

ELDER

GREYFRIARS HOUSE

20 - 30 GREYFRIARS ROAD , READING

DAYLIGHT, SUNLIGHT & OVERSHADOWING REPORT

POINT 2



CO-LIVING SCHEME AT 20-30 GREYFRIARS ROAD

DAYLIGHT, SUNLIGHT & OVERSHADOWING REPORT

CLIENT: ELDER DEVELOPMENTS (GREYFRIARS) LTD

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1 Introduction

- 1.1 Elder Developments (Greyfriars) Ltd ('the Applicant') have instructed Point 2 to undertake a detailed daylight, sunlight and overshadowing assessment for the redevelopment of Greyfriars House, Reading ('The Site'). The Site is located within Reading Borough Council (RBC).
- 1.2 This report will assess the potential daylight and sunlight effects of the Proposed Development on the surrounding residential properties. It has been prepared in accordance with the advice and recommendations set out in the BRE Guidelines 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' (2022). All existing residential neighbours have been considered as well as the effects to the consented outline proposals for Phase 3 of the Station Hill masterplan.
- 1.3 It has not been considered necessary to undertake any overshadowing analysis in respect of the neighbouring properties as there are no external amenity spaces in close enough proximity to be overshadowed by the Proposed Development.
- 1.4 This report also considers the daylight and sunlight amenity to the proposed habitable rooms and overshadowing to the proposed amenity areas.
- 1.5 The Proposed Development has been through intensive iterative testing throughout the pre-application phase with a view to limiting the effects of the development on the existing neighbours' amenity. At key milestones, the results have been presented to RBC to ensure RBC Officers are aware of the likely effects.
- 1.6 The following sources of information have been used to compile this report:

Point 2

Site Photography
OS Map
Point Cloud Survey

Darling Associates

Proposed Development Info (received 091024):
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Neighbouring Layout Plans

RBC Planning Records
Estate Agent Sales Details
Land Registry

Valuation Office Agency

Property Uses

2 Methodology

- 2.1 It is common practice to assess daylight and sunlight by reference to the guidelines set out in the 2022 Building Research Establishment (BRE) Report 'Site layout planning for daylight and sunlight - A guide to good practice' by Paul Littlefair (the 'BRE Guidelines'). This document is widely accepted by planning authorities as the means by which to consider the effect of development on the daylight and sunlight enjoyed by neighbouring buildings. It is also used to assess daylight and sunlight within new development.
- 2.2 The BRE Guidelines is a document that is applied across the country. Due to its national application, the framework for designers, practitioners, and planning officials to refer to is somewhat of a 'one size fits all' approach to the assessment of daylight and sunlight. Theoretically, the methodology and subsequent technical specification offered by the BRE Guidelines is applicable to all manner of built environments, ranging from villages to dense city centres, to opportunity areas in town centre locations. Notwithstanding the stark disparity between these environments, the suggested target daylight and sunlight values remain consistent despite a suburban setting having very little in common with inner urban locations or ones where planning policy supports higher density development.
- 2.3 In relation to the properties surrounding a site, usually the local planning authority will only be concerned with the impact to main habitable accommodation (i.e. living rooms, bedrooms and kitchens) within residential properties. Non-habitable rooms such as bathrooms and hallways have not been considered within this report.
- 2.4 To determine whether a neighbouring existing building may be adversely affected, the initial test provided by the BRE is to establish if any part of the proposal subtends an angle of more than 25° from the lowest window serving the existing building. If this is the case then there may be an adverse effect, and more detailed calculations are required to quantify the extent of any impact.
- 2.5 The BRE guidelines provide two principal measures of daylight for assessing the impact on properties neighbouring a site, namely Vertical Sky Component (VSC) and No-Sky Line (NSL).
- 2.6 In relation to sunlight we examine the BRE Annual Probable Sunlight Hours (APSH); and in relation to sunlight amenity to gardens and amenity spaces, we apply the quantitative BRE overshadowing guidance.
- 2.7 These measures of daylight and sunlight are discussed in the following paragraphs.

Diffuse Daylight

- 2.8 **Vertical Sky Component (VSC)** – VSC is a measure of the direct skylight reaching a point from an overcast sky. It is the ratio of the illuminance at a point on a given vertical plane to the illuminance at a point on a horizontal plane due to an unobstructed sky.
- 2.9 For existing buildings, the BRE guideline is based on the loss of VSC at a point at the centre of a window, on the outer plane of the wall.

- 2.10 The BRE guidelines state that if the VSC at the centre of a window is less than 27%, and it is less than 0.8 times its former value (i.e. the proportional reduction is greater than 20%), then the reduction in skylight will be noticeable, and the existing building may be adversely affected.
- 2.11 Where there are multiple windows serving a room, an overall VSC can be derived by weighting the VSC for each window in accordance with its window area. This method should not be used where the windows are more than 5m apart.
- 2.12 **No-Sky Line (NSL)** – NSL is a measure of the distribution of daylight within a room. It maps out the region within a room where light can penetrate directly from the sky, and therefore accounts for the size of and number of windows by simple geometry. It may be used where the room layouts are known.
- 2.13 The BRE suggest that the area of the working plane (set at 850mm above the floor) within a room that can receive direct skylight should not be reduced to less than 0.8 times its former value (i.e. the proportional reduction in area should not be greater than 20%).

Sunlight

- 2.14 **Annual Probable Sunlight Hours (APSH)** – In relation to sunlight, the BRE recommends that the APSH received at a given window in the proposed case should be at least 25% of the total available, including at least 5% in winter.
- 2.15 Where the proposed values fall short of these, and the absolute loss is greater than 4%, then the proposed values should not be less than 0.8 times their previous value in each period (i.e. the proportional reductions should not be greater than 20%).
- 2.16 The BRE guidelines state that ‘...all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block out too much sun. Normally loss of sunlight need not be analysed to kitchens and bedrooms....’.
- 2.17 The APSH figures are calculated for each window, and where a room is served by more than one window the contribution of each is accounted for in the overall figures for the room. The acceptability criteria are applied to overall room-based figures.

Overshadowing (Sun on Ground)

- 2.18 Section 3.3 of the BRE guidelines describes the method of assessment of the availability of sunlight within garden/amenity spaces. This relates to the proportion of shading on March 21st.
- 2.19 The following types of open spaces to be assessed would normally include:
- Gardens, such as the main back garden of a house or communal garden including courtyard and roof terraces.
 - Parks and playing fields
 - Children’s playgrounds
 - Outdoor pools, marinas, and lakes
 - Sitting out areas and public squares

- Nature reserves

2.20 The BRE criteria for gardens or amenity areas are as follows, *'It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity space should receive at least two hours of sunlight on 21 March. If as a result of a new development an existing garden or amenity space does not meet the above, and the area which can receive two hours of sunlight on 21 March is less than 0.8 times its former value, then the loss of amenity is likely to be noticeable.'*

Daylight within Proposed Developments

2.21 In the new 2022 revision of the BRE guidelines, a Climate Based Daylight Modelling (CBDM) methodology replaces the old Average Daylight Factor (ADF) methodology. The new methodology is more complex and has targets that are generally more difficult to achieve in an urban context than the previous ADF approach.

Climate Based Daylight Modelling (CBDM)

2.22 The new CBDM methodology is based on the British Standard 'Daylight in Buildings' (BS EN17037). This contains advice and guidance on interior daylighting for all buildings across Europe but also has a UK National Annex which provides suggested targets for dwellings in the UK.

2.23 The CBDM methodology is based on target illuminances from daylight. This is the Daylight Illuminance (DI) to be achieved over half the area of the room (measured on a reference plane at tabletop level) for at least half of the daylight hours in a typical year. The calculations are based on weather data files which cover different regions of the UK. The calculations are undertaken for each hour of the day for every day of the year. There are 8760 hours in the year, of which 4380 are daylight hours, and therefore the targets should be achieved for 2190 hours in the year.

2.24 The methodology uses a more accurate sky model which simulates the movement of the sun throughout the day and accounts for the weather conditions at the time. As a result, CBDM accounts for the presence of sunlight and therefore the orientation of the rooms/windows is accounted for.

2.25 The UK National Annex gives illuminance recommendations of 100 Lux in bedrooms, 150 Lux in living rooms and 200 Lux in kitchens. These are median illuminances to be achieved over 50% of the assessment grid for at least half of the daylight hours.

2.26 Where a room has a shared use, the highest target should apply. However, it also says that Local Authorities could use discretion here and that a living room target of 150 Lux could be used for combined living/kitchen/dining room if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens being incorporated into the design.

Sunlight within Proposed Developments

- 2.27 For new buildings, the BRE guidelines refer to BS EN 17037 which says that a space should receive a minimum of 1.5 hours of sunlight on a selected date between 1st February and 21st March with cloudless conditions. The BRE document suggests 21st March be used. For dwellings, at least one habitable room, preferably a main living room, should achieve at least this minimum criterion and that at least one main window faces within 90 degrees of south. Whilst BS EN 17037 applies to all orientations, the BRE guidelines say that if the room faces significantly north of due east or west, the criterion is unlikely to be met.
- 2.28 Where dwellings have a requirement for private amenity space and these are in the form of balconies, it must be acknowledged that this can have a material limiting effect on the sunlight availability to rooms located beneath those balconies, where the underside of the balcony structure blocks a large portion of the sky dome when viewed from the centre of the window. This is particularly the case in larger developments within urban locations, where there is a likelihood that there will be a greater requirement for private amenity provision in the form of balconies and where buildings generally tend to be taller and in closer proximity to one another.

3 The Site, the Proposed Development and Future Baseline Assessment

- 3.1 The Site is located at 20-30 Greysfriars Road, Reading RG1 1NS. It is bound by Garrard Street to the north, Phase 1 of the Station Hill masterplan to the east, Sainsbury's to the south and Greysfriars Road to the west. Our understanding of the existing Site conditions is illustrated on drawings P3715/13-15 within Appendix 1 and also shown below.

Existing Site (Looking North East)



- 3.2 The Proposed Development is for the demolition of the existing building and the erection of a part-7, part-13 storey building comprising 266 co-living units (Sui Generis) and associated communal amenity facilities, refuse storage, cycle parking and plant equipment.
- 3.3 Our understanding of the massing of the Proposed Development is shown on drawings P3715/16-18 in Appendix 1. A further 3D view of the Proposed Development is included for ease of reference below.



Proposed Development (Looking North East)

4 Planning Context

- 4.1 Before commenting upon the results of the detailed technical assessment, it is important to first examine the context within which the development is taking place and how this influences the assessment of daylight and sunlight. In order to do so, we have reviewed the Reading Station Area Framework, adopted December 2010 (the 'Framework') which the Site sits within.
- 4.2 The Framework states the area *"represents one of the most **significant comprehensive redevelopment opportunities in the country**" and "provides **the potential to secure a major mixed-use sustainable development**". It states that *"much of the Station Area is defined as an area of potential for tall buildings"* and the Site is located within the Station Area Cluster. The vision for this area is to provide *"a new cluster of tall buildings with the station at its heart"* and that *"Development in the Station Area should be characterised by high density development with an intense, fine grained urban fabric...the approach to building massing should be dramatic with a new cluster of taller buildings **forming a new distinctive skyline**."* Lastly, it states that *"the Council has resolved to grant the Station Hill redevelopment scheme (SH2). The **redevelopment of the area will change the character of the central area** by introducing a tall building cluster."**
- 4.3 It therefore follows that if the scheme is to be compatible with the envisaged evolving townscape and urban setting set out in the Framework, the massing will naturally depart from the existing buildings that currently occupy the Site and the wider area. This invariably presents somewhat of a challenge in terms of adhering to the typical BRE guidance for the reasons set out below.

Application of the BRE Guidelines in Urban Growth Areas

- 4.4 As discussed in the Methodology section, the technical assessments considered within this report are based on the techniques outlined in the BRE Guidelines. This is a national document that offers advice on site layouts to provide good natural lighting within new developments and the safeguarding of daylight and sunlight within existing buildings.
- 4.5 It is widely accepted that the technical specification offered by the BRE Guidelines is predicated upon a suburban environment as opposed to one that is identified in planning policy as being suitable for higher density development. Therefore, there is a need for a practical and intelligent application of the BRE Guidelines in evolving urban environments as it is impractical to expect the target values that are derived from a low-rise environment to be achieved in rapidly evolving growth areas, where much higher densities are expected.
- 4.6 The BRE Guidelines repeatedly endorse this approach. They advise the user, whether that be designers, consultants or planning officials to apply the guidelines in a manner that is appropriate for a particular situation. For example, in the introductory summary it states:

*"This guide as a comprehensive revision of the 2011 edition of site layout planning for daylight and sunlight. **It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location.** Appendix F explains how this can be done in a logical way while retaining consistency with the British Standard Recommendations on interior lighting."*

4.7 In Section 1: Introduction, at paragraph 1.6 it states:

*“the guide is intended for building designers and their clients, consultants and planning officials. **The advice given here is not mandatory** and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. **Although it gives numerical guidelines, these should be interpreted flexibly** since 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.** For example, in historic city centres or **in an area with modern high-rise buildings**, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.”*

4.8 At paragraph 2.2.3 (Existing Buildings), it states;

*“**Note that the numerical values given here are purely advisory.** Different criteria may be used based on the requirement for daylighting viewed against other site layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light. Appendix F gives further guidance”*

4.9 In Appendix F it states at section F1:

*“Sections 2.1 and 2.2 and 2.3 give numerical target values in assessing how much light from the sky is blocked by obstructing buildings. **These values are purely advisory and different targets may be used on special requirements of the proposed development or its location.**”*

4.10 It is clear that the numerical advice offered by the BRE is not mandatory and that a practical application of the target values is required as natural lighting is only one of many factors that should be considered. Where appropriate, the BRE Guidelines promote the use of alternative target values to those discussed in the main body of the document.

4.11 The Mayor of London’s ‘Housing and Supplementary Planning Guidance’ (March 2016), endorses this approach and states the following:

*“Policy 7.6Bd requires new development to avoid causing ‘unacceptable harm’ to the amenity of surrounding land and buildings, particularly in relation to privacy and overshadowing and where tall buildings are proposed. An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties.... **Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets.** This should take into account local circumstances; the need to optimise housing capacity; and **scope for the character and form of an area to change over time.**”*

*“The degree of harm on adjacent properties.... **Should be assessed drawing on broadly comparable residential typologies within the area** and of a similar nature across London. Decision makers should recognise that fully optimising housing potential on **large sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.**”*

- 4.12 A flexible approach to the guidance is also recommended within the National Planning Policy Framework (NPPF) adopted in December 2023. This document states the following:

*“129: C) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, **when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards).**”*

- 4.13 Clearly the above guidance, local, regional and national policies support the view that if the Site is to be developed in accordance with the intentions of the Framework, then a flexible application of the BRE recommended criteria is appropriate and necessary.
- 4.14 A flexible approach was indeed adopted in respect of the adjacent Station Hill development where significant changes from the existing conditions were caused by the earlier phases or will be caused by the later phases. Furthermore, in many instances, the properties were left with daylight and sunlight levels well below the BRE recommended levels. The effects were nonetheless considered acceptable by RBC which demonstrates the need to apply flexibility of the guidance in this instance.

5 Assessment Results for Impacts to Neighbours

- 5.1 A detailed daylight and sunlight analysis has been undertaken in accordance with the BRE Guidelines. Full detailed results are included within Appendix 2, window maps are included in Appendix 3 that identify the separate windows that have been analysed and NSL contours are included within Appendix 4 showing the change between the existing and proposed areas of the rooms with a view of sky.
- 5.2 The analysis is based upon a measured survey undertaken by Point 2, supplemented by photographs and research from publicly available records.
- 5.3 To improve the accuracy of the analysis, where available, we have obtained floorplans for the surrounding properties through our own further research and incorporated them into our 3D digital context model of the site and surroundings. No access has been sought to the neighbouring properties to verify or validate the room layouts, which is normal working practice.
- 5.4 The properties that have been assessed have been confirmed as being residential in use by reference to VOA council tax records. It has been assumed that all other properties are non-residential and have been excluded from our assessment.
- 5.5 To the best of our knowledge, all windows and rooms that could be of habitable use have been assessed to determine the effect of the Proposed Development.
- 5.6 The location of each of the 13 properties assessed can be seen on the image below which corresponds with the list further below.





Properties Assessed

- | | |
|------------------------------------|-----------------------|
| 1. Station Hill Block E | 8. 9 Vachel Road |
| 2. Central Studios 60 Friar Street | 9. 7 Vachel Road |
| 3. 1 Sackville Street | 10. 5 Vachel Court |
| 4. 3 Sackville Street | 11. 13 Vachel Road |
| 5. 5 Sackville Street | 12. 15 Vachel Road |
| 6. 7 Sackville Street | 13. 11 Stanshawe Road |
| 7. 11 Vachel Road | |

5.7 The results of our technical analysis demonstrate that 11 properties would fully adhere to the BRE Guidelines for daylight (VSC and NSL) and sunlight (APSH). Therefore, there will not be any noticeable changes in light amenity to the following properties:

- 1 Sackville Street
- 3 Sackville Street
- 5 Sackville Street
- 7 Sackville Street
- 11 Vachel Road
- 9 Vachel Road
- 7 Vachel Road
- 5 Vachel Court
- 13 Vachel Road
- 15 Vachel Road
- 11 Stanshawe Road

5.8 The remaining properties experience some changes that fall short of the BRE Guidelines and have been discussed in more detail below.

Station Hill Block E (Property no.1)



5.9 This property is located directly on the eastern boundary of the Site. As can be seen from the above image (taken July 2022) the property has only recently been constructed as part of the wider Station Hill development. We have modelled the internal room layouts and uses from consented plans obtained from RBC planning records (planning ref: 201537) which demonstrate that the windows overlooking the Site serve a combination of bedrooms, living/kitchen/dining rooms (LKDs) and studio apartments.

5.10 The current daylight and sunlight levels these windows and rooms receive should only be considered temporary given the Site forms part of the Framework and a significant development was always likely to come forward on this parcel of land. Nevertheless, this property was identified early in the design process as a sensitive neighbour and the scheme has undergone multiple iterative assessments to ensure that the effects are reduced as much as possible.

- 5.11 This has largely been achieved by reducing the massing on the southern portion of the Site to 7 storeys and by including a courtyard area (i.e. stepping the massing away from the boundary) to maximise the amount of daylight and sunlight that can be received by these windows over the Site. Whilst some reductions beyond the BRE Guidelines are still caused, these are relatively limited and mostly only slightly beyond guidance as described below.
- 5.12 In total we have assessed 93 windows serving 80 rooms within this property. The results of our technical analysis demonstrate that 67 (72%) windows (72%) assessed would meet the VSC recommendations and 79 (99%) rooms assessed would meet the NSL criteria.
- 5.13 25 of the 26 windows to fall short of the VSC recommendations would experience relative changes that range from 20-25% so would only be slightly short of the BRE recommendations. Furthermore, each of these rooms these windows serve would meet the recommendations in respect of NSL. Therefore, the effects to these windows and rooms is not considered material, particularly when considering they also form part of the Reading Station Area Framework and an more intense form of massing was always likely to come forward on the Site.
- 5.14 The remaining window (W7/60) serves a single aspect room (R7/60) that is understood to be in use as a studio apartment. It important to note that access to daylight for this window and room is obstructed by the rear of the neighbouring Sainsburys building. In instances such as this, paragraph 2.2.14 of the BRE states:
- “A larger reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it”*
- 5.15 The limiting effect caused by this obstruction is clear as the window would only receive 12% VSC in the existing condition (i.e. well below the BRE recommended 27%) whereas the window located directly above it (W7/61), which is not blinkered, receives 27% VSC. Therefore, a relatively small change of 5% absolute VSC, causes a larger relative change of 40%.
- 5.16 The projecting wing also limits the daylight distribution within the room which experiences a relative change of 41% for NSL. It should also be noted that the room is in use as a studio apartment so is larger room than a typical bedroom or living room. At its deepest point, the room extends to c. 6.1m (based on the consented planning drawings) and in instances such as this, paragraph 2.2.12 of the BRE states:
- “If an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable.”*
- 5.17 Therefore, the larger relative changes can be partly attributable to Sainsbury’s obstructed light as well as the depth of the room. Any scheme that looks to intensify the Site in accordance with the Framework would invariably cause impacts that exceed the BRE recommendations and likely to be of a similar nature.
- 5.18 For sunlight, each of the southerly orientated rooms would comfortably meet the guidelines for winter and total APSH so would continue to receive excellent levels of sunlight, particularly for an evolving urban area.

- 5.19 Overall, the Proposed Development has been designed to minimise the effects to this property. This has largely been achieved by stepping the proposals down at the 'rear' of the Site and setting the massing back from the boundary as far as possible. Only one room may experience more noticeable changes, however any meaningful scheme that responds to the Station Area Framework would invariably cause larger effects to this space due to the existing constraints described above.

Central Studios, 60 Friar Street (Property no. 2)



- 5.20 This property is located to the south of the Site and is in student residential use. Floorplans were obtained from RBC planning records (planning reference: 120977) which were used to model the internal layouts for this property.
- 5.21 In total we have assessed 30 windows serving 30 rooms within this property. The results of our technical analysis demonstrate that all 30 (100%) windows assessed would meet the VSC recommendations and 28 (93%) rooms would meet the NSL criteria.
- 5.22 Both of the rooms that fall short of guidance would experience relative changes of between 24-27%. They would therefore only be slightly short of guidance which is not considered material in the context of a regenerative scheme within the Framework. Furthermore, both of these rooms are located next to the projecting wing so are blinkered by the property itself. As stated above, larger relative changes may be unavoidable in situations such as this (see paragraph 2.2.14 of the BRE).
- 5.23 For sunlight, all rooms are northerly orientated so have not been considered for APSH, as recommended by the BRE Guidelines.

6 Daylight and Sunlight Amenity to Proposed Development

- 6.1 The layouts for the Proposed Development have been designed with maximising the daylight and sunlight within the proposed units in mind, whilst balancing off other key amenities such as overheating, acoustics, privacy etc. Natural lighting levels have been an important design consideration with the applicant instructing us to undertake iterative assessments which were feedback to the design team and scheme changes made accordingly.
- 6.2 The Site does pose some inherent constraints in respect of achieving optimal daylight and sunlight levels to the proposed units. For example, a number of rooms overlook a courtyard space which provides significant amenity benefit to these rooms such as a greener outlook, more privacy and a quieter location. However, their access to daylight is more constrained in these areas due to being in close proximity to the recent Station Hill Plot E development and also the rooms would be self-obstructed by the projecting walls of the Proposed Development which obstructs daylight availability.
- 6.3 In order to improve the daylight levels to these more constrained rooms, the windows serving these spaces have been designed to be larger than the typical window type. Whilst these areas are always likely to be constrained to some extent, the change in window type has helped to improve the amount of daylight reaching these spaces and demonstrates the willingness from the applicant to ensure the scheme is as well daylight as possible despite these constraints.
- 6.4 The remaining rooms that overlook either Greyfriars Road or Garrard Street are northerly orientated, particularly the rooms along Garrard Street. This presents a further challenge for both daylight (as the CBDM methodology uses real weather data so daylight from the south is naturally brighter on average) and for direct sunlight which is clearly more limited to north facing units – particularly between February 1st and March 21st which is the BRE recommended assessment dates for sunlight exposure.
- 6.5 Our commentary on the results is therefore split into the outward facing rooms (overlooking Greyfriars Road and Garrard Street) and the courtyard facing rooms.

Overall Summary

- 6.6 Point 2 have undertaken Climate Based Daylight Modelling (CBDM) and sunlight exposure assessments for each of the habitable rooms within the Proposed Development that follows the methodology as set out within the 2022 BRE Guidelines for daylight and sunlight.
- 6.7 Drawings P3715/CBDM/07-12 located in Appendix 4 show the internal arrangements within the Proposed Development, together with daylight illuminance (Lux level) contours that are achieved for 50% of daylight hours. The drawings also show the median daylight illuminance figure for each room. The drawings are

accompanied by tabulated results which show the median illuminance for each of the rooms. The tabulated sunlight exposure results are included within Appendix 5.

- 6.8 The vast majority of the rooms considered are multi-use studio rooms which include a living area, kitchen area, bedroom area and a small study area which have all been considered within our assessments. They have been designed to harness daylight potential within the areas where it will be most actively enjoyed, with the reception/kitchen areas typically being located adjacent to the windows with the sleeping area and small study areas located further back within the room where daylight is arguably of less importance.
- 6.9 It is widely accepted that achieving the 200 Lux median illuminance target for multi-use rooms which include a kitchen is very challenging in higher density urban development. Therefore, a median illuminance target of 150 Lux has been applied as the target for the spaces as the BRE Guidelines state that the target for a living room could be used for a combined LKD if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design which have been avoided across the scheme.
- 6.10 In total, we have assessed 270 rooms. The vast majority of these are the in use as the co-living units (266) but we have also considered 4 shared amenity spaces on the 12th floor.
- 6.11 When applying a 150 Lux target for the rooms, the results demonstrate 151 of the 270 rooms assessed (56%) will achieve the suggested CBDM values. In terms of the co-living units, 148 of the 266 rooms assessed (56%) will achieve a median illuminance of 150 Lux and 3 of the 4 shared amenity spaces (75%) would achieve this value.
- 6.12 Further commentary on these results is provided below.

Outward Facing Units

- 6.13 For daylight, 121 of the 186 (65%) outward facing rooms would meet the CBDM criteria when applying a 150 Lux target.
- 6.14 Of the remaining 65 rooms, the majority (39) will achieve between 100-149 Lux, so would achieve a level of daylight commonly seen in high density urban areas and would meet the median illuminance target for a bedroom for which the spaces would be partly used for. Therefore, 86% of outward facing rooms (160 of 186) would achieve a median illuminance of at least 100 Lux.
- 6.15 The remaining 16 rooms are located at 1st, 2nd and 3rd floor and would achieve a median illuminance of between 46-99 Lux. Whilst these units have a more open outlook than the courtyard facing rooms, at these lower levels they are still overlooking larger central Reading office buildings so their access to daylight is naturally more limited. Supplementary lighting may be required for these rooms.
- 6.16 In regard to sunlight, 111 of the outward facing rooms (60%) will meet the sunlight exposure targets despite being primarily northerly orientated. 60 of the remaining

rooms overlook Garrard Street so will not receive any sunlight exposure between February 1st and March 21st due to their orientation. Whilst these rooms will receive lower levels of sunlight, it would be impractical to design a scheme of this nature without north facing units.

- 6.17 The remaining 15 rooms overlook Greyfriars Road so have a more westerly orientation. The majority of these will still receive some sunlight in the afternoon (between 0.5-1.4 hours) and would generally have access to better levels of daylight.

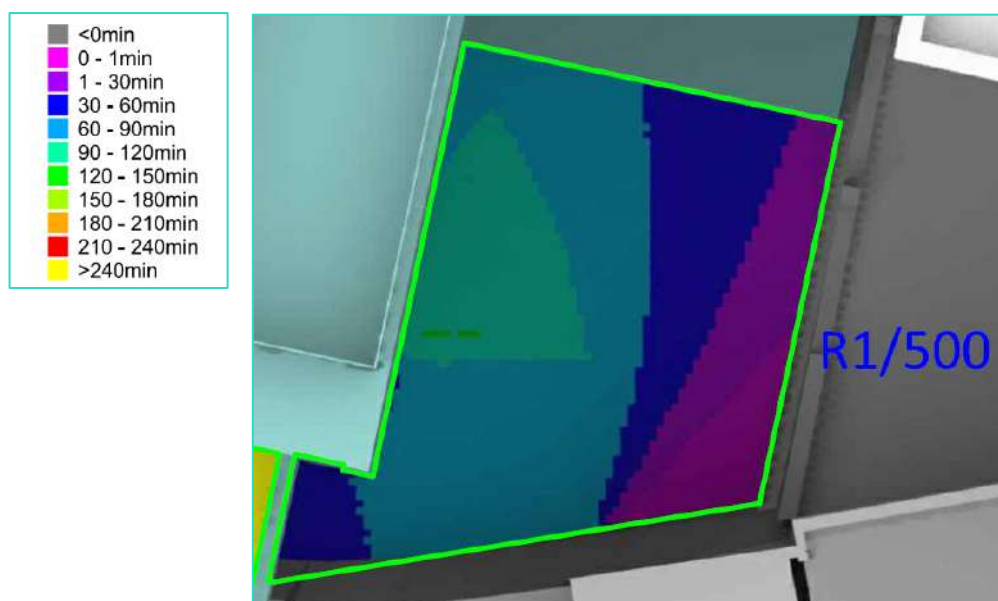
Courtyard Facing Units

- 6.18 As described above, the access of daylight and sunlight to these units is more limited due to their more constrained outlook. In order to ease these constraints, the windows serving these spaces are c. 30% wider than the typical window type serving the outward facing rooms.
- 6.19 Due to their constrained nature, there is a lower rate of compliance with the CBDM criteria in respect of these rooms with 30 of the 84 (36%) courtyard facing rooms would meet the 150 Lux target.
- 6.20 Of the remaining 54 rooms, 21 will achieve between 103-147 Lux, so would achieve a level of daylight commonly seen in high density urban areas and would meet the median illuminance target for a bedroom for which the spaces would be partly used for. Therefore, 61% of courtyard facing rooms (51 of 84) would achieve a median illuminance of at least 100 Lux.
- 6.21 The remaining 33 rooms are located from 1st to 9th floor and would achieve a median illuminance of between 26-95 Lux. All of these are located within the corner of the courtyard where access to daylight is at its most limited as it is a natural pinch point. Supplementary lighting may be required for these spaces.
- 6.22 In regard to sunlight, 68 of the courtyard facing rooms (81%) will meet the sunlight exposure targets owing to their southerly orientation. 15 of the remaining 16 rooms will receive between 1.1-1.4 hours of sunlight so would equate to only being between 6-24 minutes short of guidance. The remaining room would still receive 0.8 hours of direct sunlight despite being located at first floor and directly in the corner where sunlight availability is more limited.
- 6.23 Overall, whilst some of the courtyard facing rooms may receive lower levels of daylight, they would all generally receive good levels of sunlight, particularly for an evolving urban context.

Overshadowing to Proposed Amenity Spaces

- 6.24 We have also undertaken overshadowing assessments of the communal amenity areas within the Proposed Development which includes the ground floor courtyard area and the roof terraces. An assessment has been carried out in accordance with the BRE methodology for the 2-hour sun on ground assessment on March 21st. The results of our overshadowing assessment can be seen in Appendix 6 on drawing P3715/SHA/01.

- 6.25 For additional information, this has also been undertaken for June 21st. This date represents the maximum level of sunlight availability, however, is representative of when the amenity spaces are arguably more likely to be frequently used.
- 6.26 In order to further inform the overshadowing to the proposed amenity areas, we have undertaken further assessments which considers the duration of Time in Sun a space receives. This analysis has been undertaken for both March 21st and June 21st which shows the amount of time in sun the amenity spaces will receive in the spring/autumn and midsummer between 0-240 minutes (4 hours). The results of this analysis can be seen on drawings P3715/TIS/01 also in Appendix 6.
- 6.27 The typical two-hour Sun on Ground assessment demonstrates that both of the roof terraces will comfortably meet the BRE criteria. They will receive 2 hours of direct sun to 99.9-100% of their areas. This represents an excellent level of sunlight for an urban area and should result in each of these spaces receiving very good levels of sunlight throughout the year. In fact, the time in sun results demonstrate that essentially all of these spaces would receive at least 4 hours of sun even on March 21st so the occupants will have access to very well sunlit spaces all year round.
- 6.28 The March 21st 2-hour sun on ground results, demonstrate no discernible area would receive 2 hours of direct sun on March 21st (0.2%). It is commonplace for courtyard spaces to receive lower levels than the BRE recommends as the maximum height of the sun is 39.4 degrees from the horizontal. Given the relatively low angle of the sun, it is invariably difficult for courtyards in high density urban areas to achieve 2 hours of sun to significant portions of the area.
- 6.29 Furthermore, just because a space does not receive 2 hours of direct sun on this date, does not mean that the space will not receive any sun at all. We have therefore also considered the amount of time in sun the space would receive on March 21st. The Time in Sun assessment is shown below, again side by side with the Consented Scheme:



Courtyard Time in Sun Results – March 21st

- 6.30 This demonstrates that the majority of the courtyard would receive some sun and around half would receive sun from between 60-120 minutes. Therefore, although no discernible area would receive 2 hours of sun, there would still be sunlight availability to the majority of the space even at this time of year for some of the day.
- 6.31 The Time in Sun results for June 21st demonstrate that around three-quarters of the space will receive sun for between 120-240minutes. Therefore, the space would receive much higher levels of sunlight in midsummer and the months either side when the space is more likely to be more frequently used.

7 Conclusion

- 7.1 This report considers the potential effect of the Darling Associates designed scheme for the Site in terms of the daylight, sunlight and overshadowing to the existing surrounding properties. The report also considers the internal daylight amenity within the Proposed Development and the overshadowing to the proposed amenity areas.
- 7.2 The Site is located within the Station Area Framework so is located in an area that will be/ already is undergoing a significant change. In the context of replacing the current buildings that occupy the Site with any development that responds to the evolving townscape of this area of Reading will invariably give rise to some relative changes in daylight and sunlight.
- 7.3 A key objective for the design team for the Proposed Development was to minimise the effects caused to the neighbouring properties, in particular the recent Station Hill Development. This has largely been achieved through a series of design considerations which reduces the scale of the Proposed Development along Greyfriars Road.
- 7.4 The results of the technical analysis demonstrate that 86% of windows would meet the VSC recommended targets, 98% of windows would meet the NSL criteria and 100% of windows would meet the APSH sunlight targets. This represents an excellent level of overall compliance when considering the dense urban regeneration context for the station area. The majority of windows/rooms that do not meet the guidance would only be slight short by experiencing relative changes of between 20-29% which is very commonly seen in dense urban areas.
- 7.5 The only window/room to experience greater effects is a studio apartment within Station Hill, however the effects to this space can be partly attributable to the existing conditions (being obstructed by Sainsburys and being a deep space). Any scheme that responds to the Framework will invariably cause similar, if not greater, effects to this space.
- 7.6 The scheme has been designed to maximise the daylight levels within scheme despite inherent constraints which make achieving optimal levels more challenging. The outwards facing rooms that overlook Greyfriars Road and Garrard Street achieve levels of daylight that would commonly be seen in urban areas. Some of the courtyard facing rooms receive lower levels of daylight, however this is to be somewhat expected given their close proximity to the recent Station Hill development and access to daylight within courtyard spaces is naturally more limited. These spaces do however generally receive good levels of sunlight and have the benefit of being quieter and having a greener outlook.
- 7.7 In terms of overshadowing to the proposed amenity spaces, each of the roof terraces will comfortably meet the BRE criteria. The courtyard area will fall short of the typical BRE assessment which measures 2 hours of sun on ground on March 21st which is common for courtyards in urban areas. However, the supplementary time in sun assessment for March 21st demonstrates that the majority of the space will still receive some sun (with around half receiving between 1-2 hours). Furthermore, the June 21st results demonstrate that the majority of the spaces would receive between 2-4 hours of direct sun when the space will arguably be more frequently used (i.e. in the summer months).

Appendix 1: Plan and 3D Drawings



Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:
 Existing Buildings
 Proposed Scheme

All Heights in mm AOD

Scheme Confirmed:

Date:

Project: Greyfriars House
Reading

Drawn By:
EVJ

Scale:
1:800 @ A3

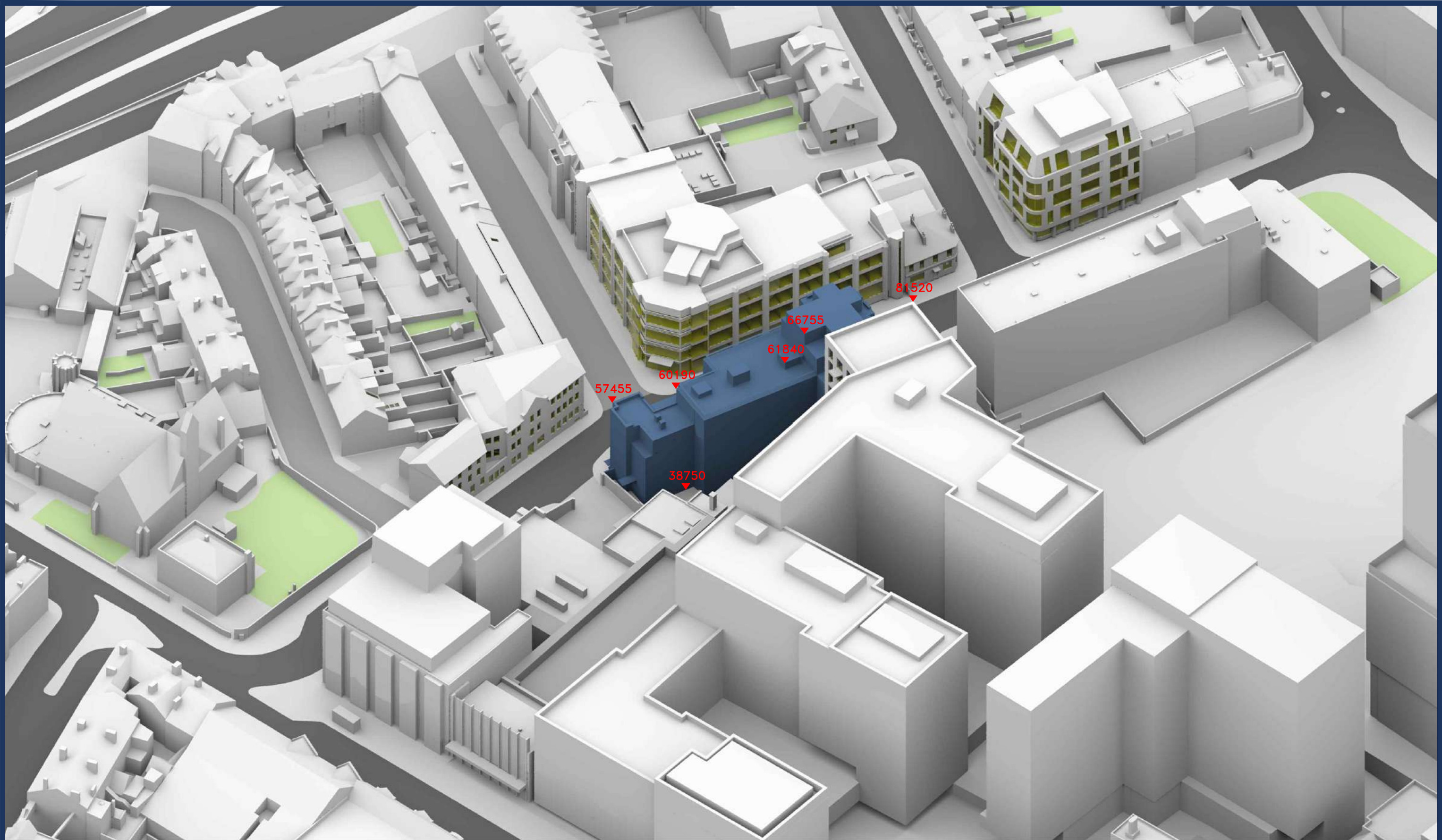
Date:
Oct 2024

Title: Site Plan
Existing Buildings
Current Baseline

Dwg No:
P3715/13

Rel:
02





Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:  Existing Buildings
 Proposed Scheme

All Heights in mm AOD

Project: Greyfriars House
Reading

Title: 3D Plan
Existing Buildings
Current Baseline

Scheme Confirmed:

Date:

Drawn By:
EVJ

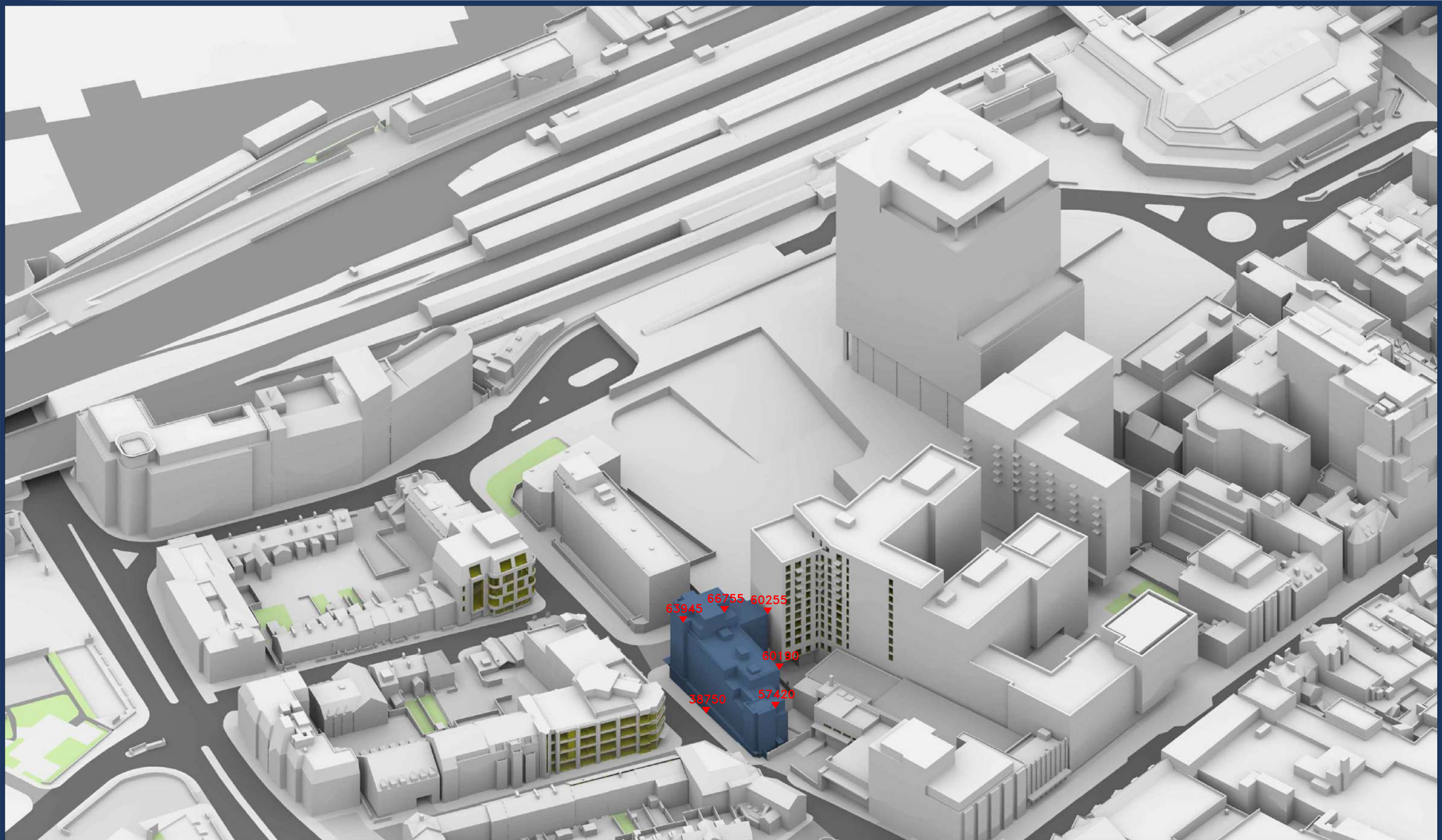
Scale:
NTS @ A3

Date:
Oct 2024

Dwg No:
P3715/14

Rel:
02





Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:

Existing Buildings

Proposed Scheme

All Heights in mm AOD

Scheme Confirmed:

Date:

Project: Greyfriars House
Reading

Drawn By:

EVJ

Scale:

NTS @ A3

Date:

Oct 2024

Title: 3D Plan
Existing Buildings
Current Baseline

Dwg No:

P3715/15

Rel:

02

Point 2 Surveyors Limited, 17 Slingsby Place, London, WC2E 9AB | 0207 836 5828 | point2.co.uk



Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key: Existing Buildings
 Proposed Scheme

All Heights in mm AOD

Project: Greyfriars House
Reading

Title: Site Plan
Proposed Scheme Received 091024
Current Baseline

Scheme Confirmed:

Date:

Drawn By:
EVJ

Scale:
1:800 @ A3

Date:
Oct 2024

Dwg No:
P3715/16

Rel:
02





Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:  Existing Buildings
 Proposed Scheme

All Heights in mm AOD

Project: Greyfriars House
Reading

Title: 3D Plan
Proposed Scheme Received 091024
Current Baseline

Scheme Confirmed:

Date:

Drawn By:
EVJ

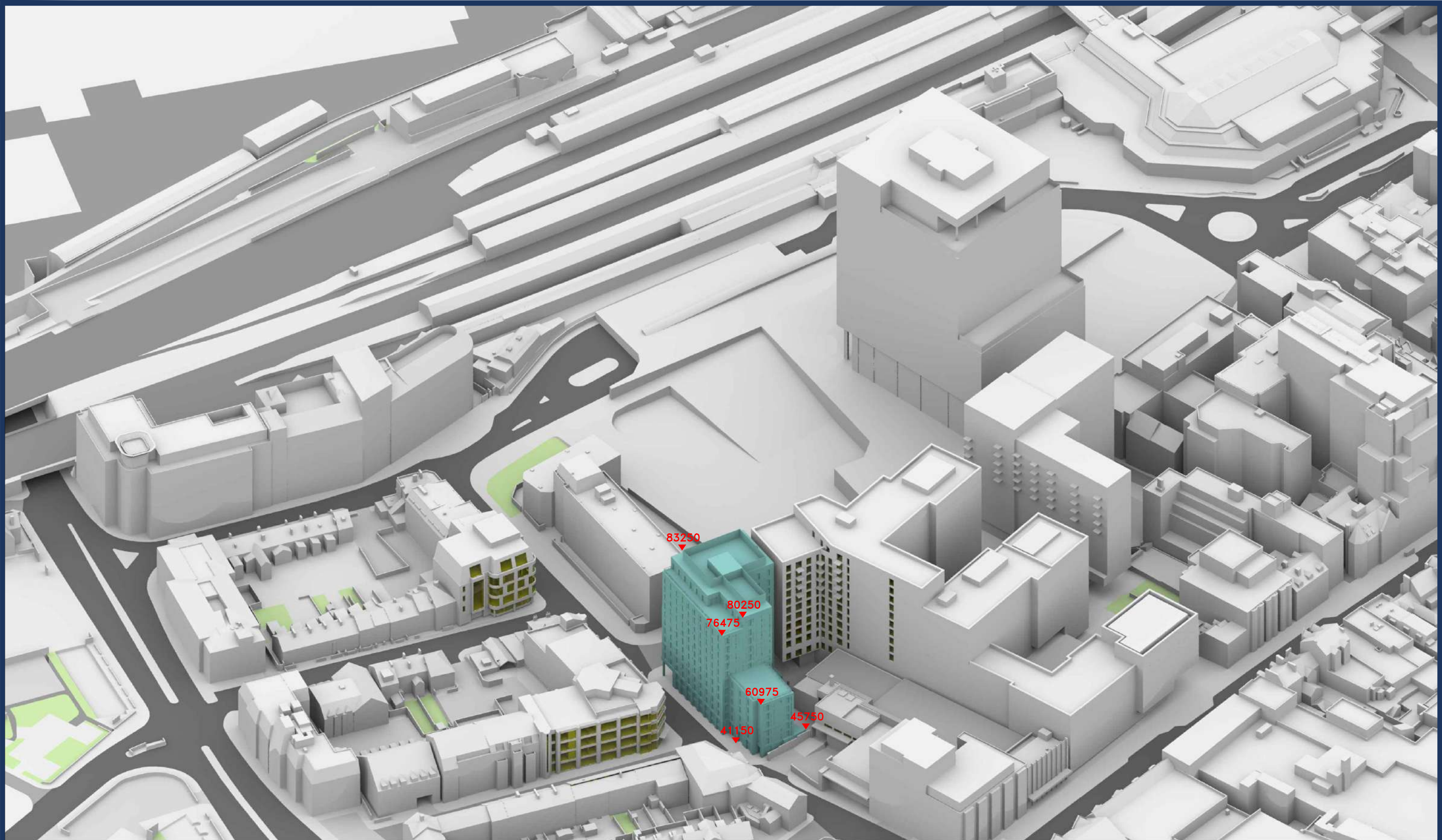
Scale:
NTS @ A3

Date:
Oct 2024

Dwg No:
P3715/17

Rel:
02





Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:

Existing Buildings

Proposed Scheme

All Heights in mm AOD

Scheme Confirmed:	Date:
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Project: Greyfriars House
Reading

Drawn By:	Scale:	Date:
EVJ	NTS @ A3	Oct 2024

Title: 3D Plan
Proposed Scheme Received 0910924
Current Baseline

Dwg No:	Rel:
P3715/18	02



Appendix 2: Daylight and Sunlight Results



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
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Station Hill Block E

R1/60	BEDROOM	W1/60	21.21	19.14	2.07	9.76
R2/60	LKD	W2/60	20.96	19.02	1.94	9.26
R3/60	BEDROOM	W3/60	20.08	18.38	1.70	8.47
R4/60	BEDROOM	W4/60	19.12	17.60	1.52	7.95
R5/60	LKD	W5/60	18.07	13.27	4.80	26.56
R6/60	BEDROOM	W6/60	17.82	12.59	5.23	29.35
R7/60	STUDIO	W7/60	11.94	7.12	4.82	40.37
R7/60	STUDIO	W8/60	3.69	3.68	0.01	0.27
R1/61	BEDROOM	W1/61	25.39	22.41	2.98	11.74
R2/61	LKD	W2/61	25.29	22.68	2.61	10.32
R3/61	BEDROOM	W3/61	24.59	22.43	2.16	8.78
R4/61	BEDROOM	W4/61	23.57	21.71	1.86	7.89
R5/61	LKD	W5/61	22.64	16.63	6.01	26.55
R6/61	BEDROOM	W6/61	25.21	18.44	6.77	26.85
R7/61	STUDIO	W7/61	27.35	20.68	6.67	24.39
R7/61	STUDIO	W8/61	28.86	22.47	6.39	22.14
R1/62	BEDROOM	W1/62	27.73	23.90	3.83	13.81
R2/62	LKD	W2/62	27.22	24.13	3.09	11.35
R3/62	BEDROOM	W3/62	26.20	23.76	2.44	9.31
R4/62	BEDROOM	W4/62	24.86	22.83	2.03	8.17



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R5/62	LKD	W5/62	24.68	17.90	6.78	27.47
R6/62	BEDROOM	W6/62	27.53	20.00	7.53	27.35
R7/62	STUDIO	W7/62	29.87	22.55	7.32	24.51
R7/62	STUDIO	W8/62	31.49	24.57	6.92	21.98
R1/63	BEDROOM	W1/63	29.87	25.32	4.55	15.23
R2/63	LKD	W2/63	28.92	25.44	3.48	12.03
R3/63	BEDROOM	W3/63	27.53	24.92	2.61	9.48
R4/63	BEDROOM	W4/63	25.74	23.65	2.09	8.12
R5/63	LKD	W5/63	26.18	18.94	7.24	27.65
R6/63	BEDROOM	W6/63	29.32	21.36	7.96	27.15
R7/63	STUDIO	W7/63	31.76	24.10	7.66	24.12
R7/63	STUDIO	W8/63	33.36	26.22	7.14	21.40
R1/64	BEDROOM	W1/64	31.65	26.69	4.96	15.67
R2/64	LKD	W2/64	30.25	26.65	3.60	11.90
R3/64	BEDROOM	W3/64	28.56	25.98	2.58	9.03
R4/64	BEDROOM	W4/64	26.14	24.12	2.02	7.73
R5/64	LKD	W5/64	27.02	19.77	7.25	26.83
R6/64	BEDROOM	W6/64	30.59	22.69	7.90	25.83
R7/64	STUDIO	W7/64	33.17	25.61	7.56	22.79
R7/64	STUDIO	W8/64	34.76	27.79	6.97	20.05
R1/65	BEDROOM	W1/65	32.49	27.79	4.70	14.47
R2/65	LKD	W2/65	30.39	27.09	3.30	10.86



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R3/65	BEDROOM	W3/65	28.84	26.53	2.31	8.01
R4/65	BEDROOM	W4/65	25.67	23.97	1.70	6.62
R5/65	LKD	W5/65	26.42	20.27	6.15	23.28
R6/65	BEDROOM	W6/65	30.67	23.55	7.12	23.21
R7/65	STUDIO	W7/65	33.16	26.28	6.88	20.75
R7/65	STUDIO	W8/65	35.29	28.96	6.33	17.94
R1/66	BEDROOM	W1/66	33.22	28.92	4.30	12.94
R2/66	LKD	W2/66	21.78	18.82	2.96	13.59
R3/66	BEDROOM	W3/66	28.56	27.30	1.26	4.41
R4/66	BEDROOM	W4/66	20.91	19.48	1.43	6.84
R5/66	LKD	W5/66	20.84	15.67	5.17	24.81
R6/66	BEDROOM	W6/66	30.15	24.01	6.14	20.36
R7/66	STUDIO	W7/66	24.18	18.12	6.06	25.06
R7/66	STUDIO	W8/66	35.78	30.19	5.59	15.62
R1/67	BEDROOM	W1/67	33.97	30.21	3.76	11.07
R2/67	LKD	W2/67	22.29	19.76	2.53	11.35
R3/67	BEDROOM	W3/67	29.20	28.04	1.16	3.97
R4/67	BEDROOM	W4/67	21.10	19.91	1.19	5.64
R5/67	LKD	W5/67	20.93	16.49	4.44	21.21
R6/67	BEDROOM	W6/67	30.62	25.51	5.11	16.69
R7/67	STUDIO	W7/67	24.50	19.49	5.01	20.45



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R7/67	STUDIO	W8/67	36.20	31.60	4.60	12.71
R1/68	BEDROOM	W1/68	34.84	31.79	3.05	8.75
R2/68	LKD	W2/68	22.96	20.97	1.99	8.67
R3/68	BEDROOM	W3/68	30.02	28.98	1.04	3.46
R4/68	BEDROOM	W4/68	21.27	20.38	0.89	4.18
R5/68	LKD	W5/68	21.02	17.61	3.41	16.22
R6/68	BEDROOM	W6/68	31.31	27.34	3.97	12.68
R7/68	STUDIO	W7/68	25.14	21.29	3.85	15.31
R7/68	STUDIO	W8/68	36.54	33.01	3.53	9.66
R1/69	BEDROOM	W1/69	36.10	33.92	2.18	6.04
R2/69	LKD	W2/69	24.05	22.65	1.40	5.82
R3/69	BEDROOM	W3/69	31.46	30.60	0.86	2.73
R4/69	BEDROOM	W4/69	21.44	20.86	0.58	2.71
R5/69	LKD	W5/69	21.68	19.42	2.26	10.42
R6/69	BEDROOM	W6/69	32.75	30.04	2.71	8.27
R7/69	STUDIO	W7/69	26.15	23.51	2.64	10.10
R7/69	STUDIO	W8/69	36.85	34.43	2.42	6.57
R1/70	BEDROOM	W1/70	37.38	36.17	1.21	3.24
R2/70	LKD	W2/70	36.20	35.44	0.76	2.10
R3/70	BEDROOM	W3/70	33.85	33.37	0.48	1.42
R4/70	BEDROOM	W4/70	29.45	29.11	0.34	1.15



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R5/70	LKD	W5/70	31.11	29.70	1.41	4.53
R6/70	BEDROOM	W6/70	35.49	33.94	1.55	4.37
R7/70	STUDIO	W7/70	27.55	26.07	1.48	5.37
R7/70	STUDIO	W8/70	37.85	36.49	1.36	3.59
R1/71	BEDROOM	W1/71	39.62	38.27	1.35	3.41
R2/71	LKD	W2/71	39.62	38.33	1.29	3.26
R2/71	LKD	W3/71	39.61	38.42	1.19	3.00
R3/71	STUDIO	W4/71	39.62	38.88	0.74	1.87
R3/71	STUDIO	W5/71	39.62	39.03	0.59	1.49

Central Studios 60 Friar Street

R2/41	STUDENT	W2/41	11.05	9.22	1.83	16.56
R3/41	STUDENT	W3/41	13.52	11.65	1.87	13.83
R4/41	STUDENT	W4/41	12.96	11.29	1.67	12.89
R5/41	STUDENT	W5/41	10.12	9.36	0.76	7.51
R6/41	STUDENT	W6/41	5.29	5.29	0.00	0.00
R2/42	STUDENT	W2/42	12.08	10.28	1.80	14.90
R3/42	STUDENT	W3/42	15.07	13.22	1.85	12.28
R4/42	STUDENT	W4/42	14.50	12.86	1.64	11.31
R5/42	STUDENT	W5/42	11.28	10.53	0.75	6.65
R6/42	STUDENT	W6/42	6.14	6.14	0.00	0.00
R7/42	ASSUMED-HALL-6M	W7/42	32.39	29.53	2.86	8.83
R2/43	STUDENT	W2/43	13.67	11.93	1.74	12.73



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R3/43	STUDENT	W3/43	17.83	16.04	1.79	10.04
R4/43	STUDENT	W4/43	17.02	15.42	1.60	9.40
R5/43	STUDENT	W5/43	12.88	12.15	0.73	5.67
R6/43	STUDENT	W6/43	7.28	7.28	0.00	0.00
R7/43	ASSUMED-HALL-6M	W7/43	33.77	31.00	2.77	8.20
R2/44	STUDENT	W2/44	17.23	15.64	1.59	9.23
R3/44	STUDENT	W3/44	22.42	20.77	1.65	7.36
R4/44	STUDENT	W4/44	20.11	18.61	1.50	7.46
R5/44	STUDENT	W5/44	14.57	13.89	0.68	4.67
R6/44	STUDENT	W6/44	8.48	8.48	0.00	0.00
R7/44	ASSUMED-HALL-6M	W7/44	34.74	32.23	2.51	7.23
R1/45	STUDENT	W1/45	27.40	25.94	1.46	5.33
R2/45	STUDENT	W2/45	23.66	22.31	1.35	5.71
R3/45	STUDENT	W3/45	17.37	16.62	0.75	4.32
R4/45	STUDENT	W4/45	10.46	10.46	0.00	0.00
R5/45	ASSUMED-HALL-6M	W5/45	35.56	33.35	2.21	6.21
R1/46	ASSUMED-HALL-6M	W1/46	36.35	34.44	1.91	5.25
R1/47	ASSUMED-HALL-6M	W1/47	37.10	35.80	1.30	3.50

1 Sackville Street

R6/80	IING_Assumed Windc	W16/80	15.35	14.85	0.50	3.26
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DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R7/80	CHEN_Assumed Wind	W17/80	7.60	7.60	0.00	0.00
R7/80	CHEN_Assumed Wind	W18/80	7.84	7.84	0.00	0.00
R7/80	CHEN_Assumed Wind	W19/80	22.18	22.18	0.00	0.00
R7/82	BEDROOM	W7/82	33.02	31.39	1.63	4.94
3 Sackville Street						
R5/80	CHEN_Assumed Wind	W1/80	64.57	64.19	0.38	0.59
R5/80	CHEN_Assumed Wind	W2/80	72.93	72.56	0.37	0.51
R5/80	CHEN_Assumed Wind	W5/80	78.56	78.21	0.35	0.45
R5/80	CHEN_Assumed Wind	W14/80	25.29	25.01	0.28	1.11
R5/80	CHEN_Assumed Wind	W15/80	25.74	25.45	0.29	1.13
R5/82	BEDROOM	W6/82	32.96	31.39	1.57	4.76
5 Sackville Street						
R3/80	ed 4.2m_Assumed Wi	W10/80	16.85	16.27	0.58	3.44
R4/80	umed_Assumed Wind	W11/80	7.11	7.11	0.00	0.00
R4/80	umed_Assumed Wind	W13/80	27.38	27.17	0.21	0.77
R3/81	ASSUMED_4.2M	W3/81	32.38	31.12	1.26	3.89
R4/81	ASSUMED_4.2M	W4/81	32.78	31.42	1.36	4.15
R3/82	ASSUMED_4.2M	W3/82	34.24	32.79	1.45	4.23
R4/82	ASSUMED_4.2M	W4/82	34.05	32.55	1.50	4.41
7 Sackville Street						
R1/80	IING_Assumed Windc	W6/80	17.62	17.34	0.28	1.59
R2/80	CHEN_Assumed Wind	W3/80	64.35	63.97	0.38	0.59
R2/80	CHEN_Assumed Wind	W4/80	75.32	74.92	0.40	0.53
R2/80	CHEN_Assumed Wind	W7/80	7.92	7.92	0.00	0.00
R2/80	CHEN_Assumed Wind	W8/80	8.14	8.14	0.00	0.00



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R2/80	KITCHEN Assumed Wind	W9/80	30.55	29.25	1.30	4.26
R1/82	BEDROOM	W1/82	33.91	32.48	1.43	4.22
11 Vachel Road						
R3/89	STUDIO	W3/89	15.55	14.86	0.69	4.44
R6/90	STUDIO	W6/90	19.07	18.22	0.85	4.46
R3/91	STUDIO	W4/91	22.51	21.45	1.06	4.71
R3/92	STUDIO	W4/92	20.75	19.54	1.21	5.83
9 Vachel Road						
R2/89	KITCHEN	W2/89	14.83	13.92	0.91	6.14
R4/90	LIVINGROOM	W4/90	18.74	17.72	1.02	5.44
R2/91	BEDROOM	W3/91	22.08	20.80	1.28	5.80
R2/92	BEDROOM	W3/92	20.23	18.73	1.50	7.41
7 Vachel Road						
R1/89	LIVINGROOM	W1/89	14.92	13.52	1.40	9.38
R2/90	LKD	W2/90	18.53	17.06	1.47	7.93
R1/91	ASSUMED_HALF-DEPT	W1/91	21.65	19.80	1.85	8.55
R1/91	ASSUMED_HALF-DEPT	W2/91	21.78	20.18	1.60	7.35
R1/92	ASSUMED_HALF-DEPT	W1/92	18.85	16.85	2.00	10.61
R1/92	ASSUMED_HALF-DEPT	W2/92	19.06	17.27	1.79	9.39
5 Vachel Court						
R1/31	UNKNOWN	W1/31	20.96	17.57	3.39	16.17



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R2/31	UNKNOWN	W2/31	20.43	18.21	2.22	10.87
R1/32	ASSUMED_LS	W1/32	23.06	19.67	3.39	14.70
R2/32	ASSUMED_LS	W2/32	22.16	19.79	2.37	10.69
13 Vachel Road						
R2/49	ASSUMED_14FT	W1/49	14.62	14.04	0.58	3.97
R1/50	ASSUMED_14FT	W1/50	20.14	19.31	0.83	4.12
R2/50	ASSUMED_14FT	W2/50	19.45	18.71	0.74	3.80
R2/51	ASSUMED_14FT	W1/51	22.90	21.95	0.95	4.15
R2/51	ASSUMED_14FT	W2/51	23.03	22.14	0.89	3.86
R2/52	ASSUMED_14FT	W1/52	22.50	21.44	1.06	4.71
R2/52	ASSUMED_14FT	W2/52	22.81	21.84	0.97	4.25
15 Vachel Road						
R4/49	ASSUMED_14FT	W2/49	13.37	13.37	0.00	0.00
R3/50	ASSUMED_14FT	W3/50	19.35	18.69	0.66	3.41
R3/50	ASSUMED_14FT	W4/50	20.29	19.60	0.69	3.40
R4/50	ASSUMED_14FT	W5/50	18.61	18.01	0.60	3.22
R4/51	ASSUMED_14FT	W3/51	22.38	21.67	0.71	3.17
R4/52	ASSUMED_14FT	W3/52	23.48	22.62	0.86	3.66
R4/52	ASSUMED_14FT	W4/52	23.44	22.68	0.76	3.24
R4/52	ASSUMED_14FT	W5/52	83.87	82.90	0.97	1.16
11 Stanshawe Road						
R1/320	KITCHEN	W1/320	24.13	23.63	0.50	2.07
R3/320	BEDROOM	W4/320	25.89	25.89	0.00	0.00



DAYLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Window	Existing VSC	Proposed VSC	Loss	%Loss
R1/321	KITCHEN	W1/321	25.10	24.27	0.83	3.31
R3/321	BEDROOM	W4/321	27.11	27.11	0.00	0.00



NSL ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Whole Room sq ft	Existing sq ft	Proposed sq ft	Loss sq ft	%Loss
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Station Hill Block E

R1/60	BEDROOM	102.0	98.4	97.3	1.2	1.2
R2/60	LKD	302.6	269.5	268.3	1.1	0.4
R3/60	BEDROOM	92.8	87.8	87.1	0.7	0.8
R4/60	BEDROOM	92.2	83.0	83.0	0.0	0.0
R5/60	LKD	379.6	256.1	212.9	43.2	16.9
R6/60	BEDROOM	103.1	97.1	78.8	18.3	18.8
R7/60	STUDIO	296.7	176.0	103.7	72.3	41.1
R1/61	BEDROOM	102.0	98.6	97.2	1.4	1.4
R2/61	LKD	302.6	284.2	282.7	1.5	0.5
R3/61	BEDROOM	92.8	88.1	87.4	0.7	0.8
R4/61	BEDROOM	92.2	83.1	83.1	0.0	0.0
R5/61	LKD	379.6	328.1	286.1	42.0	12.8
R6/61	BEDROOM	103.1	99.0	84.5	14.5	14.6
R7/61	STUDIO	296.7	287.6	275.4	12.3	4.3
R1/62	BEDROOM	102.0	99.0	97.7	1.3	1.3
R2/62	LKD	302.6	285.0	283.4	1.5	0.5
R3/62	BEDROOM	92.8	88.1	87.6	0.5	0.6
R4/62	BEDROOM	92.2	83.3	83.3	0.0	0.0
R5/62	LKD	379.6	345.8	328.7	17.1	4.9
R6/62	BEDROOM	103.1	99.0	85.5	13.6	13.7
R7/62	STUDIO	296.7	289.6	285.8	3.8	1.3
R1/63	BEDROOM	102.0	99.0	98.0	1.0	1.0
R2/63	LKD	302.6	285.2	284.0	1.2	0.4
R3/63	BEDROOM	92.8	88.3	87.9	0.4	0.5
R4/63	BEDROOM	92.2	83.3	83.3	0.0	0.0
R5/63	LKD	379.6	348.5	332.1	16.4	4.7
R6/63	BEDROOM	103.1	99.0	86.7	12.4	12.5
R7/63	STUDIO	296.7	289.6	286.9	2.7	0.9
R1/64	BEDROOM	102.0	99.1	98.1	1.0	1.0
R2/64	LKD	302.6	285.7	284.8	0.9	0.3
R3/64	BEDROOM	92.8	88.4	88.0	0.4	0.5
R4/64	BEDROOM	92.2	83.3	83.3	0.0	0.0
R5/64	LKD	379.6	348.5	333.6	14.8	4.2
R6/64	BEDROOM	103.1	99.0	88.8	10.2	10.3
R7/64	STUDIO	296.7	289.6	288.1	1.5	0.5
R1/65	BEDROOM	102.0	99.5	98.7	0.8	0.8
R2/65	LKD	302.6	285.8	284.9	0.8	0.3



NSL ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Whole Room sq ft	Existing sq ft	Proposed sq ft	Loss sq ft	%Loss
R3/65	BEDROOM	92.8	88.4	88.1	0.3	0.3
R4/65	BEDROOM	92.2	83.3	83.3	0.0	0.0
R5/65	LKD	379.6	348.5	335.2	13.3	3.8
R6/65	BEDROOM	103.1	99.0	91.5	7.5	7.6
R7/65	STUDIO	296.7	289.7	289.6	0.1	0.0
R1/66	BEDROOM	102.0	99.6	99.1	0.5	0.5
R2/66	LKD	302.6	285.1	283.7	1.4	0.5
R3/66	BEDROOM	92.8	89.0	89.0	0.0	0.0
R4/66	BEDROOM	92.2	83.2	83.2	0.0	0.0
R5/66	LKD	379.6	348.5	333.0	15.5	4.4
R6/66	BEDROOM	103.1	99.2	95.5	3.8	3.8
R7/66	STUDIO	296.7	289.7	288.7	1.1	0.4
R1/67	BEDROOM	102.0	99.7	99.6	0.1	0.1
R2/67	LKD	302.6	285.6	284.9	0.7	0.2
R3/67	BEDROOM	92.8	89.1	89.1	0.0	0.0
R4/67	BEDROOM	92.2	83.2	83.2	0.0	0.0
R5/67	LKD	379.6	348.5	336.6	11.9	3.4
R6/67	BEDROOM	103.1	99.6	99.1	0.5	0.5
R7/67	STUDIO	296.7	289.7	289.5	0.2	0.1
R1/68	BEDROOM	102.0	100.2	100.2	0.0	0.0
R2/68	LKD	302.6	285.9	285.9	0.0	0.0
R3/68	BEDROOM	92.8	89.5	89.5	0.0	0.0
R4/68	BEDROOM	92.2	83.3	83.3	0.0	0.0
R5/68	LKD	379.6	348.5	343.6	4.9	1.4
R6/68	BEDROOM	103.1	99.9	99.9	0.0	0.0
R7/68	STUDIO	296.7	289.7	289.7	0.0	0.0
R1/69	BEDROOM	102.0	100.3	100.3	0.0	0.0
R2/69	LKD	302.6	286.9	286.9	0.0	0.0
R3/69	BEDROOM	92.8	90.2	90.2	0.0	0.0
R4/69	BEDROOM	92.2	83.4	83.4	0.0	0.0
R5/69	LKD	379.6	348.5	348.2	0.3	0.1
R6/69	BEDROOM	103.1	100.5	100.5	0.0	0.0
R7/69	STUDIO	296.7	291.5	291.5	0.0	0.0
R1/70	BEDROOM	102.0	100.3	100.3	0.0	0.0
R2/70	LKD	302.6	288.6	288.6	0.0	0.0
R3/70	BEDROOM	92.8	90.7	90.7	0.0	0.0
R4/70	BEDROOM	92.2	84.8	84.8	0.0	0.0
R5/70	LKD	379.6	348.8	348.8	0.0	0.0
R6/70	BEDROOM	103.1	100.9	100.9	0.0	0.0



NSL ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Whole Room sq ft	Existing sq ft	Proposed sq ft	Loss sq ft	%Loss
R7/70	STUDIO	296.7	292.0	292.0	0.0	0.0
R1/71	BEDROOM	164.2	151.7	151.7	0.0	0.0
R2/71	LKD	295.2	288.0	288.0	0.0	0.0
R3/71	STUDIO	295.9	291.1	291.1	0.0	0.0

Central Studios 60 Friar Street

R2/41	STUDENT	163.8	128.0	115.7	12.3	9.6
R3/41	STUDENT	164.1	120.3	108.6	11.7	9.7
R4/41	STUDENT	163.4	126.1	92.1	34.0	27.0
R5/41	STUDENT	135.5	106.7	69.6	37.0	34.7
R6/41	STUDENT	157.2	55.5	55.5	0.0	0.0
R2/42	STUDENT	163.8	130.0	117.9	12.1	9.3
R3/42	STUDENT	164.1	121.3	110.6	10.7	8.8
R4/42	STUDENT	163.4	135.0	106.8	28.2	20.9
R5/42	STUDENT	135.5	107.4	75.5	31.9	29.7
R6/42	STUDENT	157.2	66.9	66.9	0.0	0.0
R7/42	ASSUMED-HALL-6M	72.6	72.6	64.7	7.9	10.9
R2/43	STUDENT	163.8	137.7	129.8	7.8	5.7
R3/43	STUDENT	164.1	126.5	120.6	5.9	4.7
R4/43	STUDENT	163.4	153.8	140.8	13.0	8.5
R5/43	STUDENT	135.5	108.1	90.5	17.6	16.3
R6/43	STUDENT	157.2	88.9	88.9	0.0	0.0
R7/43	ASSUMED-HALL-6M	72.6	72.6	67.8	4.8	6.6
R2/44	STUDENT	163.8	147.8	143.0	4.9	3.3
R3/44	STUDENT	164.1	134.3	130.1	4.2	3.1
R4/44	STUDENT	163.4	160.4	157.1	3.3	2.1
R5/44	STUDENT	135.5	109.4	98.6	10.8	9.9
R6/44	STUDENT	157.2	98.7	98.7	0.0	0.0
R7/44	ASSUMED-HALL-6M	72.6	72.6	72.5	0.0	0.0
R1/45	STUDENT	164.1	159.1	159.1	0.0	0.0
R2/45	STUDENT	163.4	160.2	159.4	0.8	0.5
R3/45	STUDENT	135.5	133.2	127.3	5.9	4.4
R4/45	STUDENT	157.2	117.1	117.1	0.0	0.0
R5/45	ASSUMED-HALL-6M	72.6	72.6	72.6	0.0	0.0
R1/46	ASSUMED-HALL-6M	72.6	72.6	72.6	0.0	0.0
R1/47	ASSUMED-HALL-6M	77.7	77.7	77.7	0.0	0.0

1 Sackville Street



NSL ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Whole Room sq ft	Existing sq ft	Proposed sq ft	Loss sq ft	%Loss
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R6/80	DINING_Assumed Windows	139.7	106.0	105.6	0.5	0.5
R7/80	KITCHEN_Assumed Windows	111.6	87.6	87.6	0.0	0.0
R7/82	BEDROOM	96.4	55.8	44.5	11.3	20.3

3 Sackville Street

R5/80	KITCHEN_Assumed Windows	199.4	197.7	197.7	0.0	0.0
R5/82	BEDROOM	101.9	98.9	98.5	0.4	0.4

5 Sackville Street

R3/80	sumed 4.2m_Assumed Windo	170.1	110.2	110.2	0.0	0.0
R4/80	Assumed_Assumed Windows	107.0	105.9	105.1	0.8	0.8
R3/81	ASSUMED_4.2M	57.4	57.2	57.2	0.0	0.0
R4/81	ASSUMED_4.2M	117.6	114.7	114.7	0.0	0.0
R3/82	ASSUMED_4.2M	118.7	115.7	115.7	0.0	0.0
R4/82	ASSUMED_4.2M	55.7	55.5	55.5	0.0	0.0

7 Sackville Street

R1/80	DINING_Assumed Windows	146.7	111.9	111.9	0.0	0.0
R2/80	KITCHEN_Assumed Windows	111.6	111.6	111.6	0.0	0.0
R1/82	BEDROOM	108.2	103.6	103.1	0.5	0.5

11 Vachel Road

R3/89	STUDIO	160.9	54.2	50.1	4.1	7.6
R6/90	STUDIO	119.3	58.7	55.3	3.4	5.8
R3/91	STUDIO	161.0	108.0	106.6	1.5	1.4
R3/92	STUDIO	161.0	82.4	74.9	7.5	9.1

9 Vachel Road

R2/89	KITCHEN	152.3	57.0	56.6	0.4	0.7
R4/90	LIVINGROOM	119.4	57.0	55.2	1.8	3.2
R2/91	BEDROOM	158.0	99.7	98.3	1.3	1.3
R2/92	BEDROOM	158.0	76.8	71.1	5.7	7.4



NSL ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

Room	Room Use	Whole Room sq ft	Existing sq ft	Proposed sq ft	Loss sq ft	%Loss
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7 Vachel Road

R1/89	LIVINGROOM	137.1	54.9	45.0	9.9	18.0
R2/90	LKD	153.4	68.8	62.1	6.7	9.7
R1/91	ASSUMED_HALF-DEPTH	187.7	130.1	124.7	5.4	4.2
R1/92	ASSUMED_HALF-DEPTH	187.7	93.9	86.4	7.5	8.0

5 Vachel Court

R1/31	UNKNOWN	130.2	97.6	84.4	13.3	13.6
R2/31	UNKNOWN	123.5	66.0	58.0	8.0	12.1
R1/32	ASSUMED_LS	115.3	95.3	80.9	14.3	15.0
R2/32	ASSUMED_LS	91.5	70.0	62.2	7.8	11.1

13 Vachel Road

R2/49	ASSUMED_14FT	164.4	49.5	47.7	1.8	3.6
R1/50	ASSUMED_14FT	46.9	15.1	15.1	0.0	0.0
R2/50	ASSUMED_14FT	164.4	64.2	63.1	1.1	1.7
R2/51	ASSUMED_14FT	215.9	122.2	122.0	0.2	0.2
R2/52	ASSUMED_14FT	215.9	95.3	90.8	4.5	4.7

15 Vachel Road

R4/49	ASSUMED_14FT	167.1	52.3	51.7	0.6	1.1
R3/50	ASSUMED_14FT	48.3	20.6	20.6	0.0	0.0
R4/50	ASSUMED_14FT	167.1	63.9	63.5	0.4	0.6
R4/51	ASSUMED_14FT	220.0	94.7	93.9	0.7	0.7
R4/52	ASSUMED_14FT	220.0	191.9	191.9	0.0	0.0

11 Stanshawe Road

R1/320	KITCHEN	42.4	39.3	39.3	0.0	0.0
R3/320	BEDROOM	118.6	111.9	111.9	0.0	0.0
R1/321	KITCHEN	42.4	37.8	37.8	0.0	0.0
R3/321	BEDROOM	118.6	115.9	115.9	0.0	0.0



SUNLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

ADSL

Room	Window	Room Use	Window				Winter %Loss	Annual %Loss	Room				Winter %Loss	Annual %Loss
			Existing		Proposed				Existing		Proposed			
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		

Station Hill Block E

R2/60	W2/60	LKD	12	40	11	36	8.3	10.0	12	40	11	36	8.3	10.0
R5/60	W5/60	LKD	9	36	9	34	0.0	5.6	9	36	9	34	0.0	5.6
R7/60	W7/60	STUDIO	3	15	3	14	0.0	6.7						
R7/60	W8/60	STUDIO	3	11	3	11	0.0	0.0	3	15	3	14	0.0	6.7
R2/61	W2/61	LKD	16	48	16	41	0.0	14.6	16	48	16	41	0.0	14.6
R5/61	W5/61	LKD	15	46	15	41	0.0	10.9	15	46	15	41	0.0	10.9
R7/61	W7/61	STUDIO	16	47	15	43	6.3	8.5						
R7/61	W8/61	STUDIO	15	47	13	43	13.3	8.5	17	49	15	45	11.8	8.2
R2/62	W2/62	LKD	18	52	17	42	5.6	19.2	18	52	17	42	5.6	19.2
R5/62	W5/62	LKD	17	50	17	43	0.0	14.0	17	50	17	43	0.0	14.0
R7/62	W7/62	STUDIO	18	52	17	45	5.6	13.5						
R7/62	W8/62	STUDIO	17	51	16	46	5.9	9.8	18	52	17	47	5.6	9.6
R2/63	W2/63	LKD	19	58	17	43	10.5	25.9	19	58	17	43	10.5	25.9



SUNLIGHT ANALYSIS

Greystriars House
Existing vs Proposed Scheme 091024
Current Baseline

ADSL														
Room	Window	Room Use	Window				Winter %Loss	Annual %Loss	Room				Winter %Loss	Annual %Loss
			Existing		Proposed				Existing		Proposed			
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
R5/63	W5/63	LKD	18	51	17	42	5.6	17.6	18	51	17	42	5.6	17.6
R7/63	W7/63	STUDIO	18	54	17	45	5.6	16.7						
R7/63	W8/63	STUDIO	18	54	17	47	5.6	13.0	18	54	17	47	5.6	13.0
R2/64	W2/64	LKD	20	60	18	45	10.0	25.0	20	60	18	45	10.0	25.0
R5/64	W5/64	LKD	18	50	18	42	0.0	16.0	18	50	18	42	0.0	16.0
R7/64	W7/64	STUDIO	18	54	18	46	0.0	14.8						
R7/64	W8/64	STUDIO	18	54	18	48	0.0	11.1	18	54	18	48	0.0	11.1
R2/65	W2/65	LKD	20	60	18	46	10.0	23.3	20	60	18	46	10.0	23.3
R5/65	W5/65	LKD	17	48	17	40	0.0	16.7	17	48	17	40	0.0	16.7
R7/65	W7/65	STUDIO	18	54	18	46	0.0	14.8						
R7/65	W8/65	STUDIO	18	54	18	48	0.0	11.1	18	54	18	48	0.0	11.1
R2/66	W2/66	LKD	21	42	19	29	9.5	31.0	21	42	19	29	9.5	31.0
R5/66	W5/66	LKD	16	44	16	36	0.0	18.2	16	44	16	36	0.0	18.2
R7/66	W7/66	STUDIO	18	44	18	37	0.0	15.9						
R7/66	W8/66	STUDIO	18	54	18	48	0.0	11.1	18	54	18	48	0.0	11.1



SUNLIGHT ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 091024
Current Baseline

ADSL														
Room	Window	Room Use	Window				Winter %Loss	Annual %Loss	Room				Winter %Loss	Annual %Loss
			Existing		Proposed				Existing		Proposed			
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
R2/67	W2/67	LKD	21	42	19	30	9.5	28.6	21	42	19	30	9.5	28.6
R5/67	W5/67	LKD	16	44	16	39	0.0	11.4	16	44	16	39	0.0	11.4
R7/67	W7/67	STUDIO	18	44	18	38	0.0	13.6						
R7/67	W8/67	STUDIO	18	54	18	48	0.0	11.1	18	54	18	48	0.0	11.1
R2/68	W2/68	LKD	23	47	21	37	8.7	21.3	23	47	21	37	8.7	21.3
R5/68	W5/68	LKD	16	45	16	41	0.0	8.9	16	45	16	41	0.0	8.9
R7/68	W7/68	STUDIO	18	44	18	38	0.0	13.6						
R7/68	W8/68	STUDIO	18	54	18	49	0.0	9.3	18	54	18	49	0.0	9.3
R2/69	W2/69	LKD	23	50	21	43	8.7	14.0	23	50	21	43	8.7	14.0
R5/69	W5/69	LKD	16	46	16	44	0.0	4.3	16	46	16	44	0.0	4.3
R7/69	W7/69	STUDIO	18	44	18	40	0.0	9.1						
R7/69	W8/69	STUDIO	18	54	18	51	0.0	5.6	18	54	18	51	0.0	5.6
R2/70	W2/70	LKD	24	76	23	73	4.2	3.9	24	76	23	73	4.2	3.9
R5/70	W5/70	LKD	17	51	17	50	0.0	2.0	17	51	17	50	0.0	2.0
Total														

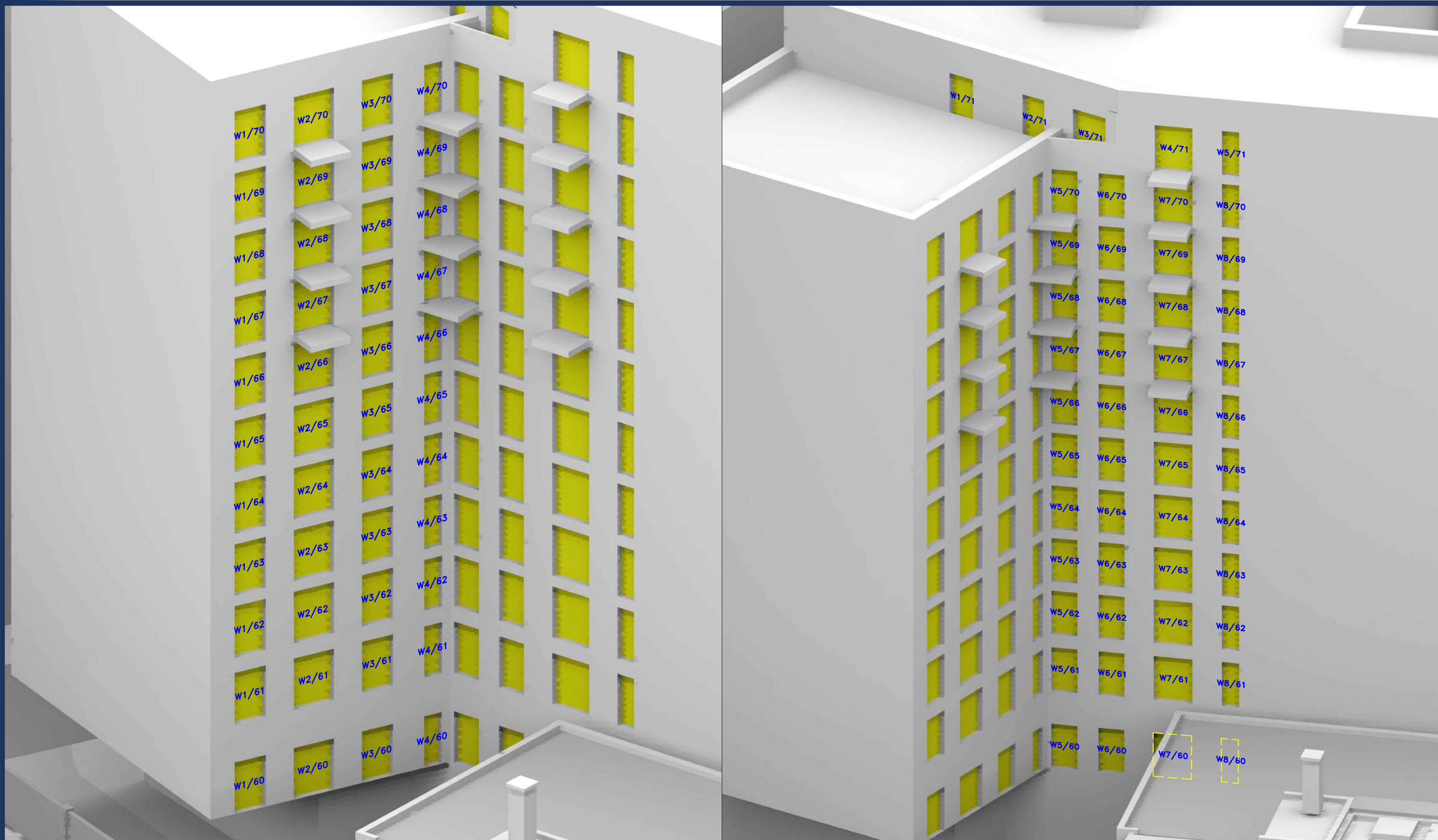


SUNLIGHT ANALYSIS

Greystriars House
Existing vs Proposed Scheme 091024
Current Baseline

ADSL														
Room	Window	Room Use	Window				Winter %Loss	Annual %Loss	Room				Winter %Loss	Annual %Loss
			Existing		Proposed				Existing		Proposed			
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
R7/70	W7/70	STUDIO	18	44	18	42	0.0	4.5						
R7/70	W8/70	STUDIO	18	54	18	53	0.0	1.9	18	54	18	53	0.0	1.9
R3/71	W4/71	STUDIO	18	54	18	54	0.0	0.0						
R3/71	W5/71	STUDIO	18	54	18	54	0.0	0.0	18	54	18	54	0.0	0.0

Appendix 3: Window Maps



Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:

Project: Greyfriars House
Reading

Title: Window Locations
Surrounding Buildings
Station Hill Block E

Scheme Confirmed:

Date:

Drawn By:
EVJ

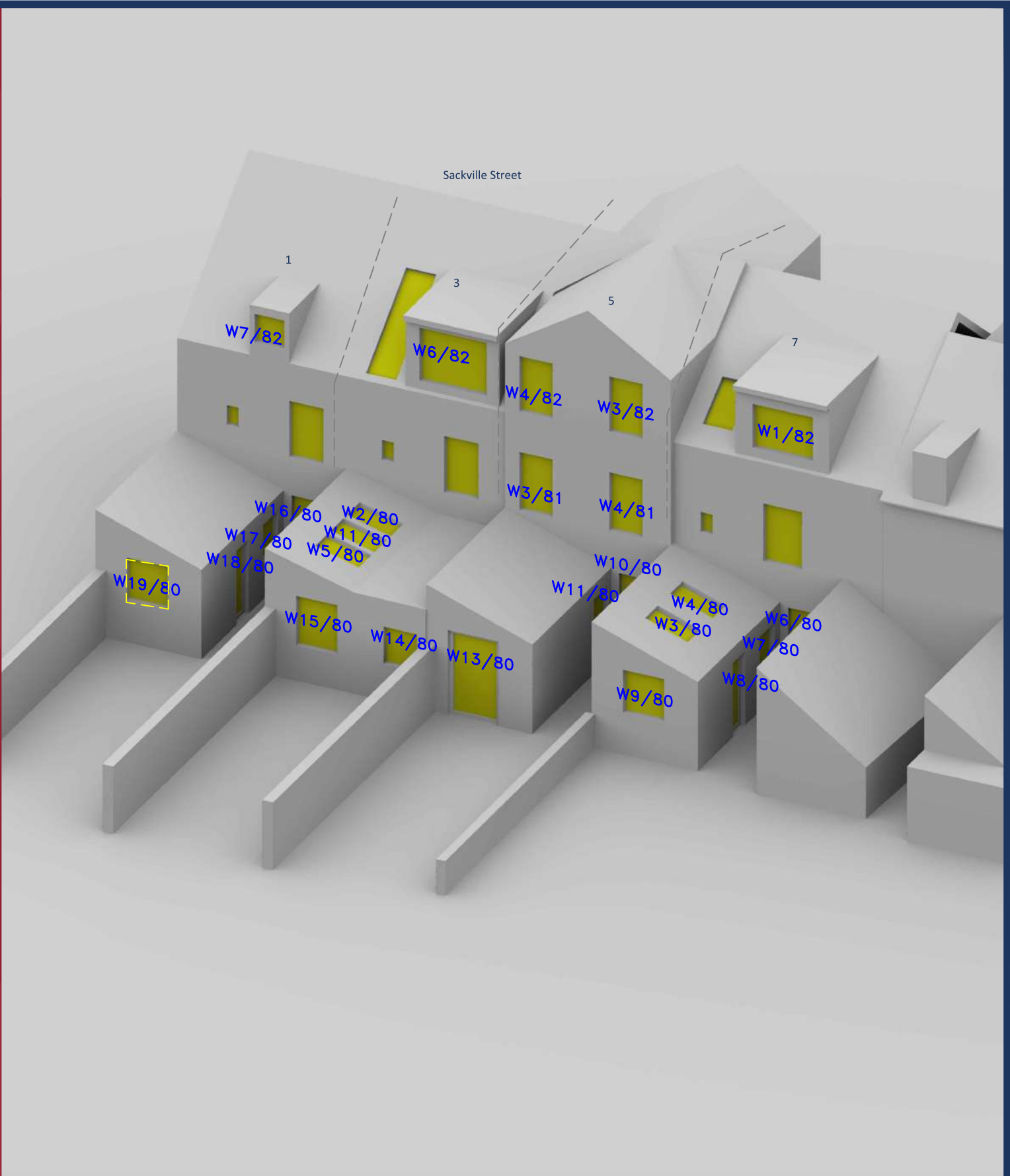
Scale:
NTS @ A3

Date:
Oct 2024

Dwg No:
P3715/W 01

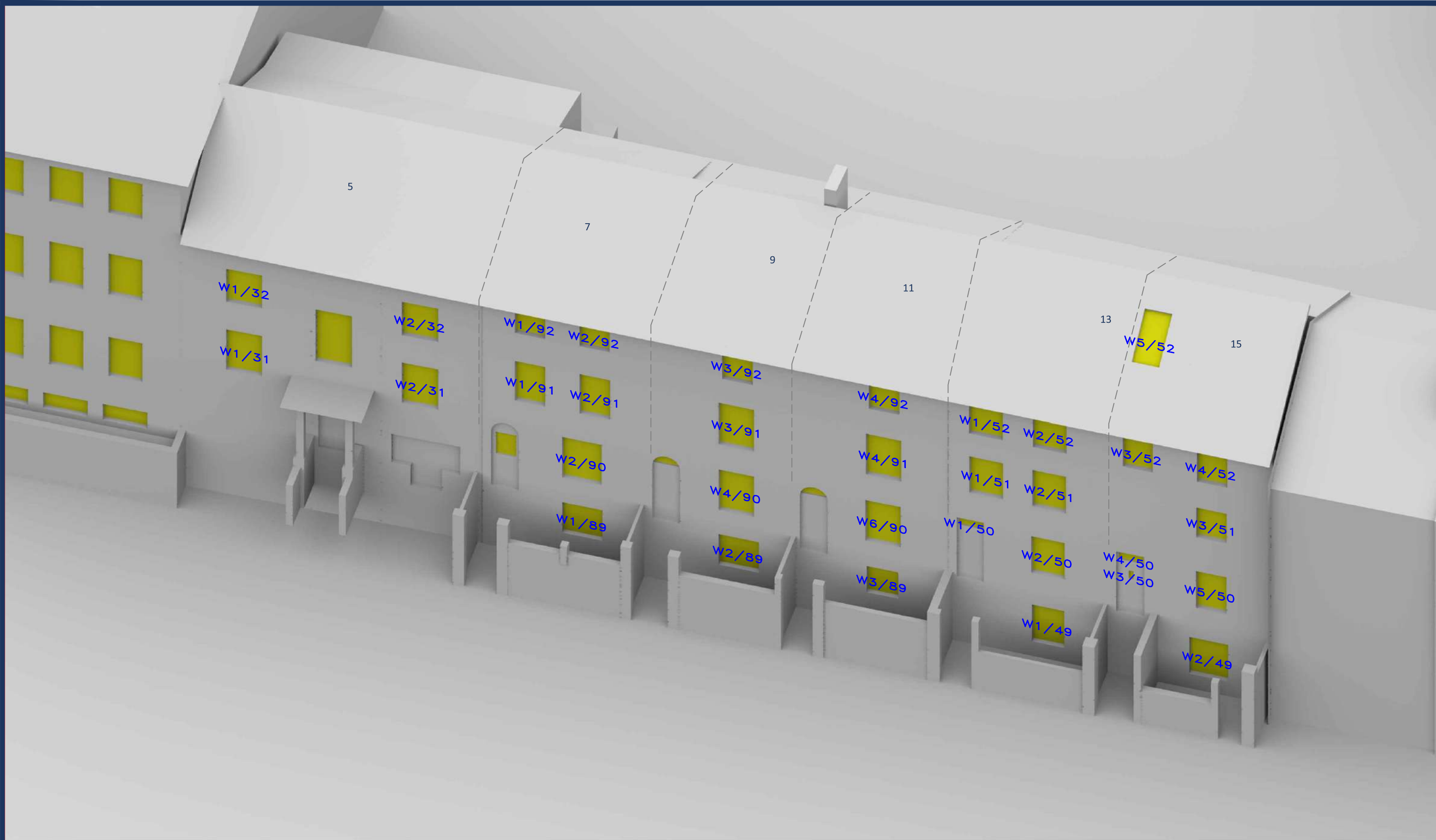
Rel:
02





Sources: Point2 Point Cloud Survey Site Photography Local Planning Authority Various Surrounding Building Layouts/Massing Darling Associates Proposed Scheme Received 091024 241004 Update 241004_GFR-DAA-ZA-ZZ-M3-A-Building_A	Key:		Project: Greyfriars House Reading			Title: Window Locations Surrounding Buildings	
	Scheme Confirmed:	Date:	Drawn By: EVJ	Scale: NTS @ A3	Date: Oct 2024	Dwg No: P3715/W 02	Rel: 02





Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:

Project: Greyfriars House
Reading

Title: Window Locations
Surrounding Buildings
Vachel Road

Scheme Confirmed:

Date:

Drawn By:
EVJ

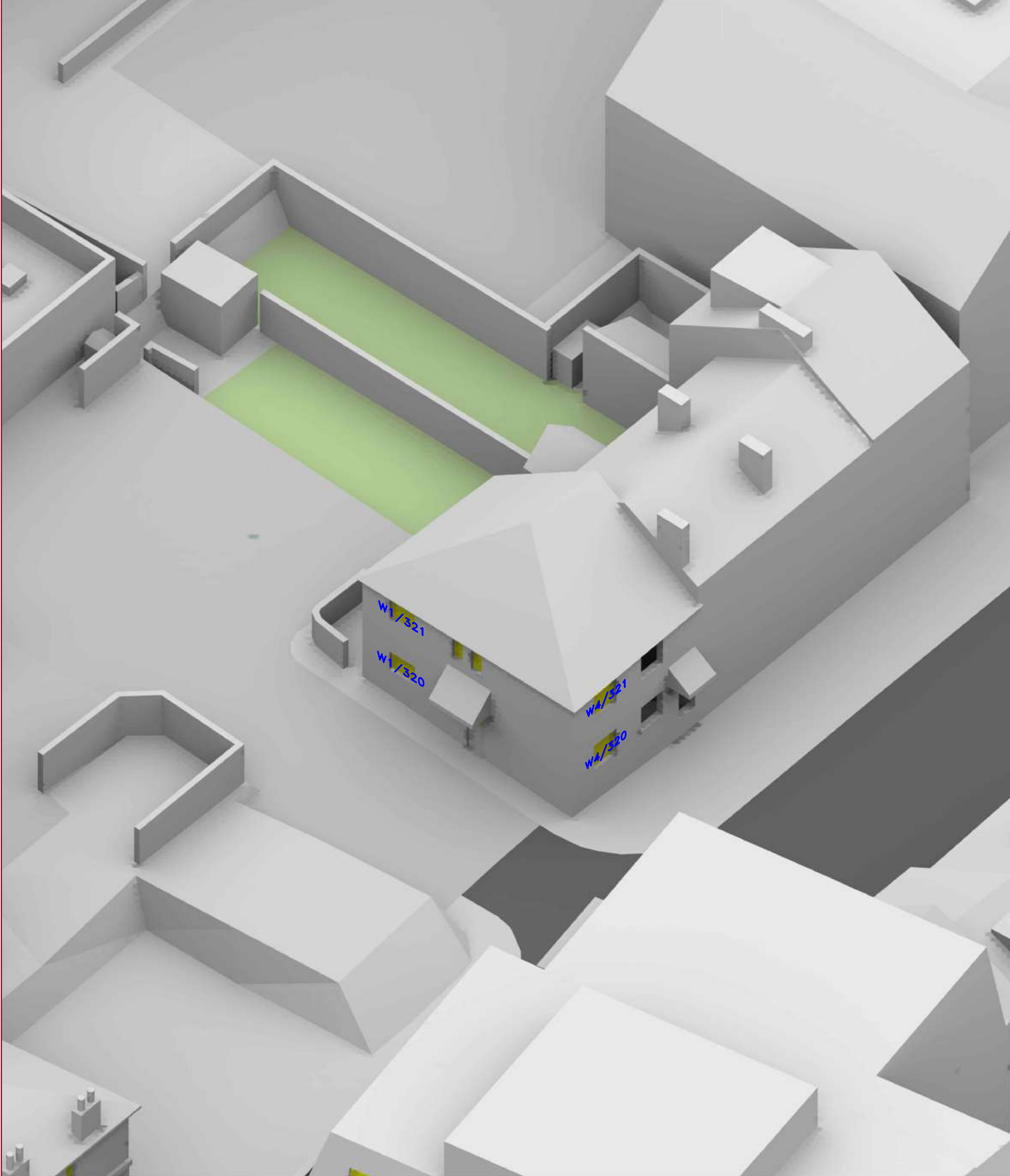
Scale:
NTS @ A3

Date:
Oct 2024

Dwg No:
P3715/W 03 RENDERTEST02

Rel:





Sources: Point2
Point Cloud Survey

Site Photography

Local Planning Authority
Various Surrounding Building Layouts/Massing

Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:

Project: Greyfriars House
Reading

Title: Window Locations
Surrounding Buildings
11 Stanshawe Road

Scheme Confirmed:

Date:

Drawn By:
EVJ

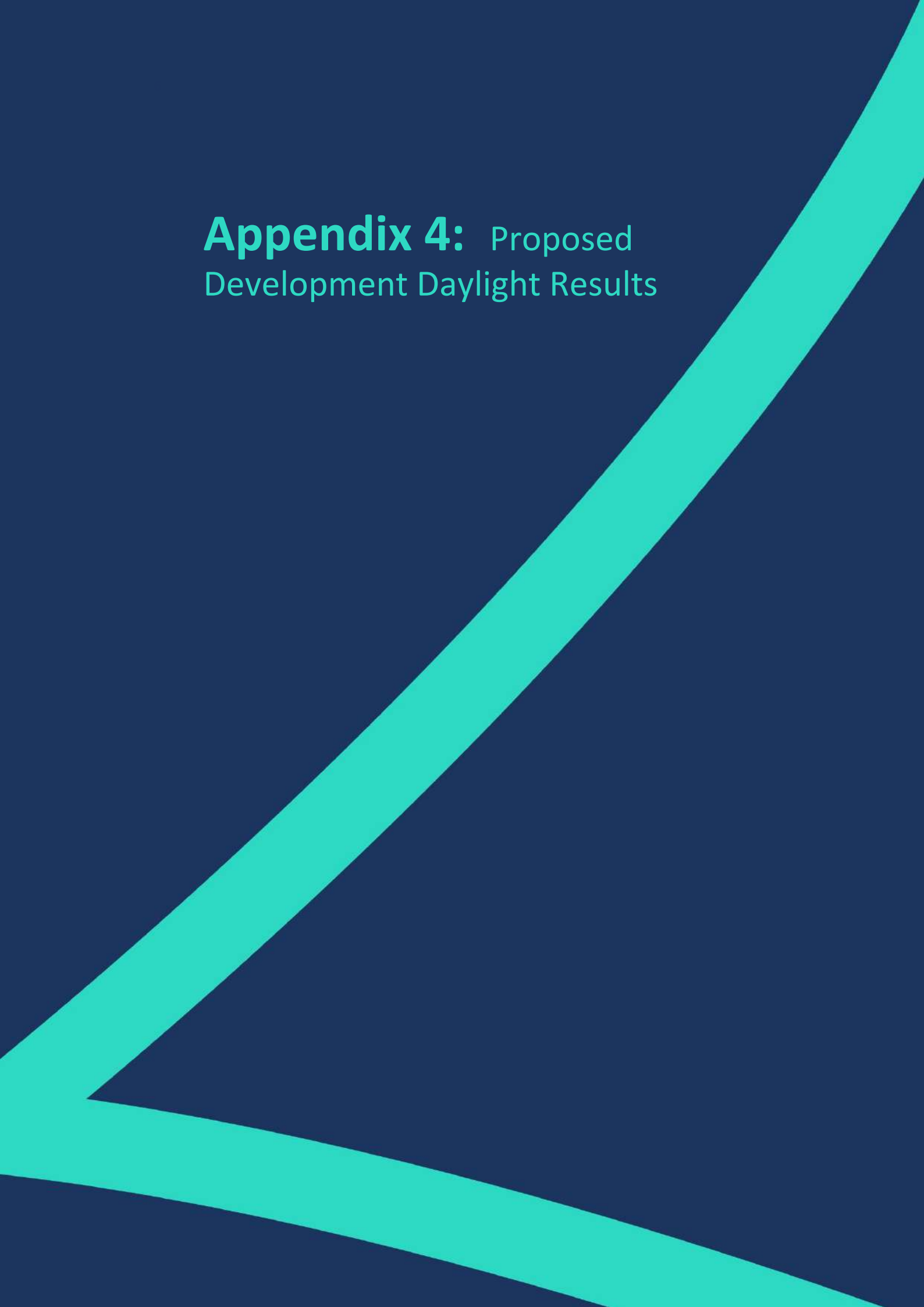
Scale:
NTS @ A3

Date:
Oct 2024

Dwg No:
P3715/W 04

Rel:
02

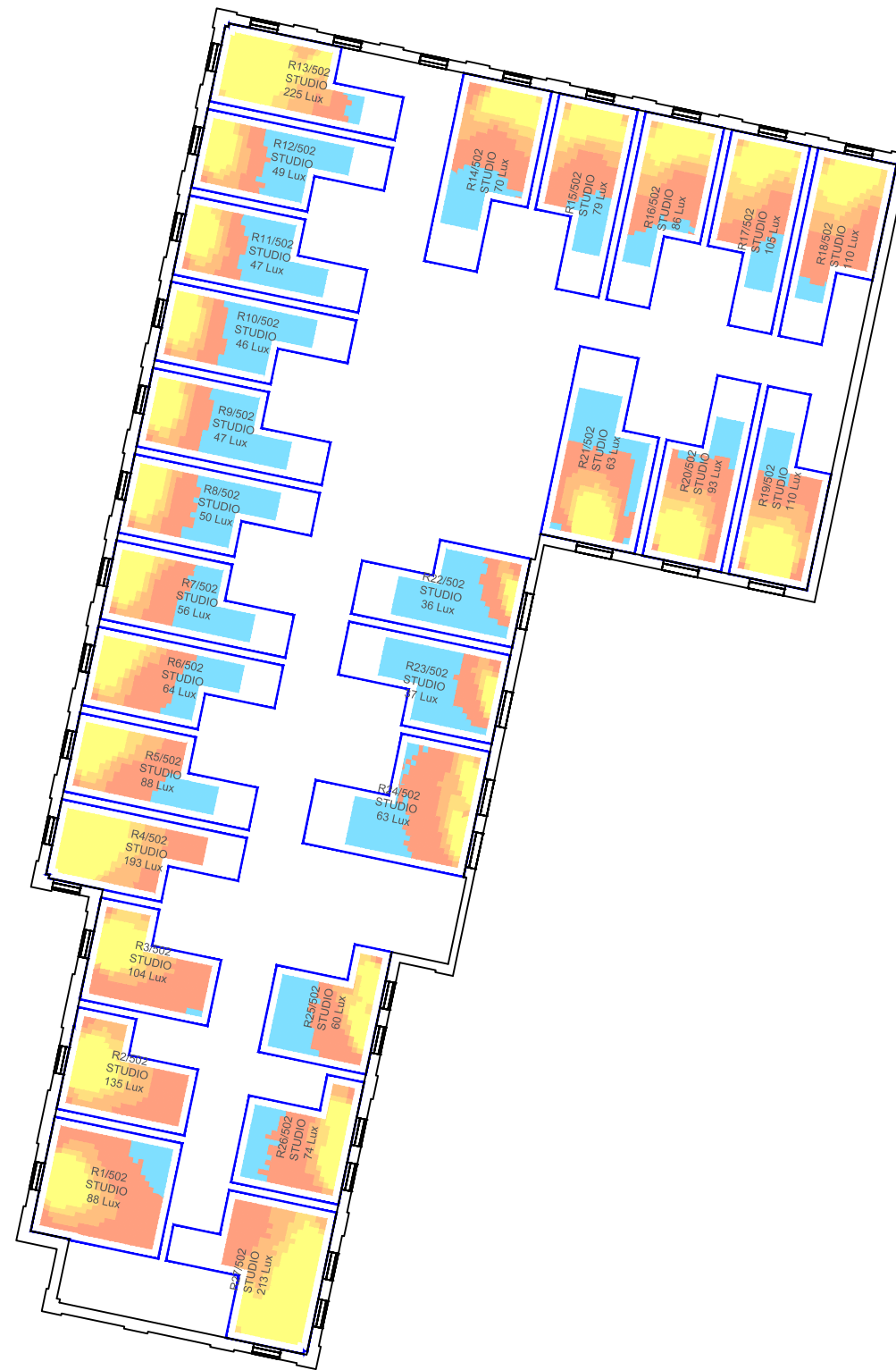




Appendix 4: Proposed Development Daylight Results



First Floor



Second Floor

Sources: Point2
Point Cloud Survey

Site Photography

Local Planning Authority
Various Surrounding Building Layouts/Massing

Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A
30/10/24 Update
GFR-DAA-ZA-ZZ-M3-A-Building_A.rvt
GFR-DAA-ZA Series Drawings

Key: Daylight Illuminance
(achieved for 50% of daylight hours)

	<50 Lux	Median Illuminance (Lux) Levels shown for each room. Recommended Targets: Bedroom 100 Lux Living Room 150 Lux Kitchen 200 Lux
	>50 Lux	
	>100 Lux	
	>150 Lux	
	>200 Lux	

Scheme Confirmed:

Date:

Project: Greyfriars House
Reading

Drawn By:
EVJ/CJ

Scale:
1/250 @ A3

Date:
Nov 2024

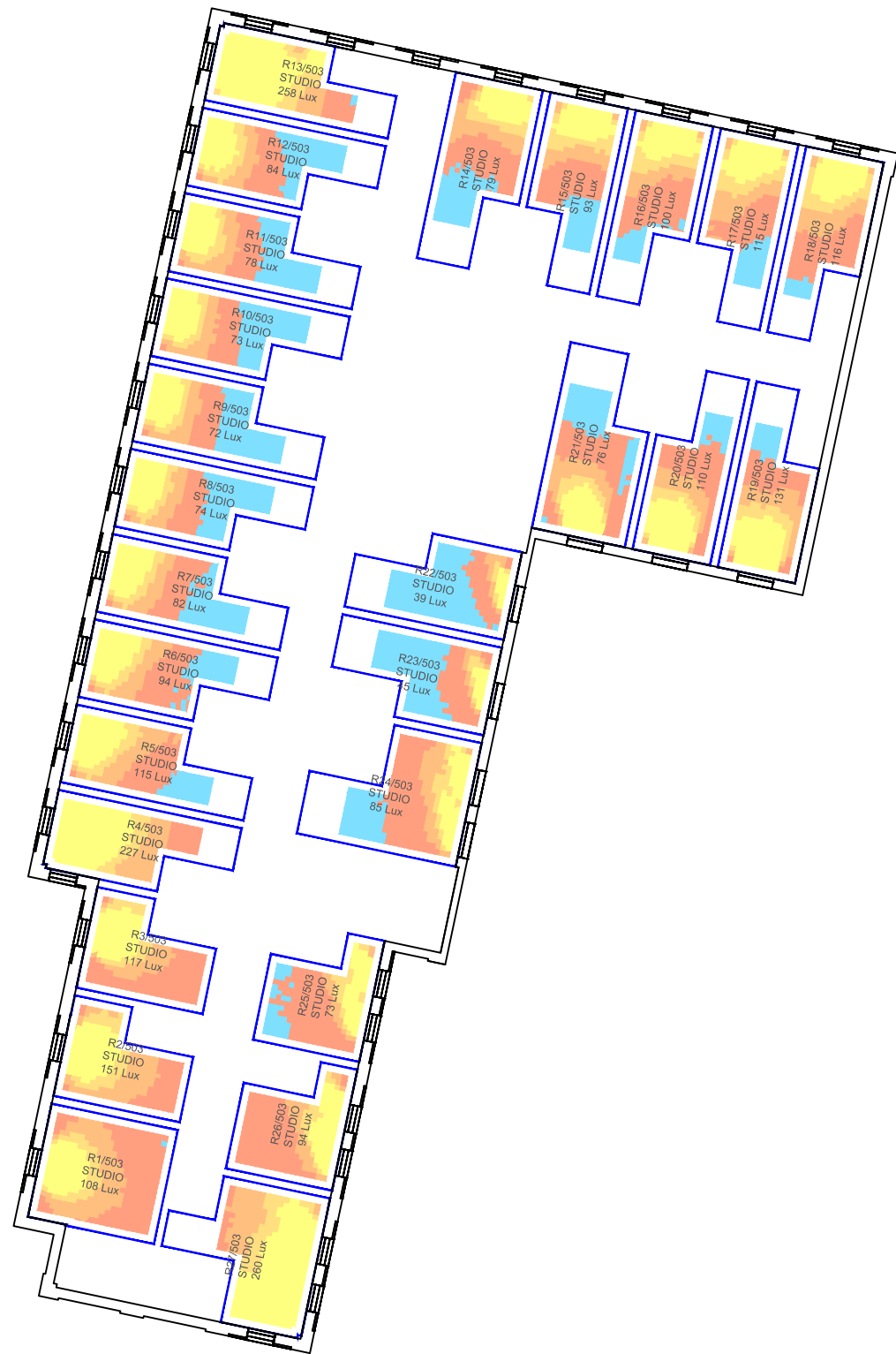
Title: CBDM Results

Proposed Scheme Received 30/10/24
Current Baseline Scenario

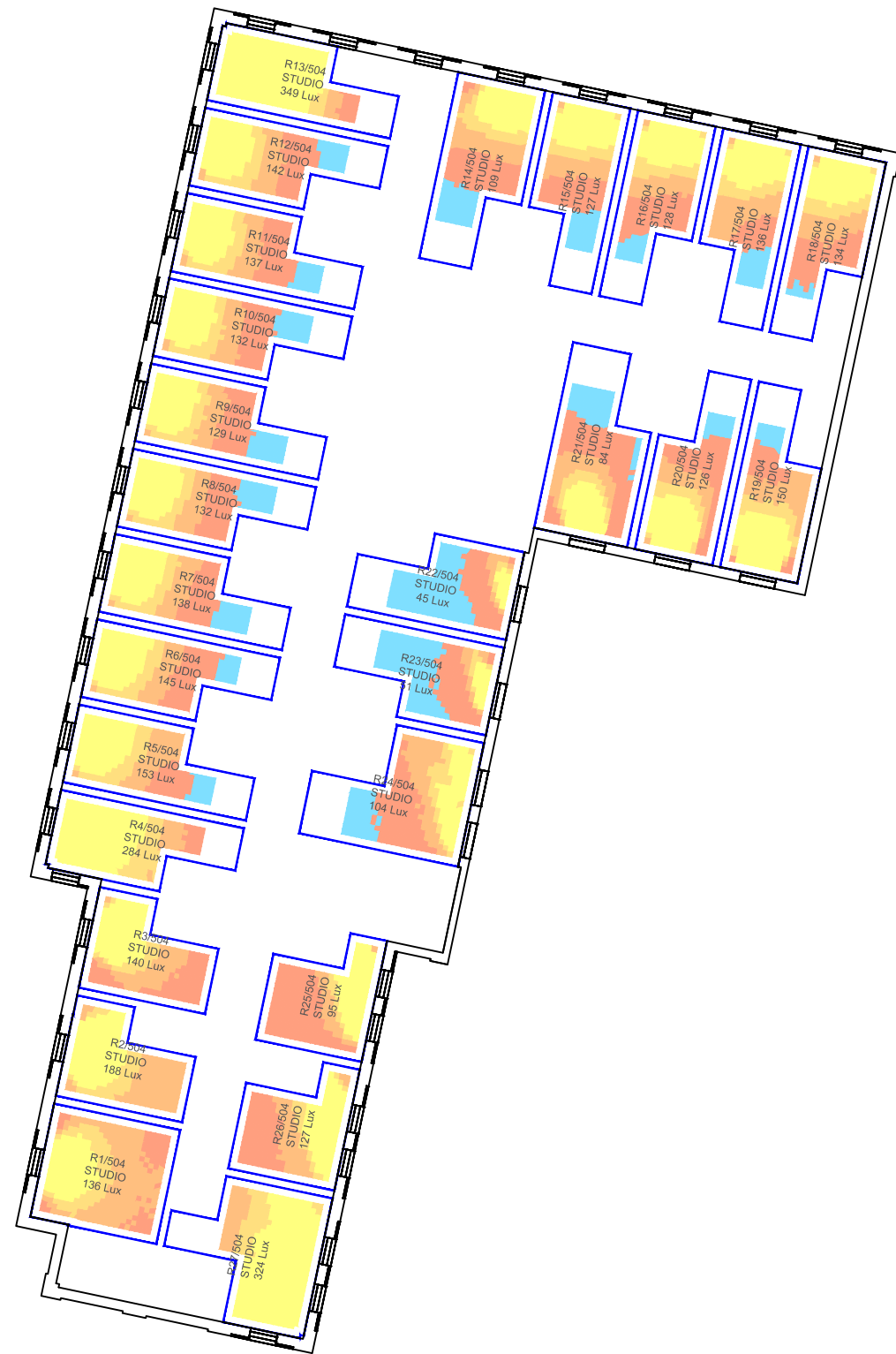
Dwg No:
P3715/CBDM/07A

Rel:
03





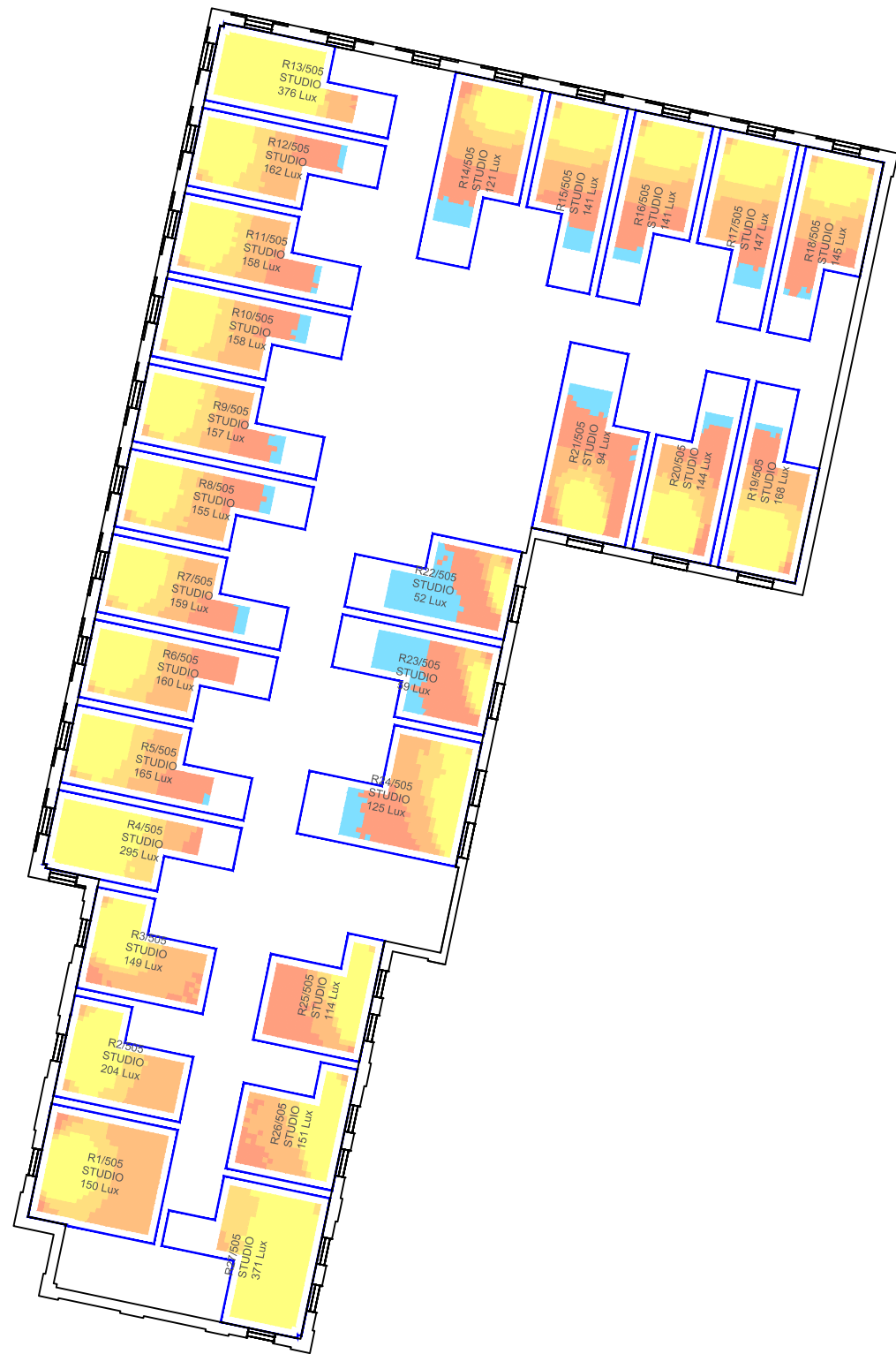
Third Floor



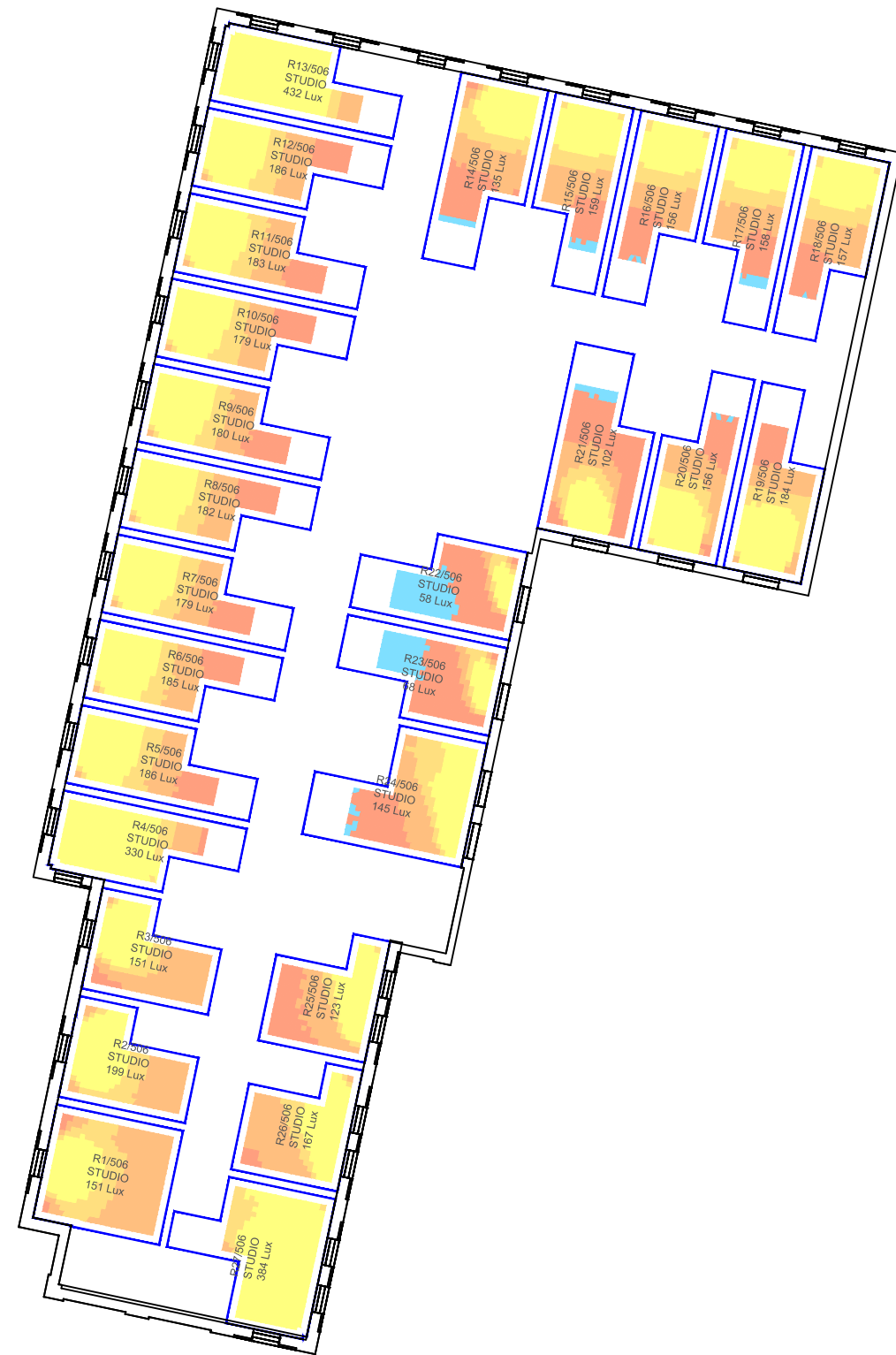
Fourth Floor

Sources: Point2 Point Cloud Survey Site Photography Local Planning Authority Various Surrounding Building Layouts/Massing Darling Associates Proposed Scheme Received 091024 241004 Update 241004_GFR-DAA-ZA-ZZ-M3-A-Building_A 30/10/24 Update GFR-DAA-ZA-ZZ-M3-A-Building_A.rvt GFR-DAA-ZA Series Drawings		Key: Daylight Illuminance (achieved for 50% of daylight hours) <50 Lux >50 Lux >100 Lux >150 Lux >200 Lux Median Illuminance (Lux) Levels shown for each room. Recommended Targets: Bedroom 100 Lux Living Room 150 Lux Kitchen 200 Lux		Project: Greyfriars House Reading		Title: CBDM Results Proposed Scheme Received 30/10/24 Current Baseline Scenario	
Scheme Confirmed:		Date:	Drawn By: EVJ/CJ	Scale: 1/250 @ A3	Date: Nov 2024	Dwg No: P3715/CBDM/08A	Rel: 03





Fifth Floor



Sixth Floor

Sources: Point2
Point Cloud Survey

Site Photography

Local Planning Authority
Various Surrounding Building Layouts/Massing

Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-M3-A-Building_A
30/10/24 Update
GFR-DAA-ZA-M3-A-Building_A.rvt
GFR-DAA-ZA Series Drawings

Key: Daylight Illuminance
(achieved for 50% of daylight hours)

<50 Lux	Median Illuminance (Lux) Levels shown for each room.
>50 Lux	
>100 Lux	Recommended Targets:
>150 Lux	Bedroom 100 Lux
>200 Lux	Living Room 150 Lux
	Kitchen 200 Lux

Scheme Confirmed:

Date:

Project: Greyfriars House
Reading

Drawn By:
EVJ/CJ

Scale:
1/250 @ A3

Date:
Nov 2024

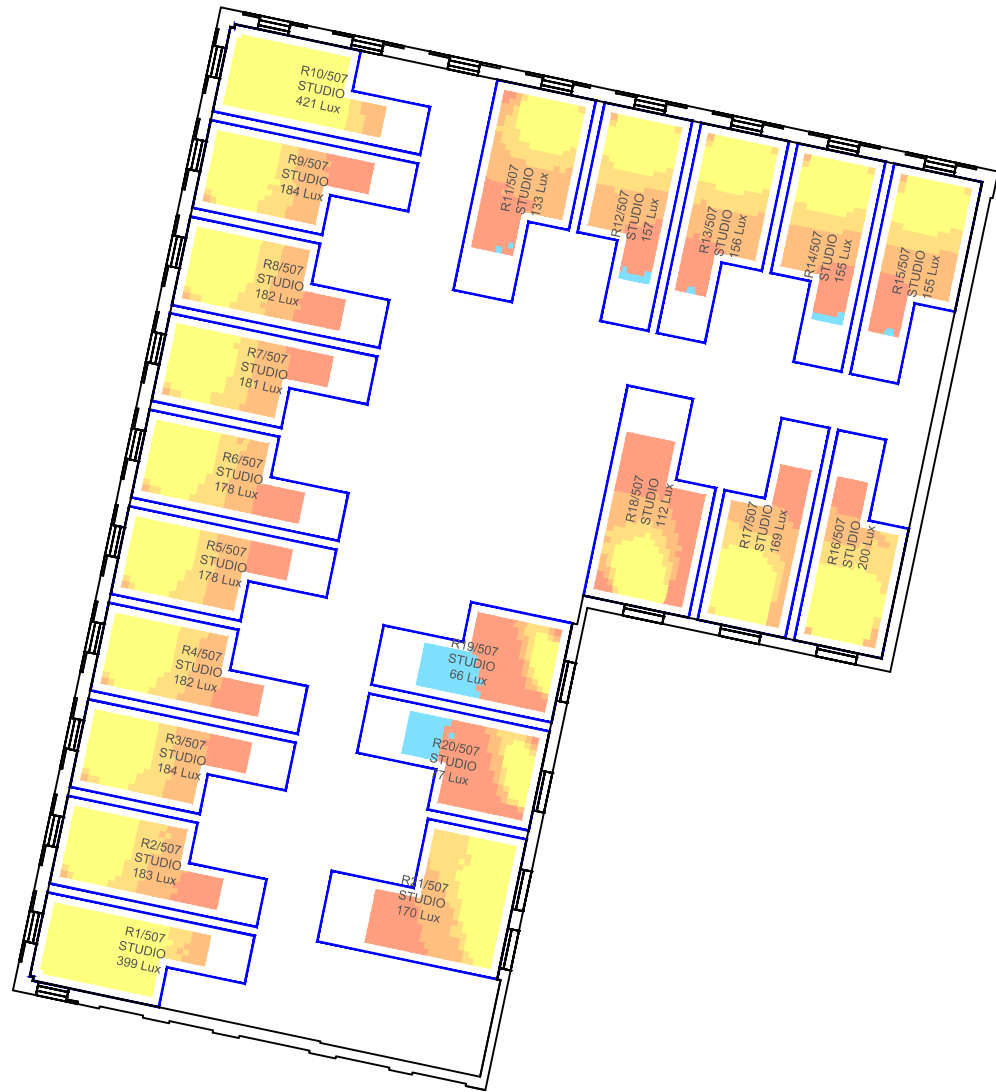
Title: CBDM Results

Proposed Scheme Received 30/10/24
Current Baseline Scenario

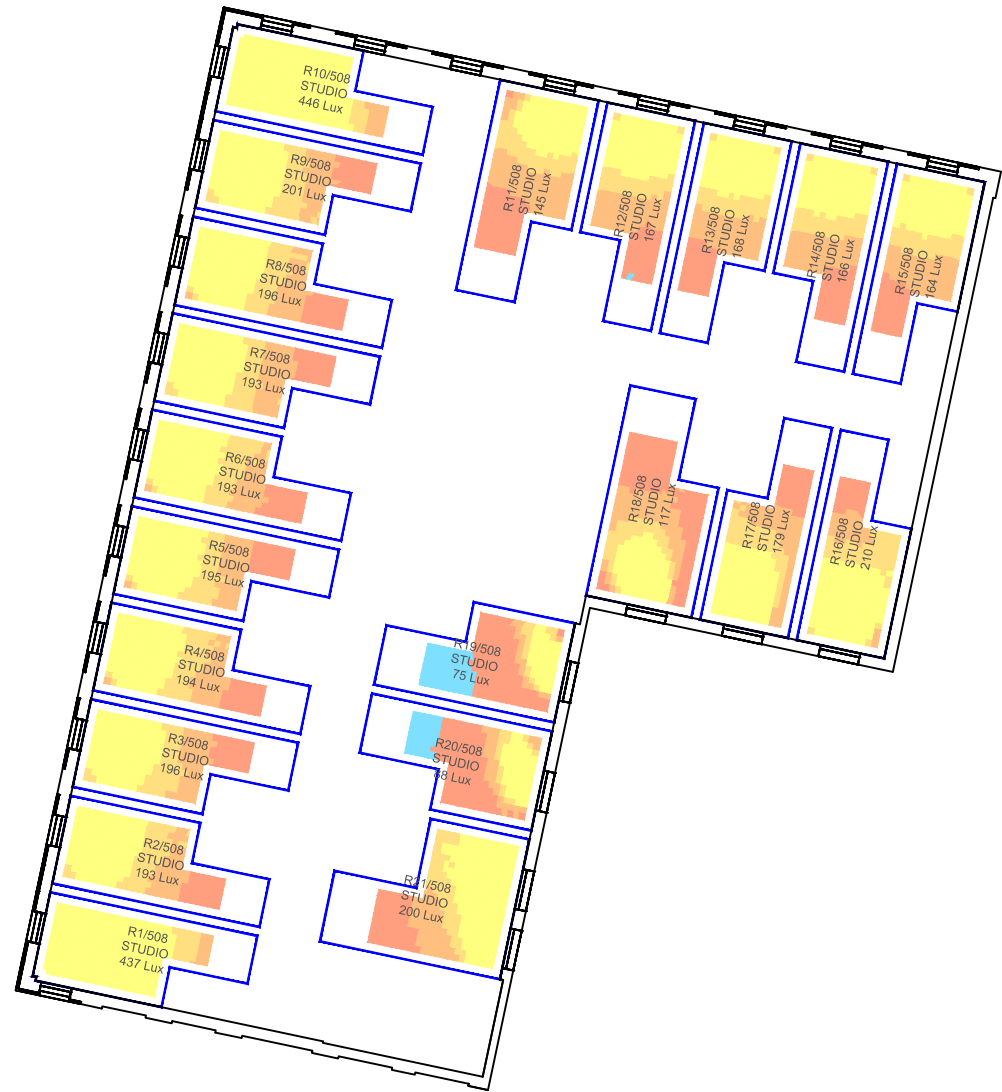
Dwg No:
P3715/CBDM/09A

Rel:
03





Seventh Floor



Eighth Floor

Sources: Point2
Point Cloud Survey

Site Photography

Local Planning Authority
Various Surrounding Building Layouts/Massing

Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A
30/10/24 Update
GFR-DAA-ZA-ZZ-M3-A-Building_A.rvt
GFR-DAA-ZA Series Drawings

Key: Daylight Illuminance
(achieved for 50% of daylight hours)

	<50 Lux	Median Illuminance (Lux) Levels shown for each room. Recommended Targets: Bedroom 100 Lux Living Room 150 Lux Kitchen 200 Lux
	>50 Lux	
	>100 Lux	
	>150 Lux	
	>200 Lux	

Scheme Confirmed:

Date:

Project: Greyfriars House
Reading

Drawn By:
EVJ/CJ

Scale:
1/250 @ A3

Date:
Nov 2024

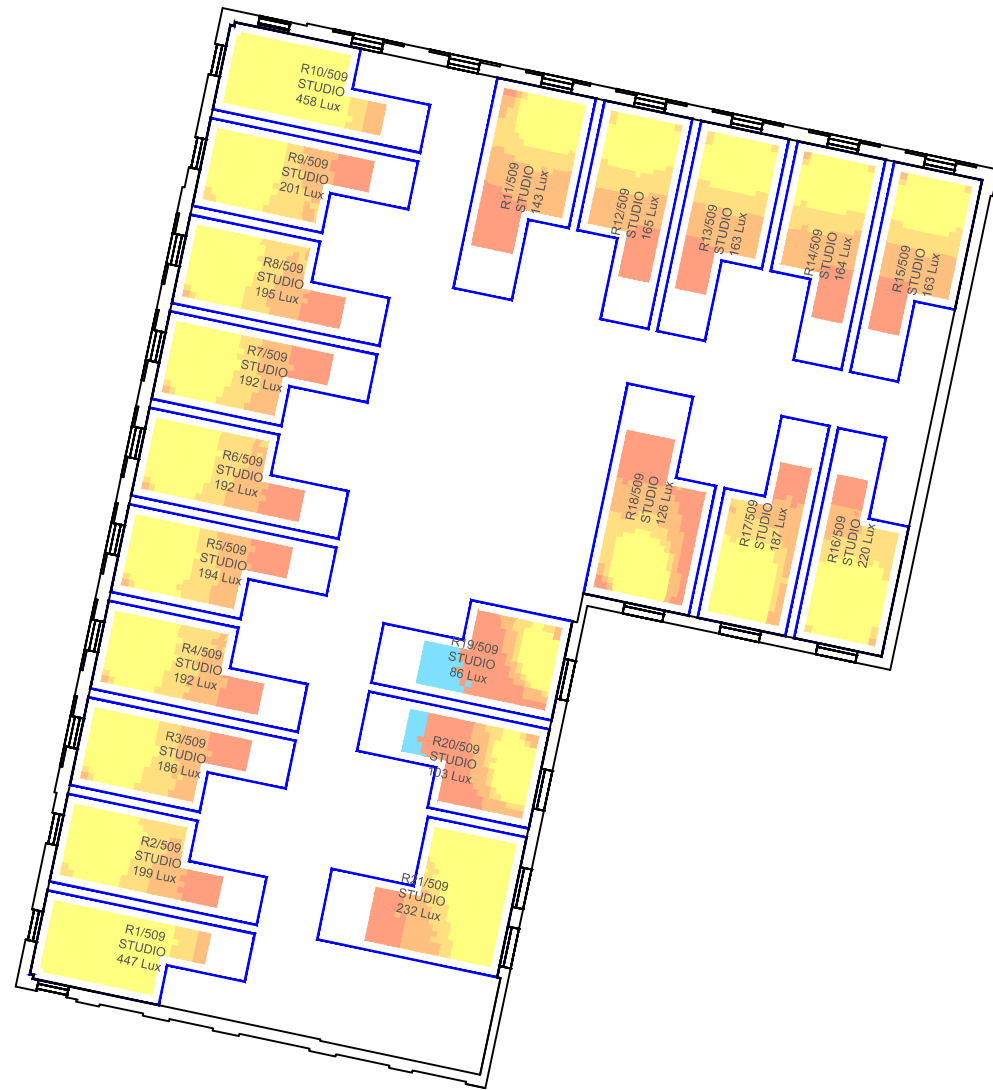
Title: CBDM Results

Proposed Scheme Received 30/10/24
Current Baseline Scenario

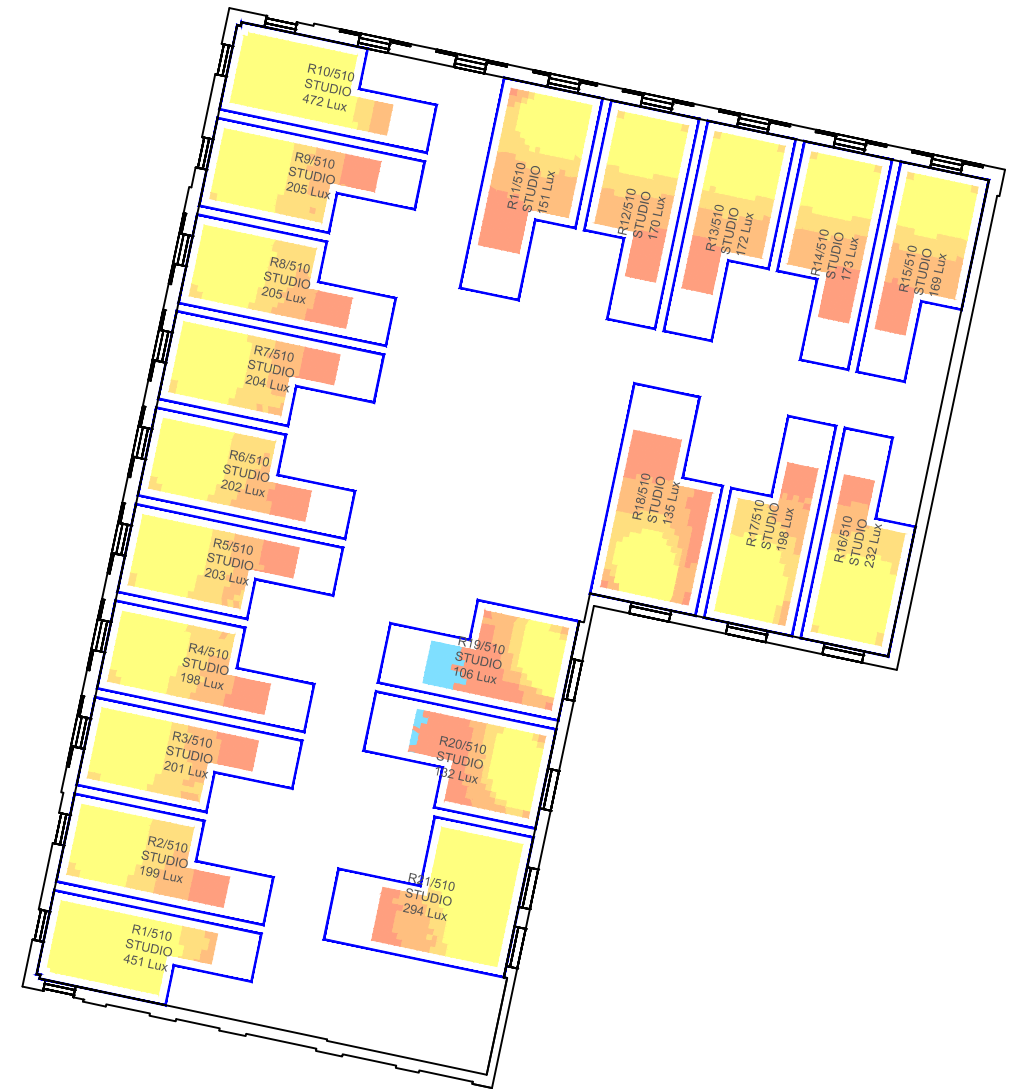
Dwg No:
P3715/CBDM/10A

Rel:
03





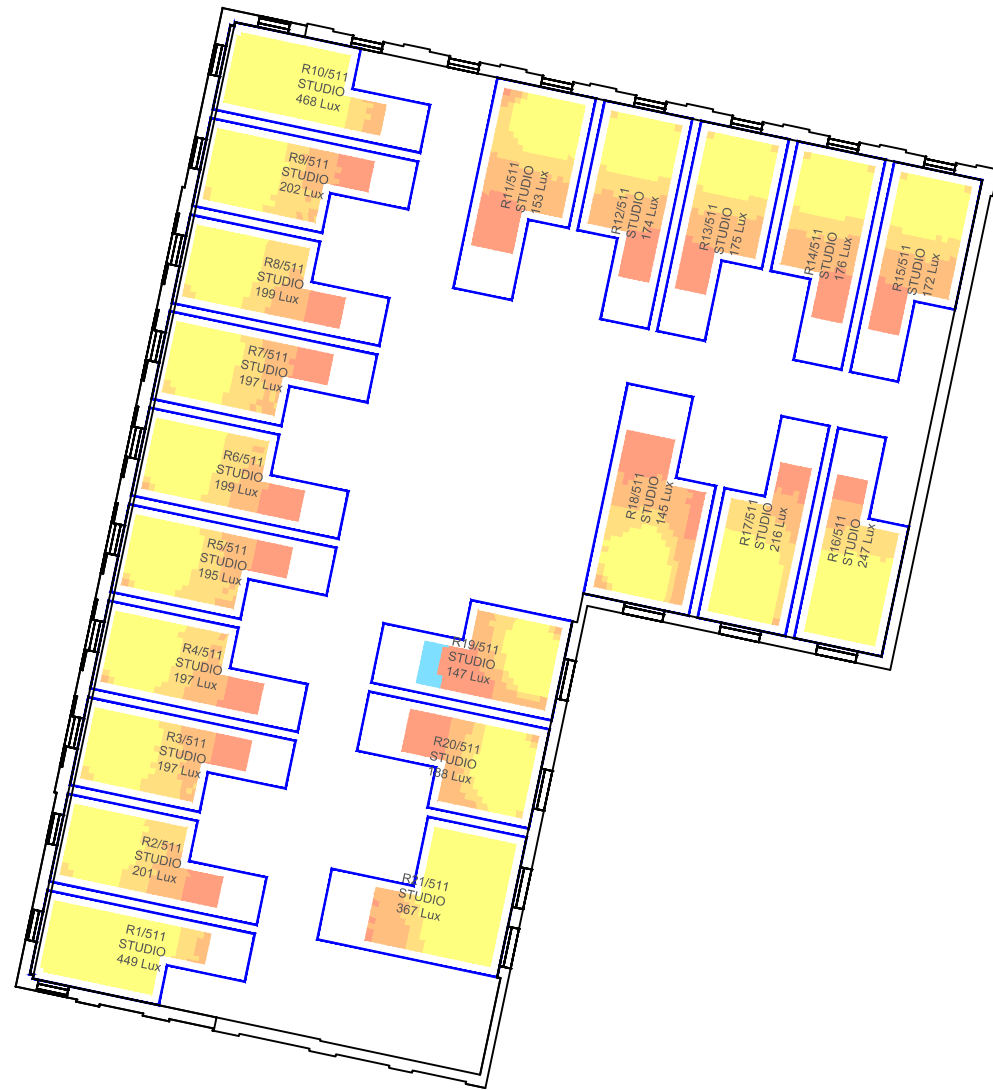
Ninth Floor



Tenth Floor

Sources: Point2 Point Cloud Survey Site Photography Local Planning Authority Various Surrounding Building Layouts/Massing Darling Associates Proposed Scheme Received 091024 241004 Update 241004_GFR-DAA-ZA-ZZ-M3-A-Building_A 30/10/24 Update GFR-DAA-ZA-ZZ-M3-A-Building_A.rvt GFR-DAA-ZA Series Drawings	Key: Daylight Illuminance (achieved for 50% of daylight hours) <50 Lux >50 Lux >100 Lux >150 Lux >200 Lux Median Illuminance (Lux) Levels shown for each room. Recommended Targets: Bedroom 100 Lux Living Room 150 Lux Kitchen 200 Lux		Project: Greyfriars House Reading		Title: CBDM Results Proposed Scheme Received 30/10/24 Current Baseline Scenario			
	Scheme Confirmed:		Date:	Drawn By: EVJ/CJ	Scale: 1/250 @ A3	Date: Nov 2024	Dwg No: P3715/CBDM/11A	Rel: 03





Eleventh Floor



Twelfth Floor

Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A
30/10/24 Update
GFR-DAA-ZA-ZZ-M3-A-Building_A.rvt
GFR-DAA-ZA Series Drawings

Key: Daylight Illuminance
(achieved for 50% of daylight hours)

<50 Lux	Median Illuminance (Lux) Levels shown for each room.
>50 Lux	
>100 Lux	Recommended Targets:
>150 Lux	Bedroom 100 Lux
>200 Lux	Living Room 150 Lux
	Kitchen 200 Lux

Scheme Confirmed:

Date:

Project: Greyfriars House
Reading

Drawn By:
EVJ/CJ

Scale:
1/250 @ A3

Date:
Nov 2024

Title: CBDM Results

Proposed Scheme Received 30/10/24
Current Baseline Scenario

Dwg No:
P3715/CBDM/12A

Rel:
03





BRE CBDM CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024
Current Baseline

BRE CBDM ANALYSIS

Room Label	Room Use	Room Use Target Illuminance Lux	Median Illuminance Lux	Fraction of Working Plane % Area
------------	----------	---------------------------------------	---------------------------	--

Proposed Scheme

R1/501	STUDIO	150	170.3	58.8
R2/501	STUDIO	150	142.7	47.9
R3/501	STUDIO	150	109.2	36.5
R4/501	STUDIO	150	90.5	27.7
R5/501	STUDIO	150	77.8	22.1
R6/501	STUDIO	150	72.5	19.2
R7/501	STUDIO	150	71.1	17.7
R8/501	STUDIO	150	99.2	16.3
R9/501	STUDIO	150	178.1	65.3
R10/501	STUDIO	150	112.3	37.7
R11/501	STUDIO	150	148.2	49.4
R12/501	STUDIO	150	163.9	54.2
R13/501	STUDIO	150	195.2	67
R14/501	STUDIO	150	197.3	66.7
R15/501	STUDIO	150	86.4	29.5
R16/501	STUDIO	150	75.5	27.3
R17/501	STUDIO	150	51.1	18.3
R18/501	STUDIO	150	26.3	3.1
R19/501	STUDIO	150	28.8	4.7
R20/501	STUDIO	150	43.7	8.9
R1/502	STUDIO	150	87.8	23.4
R2/502	STUDIO	150	135	43.4
R3/502	STUDIO	150	104.4	37
R4/502	STUDIO	150	192.6	58.4
R5/502	STUDIO	150	88.1	30.6
R6/502	STUDIO	150	64.2	26.5
R7/502	STUDIO	150	55.7	22.9
R8/502	STUDIO	150	50.2	22.1
R9/502	STUDIO	150	46.6	20.6
R10/502	STUDIO	150	46.3	21.7
R11/502	STUDIO	150	46.7	21
R12/502	STUDIO	150	48.9	21.7
R13/502	STUDIO	150	224.8	70.2
R14/502	STUDIO	150	70.1	24.1
R15/502	STUDIO	150	79.5	30.6
R16/502	STUDIO	150	86.4	33.2
R17/502	STUDIO	150	105.4	36.1
R18/502	STUDIO	150	109.7	36.9
R19/502	STUDIO	150	109.6	38.3
R20/502	STUDIO	150	93.2	34.3



BRE CBDM CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024
Current Baseline

BRE CBDM ANALYSIS

R21/502	STUDIO	150	62.6	21.2
R22/502	STUDIO	150	35.6	5.9
R23/502	STUDIO	150	37	7.4
R24/502	STUDIO	150	63.1	17.3
R25/502	STUDIO	150	59.7	25.2
R26/502	STUDIO	150	74.3	26.6
R27/502	STUDIO	150	212.7	63.4
R1/503	STUDIO	150	107.6	28.2
R2/503	STUDIO	150	151.2	50.3
R3/503	STUDIO	150	116.8	40.4
R4/503	STUDIO	150	227.3	66.7
R5/503	STUDIO	150	115.2	36.5
R6/503	STUDIO	150	94.4	32.4
R7/503	STUDIO	150	81.9	30.2
R8/503	STUDIO	150	74.2	27.6
R9/503	STUDIO	150	72.3	26.5
R10/503	STUDIO	150	73.3	26.5
R11/503	STUDIO	150	78.4	27.5
R12/503	STUDIO	150	83.7	30.2
R13/503	STUDIO	150	258.3	79.2
R14/503	STUDIO	150	78.9	25.3
R15/503	STUDIO	150	93.2	33.5
R16/503	STUDIO	150	100	35.4
R17/503	STUDIO	150	115.5	37.2
R18/503	STUDIO	150	115.8	37.6
R19/503	STUDIO	150	130.8	44.6
R20/503	STUDIO	150	110	37.6
R21/503	STUDIO	150	76	23.9
R22/503	STUDIO	150	39.2	7.4
R23/503	STUDIO	150	44.7	9.8
R24/503	STUDIO	150	84.7	24.1
R25/503	STUDIO	150	72.9	27.4
R26/503	STUDIO	150	94.5	32
R27/503	STUDIO	150	260	77
R1/504	STUDIO	150	135.5	42.3
R2/504	STUDIO	150	187.6	63.4
R3/504	STUDIO	150	140.5	47.2
R4/504	STUDIO	150	284.2	84
R5/504	STUDIO	150	152.8	52
R6/504	STUDIO	150	144.5	47.9
R7/504	STUDIO	150	137.9	46.1
R8/504	STUDIO	150	132.2	45
R9/504	STUDIO	150	128.7	44.2
R10/504	STUDIO	150	131.5	43.9
R11/504	STUDIO	150	137.2	45.6



BRE CBDM CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024
Current Baseline

BRE CBDM ANALYSIS

R12/504	STUDIO	150	141.7	46.8
R13/504	STUDIO	150	349.1	88.6
R14/504	STUDIO	150	109.2	35.3
R15/504	STUDIO	150	127.1	42.4
R16/504	STUDIO	150	127.9	43.1
R17/504	STUDIO	150	136.3	44.6
R18/504	STUDIO	150	133.7	45
R19/504	STUDIO	150	150.5	50.1
R20/504	STUDIO	150	125.7	42.4
R21/504	STUDIO	150	84.4	26.8
R22/504	STUDIO	150	45.3	8.6
R23/504	STUDIO	150	50.7	11.8
R24/504	STUDIO	150	103.6	30.5
R25/504	STUDIO	150	95.2	34.5
R26/504	STUDIO	150	127.3	43.4
R27/504	STUDIO	150	323.7	88.8
R1/505	STUDIO	150	150	50.2
R2/505	STUDIO	150	203.6	68.7
R3/505	STUDIO	150	148.9	49.3
R4/505	STUDIO	150	295.3	86.7
R5/505	STUDIO	150	164.7	56.4
R6/505	STUDIO	150	159.6	54.6
R7/505	STUDIO	150	158.8	53.5
R8/505	STUDIO	150	154.7	52
R9/505	STUDIO	150	157.1	52.4
R10/505	STUDIO	150	158.2	52.3
R11/505	STUDIO	150	157.5	52.4
R12/505	STUDIO	150	162.1	54.9
R13/505	STUDIO	150	376.4	89.9
R14/505	STUDIO	150	121	36.4
R15/505	STUDIO	150	141	46.8
R16/505	STUDIO	150	140.9	46.5
R17/505	STUDIO	150	146.8	47.6
R18/505	STUDIO	150	144.7	46.8
R19/505	STUDIO	150	168.2	56.8
R20/505	STUDIO	150	143.6	47.2
R21/505	STUDIO	150	94.5	29.2
R22/505	STUDIO	150	52.1	12.1
R23/505	STUDIO	150	59.5	15.7
R24/505	STUDIO	150	124.9	38.8
R25/505	STUDIO	150	114.3	39.8
R26/505	STUDIO	150	150.6	50.5
R27/505	STUDIO	150	370.7	98.6
R1/506	STUDIO	150	150.5	50.6
R2/506	STUDIO	150	198.7	68.4
R3/506	STUDIO	150	151	50.3



BRE CBDM CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024
Current Baseline

BRE CBDM ANALYSIS

R4/506	STUDIO	150	329.9	88.6
R5/506	STUDIO	150	185.7	63.4
R6/506	STUDIO	150	185	61.2
R7/506	STUDIO	150	178.7	61.9
R8/506	STUDIO	150	182.3	60.8
R9/506	STUDIO	150	180.2	60.8
R10/506	STUDIO	150	178.5	61.9
R11/506	STUDIO	150	182.8	61.3
R12/506	STUDIO	150	185.9	62.7
R13/506	STUDIO	150	432.3	92.4
R14/506	STUDIO	150	134.8	44.2
R15/506	STUDIO	150	158.7	52
R16/506	STUDIO	150	156.3	52.4
R17/506	STUDIO	150	158.1	52.7
R18/506	STUDIO	150	157.3	52.4
R19/506	STUDIO	150	183.8	63.8
R20/506	STUDIO	150	155.9	52.3
R21/506	STUDIO	150	102.5	31.6
R22/506	STUDIO	150	58.5	14.9
R23/506	STUDIO	150	67.7	18.8
R24/506	STUDIO	150	144.9	48.2
R25/506	STUDIO	150	122.7	42
R26/506	STUDIO	150	167	54.4
R27/506	STUDIO	150	383.9	99.4
R1/507	STUDIO	150	398.6	93.1
R2/507	STUDIO	150	183	64.5
R3/507	STUDIO	150	183.8	63
R4/507	STUDIO	150	182.2	64.2
R5/507	STUDIO	150	178.2	62.7
R6/507	STUDIO	150	178.1	64.2
R7/507	STUDIO	150	181.5	61.6
R8/507	STUDIO	150	182.4	63.3
R9/507	STUDIO	150	183.7	63
R10/507	STUDIO	150	421.4	93.5
R11/507	STUDIO	150	133.2	41.8
R12/507	STUDIO	150	157.3	51.6
R13/507	STUDIO	150	156.2	52
R14/507	STUDIO	150	155.3	51.6
R15/507	STUDIO	150	154.6	51.6
R16/507	STUDIO	150	200.3	72.6
R17/507	STUDIO	150	168.6	56.8
R18/507	STUDIO	150	111.9	35.6
R19/507	STUDIO	150	66	18
R20/507	STUDIO	150	77.1	22.3
R21/507	STUDIO	150	170.4	58
R1/508	STUDIO	150	437	96.2



BRE CBDM CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024
Current Baseline

BRE CBDM ANALYSIS

R2/508	STUDIO	150	192.6	70.2
R3/508	STUDIO	150	195.5	68.2
R4/508	STUDIO	150	193.9	69.4
R5/508	STUDIO	150	195	67.5
R6/508	STUDIO	150	193.2	70.3
R7/508	STUDIO	150	192.8	66.9
R8/508	STUDIO	150	195.9	69.3
R9/508	STUDIO	150	200.6	70.5
R10/508	STUDIO	150	446.4	93.9
R11/508	STUDIO	150	144.7	46.9
R12/508	STUDIO	150	166.7	56.4
R13/508	STUDIO	150	168	56.4
R14/508	STUDIO	150	165.5	56.4
R15/508	STUDIO	150	164.3	54.9
R16/508	STUDIO	150	210.4	76.9
R17/508	STUDIO	150	178.7	62.7
R18/508	STUDIO	150	117.1	37.7
R19/508	STUDIO	150	74.8	22.7
R20/508	STUDIO	150	87.9	27.4
R21/508	STUDIO	150	200.1	66.5
R1/509	STUDIO	150	447.5	96.2
R2/509	STUDIO	150	198.8	72.3
R3/509	STUDIO	150	186.1	67.5
R4/509	STUDIO	150	192	69.5
R5/509	STUDIO	150	193.8	66.7
R6/509	STUDIO	150	192.3	69.4
R7/509	STUDIO	150	191.9	66.4
R8/509	STUDIO	150	194.9	69.6
R9/509	STUDIO	150	200.6	72.6
R10/509	STUDIO	150	457.8	94.3
R11/509	STUDIO	150	142.5	46.3
R12/509	STUDIO	150	164.5	56.4
R13/509	STUDIO	150	162.7	54.9
R14/509	STUDIO	150	163.9	54.6
R15/509	STUDIO	150	163.2	53.8
R16/509	STUDIO	150	219.8	80
R17/509	STUDIO	150	186.8	68.2
R18/509	STUDIO	150	125.8	41.2
R19/509	STUDIO	150	85.7	27.8
R20/509	STUDIO	150	102.9	35.3
R21/509	STUDIO	150	232.2	73
R1/510	STUDIO	150	450.6	96.9
R2/510	STUDIO	150	198.7	74.9
R3/510	STUDIO	150	201.1	72.6
R4/510	STUDIO	150	197.8	73.4
R5/510	STUDIO	150	203.5	72.6



BRE CBDM CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024
Current Baseline

BRE CBDM ANALYSIS

R6/510	STUDIO	150	202.1	74.9
R7/510	STUDIO	150	204.1	73.5
R8/510	STUDIO	150	204.6	75.4
R9/510	STUDIO	150	204.7	74.5
R10/510	STUDIO	150	472.1	94.3
R11/510	STUDIO	150	151.1	50.2
R12/510	STUDIO	150	170.4	57.5
R13/510	STUDIO	150	172.4	57.9
R14/510	STUDIO	150	172.6	57.1
R15/510	STUDIO	150	169.5	56.8
R16/510	STUDIO	150	231.6	81.8
R17/510	STUDIO	150	197.6	75
R18/510	STUDIO	150	135.1	42.8
R19/510	STUDIO	150	106	36
R20/510	STUDIO	150	131.8	46.6
R21/510	STUDIO	150	294.1	77.9
R1/511	STUDIO	150	448.6	96.9
R2/511	STUDIO	150	200.6	73.8
R3/511	STUDIO	150	196.9	71.6
R4/511	STUDIO	150	197.5	71.7
R5/511	STUDIO	150	194.9	72.1
R6/511	STUDIO	150	199.5	73.1
R7/511	STUDIO	150	197.1	72
R8/511	STUDIO	150	199.4	74.4
R9/511	STUDIO	150	202.3	74.2
R10/511	STUDIO	150	467.7	95
R11/511	STUDIO	150	152.8	51.4
R12/511	STUDIO	150	174.2	58.6
R13/511	STUDIO	150	174.9	57.9
R14/511	STUDIO	150	175.7	57.9
R15/511	STUDIO	150	171.8	57.9
R16/511	STUDIO	150	247.2	83.8
R17/511	STUDIO	150	215.9	79.2
R18/511	STUDIO	150	144.8	48.6
R19/511	STUDIO	150	147.2	48.3
R20/511	STUDIO	150	188	61
R21/511	STUDIO	150	367.1	84.9
R1/512	AMENITY_ROOM	150	574.1	100
R2/512	EVENT_ROOM	150	555.5	100
R3/512	MEDIA_ROOM	150	126.1	40.2
R4/512	STUDIO	150	172.1	59
R5/512	STUDIO	150	172.4	58.6
R6/512	STUDIO	150	171.7	58.3
R7/512	STUDIO	150	266	84.6
R8/512	STUDIO	150	249.5	83

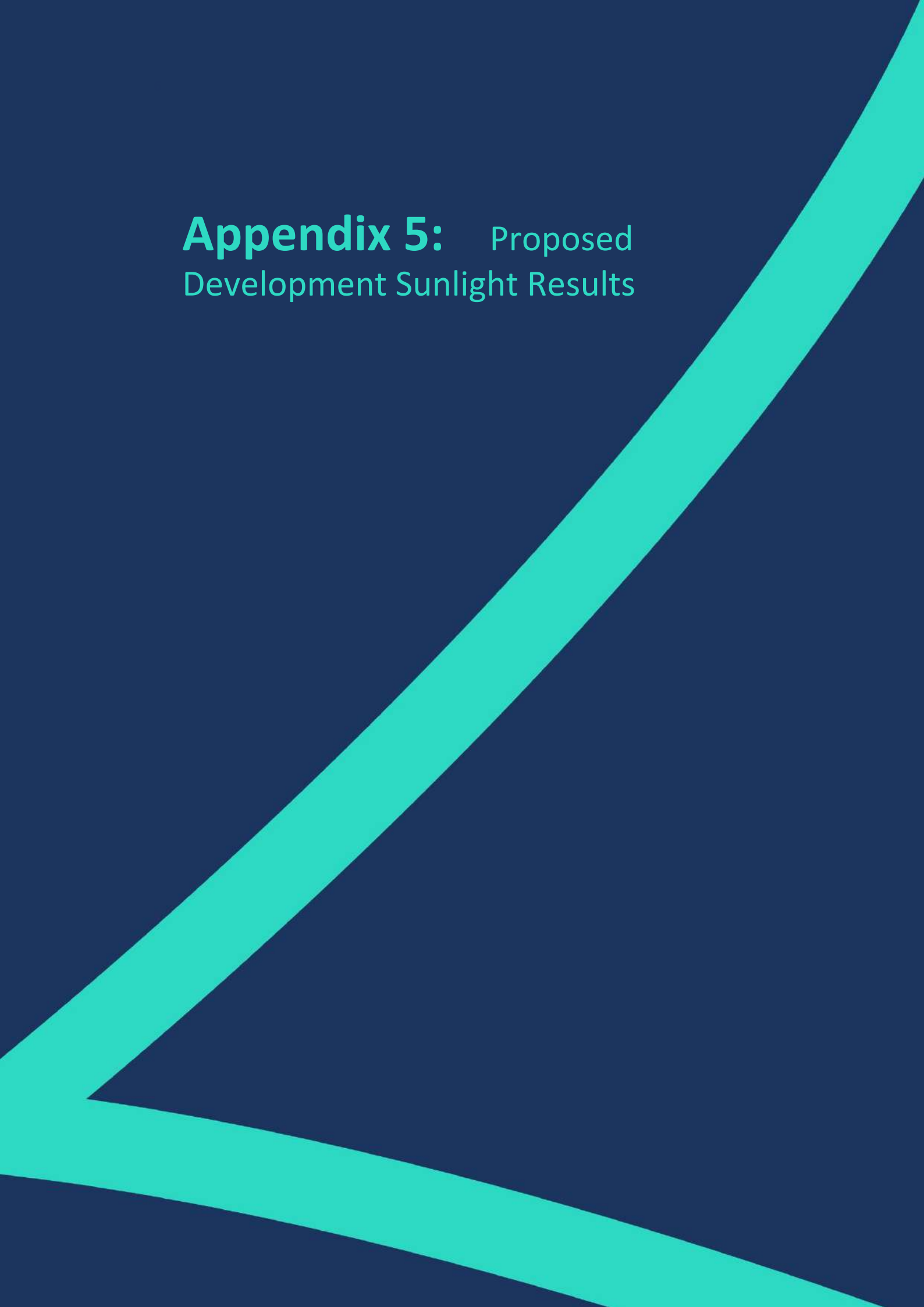


BRE CBDM CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024
Current Baseline

BRE CBDM ANALYSIS

R9/512	STUDIO	150	165.2	56.4
R10/512	RESIDENT_KITCHEN	200	560.2	100



Appendix 5: Proposed Development Sunlight Results



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
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Proposed Scheme

None

R1/501	STUDIO				21-Mar	1.1
			W1/501	Westerly	21-Mar	1.1
R2/501	STUDIO				21-Mar	2.7
			W2/501	Westerly	21-Mar	2.7
R3/501	STUDIO				21-Mar	2.9
			W3/501	Westerly	21-Mar	2.9
R4/501	STUDIO				21-Mar	3.1
			W4/501	Westerly	21-Mar	3.1
R5/501	STUDIO				12-Mar	2.7
			W5/501	Westerly	12-Mar	2.7
R6/501	STUDIO				06-Mar	2.2
			W6/501	Westerly	06-Mar	2.2
R7/501	STUDIO				01-Mar	1.7
			W7/501	Westerly	01-Mar	1.7
R8/501	STUDIO				18-Feb	0.8
			W10/501	Northerly	18-Feb	0.0
			W8/501	Westerly	18-Feb	0.8
R9/501	STUDIO				21-Mar	0.0
			W11/501	Northerly	21-Mar	0.0
			W9/501	Northerly	21-Mar	0.0
R10/501	STUDIO				21-Mar	0.0
			W12/501	Northerly	21-Mar	0.0
R11/501	STUDIO				21-Mar	0.0
			W13/501	Northerly	21-Mar	0.0
R12/501	STUDIO				21-Mar	0.0
			W14/501	Northerly	21-Mar	0.0
R13/501	STUDIO				21-Mar	0.0
			W15/501	Northerly	21-Mar	0.0
R14/501	STUDIO				21-Mar	0.0
			W16/501	Northerly	21-Mar	0.0



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
R15/501	STUDIO				21-Mar	3.3
			W17/501	Southerly	21-Mar	3.3
R16/501	STUDIO				21-Mar	3.2
			W18/501	Southerly	21-Mar	3.2
R17/501	STUDIO				15-Feb	2.9
			W19/501	Southerly	15-Feb	2.9
R18/501	STUDIO				21-Mar	0.8
			W20/501	Westerly	21-Mar	0.8
R19/501	STUDIO				21-Mar	1.1
			W21/501	Westerly	21-Mar	1.1
R20/501	STUDIO				21-Mar	1.2
			W23/501	Westerly	21-Mar	0.8
			W22/501	Westerly	21-Mar	1.2
R1/502	STUDIO				21-Mar	0.8
			W1/502	Westerly	21-Mar	0.8
R2/502	STUDIO				21-Mar	0.9
			W2/502	Westerly	21-Mar	0.9
R3/502	STUDIO				21-Mar	1.1
			W3/502	Westerly	21-Mar	1.1
R4/502	STUDIO				21-Mar	4.8
			W4/502	Southerly	21-Mar	3.2
			W5/502	Westerly	21-Mar	2.4
R5/502	STUDIO				21-Mar	2.6
			W6/502	Westerly	21-Mar	2.6
R6/502	STUDIO				21-Mar	2.7
			W7/502	Westerly	21-Mar	2.7
R7/502	STUDIO				21-Mar	2.4
			W8/502	Westerly	21-Mar	2.4
R8/502	STUDIO				05-Mar	1.9
			W9/502	Westerly	05-Mar	1.9
R9/502	STUDIO				06-Mar	1.3



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
			W10/502	Westerly	06-Mar	1.3
	R10/502	STUDIO			05-Mar	0.8
			W11/502	Westerly	05-Mar	0.8
	R11/502	STUDIO			21-Mar	0.5
			W12/502	Westerly	21-Mar	0.5
	R12/502	STUDIO			21-Mar	0.5
			W13/502	Westerly	21-Mar	0.5
	R13/502	STUDIO			21-Mar	0.6
			W16/502	Northerly	21-Mar	0.0
			W15/502	Northerly	21-Mar	0.0
			W14/502	Westerly	21-Mar	0.6
	R14/502	STUDIO			21-Mar	0.0
			W17/502	Northerly	21-Mar	0.0
	R15/502	STUDIO			21-Mar	0.0
			W18/502	Northerly	21-Mar	0.0
	R16/502	STUDIO			21-Mar	0.0
			W19/502	Northerly	21-Mar	0.0
	R17/502	STUDIO			21-Mar	0.0
			W20/502	Northerly	21-Mar	0.0
	R18/502	STUDIO			21-Mar	0.0
			W21/502	Northerly	21-Mar	0.0
	R19/502	STUDIO			19-Mar	3.6
			W22/502	Southerly	19-Mar	3.6
	R20/502	STUDIO			04-Feb	3.3
			W23/502	Southerly	04-Feb	3.3
	R21/502	STUDIO			04-Feb	3.1
			W24/502	Southerly	04-Feb	3.1
	R22/502	STUDIO			20-Mar	1.2
			W25/502	Westerly	20-Mar	1.2
	R23/502	STUDIO			21-Mar	1.3
			W26/502	Westerly	21-Mar	1.3



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
	R24/502	STUDIO			21-Mar	1.3
			W28/502	Westerly	21-Mar	1.3
			W27/502	Westerly	21-Mar	1.3
	R25/502	STUDIO			11-Mar	1.3
			W30/502	Westerly	11-Mar	1.3
			W29/502	Westerly	11-Mar	1.1
	R26/502	STUDIO			16-Mar	1.4
			W32/502	Westerly	16-Mar	0.6
			W31/502	Westerly	16-Mar	1.4
	R27/502	STUDIO			19-Mar	6.6
			W35/502	Southerly	19-Mar	6.4
			W34/502	Westerly	19-Mar	1.2
			W33/502	Westerly	19-Mar	1.0
	R1/503	STUDIO			21-Mar	1.6
			W1/503	Westerly	21-Mar	1.6
	R2/503	STUDIO			21-Mar	1.8
			W2/503	Westerly	21-Mar	1.8
	R3/503	STUDIO			21-Mar	2.9
			W3/503	Westerly	21-Mar	2.9
	R4/503	STUDIO			21-Mar	5.3
			W4/503	Southerly	21-Mar	3.2
			W5/503	Westerly	21-Mar	3.0
	R5/503	STUDIO			21-Mar	3.0
			W6/503	Westerly	21-Mar	3.0
	R6/503	STUDIO			21-Mar	3.1
			W7/503	Westerly	21-Mar	3.1
	R7/503	STUDIO			15-Mar	2.5
			W8/503	Westerly	15-Mar	2.5
	R8/503	STUDIO			05-Mar	1.9
			W9/503	Westerly	05-Mar	1.9
	R9/503	STUDIO			17-Feb	1.4
			W10/503	Westerly	17-Feb	1.4
	R10/503	STUDIO			21-Mar	1.1



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
			W11/503	Westerly	21-Mar	1.1
	R11/503	STUDIO			21-Mar	1.3
			W12/503	Westerly	21-Mar	1.3
	R12/503	STUDIO			21-Mar	1.2
			W13/503	Westerly	21-Mar	1.2
	R13/503	STUDIO			21-Mar	1.2
			W16/503	Northerly	21-Mar	0.0
			W15/503	Northerly	21-Mar	0.0
			W14/503	Westerly	21-Mar	1.2
	R14/503	STUDIO			21-Mar	0.0
			W17/503	Northerly	21-Mar	0.0
	R15/503	STUDIO			21-Mar	0.0
			W18/503	Northerly	21-Mar	0.0
	R16/503	STUDIO			21-Mar	0.0
			W19/503	Northerly	21-Mar	0.0
	R17/503	STUDIO			21-Mar	0.0
			W20/503	Northerly	21-Mar	0.0
	R18/503	STUDIO			21-Mar	0.0
			W21/503	Northerly	21-Mar	0.0
	R19/503	STUDIO			11-Mar	3.8
			W22/503	Southerly	11-Mar	3.8
	R20/503	STUDIO			09-Mar	3.4
			W23/503	Southerly	09-Mar	3.4
	R21/503	STUDIO			04-Feb	3.1
			W24/503	Southerly	04-Feb	3.1
	R22/503	STUDIO			20-Mar	1.2
			W25/503	Westerly	20-Mar	1.2
	R23/503	STUDIO			21-Mar	1.3
			W26/503	Westerly	21-Mar	1.3
	R24/503	STUDIO			21-Mar	1.5
			W28/503	Westerly	21-Mar	1.5
			W27/503	Westerly	21-Mar	1.4



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
R25/503	STUDIO				21-Mar	1.3
			W30/503	Westerly	21-Mar	1.3
			W29/503	Westerly	21-Mar	1.3
R26/503	STUDIO				01-Mar	1.7
			W32/503	Westerly	01-Mar	1.7
			W31/503	Westerly	01-Mar	1.5
R27/503	STUDIO				08-Mar	7.6
			W35/503	Southerly	08-Mar	6.8
			W34/503	Westerly	08-Mar	1.9
			W33/503	Westerly	08-Mar	1.8
R1/504	STUDIO				21-Mar	2.6
			W1/504	Westerly	21-Mar	2.6
R2/504	STUDIO				21-Mar	3.2
			W2/504	Westerly	21-Mar	3.2
R3/504	STUDIO				21-Mar	3.2
			W3/504	Westerly	21-Mar	3.2
R4/504	STUDIO				21-Mar	5.6
			W4/504	Southerly	21-Mar	3.3
			W5/504	Westerly	21-Mar	3.2
R5/504	STUDIO				21-Mar	3.3
			W6/504	Westerly	21-Mar	3.3
R6/504	STUDIO				21-Mar	3.2
			W7/504	Westerly	21-Mar	3.2
R7/504	STUDIO				15-Mar	2.5
			W8/504	Westerly	15-Mar	2.5
R8/504	STUDIO				21-Mar	2.1
			W9/504	Westerly	21-Mar	2.1
R9/504	STUDIO				21-Mar	2.0
			W10/504	Westerly	21-Mar	2.0
R10/504	STUDIO				21-Mar	1.9
			W11/504	Westerly	21-Mar	1.9
R11/504	STUDIO				21-Mar	1.8



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
			W12/504	Westerly	21-Mar	1.8
	R12/504	STUDIO			21-Mar	1.9
			W13/504	Westerly	21-Mar	1.9
	R13/504	STUDIO			21-Mar	1.8
			W16/504	Northerly	21-Mar	0.0
			W15/504	Northerly	21-Mar	0.0
			W14/504	Westerly	21-Mar	1.8
	R14/504	STUDIO			21-Mar	0.0
			W17/504	Northerly	21-Mar	0.0
	R15/504	STUDIO			21-Mar	0.0
			W18/504	Northerly	21-Mar	0.0
	R16/504	STUDIO			21-Mar	0.0
			W19/504	Northerly	21-Mar	0.0
	R17/504	STUDIO			21-Mar	0.0
			W20/504	Northerly	21-Mar	0.0
	R18/504	STUDIO			21-Mar	0.0
			W21/504	Northerly	21-Mar	0.0
	R19/504	STUDIO			21-Feb	4.0
			W22/504	Southerly	21-Feb	4.0
	R20/504	STUDIO			03-Mar	3.5
			W23/504	Southerly	03-Mar	3.5
	R21/504	STUDIO			04-Feb	3.1
			W24/504	Southerly	04-Feb	3.1
	R22/504	STUDIO			20-Mar	1.2
			W25/504	Westerly	20-Mar	1.2
	R23/504	STUDIO			14-Mar	1.4
			W26/504	Westerly	14-Mar	1.4
	R24/504	STUDIO			21-Mar	1.7
			W28/504	Westerly	21-Mar	1.7
			W27/504	Westerly	21-Mar	1.5
	R25/504	STUDIO			21-Mar	1.5
			W30/504	Westerly	21-Mar	1.5



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
Existing vs Proposed Scheme 301024

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
			W29/504	Westerly	21-Mar	1.4
	R26/504	STUDIO			01-Mar	1.7
			W32/504	Westerly	01-Mar	1.7
			W31/504	Westerly	01-Mar	1.5
	R27/504	STUDIO			24-Feb	7.9
			W35/504	Southerly	24-Feb	7.1
			W34/504	Westerly	24-Feb	1.9
			W33/504	Westerly	24-Feb	1.8
	R1/505	STUDIO			21-Mar	3.3
			W1/505	Westerly	21-Mar	3.3
	R2/505	STUDIO			21-Mar	3.3
			W2/505	Westerly	21-Mar	3.3
	R3/505	STUDIO			21-Mar	3.3
			W3/505	Westerly	21-Mar	3.3
	R4/505	STUDIO			21-Mar	5.8
			W4/505	Southerly	21-Mar	3.3
			W5/505	Westerly	21-Mar	3.3
	R5/505	STUDIO			21-Mar	3.3
			W6/505	Westerly	21-Mar	3.3
	R6/505	STUDIO			21-Mar	3.3
			W7/505	Westerly	21-Mar	3.3
	R7/505	STUDIO			21-Mar	3.3
			W8/505	Westerly	21-Mar	3.3
	R8/505	STUDIO			21-Mar	3.0
			W9/505	Westerly	21-Mar	3.0
	R9/505	STUDIO			21-Mar	2.6
			W10/505	Westerly	21-Mar	2.6
	R10/505	STUDIO			21-Mar	2.6
			W11/505	Westerly	21-Mar	2.6
	R11/505	STUDIO			21-Mar	2.7
			W12/505	Westerly	21-Mar	2.7
	R12/505	STUDIO			21-Mar	2.5



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
			W13/505	Westerly	21-Mar	2.5
	R13/505	STUDIO			21-Mar	2.6
			W14/505	Westerly	21-Mar	2.6
			W16/505	Northerly	21-Mar	0.0
			W15/505	Northerly	21-Mar	0.0
	R14/505	STUDIO			21-Mar	0.0
			W17/505	Northerly	21-Mar	0.0
	R15/505	STUDIO			21-Mar	0.0
			W18/505	Northerly	21-Mar	0.0
	R16/505	STUDIO			21-Mar	0.0
			W19/505	Northerly	21-Mar	0.0
	R17/505	STUDIO			21-Mar	0.0
			W20/505	Northerly	21-Mar	0.0
	R18/505	STUDIO			21-Mar	0.0
			W21/505	Northerly	21-Mar	0.0
	R19/505	STUDIO			04-Feb	4.2
			W22/505	Southerly	04-Feb	4.2
	R20/505	STUDIO			02-Mar	3.6
			W23/505	Southerly	02-Mar	3.6
	R21/505	STUDIO			22-Feb	3.2
			W24/505	Southerly	22-Feb	3.2
	R22/505	STUDIO			21-Mar	1.3
			W25/505	Westerly	21-Mar	1.3
	R23/505	STUDIO			14-Mar	1.4
			W26/505	Westerly	14-Mar	1.4
	R24/505	STUDIO			17-Mar	1.8
			W28/505	Westerly	17-Mar	1.8
			W27/505	Westerly	17-Mar	1.6
	R25/505	STUDIO			21-Mar	1.7
			W30/505	Westerly	21-Mar	1.7
			W29/505	Westerly	21-Mar	1.7
	R26/505	STUDIO			21-Mar	1.8



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
			W32/505	Westerly	21-Mar	1.8
			W31/505	Westerly	21-Mar	1.8
	R27/505	STUDIO			19-Feb	8.2
			W35/505	Southerly	19-Feb	7.3
			W34/505	Westerly	19-Feb	2.1
			W33/505	Westerly	19-Feb	1.9
	R1/506	STUDIO			21-Mar	3.3
			W1/506	Westerly	21-Mar	3.3
	R2/506	STUDIO			21-Mar	3.3
			W2/506	Westerly	21-Mar	3.3
	R3/506	STUDIO			21-Mar	3.3
			W3/506	Westerly	21-Mar	3.3
	R4/506	STUDIO			21-Mar	6.4
			W4/506	Southerly	21-Mar	4.0
			W5/506	Westerly	21-Mar	3.3
	R5/506	STUDIO			21-Mar	3.3
			W6/506	Westerly	21-Mar	3.3
	R6/506	STUDIO			21-Mar	3.3
			W7/506	Westerly	21-Mar	3.3
	R7/506	STUDIO			21-Mar	3.3
			W8/506	Westerly	21-Mar	3.3
	R8/506	STUDIO			21-Mar	3.3
			W9/506	Westerly	21-Mar	3.3
	R9/506	STUDIO			21-Mar	3.3
			W10/506	Westerly	21-Mar	3.3
	R10/506	STUDIO			21-Mar	3.3
			W11/506	Westerly	21-Mar	3.3
	R11/506	STUDIO			21-Mar	3.3
			W12/506	Westerly	21-Mar	3.3
	R12/506	STUDIO			21-Mar	3.3
			W13/506	Westerly	21-Mar	3.3
	R13/506	STUDIO			21-Mar	3.3



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
		STUDIO	W14/506	Westerly	21-Mar	3.3
			W16/506	Northerly	21-Mar	0.0
			W15/506	Northerly	21-Mar	0.0
			W17/506	Northerly	21-Mar	0.0
					21-Mar	0.0
			W18/506	Northerly	21-Mar	0.0
					21-Mar	0.0
			W19/506	Northerly	21-Mar	0.0
					21-Mar	0.0
			W20/506	Northerly	21-Mar	0.0
					21-Mar	0.0
			W21/506	Northerly	21-Mar	0.0
					21-Mar	0.0
			W22/506	Southerly	14-Feb	4.3
					14-Feb	4.3
			W23/506	Southerly	14-Feb	3.8
					14-Feb	3.8
			W24/506	Southerly	19-Feb	3.3
					19-Feb	3.3
			W25/506	Westerly	21-Mar	1.4
					21-Mar	1.4
			W26/506	Westerly	21-Mar	1.5
					21-Mar	1.5
			W27/506	Westerly	17-Mar	1.8
					17-Mar	1.8
					17-Mar	1.6
			W29/506	Westerly	21-Mar	1.9
					21-Mar	1.9
					21-Mar	1.8
			W31/506	Westerly	21-Mar	2.0
					21-Mar	2.0
					21-Mar	2.0



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
	R27/506	STUDIO			10-Feb	8.4
			W35/506	Southerly	10-Feb	7.5
			W34/506	Westerly	10-Feb	2.2
			W33/506	Westerly	10-Feb	2.0
	R1/507	STUDIO			21-Mar	8.3
			W1/507	Southerly	21-Mar	5.9
			W2/507	Westerly	21-Mar	3.3
	R2/507	STUDIO			21-Mar	3.3
			W3/507	Westerly	21-Mar	3.3
	R3/507	STUDIO			21-Mar	3.3
			W4/507	Westerly	21-Mar	3.3
	R4/507	STUDIO			21-Mar	3.3
			W5/507	Westerly	21-Mar	3.3
	R5/507	STUDIO			21-Mar	3.3
			W6/507	Westerly	21-Mar	3.3
	R6/507	STUDIO			21-Mar	3.3
			W7/507	Westerly	21-Mar	3.3
	R7/507	STUDIO			21-Mar	3.3
			W8/507	Westerly	21-Mar	3.3
	R8/507	STUDIO			21-Mar	3.3
			W9/507	Westerly	21-Mar	3.3
	R9/507	STUDIO			21-Mar	3.3
			W10/507	Westerly	21-Mar	3.3
	R10/507	STUDIO			21-Mar	3.3
			W13/507	Northerly	21-Mar	0.0
			W12/507	Northerly	21-Mar	0.0
			W11/507	Westerly	21-Mar	3.3
	R11/507	STUDIO			21-Mar	0.0
			W14/507	Northerly	21-Mar	0.0
	R12/507	STUDIO			21-Mar	0.0
			W15/507	Northerly	21-Mar	0.0
	R13/507	STUDIO			21-Mar	0.0
			W16/507	Northerly	21-Mar	0.0



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Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
	R14/507	STUDIO			21-Mar	0.0
			W17/507	Northerly	21-Mar	0.0
	R15/507	STUDIO			21-Mar	0.0
			W18/507	Northerly	21-Mar	0.0
	R16/507	STUDIO			11-Feb	4.3
			W22/507	Southerly	11-Feb	4.3
	R17/507	STUDIO			14-Feb	3.8
			W23/507	Southerly	14-Feb	3.8
	R18/507	STUDIO			05-Feb	3.3
			W24/507	Southerly	05-Feb	3.3
	R19/507	STUDIO			21-Mar	1.6
			W25/507	Westerly	21-Mar	1.6
	R20/507	STUDIO			21-Mar	1.7
			W26/507	Westerly	21-Mar	1.7
	R21/507	STUDIO			21-Mar	1.8
			W28/507	Westerly	21-Mar	1.8
			W27/507	Westerly	21-Mar	1.8
	R1/508	STUDIO			21-Mar	8.3
			W1/508	Southerly	21-Mar	6.3
			W2/508	Westerly	21-Mar	3.3
	R2/508	STUDIO			21-Mar	3.3
			W3/508	Westerly	21-Mar	3.3
	R3/508	STUDIO			21-Mar	3.3
			W4/508	Westerly	21-Mar	3.3
	R4/508	STUDIO			21-Mar	3.3
			W5/508	Westerly	21-Mar	3.3
	R5/508	STUDIO			21-Mar	3.3
			W6/508	Westerly	21-Mar	3.3
	R6/508	STUDIO			21-Mar	3.3
			W7/508	Westerly	21-Mar	3.3
	R7/508	STUDIO			21-Mar	3.3



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
			W8/508	Westerly	21-Mar	3.3
	R8/508	STUDIO			21-Mar	3.3
			W9/508	Westerly	21-Mar	3.3
	R9/508	STUDIO			21-Mar	3.3
			W10/508	Westerly	21-Mar	3.3
	R10/508	STUDIO			21-Mar	3.3
			W13/508	Northerly	21-Mar	0.0
			W12/508	Northerly	21-Mar	0.0
			W11/508	Westerly	21-Mar	3.3
	R11/508	STUDIO			21-Mar	0.0
			W14/508	Northerly	21-Mar	0.0
	R12/508	STUDIO			21-Mar	0.0
			W15/508	Northerly	21-Mar	0.0
	R13/508	STUDIO			21-Mar	0.0
			W16/508	Northerly	21-Mar	0.0
	R14/508	STUDIO			21-Mar	0.0
			W17/508	Northerly	21-Mar	0.0
	R15/508	STUDIO			21-Mar	0.0
			W18/508	Northerly	21-Mar	0.0
	R16/508	STUDIO			05-Feb	4.4
			W22/508	Southerly	05-Feb	4.4
	R17/508	STUDIO			05-Feb	3.9
			W23/508	Southerly	05-Feb	3.9
	R18/508	STUDIO			21-Mar	3.5
			W24/508	Southerly	21-Mar	3.5
	R19/508	STUDIO			21-Mar	1.8
			W25/508	Westerly	21-Mar	1.8
	R20/508	STUDIO			21-Mar	1.9
			W26/508	Westerly	21-Mar	1.9
	R21/508	STUDIO			21-Mar	2.0
			W28/508	Westerly	21-Mar	2.0
			W27/508	Westerly	21-Mar	2.0



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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
	R1/509	STUDIO			21-Mar	8.3
			W1/509	Southerly	21-Mar	6.3
			W2/509	Westerly	21-Mar	3.3
	R2/509	STUDIO			21-Mar	3.3
			W3/509	Westerly	21-Mar	3.3
	R3/509	STUDIO			21-Mar	3.3
			W4/509	Westerly	21-Mar	3.3
	R4/509	STUDIO			21-Mar	3.3
			W5/509	Westerly	21-Mar	3.3
	R5/509	STUDIO			21-Mar	3.3
			W6/509	Westerly	21-Mar	3.3
	R6/509	STUDIO			21-Mar	3.3
			W7/509	Westerly	21-Mar	3.3
	R7/509	STUDIO			21-Mar	3.3
			W8/509	Westerly	21-Mar	3.3
	R8/509	STUDIO			21-Mar	3.3
			W9/509	Westerly	21-Mar	3.3
	R9/509	STUDIO			21-Mar	3.3
			W10/509	Westerly	21-Mar	3.3
	R10/509	STUDIO			21-Mar	3.3
			W12/509	Northerly	21-Mar	0.0
			W11/509	Westerly	21-Mar	3.3
			W13/509	Northerly	21-Mar	0.0
	R11/509	STUDIO			21-Mar	0.0
			W14/509	Northerly	21-Mar	0.0
	R12/509	STUDIO			21-Mar	0.0
			W15/509	Northerly	21-Mar	0.0
	R13/509	STUDIO			21-Mar	0.0
			W16/509	Northerly	21-Mar	0.0
	R14/509	STUDIO			21-Mar	0.0
			W17/509	Northerly	21-Mar	0.0



SUNLIGHT EXPOSURE CBDM ANALYSIS

Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
	R15/509	STUDIO			21-Mar	0.0
			W18/509	Northerly	21-Mar	0.0
	R16/509	STUDIO			05-Feb	4.4
			W22/509	Southerly	05-Feb	4.4
	R17/509	STUDIO			21-Mar	4.1
			W23/509	Southerly	21-Mar	4.1
	R18/509	STUDIO			21-Mar	3.8
			W24/509	Southerly	21-Mar	3.8
	R19/509	STUDIO			21-Mar	2.1
			W25/509	Westerly	21-Mar	2.1
	R20/509	STUDIO			21-Mar	2.2
			W26/509	Westerly	21-Mar	2.2
	R21/509	STUDIO			21-Mar	2.3
			W28/509	Westerly	21-Mar	2.3
			W27/509	Westerly	21-Mar	2.3
	R1/510	STUDIO			21-Mar	8.3
			W1/510	Southerly	21-Mar	6.3
			W2/510	Westerly	21-Mar	3.3
	R2/510	STUDIO			21-Mar	3.3
			W3/510	Westerly	21-Mar	3.3
	R3/510	STUDIO			21-Mar	3.3
			W4/510	Westerly	21-Mar	3.3
	R4/510	STUDIO			21-Mar	3.3
			W5/510	Westerly	21-Mar	3.3
	R5/510	STUDIO			21-Mar	3.3
			W6/510	Westerly	21-Mar	3.3
	R6/510	STUDIO			21-Mar	3.3
			W7/510	Westerly	21-Mar	3.3
	R7/510	STUDIO			21-Mar	3.3
			W8/510	Westerly	21-Mar	3.3
	R8/510	STUDIO			21-Mar	3.3
			W9/510	Westerly	21-Mar	3.3



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Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
	R9/510	STUDIO			21-Mar	3.3
			W10/510	Westerly	21-Mar	3.3
	R10/510	STUDIO			21-Mar	3.3
			W13/510	Northerly	21-Mar	0.0
			W12/510	Northerly	21-Mar	0.0
			W11/510	Westerly	21-Mar	3.3
	R11/510	STUDIO			21-Mar	0.0
			W14/510	Northerly	21-Mar	0.0
	R12/510	STUDIO			21-Mar	0.0
			W15/510	Northerly	21-Mar	0.0
	R13/510	STUDIO			21-Mar	0.0
			W16/510	Northerly	21-Mar	0.0
	R14/510	STUDIO			21-Mar	0.0
			W17/510	Northerly	21-Mar	0.0
	R15/510	STUDIO			21-Mar	0.0
			W18/510	Northerly	21-Mar	0.0
	R16/510	STUDIO			27-Feb	4.6
			W22/510	Southerly	27-Feb	4.6
	R17/510	STUDIO			21-Mar	4.6
			W23/510	Southerly	21-Mar	4.6
	R18/510	STUDIO			21-Mar	3.9
			W24/510	Southerly	21-Mar	3.9
	R19/510	STUDIO			21-Mar	2.4
			W25/510	Westerly	21-Mar	2.4
	R20/510	STUDIO			21-Mar	2.5
			W26/510	Westerly	21-Mar	2.5
	R21/510	STUDIO			21-Mar	2.6
			W28/510	Westerly	21-Mar	2.6
			W27/510	Westerly	21-Mar	2.6
	R1/511	STUDIO			21-Mar	8.3
			W1/511	Southerly	21-Mar	6.3
			W2/511	Westerly	21-Mar	3.3



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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
R2/511	STUDIO				21-Mar	3.3
			W3/511	Westerly	21-Mar	3.3
R3/511	STUDIO				21-Mar	3.3
			W4/511	Westerly	21-Mar	3.3
R4/511	STUDIO				21-Mar	3.3
			W5/511	Westerly	21-Mar	3.3
R5/511	STUDIO				21-Mar	3.3
			W6/511	Westerly	21-Mar	3.3
R6/511	STUDIO				21-Mar	3.3
			W7/511	Westerly	21-Mar	3.3
R7/511	STUDIO				21-Mar	3.3
			W8/511	Westerly	21-Mar	3.3
R8/511	STUDIO				21-Mar	3.3
			W9/511	Westerly	21-Mar	3.3
R9/511	STUDIO				21-Mar	3.3
			W10/511	Westerly	21-Mar	3.3
R10/511	STUDIO				21-Mar	3.3
			W12/511	Northerly	21-Mar	0.0
			W11/511	Westerly	21-Mar	3.3
			W13/511	Northerly	21-Mar	0.0
R11/511	STUDIO				21-Mar	0.0
			W14/511	Northerly	21-Mar	0.0
R12/511	STUDIO				21-Mar	0.0
			W15/511	Northerly	21-Mar	0.0
R13/511	STUDIO				21-Mar	0.0
			W16/511	Northerly	21-Mar	0.0
R14/511	STUDIO				21-Mar	0.0
			W17/511	Northerly	21-Mar	0.0
R15/511	STUDIO				21-Mar	0.0
			W18/511	Northerly	21-Mar	0.0
R16/511	STUDIO				02-Mar	4.8



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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
			W22/511	Southerly	02-Mar	4.8
	R17/511	STUDIO			11-Mar	4.9
			W23/511	Southerly	11-Mar	4.9
	R18/511	STUDIO			03-Mar	4.3
			W24/511	Southerly	03-Mar	4.3
	R19/511	STUDIO			21-Mar	2.8
			W25/511	Westerly	21-Mar	2.8
	R20/511	STUDIO			21-Mar	2.9
			W26/511	Westerly	21-Mar	2.9
	R21/511	STUDIO			21-Mar	3.0
			W28/511	Westerly	21-Mar	3.0
			W27/511	Westerly	21-Mar	3.0
	R1/512	AMENITY_ROOM			21-Mar	6.9
			W4/512	Southerly	21-Mar	6.2
			W5/512	Westerly	21-Mar	4.3
			W6/512	Westerly	21-Mar	4.3
			W7/512	Westerly	21-Mar	4.3
	R2/512	EVENT_ROOM			21-Mar	4.3
			W8/512	Westerly	21-Mar	4.3
			W9/512	Westerly	21-Mar	4.1
			W11/512	Northerly	21-Mar	0.0
			W10/512	Northerly	21-Mar	0.0
	R3/512	MEDIA_ROOM			21-Mar	0.0
			W13/512	Northerly	21-Mar	0.0
			W12/512	Northerly	21-Mar	0.0
	R4/512	STUDIO			21-Mar	0.0
			W14/512	Northerly	21-Mar	0.0
	R5/512	STUDIO			21-Mar	0.0
			W15/512	Northerly	21-Mar	0.0
	R6/512	STUDIO			21-Mar	0.0
			W16/512	Northerly	21-Mar	0.0
	R7/512	STUDIO			01-Feb	5.5
			W22/512	Southerly	01-Feb	5.5

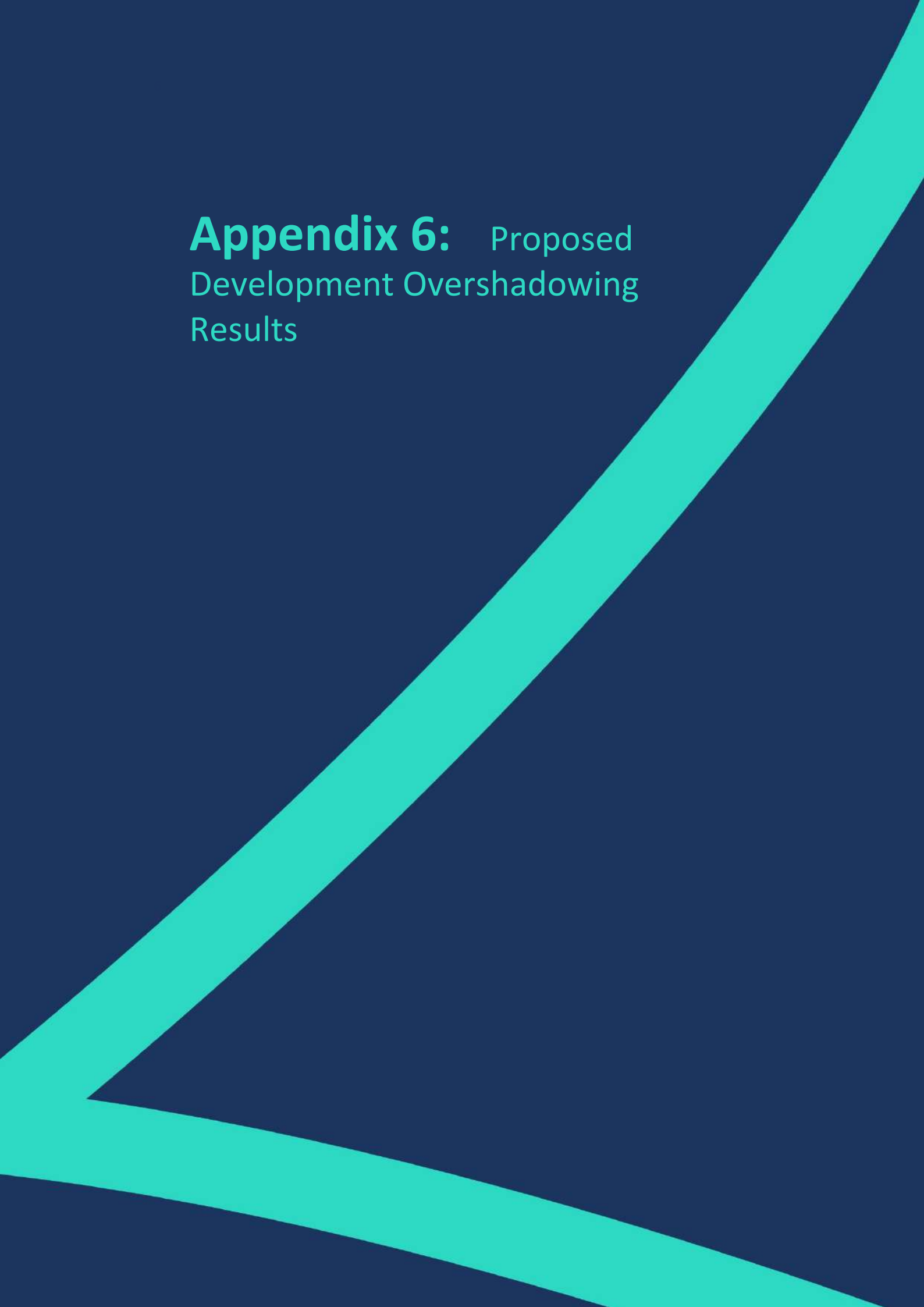


SUNLIGHT EXPOSURE CBDM ANALYSIS

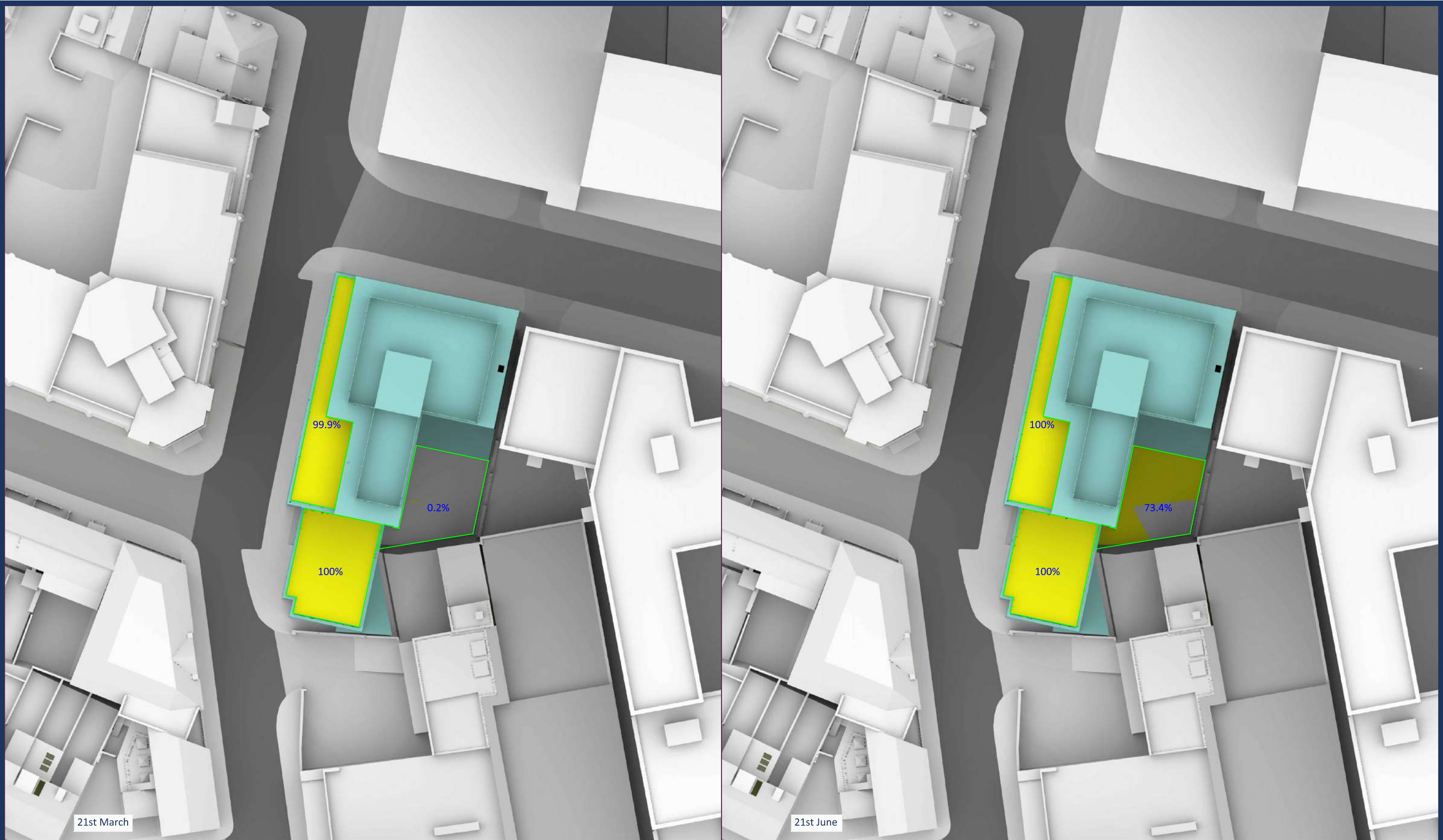
Greyfriars House
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SUNLIGHT EXPOSURE

Unit	Room	Room Use	Window	Orientation	Date	Sunlight Exposure (Hours)
R8/512	STUDIO				21-Mar	5.3
			W23/512	Southerly	21-Mar	5.3
R9/512	STUDIO				23-Feb	4.6
			W24/512	Southerly	23-Feb	4.6
R10/512	RESIDENT_KITCHEN				21-Mar	7.8
			W28/512	Westerly	21-Mar	3.6
			W27/512	Westerly	21-Mar	3.5
			W26/512	Westerly	21-Mar	3.4
			W25/512	Westerly	21-Mar	3.3
			W1/512	Westerly	21-Mar	4.3
			W2/512	Westerly	21-Mar	4.3
			W3/512	Westerly	21-Mar	4.3



Appendix 6: Proposed Development Overshadowing Results



Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:

- Area analysed
- Area with more than 2 hours of direct sunlight
- Area with less than 2 hours of direct sunlight
- 50% Percentage of area with more than 2 hours of direct sunlight

Project: Greyfriars House
Reading

Title: 2 Hours Shadow test
Proposed Scheme Received 0910924

Scheme Confirmed:

Date:

Drawn By:
EVJ

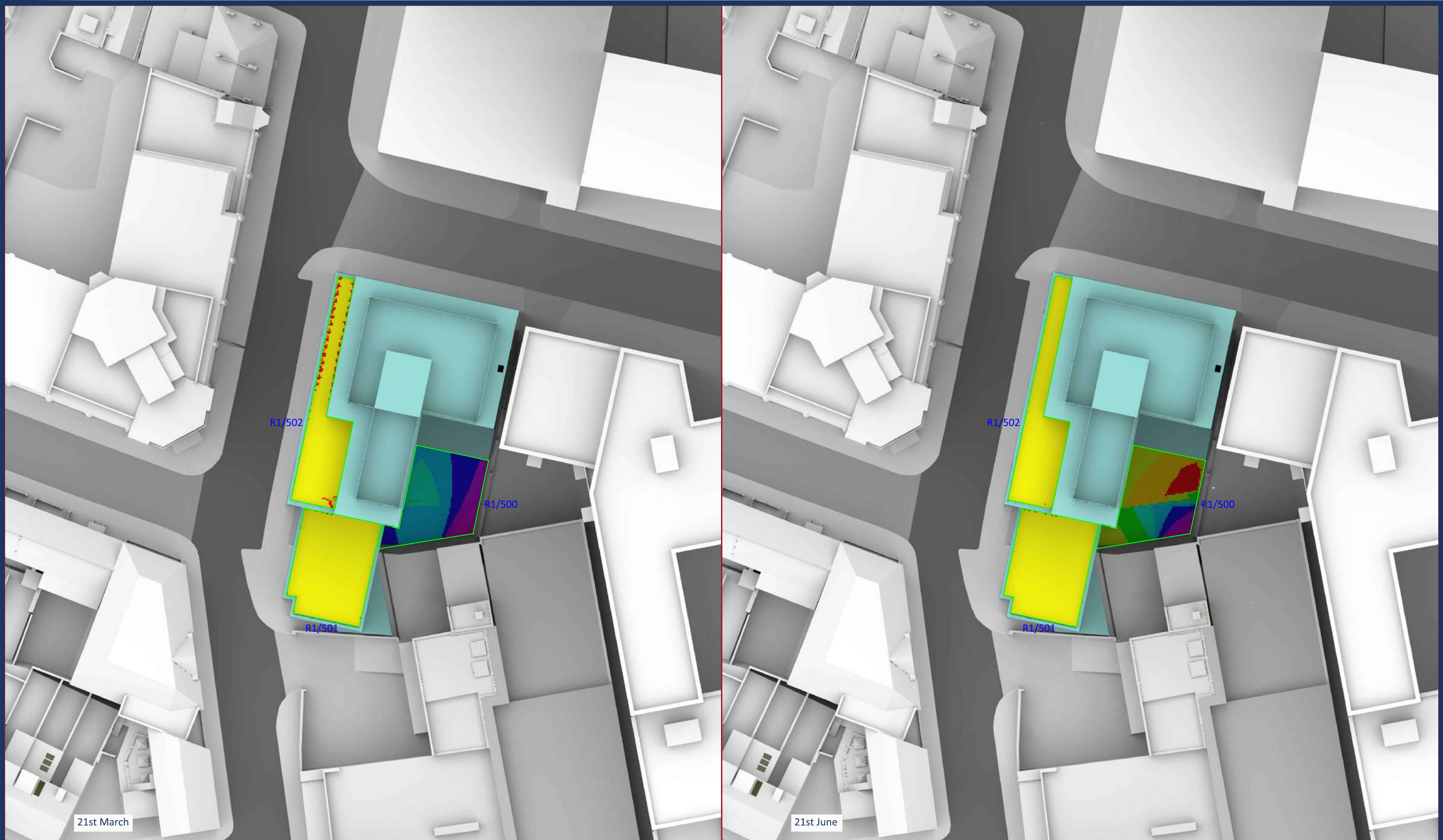
Scale:
1/500 @ A3

Date:
Oct 2024

Dwg No:
P3715/SHA 01

Rel:
02





Sources: Point2
Point Cloud Survey
Site Photography
Local Planning Authority
Various Surrounding Building Layouts/Massing
Darling Associates
Proposed Scheme Received 091024
241004 Update
241004_GFR-DAA-ZA-ZZ-M3-A-Building_A

Key:

- <0min
- 0 - 1min
- 1 - 30min
- 30 - 60min
- 60 - 90min
- 90 - 120min
- 120 - 150min
- 150 - 180min
- 180 - 210min
- 210 - 240min
- >240min

Project: Greymfriars House
Reading

Title: Sunlight Hours on Ground
Proposed Scheme Received 0910924

Scheme Confirmed:

Date:

Drawn By:
EVJ

Scale:
1/500 @ A3

Date:
Oct 2024

Dwg No:
P3715/TIS 01

Rel:
02





ELDER

GREYFRIARS HOUSE

20 - 30 GREYFRIARS ROAD , READING

