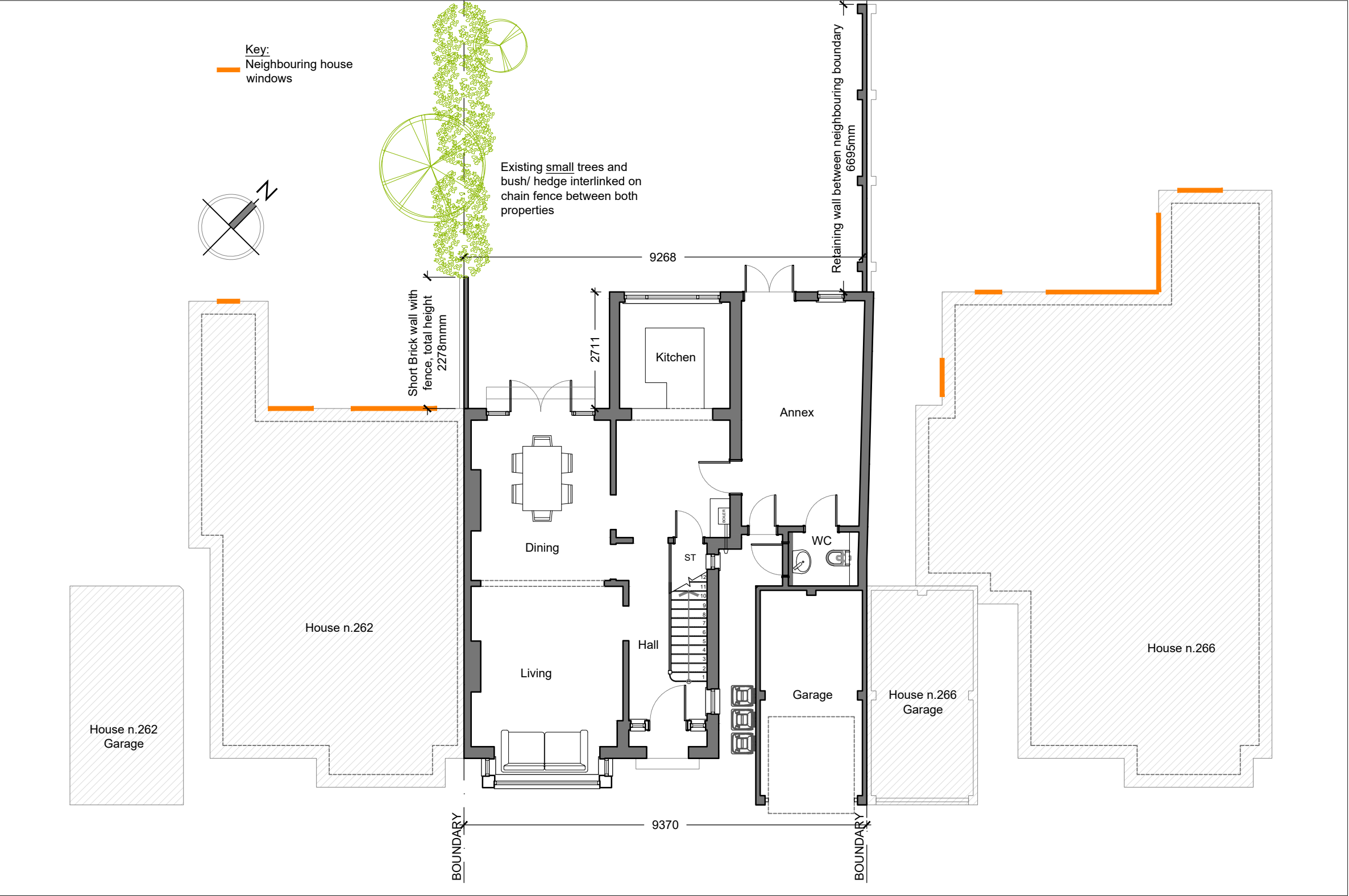
e-mail: info@katuarchitects.co.uk

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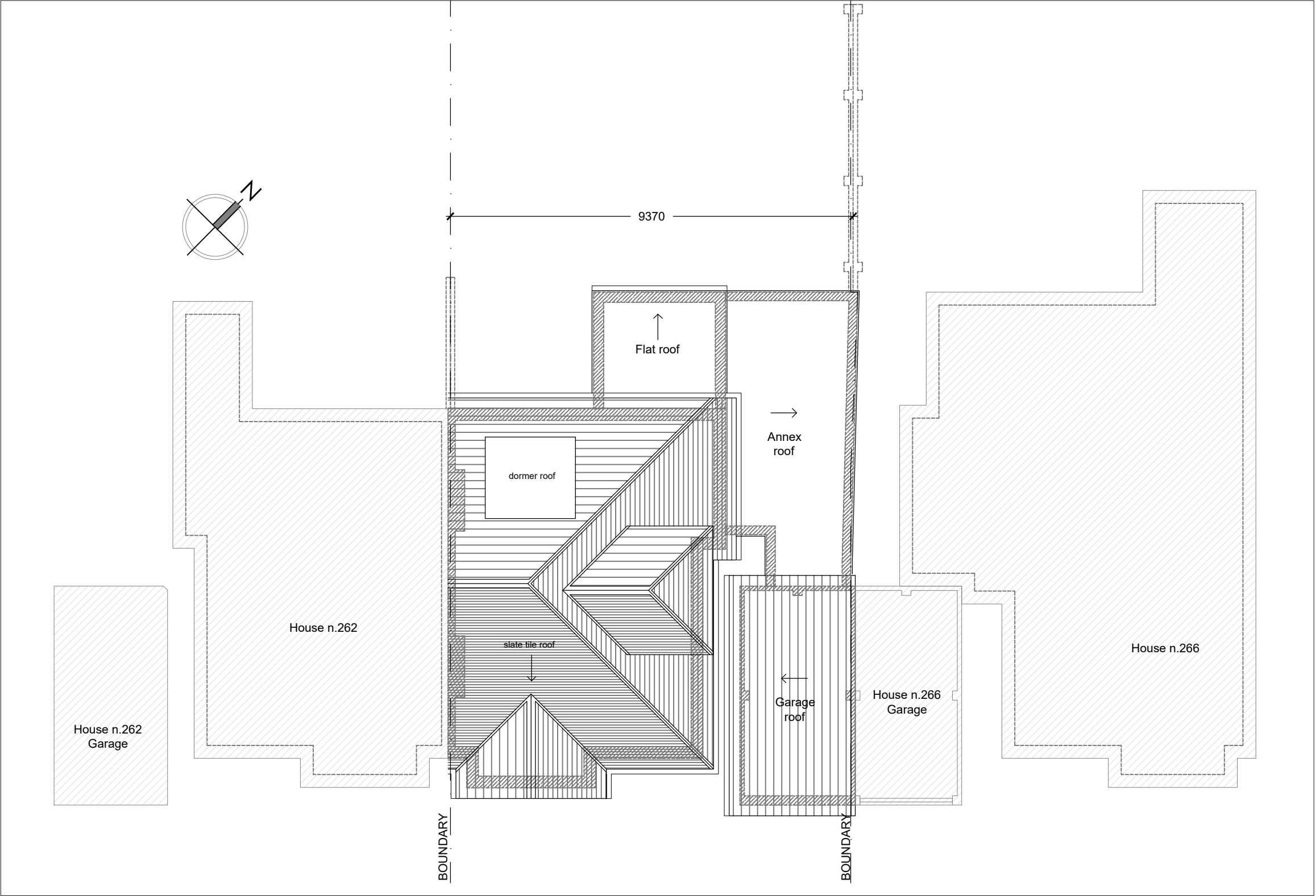
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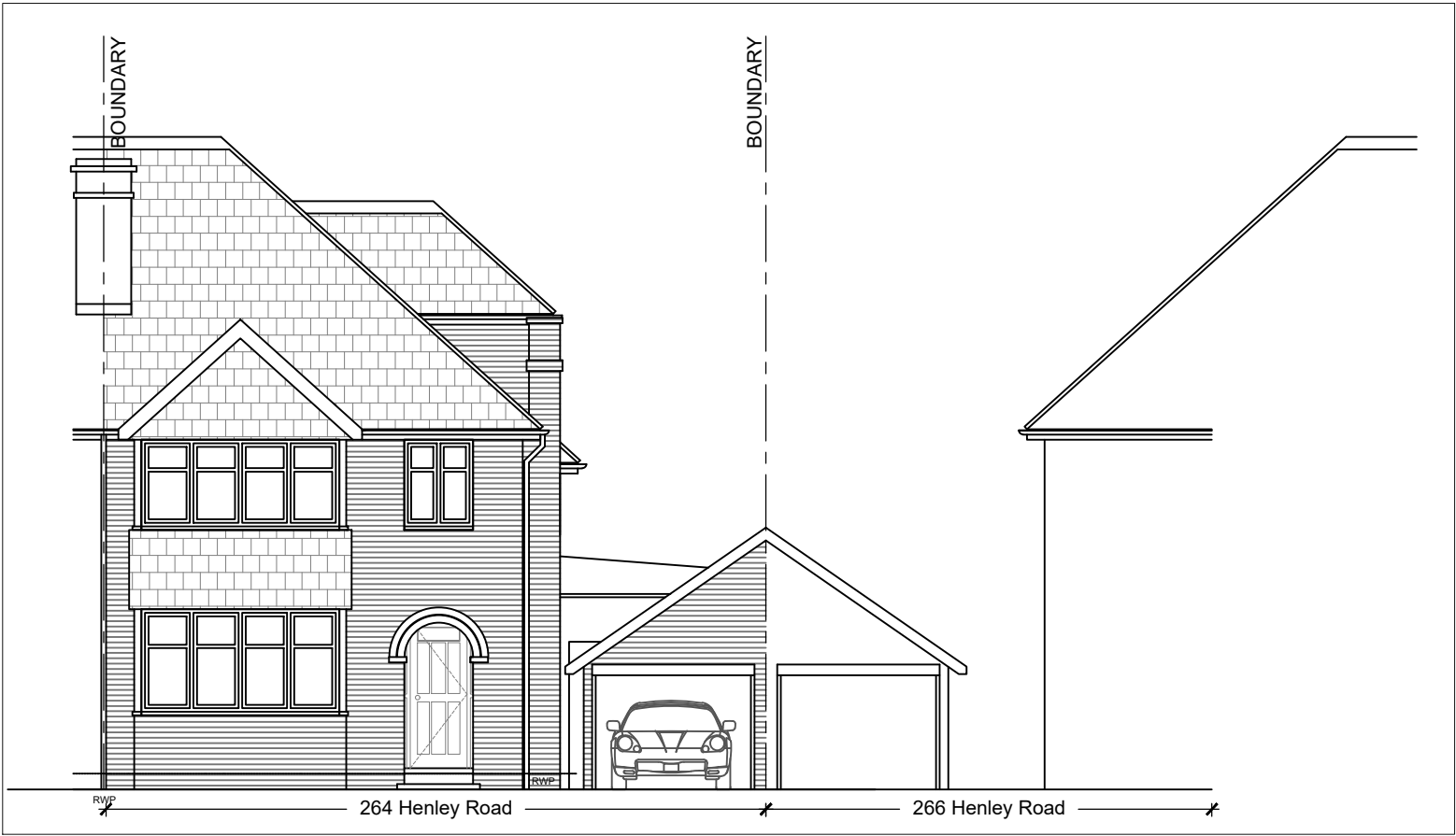
ALL WORK AND MATERIALS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS AND TO COMPLY WITH THE RELEVANT CODES OF PRACTICE AND BRITISH STANDARDS.



EXISTING GROUND FLOOR PLAN  
SCALE 1:100



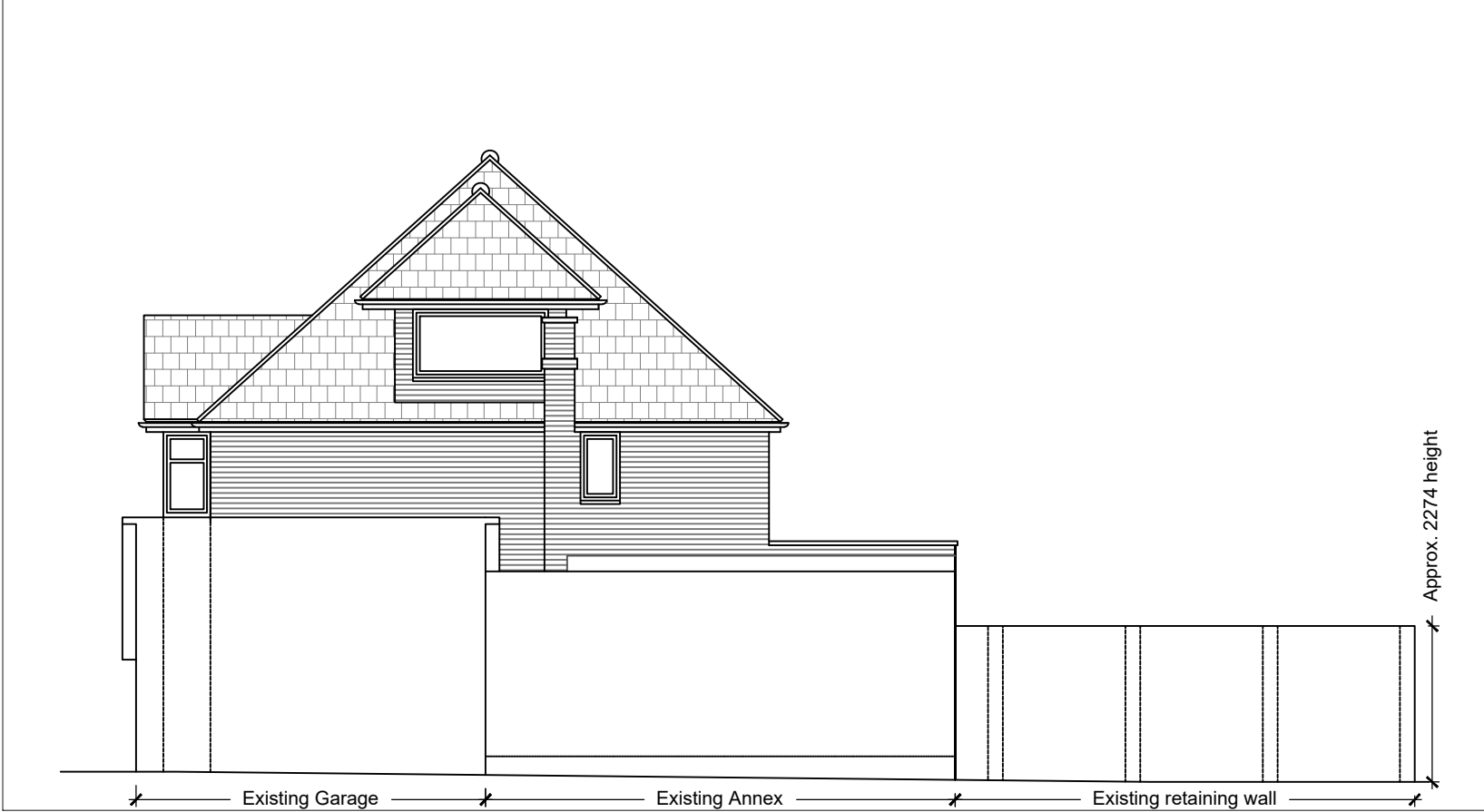
EXISTING ROOF PLAN  
SCALE 1:100



EXISTING FRONT ELEVATION  
SCALE 1:100



EXISTING REAR ELEVATION  
SCALE 1:100



EXISTING SIDE ELEVATION  
SCALE 1:100



EXISTING REAR CONTEXTUAL ELEVATION  
SCALE 1:100



EXISTING EXISTING FENCE/ WALL ELEVATION BETWEEN NUMBER 264 & 262  
SCALE 1:100



# PLANNING

## EXISTING PLANS & ELEVATIONS

1:100 @ A1  
FEBRUARY 2022

005\_P-021

264 HENLEY ROAD,  
CAVERSHAM, READING  
RG4 6LS



e-mail: info@katuarchitects.co.uk



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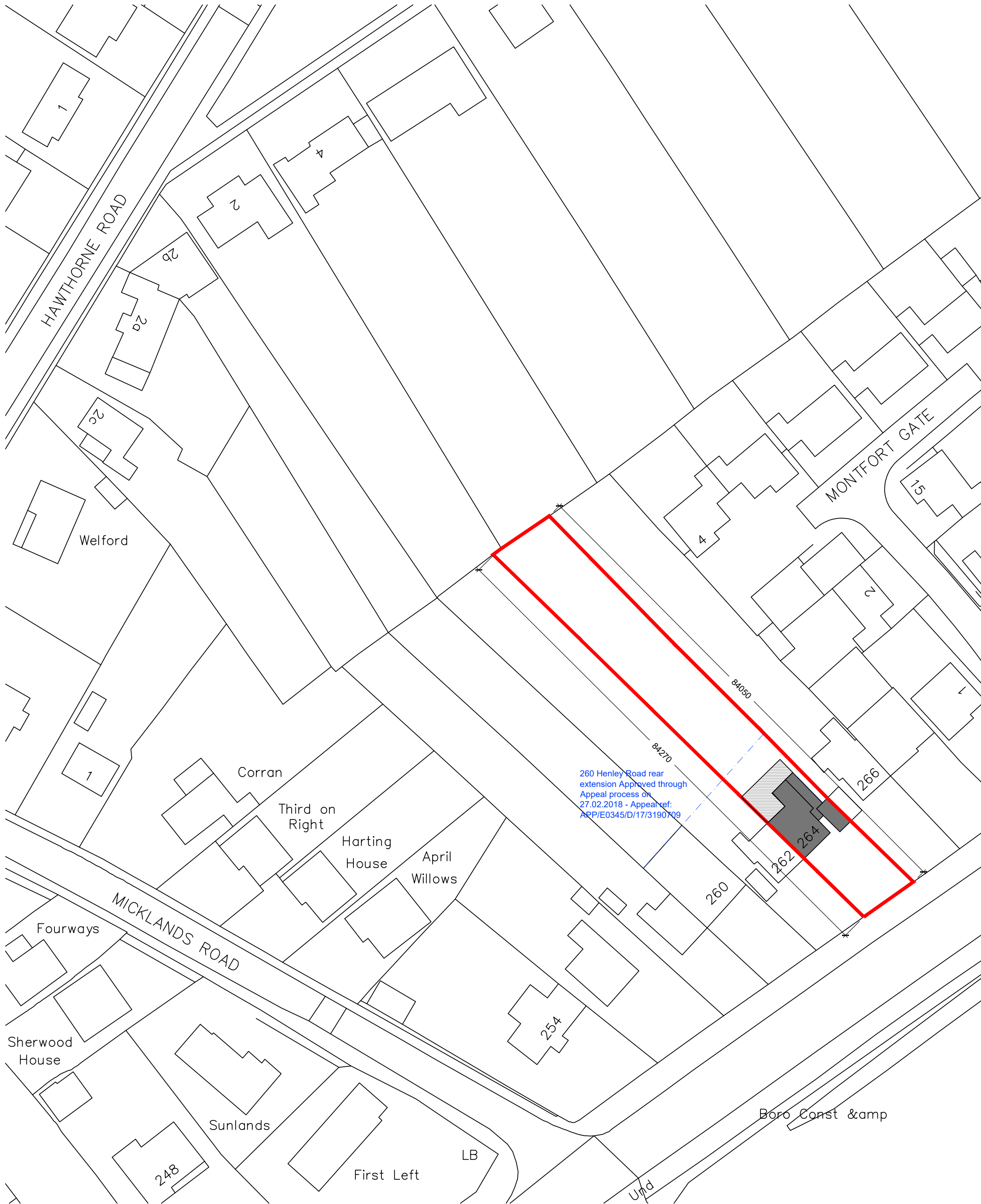
NOTES

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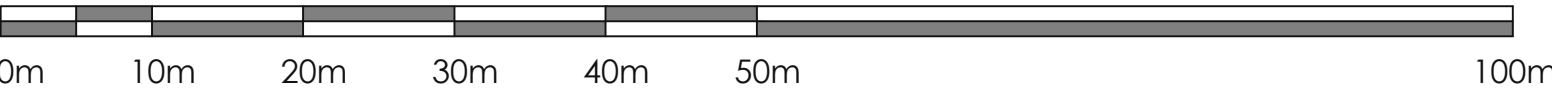
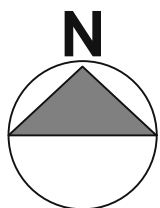


OS SITE MAP - PROPOSED BLOCK PLAN  
SCALE 1:500

**KEY**

PROPOSED PDR EXTENSION

SITE BOUNDARY LINE



PLANNING

OS SITE MAP  
PROPOSED BLOCK PLAN

1:500 @ A1  
FEBRUARY 2022

005\_P-023

264 HENLEY ROAD,  
CAVERSHAM, READING  
RG4 6LS



e-mail: info@katuarchitects.co.uk



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# PROPOSED

## PLANS & ELEVATIONS

1:100 @ A1  
FEBRUARY 2022  
**005\_P-024**

264 HENLEY ROAD,  
CAVERSHAM, READING  
RG4 6LS

