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Daylight and Sunlight Amenity Impact Assessment Report

Proposed Residential Development

Bendix Street

New Cross

Ancoats

Manchester

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1. Executive Summary

1.1 Overview

1.1.1 Mulbury Homes (Oldham Road) Limited has developed a proposal for the redevelopment of land off Bendix Street in the New Cross area of Manchester City Centre.

1.1.2 Gray Scanlan Hill is appointed to evaluate the daylight and sunlight amenity impact of the Proposed Development on those key parts of the surrounding built environment.

1.1.3 We have used the provisions set out in the Building Research Establishment ("BRE") design guidance *Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice*, which is recognised as the industry standard, technically robust, methodology for appraising daylight and sunlight amenity impact in the built environment.

1.1.4 The BRE Guidance primarily seeks to promote the daylight and sunlight impact assessment of neighbouring buildings of residential use; it highlights the consideration of daylight and sunlight to living rooms and daylight to bedrooms and family kitchens. It also identifies windows serving classrooms as worthy of review and certain external areas.

1.1.5 This Report documents the impact that the Proposed Development will have on the daylight and sunlight amenity of the following neighbouring buildings:

- Turning Point Detoxification Centre, Thompson Street;
- Victoria Square, Oldham Road;
- 44-68 Oldham Road;
- 8 - 30 Oldham Road Apartments;
- 8 Cable Street;
- 32 Mason Street;
- The Skyline Central Apartments, Goulden Street;
- 34 Mason Street;
- 36 Mason Street;
- 38 Mason Street.

1.2 Baseline vs Proposed - Daylight Amenity Impact

Generally

1.2.1 The Proposed Development will have a non-significant daylight amenity impact on Victoria Square, 8-30 Oldham Road, 8 Cable Street, 32 Mason Street, The Skyline Central Apartments, 34 Mason Street, 36 Mason Street and 38 Mason Street.

1.2.2 All windows appraised would continue to achieve the BRE's 27% VSC target in the proposed condition or experience a reduction in baseline VSC of less than the 20% reduction that is accepted by the BRE, on the grounds that it would not be noticed by the room occupants. Further, all Site facing rooms of these buildings will also satisfy the BRE's No Sky Line test, with the majority experiencing no reduction in the area / extent to which direct sky light would be distributed within each room. Where rooms do experience a No Sky Line reduction, this is by less than the 20% reduction that is accepted by the BRE, on the grounds that it would not be noticed by the room occupants.

The Turning Point Centre

1.2.3 The Proposed Development will have a non-significant impact on the majority of the Site facing windows of the Turning Point Centre. Of the 48 individual windows appraised, 42 (88%) would continue to achieve the BRE's 27% VSC target in the proposed condition, or experience a reduction in baseline VSC values of less than the 20% reduction that is accepted by the BRE, on the grounds that it would not be noticed by the room occupants.

1.2.4 There are 5 windows (10%) that would not achieve the BRE's VSC target in the proposed condition. They would, however, achieve at least 21.6% VSC, which we consider to be within an acceptable tolerance of the BRE targets, given the City Centre context. The remaining window would achieve a VSC of 21.51% which, being only marginally less than 21.6%, would also be considered to be within an acceptable tolerance of the BRE targets.

1.2.5 Further, all Site facing rooms in the Turning Point Centre would satisfy the BRE's No Sky Line test, with the majority experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room. Where rooms do experience a No Sky Line reduction, this is less than the 20% reduction that is accepted by the BRE, on the grounds that it would not be noticed by the room occupants.

44-68 Oldham Road

1.2.6 The Proposed Development will have a non-significant impact on the majority of the Site facing windows of 44-68 Oldham Road. Of the 41 individual windows appraised, 30 (73%) would continue to achieve the BRE's 27% VSC target in the proposed condition, or experience a reduction in baseline VSC values of less than the 20% reduction that is accepted by the BRE, on the grounds that it would not be noticed by the room occupants.

1.2.7 There are 11 windows that would not achieve the BRE's VSC target in the proposed condition. Nine of these would, however, achieve at least 21.6% VSC, which we consider to be within an acceptable tolerance of the BRE targets, given the City Centre context. The remaining two windows would continue to achieve VSCs of circa 21.4% and 21.5% which, in practical terms, we also consider to be within an acceptable tolerance of the BRE targets.

1.2.8 27 rooms (79%) of the 34 appraised would also satisfy the BRE's No Sky Line test. There are seven rooms that would experience movement in the No Sky Line to an extent that would be noticed by the room occupants. However, in our opinion, the extent to which direct sky light distribution is reduced to the majority of these amounts to a low magnitude of change, and all of these rooms will continue to receive direct daylight to at least 50% of their area.

1.2.9 On balance, given the City Centre context, the impact that the Proposed Development would have on the daylight amenity of this terrace is, despite localised / minority adverse results, in our opinion considered to be appropriate and non-significant.

1.3 Baseline vs Proposed – Sunlight Amenity Impact

1.3.1 The Proposed Development will have a non-significant sunlight amenity impact on all neighbouring buildings considered as part of this Report.

1.3.2 Notwithstanding localised reductions in sunlight amenity, the significant majority of the rooms appraised (with the exception of the three referred to in the following paragraph) will continue to either achieve the BRE's sunlight targets of 5% winter APSH and 25% annual APSH, or experience reductions in winter or annual APSH of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

1.3.3 There are 3 rooms in the Turning Point Centre that would not achieve the BRE's APSH winter targets in the proposed condition. However, they are within what we perceive to be an acceptable tolerance of the BRE targets and on that basis, we consider the impact to be appropriate and non-significant, given the City Centre context.

1.3.4 The BRE only requires windows to be sunlight appraised where they face within 90° of due south. On this basis, the majority of Site facing windows in the neighbouring 44-68 Oldham Road, 8-30 Oldham Road and 8 Cable Street have not been sunlight amenity appraised, because they are north facing – the physical relationship between these neighbouring windows / rooms and the Site / Proposed Development means that it will not influence sunlight amenity enjoyed in either the baseline or proposed conditions.

1.4 Sunlight to Open Spaces

1.4.1 In our opinion, there are no neighbouring external amenity spaces around the Site that justify the need for a 2-hour time in sun appraisal (when compared against the list provided by the BRE of examples of external uses that do).

2. Introduction

2.1 Background and Instructions

2.1.1 Mulbury Homes (Oldham Road) Limited has developed a proposal for the redevelopment of land off Bendix Street in the New Cross area of Manchester City Centre.

2.1.2 Gray Scanlan Hill is appointed to evaluate the daylight and sunlight amenity impact of the Proposed Development on those key parts of the surrounding built environment.

2.1.3 This Report confirms our assessment methodology, findings and opinions.

2.2 Scope of this Report

2.2.1 For reasons explained elsewhere in this Report, our appraisal is based on the provisions of the Building Research Establishment's ("BRE") *Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice*. The BRE Guidance provides an objective means for evaluating daylight and sunlight amenity impact in the built environment.

2.2.2 For reasons that will become apparent as this Report progresses, the windows of the following neighbouring buildings have been daylight & sunlight amenity impact evaluated:

- Turning Point Detoxification Centre, Thompson Street;
- Victoria Square, Oldham Road;
- 44-68 Oldham Road;
- 8 - 30 Oldham Road Apartments;
- 8 Cable Street;
- 32 Mason Street;
- The skyline Central Apartments;
- 34 Mason Street;
- 36 Mason Street;
- 38 Mason Street.

2.2.3 We have undertaken a daylight and sunlight technical analysis and have measured, using computerised 3D massing simulations of the Site and its surroundings and specialist computer software, the amount of daylight and sunlight that is available to the windows / rooms of the above neighbouring buildings, both as existing / baseline and as proposed.

2.3 Professional Experience

2.3.1 This appraisal has been undertaken by Mike Scanlan, who is a Director at Gray Scanlan Hill. He has, over the course of the last 18 years, specialised in advising and representing his Clients on various third-party development issues, including rights of light (common law), daylight and sunlight and overshadowing amenity assessments (for Town & Country Planning), Party Wall etc Act 1996 and access to land / airspace negotiations.

2.3.2 He commenced his training at building surveying Consultancy, Malcolm Hollis, until August 2005 when he became a founding Director of Gray Scanlan Hill, where he has continued to provide third party development consultancy advice to Clients.

2.3.3 He has advised both developers and neighbouring adjoining owners in respect of the impact of proposed developments. He has also accepted instructions to advise Local Authorities on the practical application of the BRE Guidance.

2.3.4 A member of the Royal Institution of Chartered Surveyors ("RICS"), he has frequently lectured on third party development issues to fellow property professionals as part of numerous regional CPD programmes and conferences.

2.4 The Site

2.4.1 The Site is bound by Thompson Street to the north east, Oldham Road to the south, Bendix Street to the south west and the Turning Point Detox Centre to the north west. The Site comprises 0.14 ha of developed land, currently used as a locksmith business.

2.4.2 The Site is located within "Zone A" of the New Cross neighbourhood area, as defined by the Neighbourhood Development Framework ("NDF") dated July 2015.

2.4.3 It is part of a wider vision to create a predominantly residential neighbourhood, supported by a mixture of ancillary office or commercial units at ground floor.

2.4.4 Around the Site, there are numerous open parcels of land – former commercial / industrial spaces now used as surface car parks – and a number of residential buildings or vacant commercial buildings with Planning Approvals for residential conversion.

2.4.5 Certain images contained at Appendix 1 communicate the existing physical relationship between the Site and its immediate surroundings in massing terms.

2.5 The Proposed Development

2.5.1 The Proposed Development comprises the demolition of the existing buildings and the construction of a twelve storey apartment block occupying the full footprint of the Site.

2.5.2 The proposed massing images contained at Appendix 1 communicate the footprint and height of the Proposed Development relative to its immediate surroundings.

2.6 Information Relied upon and Site Specific Limitations

2.6.1 We have inspected the Site and walked its surroundings and in so doing have identified the window provision of the neighbouring buildings that overlook the Site (to the extent that such windows are capable of being observed from the adjacent public highways).

2.6.2 To facilitate the running of the computerised technical analysis, we have constructed digital 3D massing models of the Site and its immediate surroundings, both in its existing or baseline configuration and as is proposed. In establishing the 3D massing models, we have relied on the following information, provided to us by others:

- A point cloud survey of the Site and its surroundings, prepared by ND Oliver Limited.
- 3D Autocad model of the of the Proposed Development prepared by Tim Groom Architects, along with confirmed OS co-ordinates and datum levels.

2.6.3 We are briefed to acknowledge the massing of the development currently being constructed by Balfour Beatty Investments as part of the baseline condition. Our understanding of its massing is based on plans downloaded from Manchester City Council's Planning public access system under Planning Reference 112015/FO/2016/N1.

2.6.4 Since the point cloud survey was procured, the following new developments have been constructed in the vicinity of the Site to be acknowledged as part of the Baseline. Our understanding of their massing is based on plans downloaded from Manchester City Council's Planning public access system under the quoted Planning References:

- Rochdale Road – Reference 118120/FO/2017
- Mason Street – Reference 118057/FO/2017

2.6.5 The interior of the neighbouring buildings has not been inspected. It has therefore been necessary to make assumptions regarding the size / arrangement and use of the rooms. These assumptions can be observed from the No Sky Line Contour Plans at Appendix 3.

2.6.6 Some of our assumptions have been influenced by lease plans, letting / sales particulars available from the internet and plans forming part of Planning Applications available digitally via Manchester City Council's Planning public access system, as follows:

- 8 – 30 Oldham Road – Reference 082288/FO/2007/N1;
- 25 Addington Street – Reference 092455/FO/2010/N1;
- 8 Cable Street – Reference 114908/FO/2016;
- Victoria Square – Reference 090496/FO/2009/N1;
- 30 Mason Street – Reference 092487/FO/2010/N1;
- 32 Mason Street – Reference 117059/FO/2017;
- 34 Mason Street – Reference 118182/JO/2017;
- 38 Mason Street – Reference 104863/FU/2014/N1;
- 60 Oldham Road – Reference 091070/FU/2009/N1;
- 64 Oldham Road – Reference 092929/FU/2010/N1;
- 66 Oldham Road – Reference 069863/FU/2003/N1;
- 68 Oldham Road – Reference 095970/FO/2011/N1;
- Turning Point Centre – Reference 36739;
- 36 Mason Street – Holiday letting particulars available from Booking.com.

2.6.7 On the basis that the neighbouring buildings have not been inspected, we have identified the neighbouring buildings of residential use, and discounted those of non-residential use, by reference to observations made during our Site inspection and Valuation Office Agency records – neighbouring buildings with a Council Tax Band being of residential use.

2.6.8 Our technical analysis only appraises the impact that the massing of the Proposed Development will have on the daylight and sunlight amenity of the receptors identified above. It is not a cumulative assessment that acknowledges the massing of any other development proposed or anticipated as part of the wider New Cross NDF.

3. Standards

3.1 National Planning Policy

3.1.1 There are no national planning policy guidelines that directly govern daylight and sunlight amenity in terms of sufficiency and acceptable impacts.

3.1.2 It is, however, acknowledged that the National Planning Policy Framework (NPPF) 2019 confirms the Government's objective to conserve and enhance the natural and local environment in the planning system. The availability of daylight and sunlight are, of course, natural resources that can enhance an environment.

3.1.3 The NPPF promotes, where appropriate, an uplift in density for residential development in town and city centres, and notes that a flexible approach should be taken in applying guidance relating to daylight and sunlight in such areas of high density.

3.2 Local Planning Policy and Guidance

3.2.1 Manchester City Council's Core Strategy was adopted on 11th July 2012 and is the key Development Plan Document in the Local Development Framework ("LDF").

3.2.2 It describes Manchester today and outlines the Council's vision for Manchester in 2027 along with the planning policies which will be used to deliver that vision.

3.2.3 Supplementary Planning Documents (SPDs) provide more detail to policies in the Core Strategy. Manchester adopted its 'Guide to Development in Manchester SPD and Planning Guidance' in April 2007. We understand that it has yet to be updated to reflect the adopted Core Strategy and the saved Policies from the UDP.

3.2.4 The Council will promote / encourage the construction of tall buildings - Policy EN2 of the Core Strategy refers. Proposals for tall buildings will be supported if certain design criteria are met. It is acknowledged that tall buildings can have a significant impact on the local environment and the Council expect that the impact be modelled / measured.

3.2.5 The Council do, however, acknowledge, in Policy CC6 – City Centre High Density Development - of the Core Strategy that development in the City Centre will generally be "high density" and that the scale, massing and height of development in the City Centre will significantly exceed what is appropriate elsewhere in the City.

3.2.6 The Site is located with Zone A of The New Cross Neighbourhood Development Framework dated July 2015, which was prepared to guide the future redevelopment of the New Cross area of Manchester. Aligning with the sentiment of Policy CC6, the NDF confirms that high density development (tall buildings located and positioned in close proximity of one another) is appropriate for the Site and its immediate surroundings.

3.2.7 Policy DM1 – Development Management – confirms that all developments should have regard to a number of issues, such as the effects on amenity, including light.

3.2.8 In July 2016, the Council published their "Residential Quality Guidance" ("RQG") with the confirmed intention of providing clear direction on the considerations, qualities, and opportunities that will help to deliver high quality residential development as part of successful and sustainable neighbourhoods across Manchester.

3.2.9 In encouraging developers to "appreciate scale" the RQG acknowledges that taller buildings can have an impact on the character and atmospheric quality of the spaces immediately around them; affecting light and shadow amongst other things and requiring developers and their design teams to demonstrate how massing and scale have been considered in terms of its impact on the neighbourhood, street and block.

3.2.10 Neither the above mentioned National Planning Policy or Local Planning Policy and Guidance contain a specific or bespoke "daylight and sunlight" policy regarding development in the City Centre. Further, no guidance is provided on how daylight and sunlight amenity impact might be measured and evaluated in practice.

3.2.11 Accordingly, it is necessary to consider and administer the design guidance available from the Building Research Establishment and in particular their Guidance Note *"Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice"*.

3.3 The BRE "Site Layout Planning for Daylight & Sunlight"

3.3.1 The BRE Guidance was produced following extensive consultation with architects, planning officers, consultants, professional institutions and Government officials.

3.3.2 The BRE Guidance was first published in 1991 and superseded the Department of the Environment Guidance "Sunlight and Daylight Planning Criteria and Design of Buildings". The current edition of the BRE Guidance was published in 2011.

3.3.3 Its overall purpose is to assist in evaluating the relationship between new and existing buildings to ensure that each retains the potential to achieve a "fair share" of available daylight and sunlight given their relative siting, height and mass.

3.3.4 The Guidance is technically robust and has become the industry standard methodology for assessing the adequacy of daylight and sunlight amenity in the built environment.

3.3.5 The provisions of the Guidance are not mandatory and the BRE have taken steps to confirm that it should not be read as an instrument of planning policy:

'The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document 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 because natural daylight is only one of many factors in site layout design'.

3.3.6 It is important to note that the BRE Guidance was developed for use in the assessment of low density suburban environments and should, therefore, be applied flexibly for developments in urban City Centre sites, or commercially influenced areas.

3.3.7 The BRE targets should not, therefore, be seen as absolute and immoveable targets when applied in a town or City Centre or high-density built environment.

3.3.8 To facilitate the flexible application of the BRE Guidance, it promotes the setting of alternative target values for use in built-up urban areas, such as a City Centre, which have different characteristics to lower density suburban areas.

4. The BRE Tests

4.1 Daylight

4.1.1 The BRE Guidance confirms that its daylight provisions are intended for use for rooms in neighbouring dwellings where daylight is required, which would include living rooms, kitchens and bedrooms. It goes on to confirm that windows serving bathrooms, toilets, store rooms, circulation areas, and garages need not be analysed.

4.1.2 There are several different methods of measuring daylight amenity. The BRE recommend that the VSC test is used when considering the impact that a new development will have on the daylight amenity of an existing neighbouring building. We have therefore focused our attention in performing the Vertical Sky Component ("VSC") test.

4.1.3 The VSC is a unit of measurement that represents the amount of visible sky that is capable of being received at the external face of a window. Daylight is derived directly from the sky. On that basis, the more unobstructed sky or sky visibility available to a window, the potential daylighting capability of the room served by it will increase.

4.1.4 The unit is expressed as a percentage, as it is the ratio between the amount of visible sky available to the window being tested, compared to that available from a totally unobstructed sky. To put this unit of measurement into perspective, the maximum percentage VSC value of a window located in a vertical plane is 50%, but in practice the VSC values do not typically exceed 40%, because of projecting window reveals and window heads which lessen / reduce the angles of measurement.

4.1.5 The BRE Guidance for daylight confirms that: *"… daylighting of an existing building may be adversely affected … if … the VSC measured at the centre of an existing … window is less than 27%, and less than 0.8 times its former value"*

4.1.6 In this regard, an aspirational target of 27% VSC is established for each window.

4.1.7 However, if a window already receives less than 27% VSC, then a reduction in the existing value of up to 20% (i.e. 0.8 x) is accepted as permissible on the basis that such a reduction is unlikely to be noticed by the room's occupants.

4.1.8 We would stress that should a window's VSC value be reduced by more than 20%, this does not mean that the room will ordinarily be left with inadequate levels of daylight; it simply means that the reduction in light will be more noticeable to the occupants.

4.1.9 The BRE Guidance confirms that the daylight distribution of an existing building can be found by plotting the No Sky Line ("NSL") for each main room, which would include living rooms, dining rooms and kitchens (bedrooms are considered less important).

4.1.10 The NSL is measured at an internal working plane within a room and divides those parts of it which can and cannot see the sky through its window provision.

4.1.11 Those parts of a room beyond the NSL usually look dark and gloomy, compared with the rest of the room, because they receive no direct daylight.

4.1.12 The BRE Guidance confirms that the area of a room within the baseline NSL can be reduced by 20% (or 0.8x) without being noticed by the room occupants.

4.2 Sunlight to Buildings

4.2.1 Unlike daylight, which is not influenced by orientation and assumes that light from the sky is uniform, the availability of sunlight is dependent upon compass orientation.

4.2.2 As the United Kingdom is in the northern hemisphere, sun is only received from the south, rising in the east and setting in the west. The availability of sunlight is therefore dependent upon the orientation of the window being tested relative to due south.

4.2.3 The BRE Guidance for sunlight concludes that:

"If a living room of an existing dwelling has a main window facing within 90° of due south and any part of the new development subtends an angle of more than 25° to the horizontal, measured from the centre of the window in a vertical section perpendicular to the window, the sunlighting of the existing dwelling may be adversely affected".

4.2.4 The BRE Guidance goes on to conclude that sunlight will be adversely affected if the living room window *"…receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March".*

4.2.5 September – March are acknowledged as the "winter months".

4.2.6 Sunlight, therefore, only needs to be considered for windows serving living rooms, which is in contrast to the daylight test that applies equally to kitchens and bedrooms.

4.2.7 Again, the BRE confirms that where the APSH values are not met in the existing condition, a reduction of up to 20% (i.e. 0.8 x) the existing value would be acceptable, on the basis that the reduction is unlikely to be noticed by the building occupants.

4.2.8 We would, again, stress that reductions of more than 20% should not ordinarily be interpreted as a window being left with insufficient levels of sunlight amenity; it simply means that the reduction is more likely to be noticed by the building occupants.

4.3 Alternative Daylight and Sunlight Targets

4.3.1 The BRE acknowledge the need for the provisions of the Guidance to be applied and interpreted flexibly, including adjustment, where it is used outside of the low density suburban environments for which it was designed, in confirming that:

"… the Developer or Planning Authority may wish to use different target values. For example, in a historic City Centre, 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 proportion of existing buildings".

4.3.2 This is logical. It is unrealistic to rigidly impose the BRE's low density massing targets in the City Centre, an environment that the Council acknowledge will be a high density.

4.3.3 The promoting of a high-density environment is at odds with the maintaining of those levels of daylight and sunlight that the BRE has set for its low-density massing targets.

4.3.4 Gray Scanlan Hill consider the setting of alternative targets to be a necessary means of adjusting the BRE Guidance for use in a City Centre environment.

4.3.5 It is unreasonable to expect higher density developments to fall in line with the BREs low density targets. For this reason, the setting of alternative targets is justified in this instance, and an appropriate means of impact appraising the Proposed Development.

4.3.6 A generic or non-site specific alternative daylight target of 21.6% VSC can be established for higher density massing environments, through applying BRE principles.

4.3.7 To explain, the BRE Guidance confirms that the 27% target VSC is an acceptable level of daylight, and one that is capable and accepted of being reduced by 20%.

4.3.8 In this regard, if a window enjoys 27% VSC in the existing condition, it would be acceptable to reduce that VSC to 21.6%. In such circumstances, it would be concluded that a VSC of 21.6% would be adequate to satisfy the BRE's daylight test criterion.

4.3.9 That conclusion would be drawn on the basis that the reduction in direct sky light would not be noticed by the building or room occupants. However, that is not the same, and this is an important distinction, as concluding that 21.6% VSC is in anyway an insufficient or detrimental amount of direct sky light for a window or room to receive.

4.3.10 Logically, if 21.6% can be concluded as a sufficient proposed VSC for one habitable room window, then there is no reason why that could not be set as an alternative benchmark or target for all habitable room windows, regardless of their existing VSC values and the extent to which any reductions in sky visibility over the Site might be experienced.

4.3.11 A window with a VSC of 21.6% means that the window would still have access to more than half of the sky dome (from which daylight is derived) that is realistically available to an unobstructed window located in a vertical plane or elevation. We would therefore deem that a window achieving a VSC of at least 21.6% would at least be within an acceptable tolerance of the aspirational 27% target noted in the BRE Guidance.

4.3.12 Using the same principle, alternative APSH targets of 4% winter APSH (rather than the low density 5%) and 20% annual APSH (rather than 25%) can be set.

4.4 Sunlight to Open Spaces

4.4.1 As well as ensuring that living rooms receive a good level of sunlight, it is also important that open spaces between and around buildings such as gardens are suitably sunlit.

4.4.2 The BRE recommend that the availability of sunlight should be checked for all external spaces where it will be required, and this would normally include:

- Gardens, usually the main back garden of a house;
- Parks and playing fields;
- Children's playgrounds;
- Outdoor swimming pools and paddling pools;

- Sitting out areas, such as those between non-domestic buildings / public squares;
- Focal points such as monuments or fountains.

4.4.3 The BRE Guidance concludes that:

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

4.4.4 This ultimately means that 50% of any garden or external amenity space must be capable of receiving two hours of sunlight, and by implication be free from any permanent overshadowing, on 21 March. A 20% reduction of the existing value is accepted by the BRE on the grounds that it is unlikely to be noticed by the occupants or users.

5. Assessment

5.1 Assessment Methodology

5.1.1 Our assessment follows the methodology set out in the BRE Guidance, which provides an objective means of measuring and evaluating daylight and sunlight amenity impact.

5.1.2 To scientifically appraise the impact that the massing of the Proposed Development will have on the daylight and sunlight amenity of the surrounding built environment, a computer-generated 3D model has been established that simulates the massing of the Site and its surroundings in both its existing / baseline and proposed condition.

5.1.3 The assessment calculations have been undertaken using specialist computer software (known as "SOL", a widely used and market leading simulated light measurement software) to perform the BRE daylight and sunlight tests.

5.1.4 The information upon which the computer model and technical analysis is based, has been extracted from the information referred to in Section 2.6 of this Report.

5.2 Receptor Identification

5.2.1 It is clear from reading the BRE Guidance that it seeks to consider daylight and sunlight amenity for neighbouring buildings of residential use; it emphasises the availability of daylight and sunlight to living rooms, and daylight to bedrooms and family kitchens.

5.2.2 The relevant or sensitive daylight and sunlight receptors around the Site are therefore those windows that serve anticipated habitable room uses in the neighbouring buildings.

5.2.3 For the purposes of this Report, we have identified certain windows in the following neighbouring buildings as sensitive or key receptors:

- Turning Point Detoxification Centre, Thompson Street;
- Victoria Square, Oldham Road;
- 44-68 Oldham Road;
- 8 - 30 Oldham Road Apartments;
- 8 Cable Street;
- 32 Mason Street;
- The Skyline Central Apartments;

- 34 Mason Street;
- 36 Mason Street;
- 38 Mason Street.

5.2.4 These neighbouring buildings are known to be of residential use or have the benefit of a live Planning Permission for their residential conversion and future use.

5.2.5 The position of these neighbouring buildings, relative to the Site and the Proposed Development, can be observed on the massing plans at Appendix 1 below.

5.2.6 Window reference plans of the principal elevations of the neighbouring buildings considered as part of the Report can be found at Appendix 2.

5.2.7 We have impact appraised all of the habitable rooms served by a window located in the Site facing elevations of these neighbouring buildings. Whilst not all of the rooms / windows overlook the Site directly, the massing of the Proposed Development will have an influence on the extent to which they might continue to receive daylight and sunlight.

5.2.8 In line with BRE principles, any windows in the above-mentioned buildings that are known to serve circulation space or welfare accommodation have not been analysed, neither have the windows that serve any ground floor retail / non-domestic uses.

5.2.9 The following neighbouring residential developments have recently been constructed, with windows through which the Site can, and the Proposed Development will, be seen:

- Balfour Beatty Scheme – Reference: 112015/FO/2016/N1;
- Rochdale Road – Reference 118120/FO/2017;
- Mason Street – Reference 118057/FO/2017.

5.2.10 The daylight and sunlight amenity impact of the Proposed Development upon these neighbouring buildings has not, however, been appraised. The justification for this position is that they are developments located within the New Cross NDF and which promotes a high density massing environment. It is unreasonable for developers developing in the NDF area to expect their buildings to maintain Design Guidance daylight and sunlight amenity, given the high density massing contemplated by the NDF. This equally applies to purchasers / occupiers of residential buildings constructed within the NDF area.

5.3 Baseline Condition

5.3.1 The baseline condition acknowledges the existing massing of the Site and its surroundings and includes the neighbouring Balfour Beatty Investments development.

5.3.2 Baseline massing images of the Site and its surroundings are provided at Appendix 1.

5.3.3 A summary of the baseline daylight and sunlight results is tabulated below:

Table 1 – Summary of Baseline VSC Results

Receptors	≥ 27% VSC	< 27% VSC
Turning Point Detox Centre	38 windows (81%)	9 windows (19%)
Victoria Square	214 windows (95%)	12 windows (5%)
46-68 Oldham Street	29 windows (71%)	12 windows (29%)
8-30 Oldham Road	44 windows (66%)	23 windows (34%)
8 Cable Street	24 windows (92%)	2 windows (8%)
32 Mason Street	20 windows (83%)	4 windows (17%)
The Skyline Central Apartments	19 windows (53%)	17 windows (47%)
34 Mason Street	11 windows (79%)	3 windows (21%)
36 Mason Street	5 windows (100%)	0 windows (0%)
38 Mason Street	9 windows (100%)	0 windows (0%)

5.3.4 The BRE's NSL test is based upon the size of reduction in area receiving direct daylight in the Proposed Condition. On this basis, there is no NSL Baseline target.

Table 2 – Summary of Baseline APSH Results

Receptors	≥ 5% & 25% APSH	< 5% & 25% APSH
Turning Point Detox Centre	23 rooms (100%)	0 rooms (0%)
Victoria Square	39 rooms (100%)	0 rooms (0%)
46-68 Oldham Street	4 rooms (100%)	0 rooms (0%)
8-30 Oldham Road	1 room (100%)	0 rooms (0%)
32 Mason Street	9 rooms (100%)	0 rooms (0%)
The Skyline Central Apartments	33 rooms (97%)	1 room (3%)
34 Mason Street	6 rooms (100%)	0 rooms (0%)
36 Mason Street	5 rooms (100%)	0 rooms (0%)
38 Mason Street	4 rooms (100%)	0 rooms (0%)

5.3.5 In the baseline condition there is a high majority BRE compliance. Where this is not the case, for 8-30 Oldham Road, these lower levels of compliance are the result of windows being set within a recess in the building façade. At the Skyline Central Apartments, the moderate compliance levels are the result of the windows being in close proximity to other adjacent neighbouring buildings, limiting their outlook and capacity to receive daylight.

5.4 The Measured Daylight & Sunlight Amenity Impact

5.4.1 The results of the VSC daylight tests are tabulated in Appendix 3. We have measured the daylight impact of the Proposed Development against the BRE's 27% VSC target.

5.4.2 Where windows do not achieve this aspirational target, we have deemed them to be within an acceptable tolerance of it if where they achieve a VSC of 21.6%, on the grounds that this remains a good and reasonable level of light within an urban, City Centre context.

5.4.3 The results of the NSL daylight tests can be found at Appendix 4.

5.4.4 To explain the NSL contour plots, the area of the room within the red contour receives access to direct sky light. The hatched area of the identifies each neighbouring room that will lose direct access to sky visibility, because of the Proposed Development.

5.4.5 The results of the APSH sunlight tests are tabulated in Appendix 5.

5.4.6 The BRE confirm that only windows facing within 90° of due south can have any real expectation of receiving sunlight and need to be technically appraised. This this because, the sun rises in the east, sets in the west, passing through south.

5.4.7 Because many of the rooms are served by multiple windows or are dual aspect, we have summarised the results of our sunlight study on a room-by-room basis.

5.4.8 In our opinion, there are no neighbouring external amenity spaces around the Site that justify the need for a 2-hour time in sun appraisal (when compared against the list provided by the BRE of examples of external uses that do).

5.4.9 A summary of the results of our technical study, and our opinion of them, is set out on a neighbouring property by property basis below.

Turning Point Centre, Thompson Street, Manchester, M4 5FY The Turning Point Detoxification Centre fronts Thompson Street, located to the north / north east of the Site. Although not of traditional residential use, the building is used for in-patient recovery. In our opinion, such a use would justify daylight and sunlight amenity impact review.	

Baseline vs Proposed – Daylight Amenity Impact

48 individual windows have been appraised, serving 34 rooms.

In the baseline condition 39 windows (81%) of the 48 appraised achieve the 27% VSC target. 9 windows (19%) do not achieve the target in the baseline condition.

42 windows (88%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

5 windows (10%) would continue to achieve a VSC of at least 21.6%. Although the reduction in VSC would be noticed by the room occupants, we consider these VSCs to be within an acceptable tolerance of the BRE's target, given the City Centre context. The remaining window (2%) achieves a VSC of 21.51%; this too is considered to be within an acceptable tolerance of the BRE target.

All rooms appraised (100%) would also satisfy the BRE's NSL test, with the majority experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room. Where rooms do experience an NSL reduction, this is by less than the 20% reduction that is accepted by the BRE and would not be noticeable to the room occupants.

In our opinion, the impact that the Proposed Development would have on the daylight amenity on this building is considered to be appropriate and non-significant given the City Centre context.

Baseline vs Proposed – Sunlight Amenity Impact

23 individual rooms have been sunlight appraised, served by 34 individual windows.

All 23 rooms (100%) achieve the 5% winter and 25% annual APSH target in the baseline condition.

The Proposed Development would result in a general reduction in annual APSH levels. Notwithstanding that reduction, 20 rooms (87%) would continue to either achieve the BRE's sunlight targets, or experience reductions in APSH values of less than the 20% that is accepted by the BRE on the grounds that it would not be noticeable to the room occupants.

Three rooms (13%) do continue to achieve the annual APSH targets, however, they would experience APSH reductions noticeable to the room occupants in the winter months. One of these rooms would continue to achieve 4% winter APSH, which we consider to be within an acceptable tolerance of the target. We would consider the remaining two rooms to be partially complaint, comfortably exceeding the annual APSH target and achieving 3% winter APSH against a target of 5%.

On balance, given the City Centre context, the impact that the Proposed Development would have on the sunlight amenity of this building is, in our opinion, appropriate and non-significant.

Victoria Square, Oldham Road, Manchester, M4 5DX Victoria Square is a large six storey building, located on the opposite side of Oldham Road, to the east of the Site. Its ground floor is given to commercial uses, but all upper floors are known to provide residential accommodation.	

Baseline vs Proposed – Daylight Amenity Impact

226 individual windows have been appraised, serving 67 rooms.

In the baseline condition 214 windows (95%) of the 226 appraised achieve the 27% VSC target. The remaining 12 windows (5%) do not achieve the target in the baseline condition.

All 226 windows (100%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

All rooms appraised (100%) would also satisfy the BRE's NSL test, with the majority experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room. Where rooms do experience an NSL reduction, this is by less than the 20% reduction that is accepted by the BRE and would not be noticeable to the room occupants.

The impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

39 individual rooms have been sunlight appraised, served by 133 individual windows.

All rooms (100%) achieve the 5% winter and 25% annual APSH target in the baseline condition.

In the proposed condition, all 39 (100%) rooms would continue to achieve the 5% winter and 25% annual APSH targets despite small reductions in measured baseline APSH levels.

The impact that the Proposed Development would have on the sunlight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

44-68 Oldham Road, Manchester, M4 5EE A terrace of three storey buildings, located on the opposite side of Oldham Road to the south / south east of the Site. The ground floors are typically of commercial / retail use. The upper floors have typically been converted to residential use.	

Baseline vs Proposed – Daylight Amenity Impact

41 individual windows have been appraised, serving 34 rooms.

In the baseline condition 29 windows (71%) of the 41 appraised achieve the 27% VSC target. There are 12 windows (29%) that do not achieve the target in the baseline condition.

30 windows (73%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

There are a further 9 rooms (22%) that would achieve a VSC of at least 21.6%. Although the reduction in VSC would be noticed by the room occupants, we consider such VSCs to be within an acceptable tolerance of the BRE's target, given the City Centre context.

The remaining two windows (5%) achieve VSCs of 21.47% and 21.39%, only marginally short of the alternative 21.6% target. We would consider these windows to be within acceptable tolerance.

27 rooms (79%) of the 34 appraised would also satisfy the BRE's NSL test, experiencing an NSL reduction of less than the 20% that is accepted by the BRE on the grounds it would not be noticeable to the room occupants.

The NSL reduction experienced the 7 remaining rooms (21%) would be noticeable to the room occupants, but in our opinion the reduction amounts to a low magnitude of change (circa 30% or less). These rooms would continue to receive NSL distribution to at least 50% of their area and are each also served by window achieving VSCs of circa 21.4% and 21.5%.

On balance, given the City Centre context, the impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

The BRE only requires windows to be sunlight amenity appraised where they face within 90° of due south. The majority of the windows of this neighbouring building through which the Site can be seen are north facing and as a consequence do not justify detailed sunlight amenity review.

4 individual rooms have been sunlight appraised, served by 6 individual windows.

All 4 rooms (100%) achieve the 5% winter and 25% annual APSH target in the baseline condition.

In the proposed condition all 4 rooms (100%) would experience no reduction in APSH values and would continue to achieve the 5% winter and 25% annual APSH targets.

The Proposed Development would have no impact on the sunlight amenity of this building.

8-30 Oldham Road, Manchester, M4 5DB Two six storey blocks of residential apartments located on the opposite side of Oldham Road to the immediate south of the Site. The ground and 1st floors are of commercial use. The upper floors are known to provide residential accommodation.	

Baseline vs Proposed – Daylight Amenity Impact

67 individual windows have been appraised, serving 56 rooms.

In the baseline condition 44 windows (66%) of the 67 appraised achieve the 27% VSC target. The remaining 23 windows (34%) do not achieve the target in the baseline condition.

All 67 windows (100%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

All rooms appraised (100%) would also satisfy the BRE's NSL test, with all experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room.

The impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

The BRE only requires windows to be sunlight amenity appraised where they face within 90° of due south. The majority of the windows of this neighbouring building through which the Site can be seen are north facing and as a consequence do not justify detailed sunlight amenity review.

1 room has been sunlight appraised, served by 2 individual windows.

The room (100%) achieves the 5% winter and 25% annual APSH target in the baseline condition.

This room would not experience any reduction in winter or annual APSH values.

The Proposed Development would have no impact on the sunlight amenity of this building.

8 Cable Street, Manchester, M4 5EG A four storey building, located to the south west of the Site. A commercial building that is currently vacant. It does, however, have a live Planning Approval for its residential conversion.	

Baseline vs Proposed – Daylight Amenity Impact

26 individual windows have been appraised, serving 13 rooms.

In the baseline condition 24 windows (92%) of the 26 appraised achieve the 27% VSC target. There are 2 windows (8%) do not achieve the target in the baseline condition.

All 26 windows (100%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

All rooms appraised (100%) would also satisfy the BRE's NSL test, with all experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room.

The impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

The BRE only requires windows to be sunlight amenity appraised where they face within 90° of due south. The windows of this neighbouring building through which the Site can be seen are north facing and as a consequence do not justify detailed sunlight amenity review.

Because of the physical relationship between the windows of this building and the Site in terms of orientation, the Proposed Development will not influence its sunlight amenity.

32 Mason Street, Manchester, M4 5EY A four storey building, located to the north west of the Site. A commercial building that is currently vacant. This property does, however, have a live Planning Permission for its residential conversion.	

Baseline vs Proposed – Daylight Amenity Impact

24 individual windows have been appraised, serving 17 rooms.

In the baseline condition 20 windows (83%) of the 24 appraised achieve the 27% VSC target. There are 4 windows (17%) which do not achieve the target in the baseline condition.

All 24 windows (100%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

All rooms appraised (100%) would also satisfy the BRE's NSL test, with all experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room.

The impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

9 individual rooms have been sunlight appraised, served by 16 individual windows.

All 9 rooms (100%) achieve the 5% winter and 25% annual APSH target in the baseline condition.

The rooms would not experience any reduction in winter or annual APSH values.

The Proposed Development would have no impact on the sunlight amenity of this building.

The Skyline Central Apartment Building, 50 Goulden Street, Manchester, M4 5EH A complex of residential apartment blocks, located to the north west of the Site fronting Mason Street.	

Baseline vs Proposed – Daylight Amenity Impact

36 individual windows have been appraised, serving 34 (assumed) rooms.

In the baseline condition 19 windows (53%) of the 36 appraised achieve the 27% VSC target. The remaining 17 windows (47%) do not achieve the target in the baseline condition.

All 36 windows (100%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

All rooms appraised (100%) would also satisfy the BRE's NSL test, with all experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room.

The impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

34 individual rooms have been sunlight appraised, served by 36 individual windows.

33 rooms (97%) achieve the 5% winter and 25% annual APSH target in the baseline condition. A single room (3%) achieves 24% annual APSH, and comfortably exceeds the winter APSH target.

The Proposed Development would result in a general reduction in APSH levels. Notwithstanding that reduction, all 34 rooms (100%) would continue to achieve the 5% winter and 25% annual APSH target or experience a reduction in APSH values of less than the 20% that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

The impact that the Proposed Development would have on the sunlight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

34 Mason Street, Manchester, M4 5EZ A four / five storey building, located to the north west of the Site. It is currently a vacant commercial building. It does, however, have a live Planning Permission for its residential conversion.	

Baseline vs Proposed – Daylight Amenity Impact

14 individual windows have been appraised, serving 6 rooms.

In the baseline condition 11 windows (79%) of the 14 appraised achieve the 27% VSC target. The remaining 3 windows (21%) do not achieve the target in the baseline condition.

All 14 windows (100%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

All 6 rooms appraised (100%) would also satisfy the BRE's NSL test, with all experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room.

The impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

6 individual rooms have been sunlight appraised, served by 14 individual windows.

All 6 rooms (100%) achieve the 5% winter and 25% annual APSH target in the baseline condition.

The Proposed Development would result in a general reduction in APSH levels. Notwithstanding that reduction, all 6 rooms (100%) would continue to either achieve the BRE's sunlight targets, or experience reductions in APSH values of less than the 20% that is accepted by the BRE on the grounds that it would not be noticeable to the room occupants.

The impact that the Proposed Development would have on the sunlight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

36 Mason Street, Manchester, M4 5EZ 36 Mason Street is a building located to the north west of the Site. Our research identifies the building to be of residential use.	

Baseline vs Proposed – Daylight Amenity Impact

5 individual windows have been appraised, serving 5 rooms.

In the baseline condition all 5 windows (100%) appraised achieve the 27% VSC target.

All 5 windows (100%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants.

All 5 rooms appraised (100%) would also satisfy the BRE's NSL test, with all experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room.

The impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

5 individual rooms have been sunlight appraised, served by 5 individual windows.

All 5 rooms (100%) achieve the 5% winter and 25% annual APSH target in the baseline condition.

The Proposed Development would result in a general reduction in APSH levels. Notwithstanding that reduction, all 5 rooms (100%) would continue to either achieve the BRE's sunlight targets, or experience reductions in APSH values of less than the 20% that is accepted by the BRE on the grounds that it would not be noticeable to the room occupants.

The impact that the Proposed Development would have on the sunlight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

38 Mason Street, Manchester, M4 5EZ 38 Mason Street is a building located to the north west of the Site. Our research identifies the building to be of residential use.	

Baseline vs Proposed – Daylight Amenity Impact

9 individual windows have been appraised, serving 4 rooms.

In the baseline condition all 9 windows (100%) appraised achieve the 27% VSC target.

All 9 windows (100%) would continue to achieve the 27% VSC target in the proposed condition or experience reductions in baseline VSC values of less than the 20% reduction that is accepted by the BRE, on the grounds that it would not be noticed by the room occupants.

All 4 rooms appraised (100%) would also satisfy the BRE's NSL test, with all experiencing no reduction in the area / extent to which direct sky light is currently distributed within each room.

The impact that the Proposed Development would have on the daylight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Baseline vs Proposed – Sunlight Amenity Impact

4 individual rooms have been sunlight appraised, served by 9 individual windows.

All 4 rooms (100%) achieve the 5% winter and 25% annual APSH target in the baseline condition.

The Proposed Development would result in a general reduction in APSH levels. Notwithstanding that reduction, all 4 rooms (100%) would continue to either achieve the BRE's sunlight targets, or experience reductions in APSH values of less than the 20% that is accepted by the BRE on the grounds that it would not be noticeable to the room occupants.

The impact that the Proposed Development would have on the sunlight amenity of this building is, in our opinion, considered to be appropriate and non-significant.

Appendix 1: Baseline and Proposed Massing Plans

SCALE 1:1000 @ A3

All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg
Proposed 3D Model (received 07/09/18)
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Proposed 3D Model (received 30/11/18)
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Proposed 3D Model (received 22/02/19)
0321_Goulden Street_3D Model.dwg
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Proposed 3D Model (received 12/11/19)
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0322_TGA_XX_00_M_A_Model - Oldham.dwg
0324_TGA_XX_00_M_A_Model.dwg
Proposed 2D Site Plan (received 20/11/19)
0321_TGA_0201 - Site Plan.dwg
0324_TGA_0201 - Site Plan.dwg
Proposed 3D Model (received 25/11/19)
0321_GOULDEN.dwg
0322_OLDHAM ST.dwg
0324_BENDIX.dwg

Key:
Existing Buildings
Proposed Scheme

Revisions:	Date:	Init:
-		

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Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Plan View
Existing Buildings

Drawn:	BW	Scale:	1:1000 @ A3
Checked:	-	Date:	Nov 2019

Project No:	Drawing No:	Rev No:
[1589]	W618	-

NTS @ A3

All dimensions to be checked on site.
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Proposed 3D Model (received 07/09/18)
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Proposed 3D Model (received 30/11/18)
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0321_Goulden Street_3D Model.dwg
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0322_TGA_XX_00_M_A_Model - Oldham.dwg
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0322_OLDHAM ST.dwg
0324_BENDIX.dwg

Key:
Existing Buildings
Proposed Scheme
All Heights in mm AOD

Revisions:	Date:	Init:
-		

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Client:
Mulbury Homes (Central) Ltd.

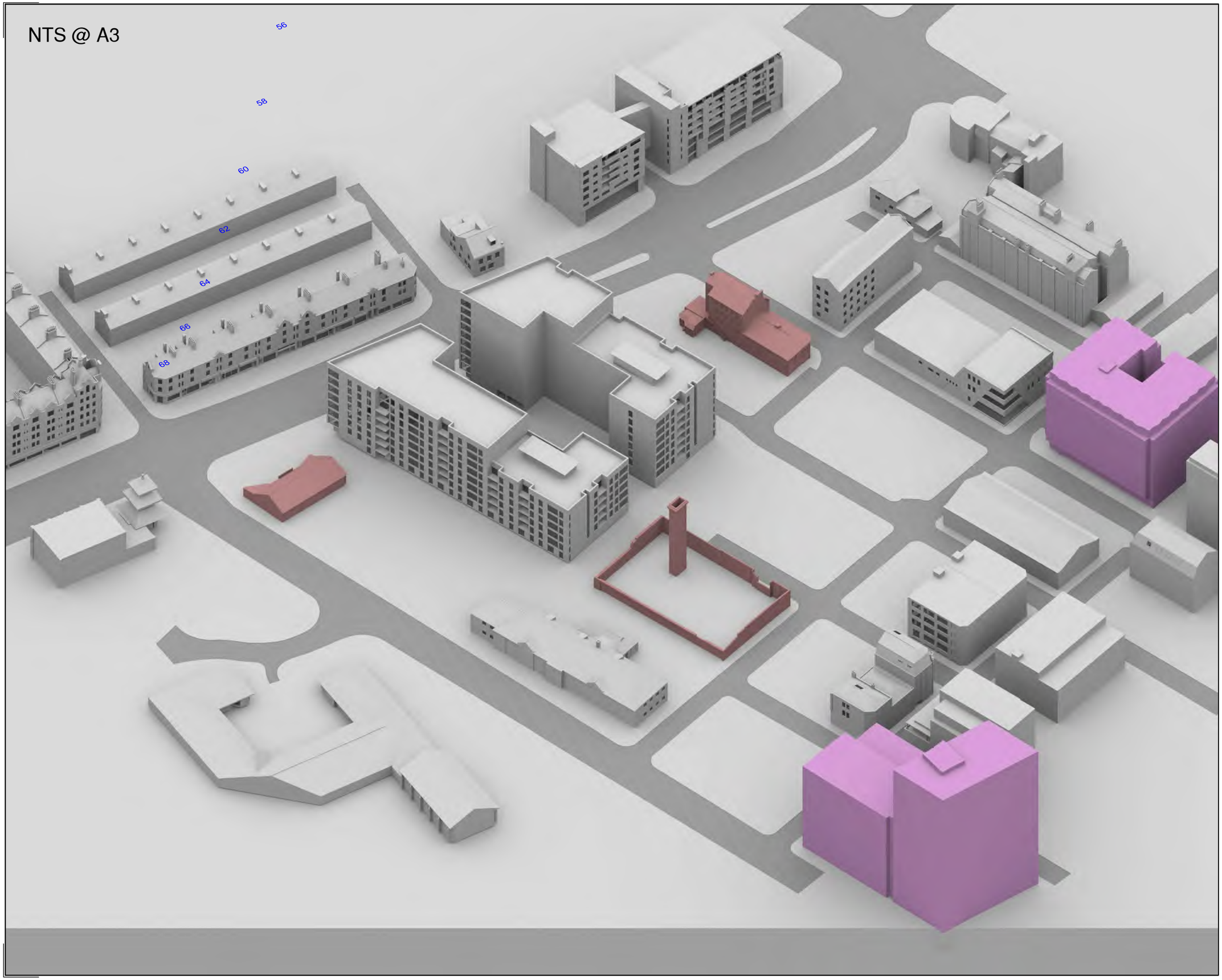
Project:
Mulbury, New Cross
Manchester

Drawing Title:
3D View
Existing Buildings

Drawn:	BW	Scale:	NTS @ A3
Checked:	-	Date:	Nov 2019

Project No:	Drawing No:	Rev No:
[1589]	W619	-

NTS @ A3



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0321_Goulden Street_3D Model.dwg
0324_TGA_Bendix St 3D Model.dwg
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0321_TGA_XX_00_M_A_Model - Goulden.dwg
0322_TGA_XX_00_M_A_Model - Oldham.dwg
0324_TGA_XX_00_M_A_Model.dwg
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0324_TGA_0201 - Site Plan.dwg
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0321_GOULDEN.dwg
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0324_BENDIX.dwg

Key:
Existing Buildings
Proposed Scheme
All Heights in mm AOD

Revisions:	Date:	Init:
-		

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Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
3D View
Existing Buildings

Drawn:	BW	Scale:	NTS @ A3
Checked:	-	Date:	Nov 2019

Project No:	Drawing No:	Rev No:
[1589]	W620	-

SCALE 1:1000 @ A3

All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
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Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg
Proposed 3D Model (received 07/09/18)
0324_Bendix st_R18_Rev1_070918.dwg
Proposed 3D Model (received 25/10/18)
3DView-{3D-ashleyEHY7Q}.dwg
Proposed 3D Model (received 30/11/18)
0322_Oldham St_Updated Model_301118.dwg
Proposed 3D Model (received 22/02/19)
0321_Goulden Street_3D Model.dwg
0324_TGA_Bendix St 3D Model.dwg
Proposed 3D Model (received 12/11/19)
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0322_TGA_XX_00_M_A_Model - Oldham.dwg
0324_TGA_XX_00_M_A_Model.dwg
Proposed 2D Site Plan (received 20/11/19)
0321_TGA_0201 - Site Plan.dwg
0324_TGA_0201 - Site Plan.dwg
Proposed 3D Model (received 25/11/19)
0321_GOULDEN.dwg
0322_OLDHAM ST.dwg
0324_BENDIX.dwg

Key:
Existing Buildings
Proposed Scheme

Revisions:	Date:	Init:
-		

grays a a
chartered building surveyors
GrayScanlanHill, Brook House, 64 - 72 Spring Gardens, Manchester, M2 2BQ
Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

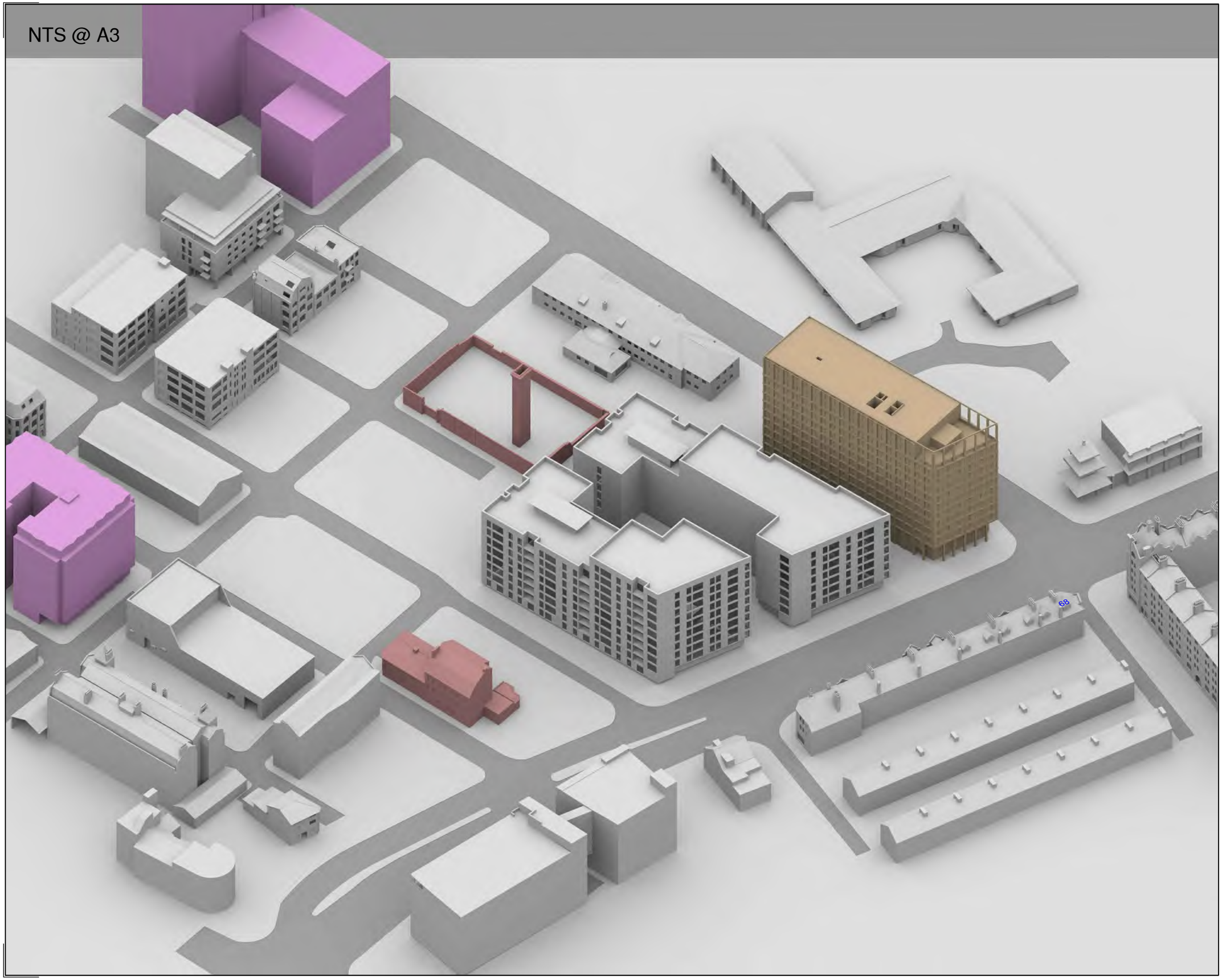
Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Plan View
Proposed Bendix Street Scheme
Received 25/11/19

Drawn:	BW	Scale:	1:1000 @ A3
Checked:	-	Date:	Nov 2019
Project No: [1589]		Drawing No: W621	Rev No: -

NTS @ A3



All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:

N D Oliver & Co.
- Point Cloud Survey (received 12/06/18)

Tim Groom Architects
- Proposed 3D Models (received 15/08/18)
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  - 0322_Oldham Rd_R18_150818-.dwg
- Proposed 3D Model (received 16/08/18)
  - 0324_Bendix st_R18_160818.dwg
- Proposed 3D Model (received 07/09/18)
  - 0324_Bendix st_R18_Rev1_070918.dwg
- Proposed 3D Model (received 25/10/18)
  - 3DView-{3D-ashleyEHY7C}.dwg
- Proposed 3D Model (received 30/11/18)
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- Proposed 3D Model (received 22/02/19)
  - 0321_Goulden Street_3D Model.dwg
  - 0324_TGA_Bendix St 3D Model.dwg
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  - 0322_TGA_XX_00_M_A_Model - Oldham.dwg
  - 0324_TGA_XX_00_M_A_Model.dwg
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  - 0321_TGA_0201 - Site Plan.dwg
  - 0324_TGA_0201 - Site Plan.dwg
- Proposed 3D Model (received 25/11/19)
  - 0321_GOULDEN.dwg
  - 0322_OLDHAM ST.dwg
  - 0324_BENDIX.dwg

Key:
- Existing Buildings
- Proposed Scheme

All Heights in mm AOD

Revisions:	Date:	Init:
-		

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Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

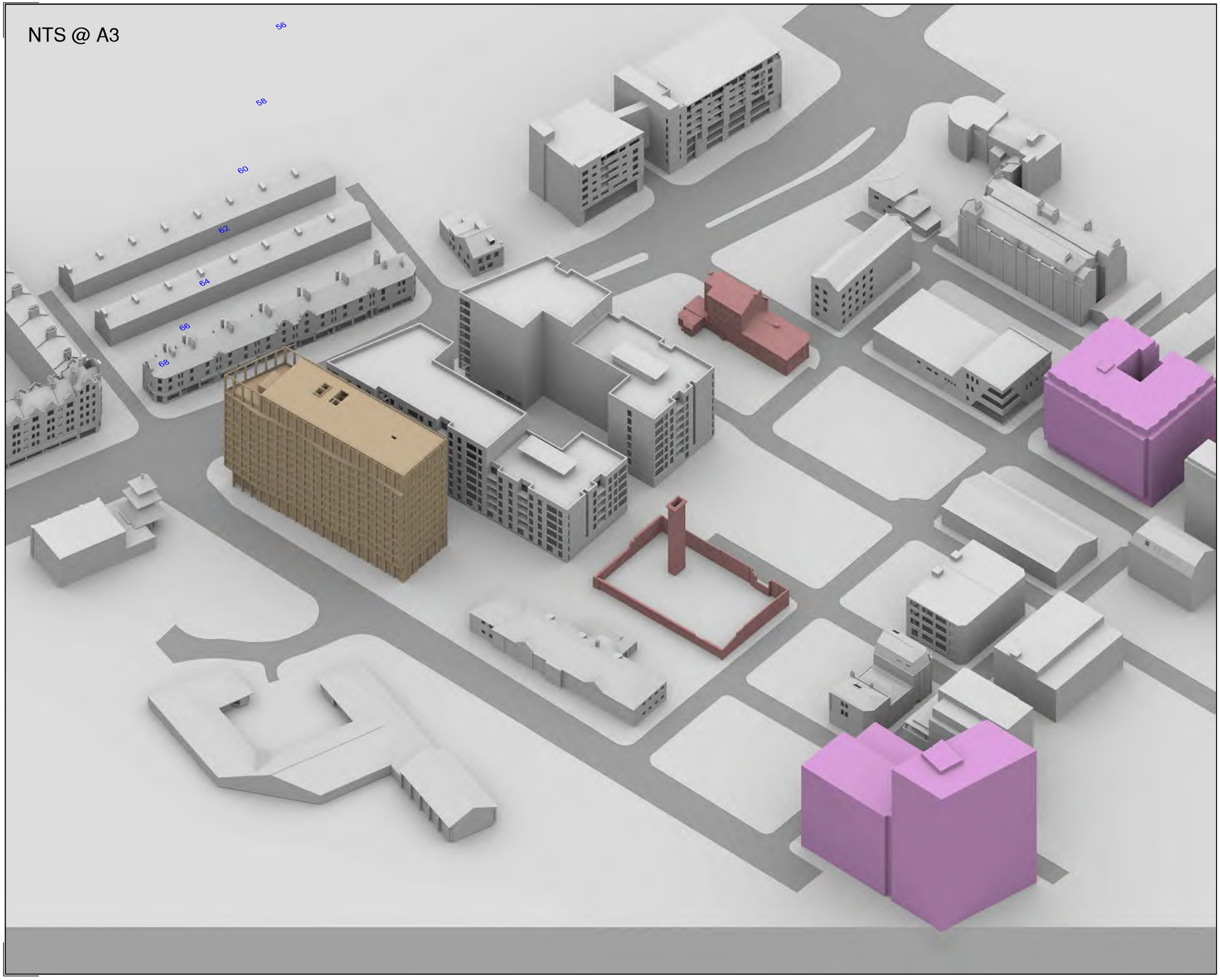
Project:
Mulbury, New Cross
Manchester

Drawing Title:
3D View
Proposed Bendix Street Scheme
Received 25/11/19

Drawn:	BW	Scale:	NTS @ A3
Checked:	-	Date:	Nov 2019

Project No:	Drawing No:	Rev No:
[1589]	W622	-

NTS @ A3



All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg
Proposed 3D Model (received 07/09/18)
0324_Bendix st_R18_Rev1_070918.dwg
Proposed 3D Model (received 25/10/18)
3DView-[3D-ashleyEHY7O].dwg
Proposed 3D Model (received 30/11/18)
0322_Oldham St_Updated Model_301118.dwg
Proposed 3D Model (received 22/02/19)
0321_Goulden Street_3D Model.dwg
0324_TGA_Bendix St 3D Model.dwg
Proposed 3D Model (received 12/11/19)
0321_TGA_XX_00_M_A_Model - Goulden.dwg
0322_TGA_XX_00_M_A_Model - Oldham.dwg
0324_TGA_XX_00_M_A_Model.dwg
Proposed 2D Site Plan (received 20/11/19)
0321_TGA_0201 - Site Plan.dwg
0324_TGA_0201 - Site Plan.dwg
Proposed 3D Model (received 25/11/19)
0321_GOULDEN.dwg
0322_OLDHAM ST.dwg
0324_BENDIX.dwg

Key:
Existing Buildings
Proposed Scheme
All Heights in mm AOD

Revisions:	Date:	Init:
-		

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chartered building surveyors
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email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

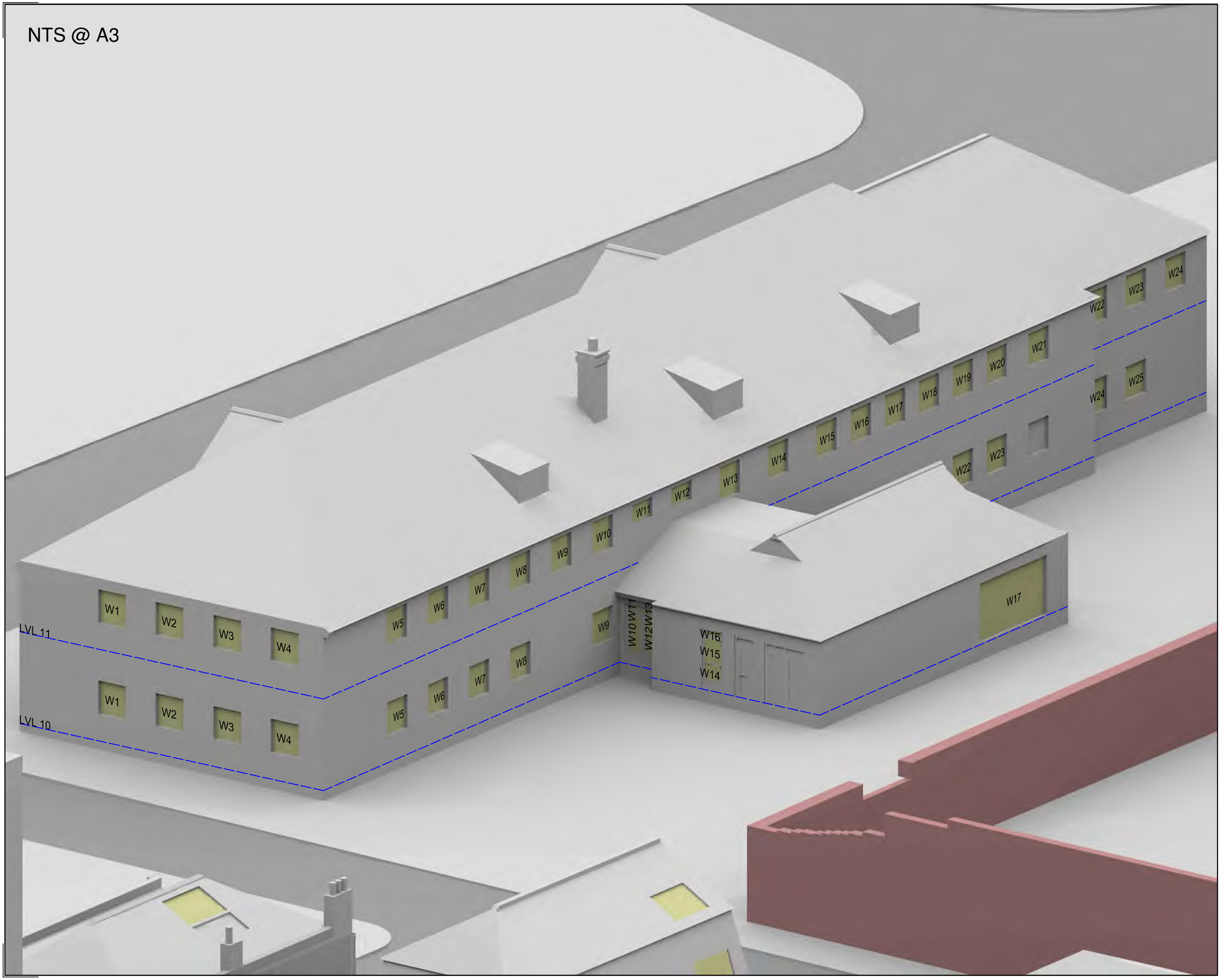
Drawing Title:
3D View
Proposed Bendix Street Scheme
Received 25/11/19

Drawn:	BW	Scale:	NTS @ A3
Checked:	-	Date:	Nov 2019

Project No:	Drawing No:	Rev No:
[1589]	W623	-

Appendix 2: Window Reference Plans

NTS @ A3



All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
-		

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Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

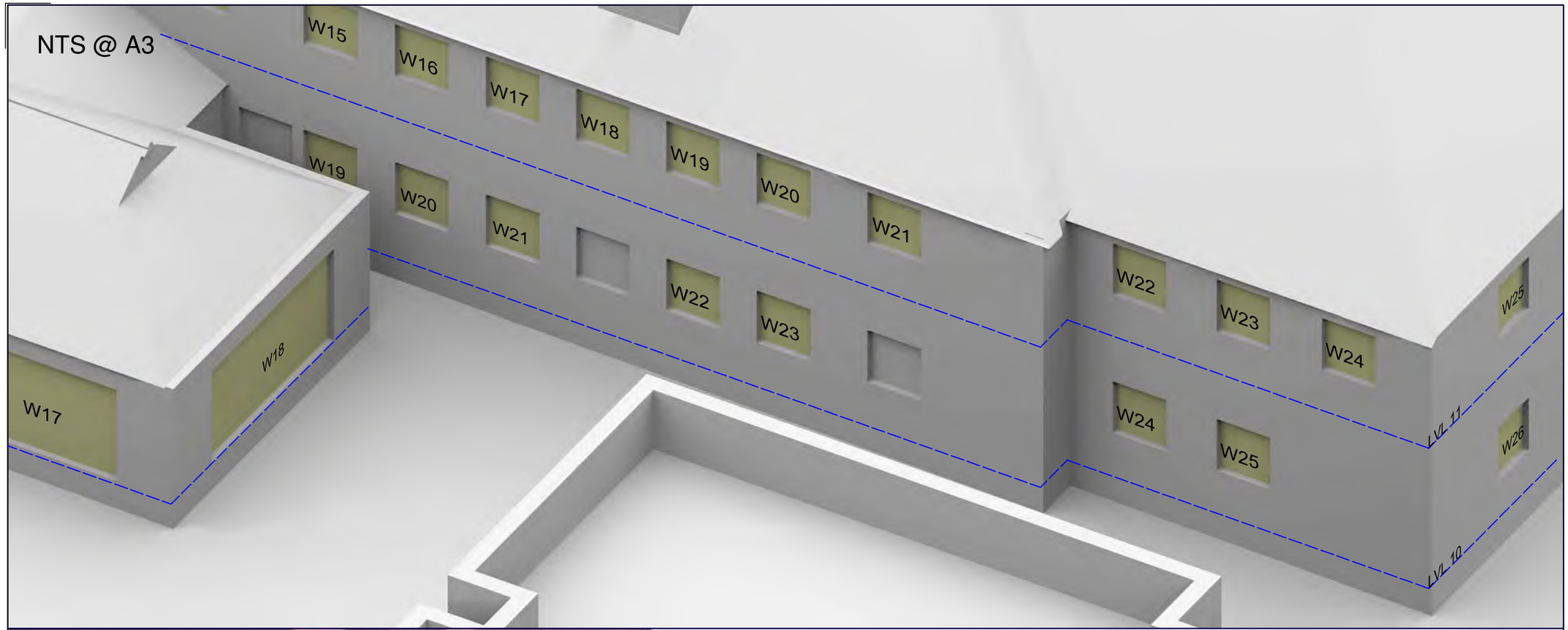
Client:
Mulbury Homes (Central) Ltd.

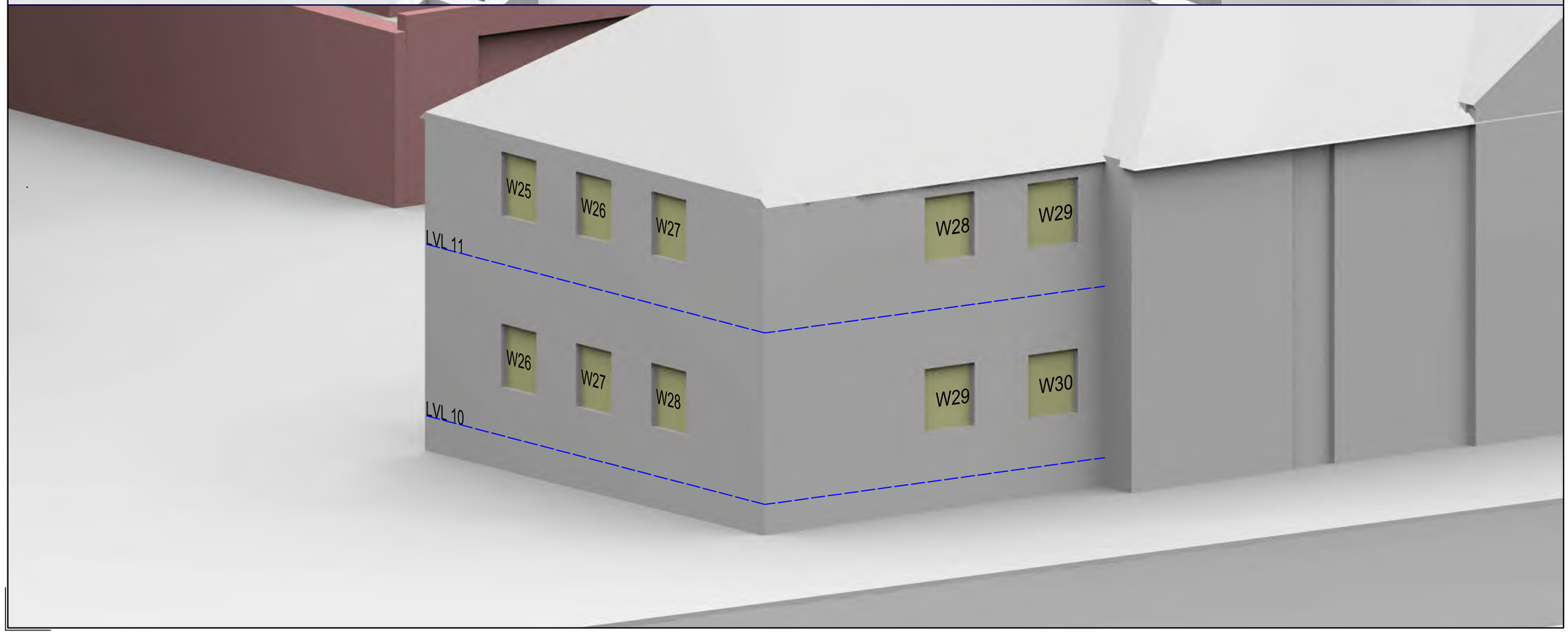
Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
The Detoxification Centre,
Thompson Street

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W001	-





All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
-		

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email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
The Detoxification Centre,
Thompson Street

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W002	-

NTS @ A3

All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
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chartered building surveyors
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Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
70-86 Oldham Road

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W003_recover	

NTS @ A3

All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
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Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
Victoria Square

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W004	-

NTS @ A3

All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
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grayscanlanhill
chartered building surveyors
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Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
46-68 Oldham Road

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
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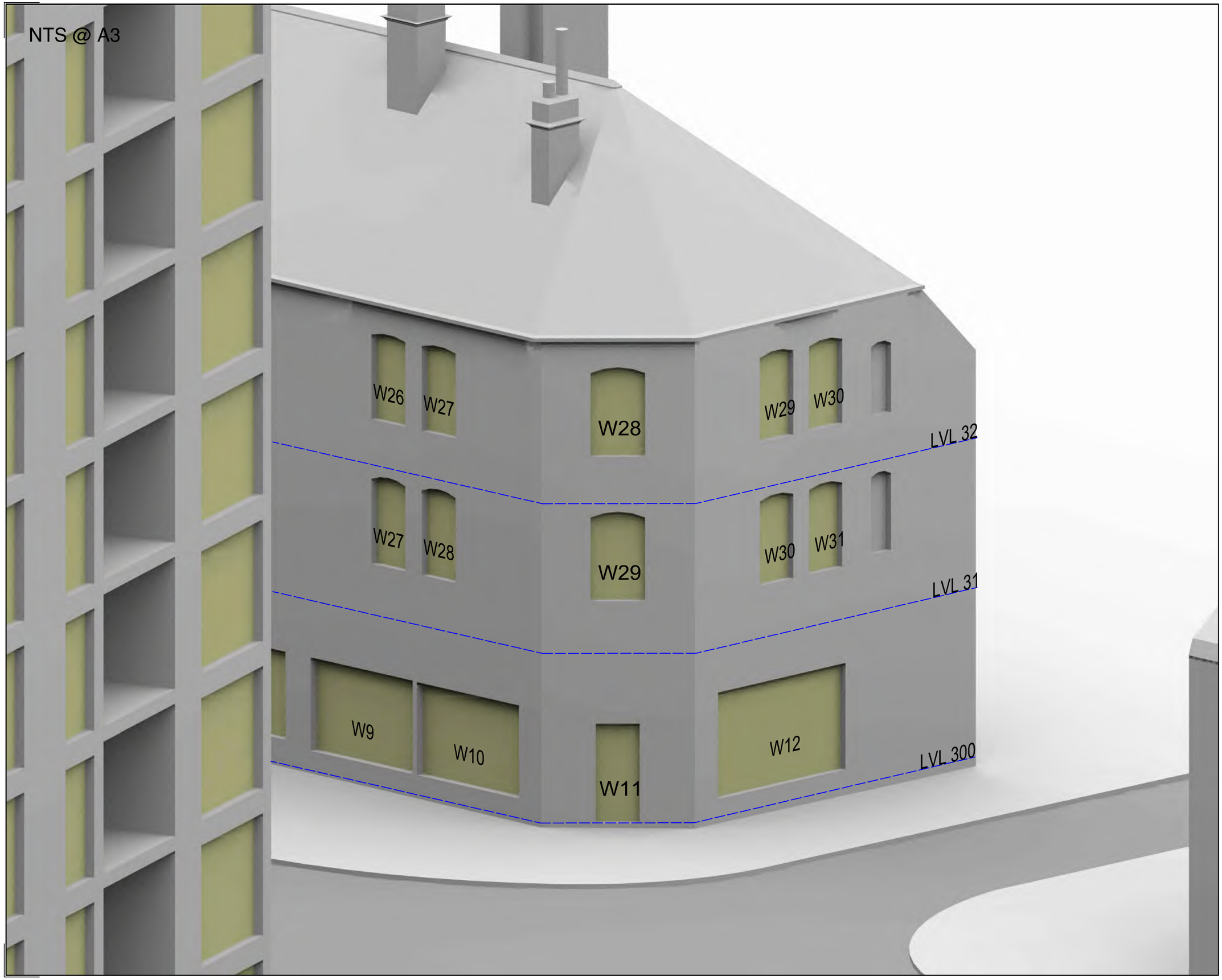

All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
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grayscanlanhill
chartered building surveyors
GrayScanlanHill, Brook House, 64 - 72 Spring Gardens, Manchester, M2 2BQ
Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
46 Oldham Road

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W006	-

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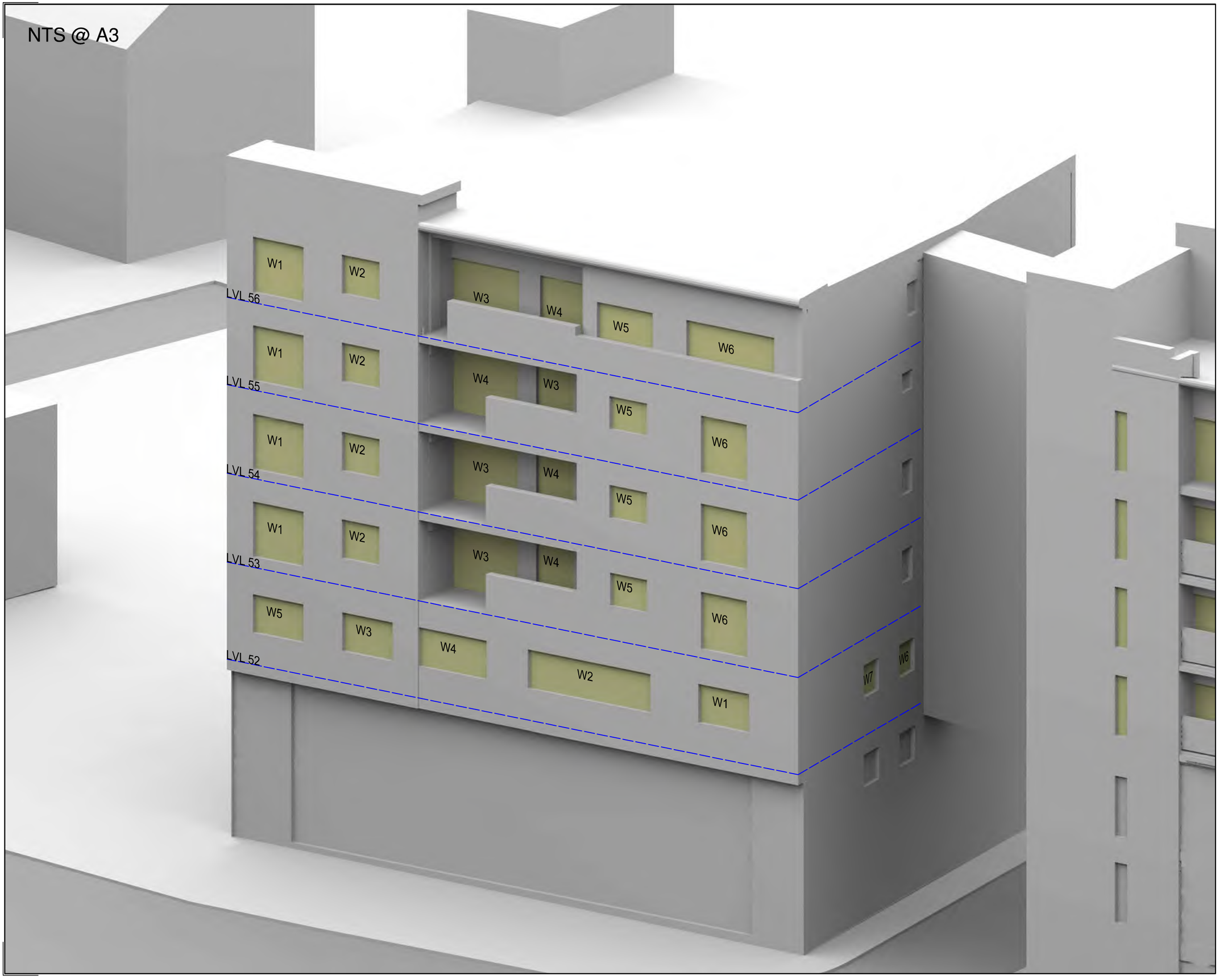

All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
-		

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chartered building surveyors
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email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
8-30 Oldham Road

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W007	-

NTS @ A3

All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
-		

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email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

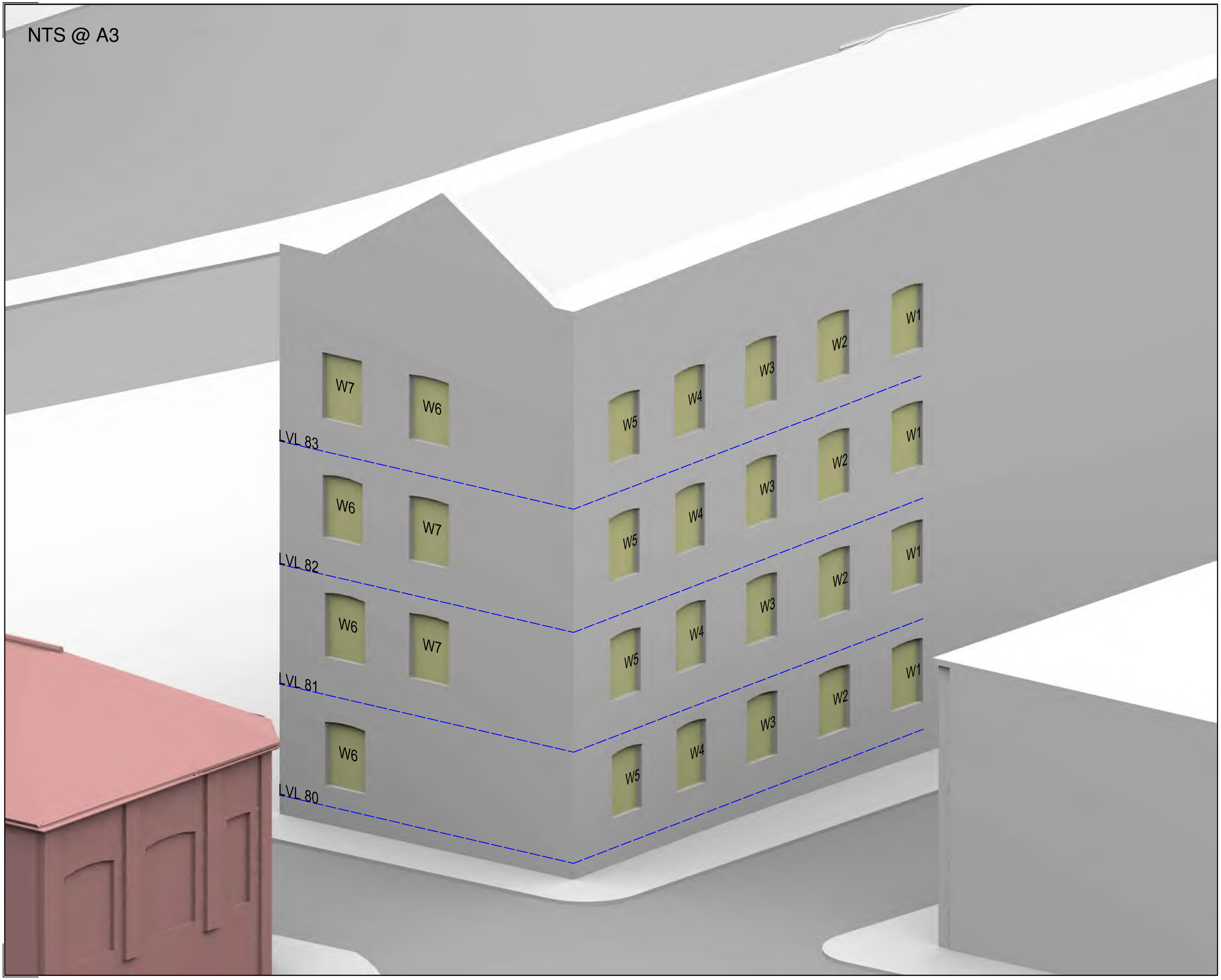
Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
8-30 Oldham Road

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W008	-

NTS @ A3



All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
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grayscanlanhill
chartered building surveyors
GrayScanlanHill, Brook House, 64 - 72 Spring Gardens, Manchester, M2 2BQ
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email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

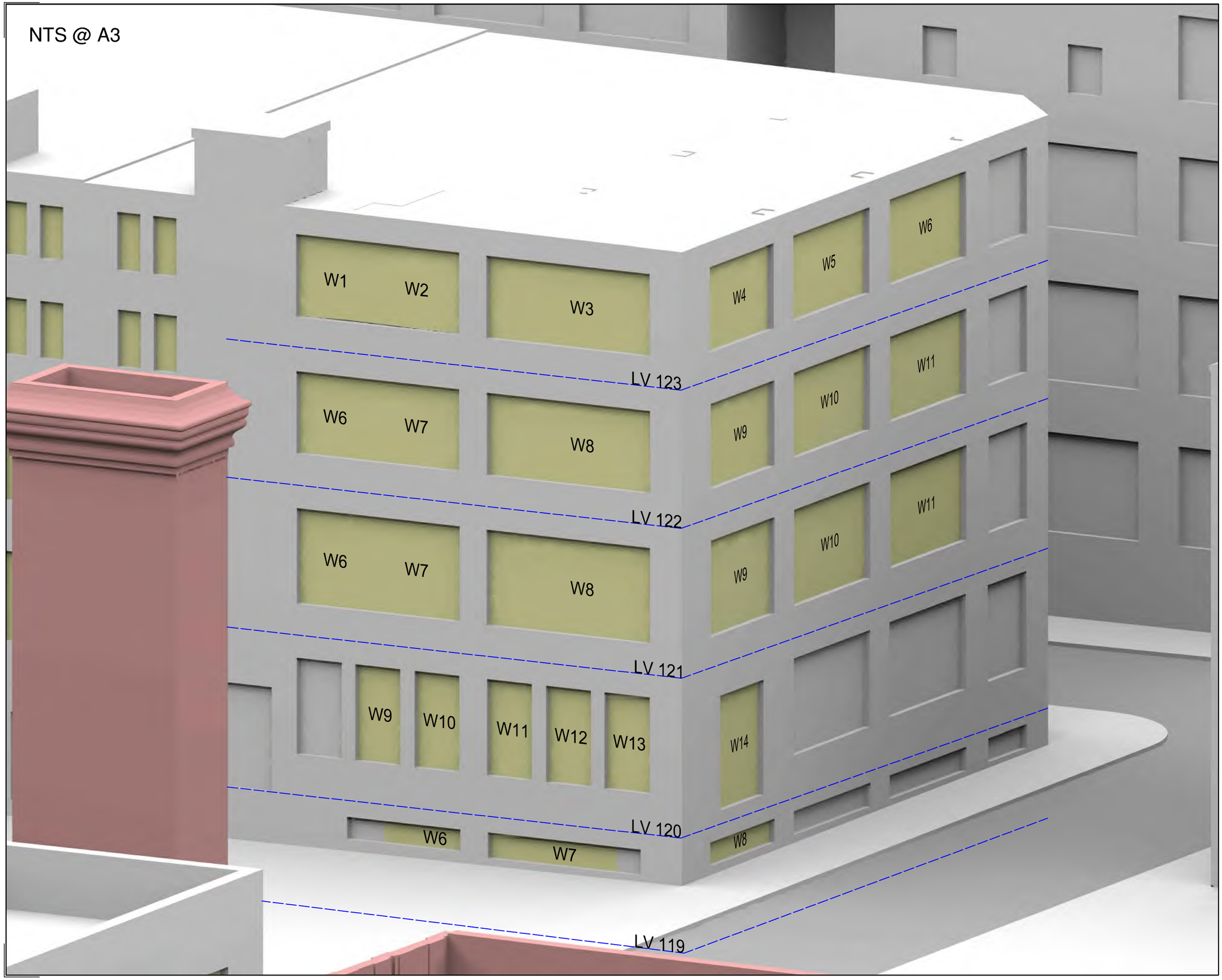
Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
8 Cable Street

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W009	-

NTS @ A3



All dimensions to be checked on site.
Do not Scale from the drawing.
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NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
-		

grayscanlanhill
chartered building surveyors
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Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

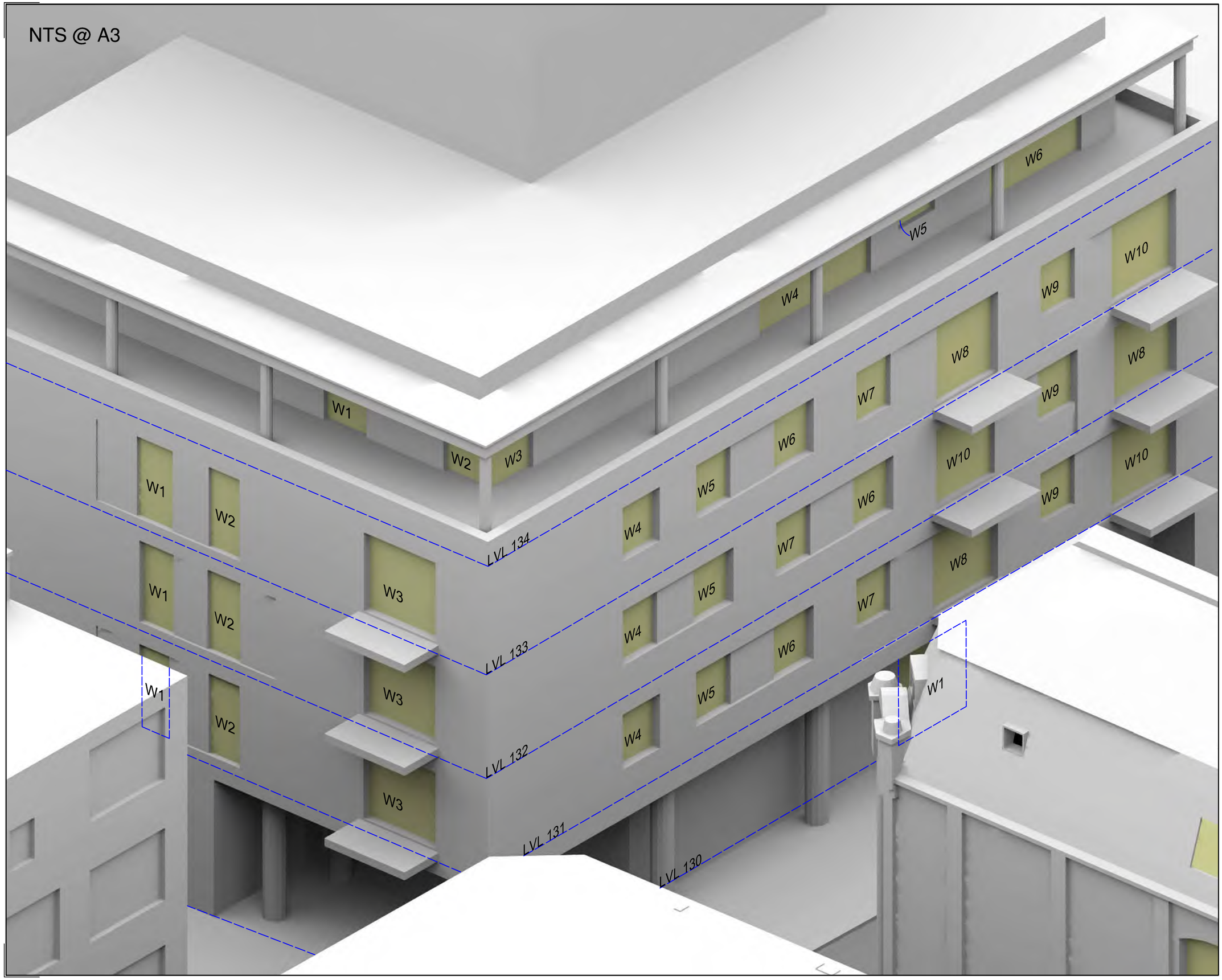
Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
32 Mason Street

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W010	-

NTS @ A3



All dimensions to be checked on site.
Do not Scale from the drawing.
Any discrepancies to be reported to the Project Surveyor before the commencement of any works.

NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
-		

grayscanlanhill
chartered building surveyors
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Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

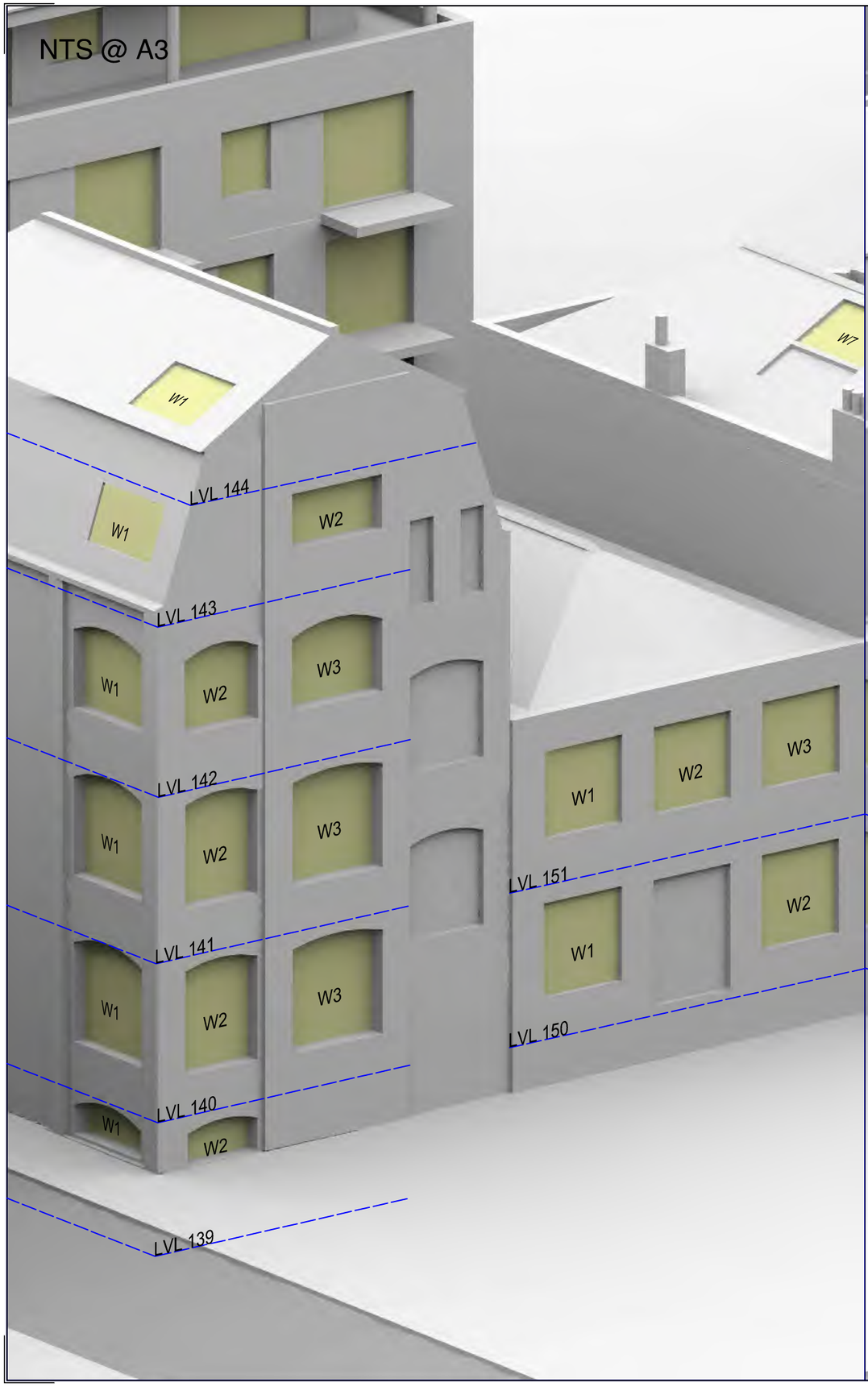
Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
50 Goulden Street

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W011	-

NTS @ A3



All dimensions to be checked on site.
Do not Scale from the drawing.
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NOTES:
N D Oliver & Co.
Point Cloud Survey (received 12/06/18)

Tim Groom Architects
Proposed 3D Models (received 15/08/18)
0321_Goulden St_R18_150818.dwg
0322_Oldham Rd_R18_150818-.dwg
Proposed 3D Model (received 16/08/18)
0324_Bendix st_R18_160818.dwg

Key:

Revisions:	Date:	Init:
-		

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chartered building surveyors
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Tel: 0161 835 2101 Fax: 0161 835 2102
email: info@grayscanlanhill.com web: www.grayscanlanhill.com

Client:
Mulbury Homes (Central) Ltd.

Project:
Mulbury, New Cross
Manchester

Drawing Title:
Window Locations
34-38 Mason Street

Drawn:	JB / BW / LG	Scale:	NTS @ A3
Checked:	XX	Date:	Aug 2018

Project No:	Drawing No:	Rev No:
[1589]	W012	-

Appendix 3: Baseline vs Proposed VSC Results

MULBURY NEW CROSS
MANCHESTER

DAYLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC
The Detoxification Centre, Thompson Street						
R1/10	BEDROOM	W1/10	33.54	33.54	0.00	0.00
R2/10	BEDROOM	W2/10	33.35	33.35	0.00	0.00
R3/10	BEDROOM	W3/10	33.33	33.33	0.00	0.00
R6/10	BEDROOM	W6/10	33.26	33.22	0.04	0.12
R9/10		W9/10	24.59	24.59	0.00	0.00
R10/10		W10/10	15.54	15.54	0.00	0.00
R10/10		W11/10	13.86	13.86	0.00	0.00
R10/10		W12/10	13.13	13.13	0.00	0.00
R10/10		W13/10	12.32	12.32	0.00	0.00
R12/10	LD	W17/10	29.36	29.36	0.00	0.00
R12/10	LD	W18/10	25.18	21.14	4.04	16.04
R13/10		W19/10	20.87	20.72	0.15	0.72
R13/10		W20/10	25.21	25.02	0.19	0.75
R13/10		W21/10	28.37	28.18	0.19	0.67
R13/10		W22/10	29.17	28.92	0.25	0.86
R13/10		W23/10	29.10	28.80	0.30	1.03
R13/10		W47/10	28.50	28.27	0.23	0.81
R14/10		W24/10	25.07	24.51	0.56	2.23
R15/10		W25/10	27.03	26.32	0.71	2.63
R16/10		W26/10	32.17	21.51	10.66	33.14
R17/10		W27/10	32.69	22.80	9.89	30.25
R18/10		W28/10	33.09	23.97	9.12	27.56
R19/10		W29/10	36.75	36.75	0.00	0.00
R20/10		W30/10	33.18	33.18	0.00	0.00
R1/11	BEDROOM	W1/11	34.40	34.40	0.00	0.00
R2/11	BEDROOM	W2/11	34.25	34.25	0.00	0.00
R3/11	BEDROOM	W3/11	34.25	34.25	0.00	0.00
R6/11	BEDROOM	W6/11	32.73	32.70	0.03	0.09
R8/11	BEDROOM	W8/11	32.56	32.51	0.05	0.15
R9/11	BEDROOM	W9/11	32.55	32.50	0.05	0.15

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R12/11	SERVERY	W12/11	31.23	31.18	0.05	0.16
R13/11	DINING	W13/11	32.08	32.01	0.07	0.22
R13/11	DINING	W14/11	31.97	31.86	0.11	0.34
R14/11	LOUNGE	W15/11	31.94	31.83	0.11	0.34
R14/11	LOUNGE	W16/11	31.69	31.55	0.14	0.44
R15/11	MEETING ROOM	W17/11	31.34	31.19	0.15	0.48
R15/11	MEETING ROOM	W18/11	31.04	30.85	0.19	0.61
R16/11	STAFF ROOM	W19/11	30.80	30.60	0.20	0.65
R16/11	STAFF ROOM	W20/11	30.53	30.27	0.26	0.85
R17/11	STAFF ROOM	W21/11	30.18	29.86	0.32	1.06
R18/11		W22/11	27.61	27.12	0.49	1.77
R19/11		W23/11	28.79	28.15	0.64	2.22
R20/11		W24/11	28.04	27.29	0.75	2.67
R20/11		W25/11	33.51	22.91	10.60	31.63
R21/11		W26/11	34.02	24.16	9.86	28.98
R22/11		W27/11	34.40	25.29	9.11	26.48
R23/11		W28/11	38.15	38.15	0.00	0.00
R24/11		W29/11	35.65	35.65	0.00	0.00
Victoria Square						
R1/21	BEDROOM	W1/21	35.10	33.60	1.50	4.27
R1/21	BEDROOM	W2/21	36.24	34.60	1.64	4.53
R1/21	BEDROOM	W3/21	36.22	34.52	1.70	4.69
R2/21	LIVINGROOM	W4/21	36.06	34.20	1.86	5.16
R2/21	LIVINGROOM	W5/21	36.04	34.09	1.95	5.41
R2/21	LIVINGROOM	W6/21	34.79	32.75	2.04	5.86
R3/21	LIVINGROOM	W8/21	35.82	33.69	2.13	5.95
R3/21	LIVINGROOM	W9/21	35.77	33.56	2.21	6.18
R4/21	BEDROOM	W10/21	35.73	33.35	2.38	6.66
R4/21	BEDROOM	W11/21	35.70	33.21	2.49	6.97
R4/21	BEDROOM	W12/21	34.60	31.96	2.64	7.63
R5/21	LIVINGROOM	W13/21	34.53	31.85	2.68	7.76
R5/21	LIVINGROOM	W14/21	35.82	32.99	2.83	7.90
R5/21	LIVINGROOM	W15/21	35.78	32.90	2.88	8.05

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R1/22	BEDROOM	W1/22	36.34	34.92	1.42	3.91
R1/22	BEDROOM	W2/22	37.52	35.98	1.54	4.10
R1/22	BEDROOM	W3/22	37.52	35.93	1.59	4.24
R2/22	LIVINGROOM	W4/22	37.46	35.70	1.76	4.70
R2/22	LIVINGROOM	W5/22	37.43	35.59	1.84	4.92
R2/22	LIVINGROOM	W6/22	36.18	34.27	1.91	5.28
R3/22	LIVINGROOM	W7/22	36.03	34.10	1.93	5.36
R3/22	LIVINGROOM	W8/22	37.17	35.17	2.00	5.38
R3/22	LIVINGROOM	W9/22	37.15	35.09	2.06	5.55
R4/22	BEDROOM	W10/22	37.08	34.85	2.23	6.01
R4/22	BEDROOM	W11/22	37.04	34.70	2.34	6.32
R4/22	BEDROOM	W12/22	36.04	33.56	2.48	6.88
R5/22	LIVINGROOM	W13/22	35.75	33.22	2.53	7.08
R5/22	LIVINGROOM	W14/22	37.06	34.39	2.67	7.20
R5/22	LIVINGROOM	W15/22	37.01	34.28	2.73	7.38
R1/23	BEDROOM	W1/23	37.48	36.13	1.35	3.60
R1/23	BEDROOM	W2/23	38.69	37.23	1.46	3.77
R1/23	BEDROOM	W3/23	38.69	37.19	1.50	3.88
R2/23	LIVINGROOM	W4/23	38.67	37.04	1.63	4.22
R2/23	LIVINGROOM	W5/23	38.66	36.95	1.71	4.42
R2/23	LIVINGROOM	W6/23	37.42	35.64	1.78	4.76
R3/23	LIVINGROOM	W7/23	37.25	35.46	1.79	4.81
R3/23	LIVINGROOM	W8/23	38.38	36.52	1.86	4.85
R3/23	LIVINGROOM	W9/23	38.35	36.44	1.91	4.98
R4/23	BEDROOM	W10/23	38.28	36.20	2.08	5.43
R4/23	BEDROOM	W11/23	38.23	36.05	2.18	5.70
R4/23	BEDROOM	W12/23	37.19	34.90	2.29	6.16
R5/23	LIVINGROOM	W13/23	36.96	34.60	2.36	6.39
R5/23	LIVINGROOM	W14/23	38.16	35.68	2.48	6.50
R5/23	LIVINGROOM	W15/23	38.12	35.58	2.54	6.66
R1/24	BEDROOM	W1/24	37.75	36.49	1.26	3.34
R1/24	BEDROOM	W2/24	38.94	37.58	1.36	3.49
R2/24	LIVINGROOM	W3/24	38.91	37.40	1.51	3.88
R2/24	LIVINGROOM	W4/24	37.75	36.10	1.65	4.37
R3/24	LIVINGROOM	W5/24	37.58	35.93	1.65	4.39
R3/24	LIVINGROOM	W6/24	38.74	36.99	1.75	4.52
R4/24	BEDROOM	W7/24	38.64	36.64	2.00	5.18
R4/24	BEDROOM	W8/24	37.54	35.41	2.13	5.67

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R5/24	LIVINGROOM	W9/24	37.40	35.23	2.17	5.80
R5/24	LIVINGROOM	W10/24	38.56	36.32	2.24	5.81
R6/21	LIVINGROOM	W16/21	35.83	32.77	3.06	8.54
R6/21	LIVINGROOM	W17/21	35.79	32.57	3.22	9.00
R7/21	KITCHEN	W18/21	35.85	32.50	3.35	9.34
R7/21	KITCHEN	W19/21	34.20	30.04	4.16	12.16
R7/21	KITCHEN	W20/21	34.68	30.58	4.10	11.82
R7/21	KITCHEN	W21/21	34.13	29.94	4.19	12.28
R7/21	KITCHEN	W22/21	34.61	30.49	4.12	11.90
R7/21	KITCHEN	W23/21	34.04	29.91	4.13	12.13
R7/21	KITCHEN	W24/21	34.54	30.47	4.07	11.78
R8/21	BEDROOM	W25/21	33.61	31.50	2.11	6.28
R8/21	BEDROOM	W26/21	33.77	31.78	1.99	5.89
R6/22	LIVINGROOM	W16/22	37.02	34.14	2.88	7.78
R6/22	LIVINGROOM	W17/22	36.96	33.92	3.04	8.23
R7/22	KITCHEN	W18/22	37.00	33.83	3.17	8.57
R7/22	KITCHEN	W19/22	35.63	31.70	3.93	11.03
R7/22	KITCHEN	W20/22	36.03	32.17	3.86	10.71
R7/22	KITCHEN	W21/22	35.59	31.62	3.97	11.15
R7/22	KITCHEN	W22/22	35.99	32.11	3.88	10.78
R7/22	KITCHEN	W23/22	35.54	31.64	3.90	10.97
R7/22	KITCHEN	W24/22	35.97	32.15	3.82	10.62
R8/22	BEDROOM	W25/22	35.56	33.57	1.99	5.60
R8/22	BEDROOM	W26/22	35.92	34.05	1.87	5.21
R6/23	LIVINGROOM	W16/23	38.07	35.39	2.68	7.04
R6/23	LIVINGROOM	W17/23	37.99	35.16	2.83	7.45
R7/23	KITCHEN	W18/23	38.00	35.05	2.95	7.76
R7/23	KITCHEN	W19/23	36.78	33.11	3.67	9.98
R7/23	KITCHEN	W20/23	37.07	33.49	3.58	9.66
R7/23	KITCHEN	W21/23	36.75	33.05	3.70	10.07
R7/23	KITCHEN	W22/23	37.04	33.43	3.61	9.75
R7/23	KITCHEN	W23/23	36.75	33.12	3.63	9.88
R7/23	KITCHEN	W24/23	37.04	33.51	3.53	9.53
R8/23	BEDROOM	W25/23	36.98	35.15	1.83	4.95
R8/23	BEDROOM	W26/23	37.29	35.56	1.73	4.64
R6/24	LIVINGROOM	W11/24	38.51	36.03	2.48	6.44
R6/24	LIVINGROOM	W12/24	38.43	35.83	2.60	6.77
R7/24	KITCHEN	W13/24	38.44	35.74	2.70	7.02
R7/24	KITCHEN	W14/24	37.43	34.06	3.37	9.00
R7/24	KITCHEN	W15/24	37.58	34.30	3.28	8.73
R7/24	KITCHEN	W16/24	37.42	34.02	3.40	9.09

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R7/24	KITCHEN	W17/24	37.57	34.26	3.31	8.81
R7/24	KITCHEN	W18/24	37.42	34.10	3.32	8.87
R7/24	KITCHEN	W19/24	37.57	34.33	3.24	8.62
R8/24	BEDROOM	W20/24	37.62	35.93	1.69	4.49
R8/24	BEDROOM	W21/24	37.96	36.37	1.59	4.19
R1/25		W1/25	38.86	36.63	2.23	5.74
R1/25		W2/25	38.84	36.53	2.31	5.95
R1/25		W3/25	38.81	36.35	2.46	6.34
R2/25		W4/25	38.31	36.88	1.43	3.73
R3/25		W5/25	51.66	51.66	0.00	0.00
R3/25		W6/25	52.69	52.69	0.00	0.00
R3/25		W8/25	18.96	18.96	0.00	0.00
R3/25		W10/25	19.62	19.62	0.00	0.00
R9/21	BEDROOM	W27/21	34.48	33.17	1.31	3.80
R9/21	BEDROOM	W28/21	34.62	33.38	1.24	3.58
R10/21	LIVINGROOM	W29/21	34.77	33.65	1.12	3.22
R10/21	LIVINGROOM	W30/21	34.89	33.82	1.07	3.07
R10/21	LIVINGROOM	W31/21	35.01	34.00	1.01	2.88
R11/21	LIVINGROOM	W32/21	35.10	34.13	0.97	2.76
R11/21	LIVINGROOM	W33/21	35.19	34.29	0.90	2.56
R11/21	LIVINGROOM	W34/21	35.26	34.40	0.86	2.44
R12/21	LIVINGROOM	W35/21	35.35	34.56	0.79	2.23
R12/21	LIVINGROOM	W36/21	35.40	34.65	0.75	2.12
R12/21	LIVINGROOM	W37/21	35.54	34.84	0.70	1.97
R13/21	BEDROOM	W38/21	35.57	34.91	0.66	1.86
R13/21	BEDROOM	W39/21	35.72	35.11	0.61	1.71
R13/21	BEDROOM	W40/21	35.84	35.26	0.58	1.62
R14/21	LIVINGROOM	W41/21	35.88	35.38	0.50	1.39
R14/21	LIVINGROOM	W42/21	35.92	35.44	0.48	1.34
R14/21	LIVINGROOM	W43/21	36.03	35.58	0.45	1.25
R15/21	BEDROOM	W44/21	36.10	35.68	0.42	1.16
R15/21	BEDROOM	W45/21	36.25	35.85	0.40	1.10
R15/21	BEDROOM	W46/21	36.34	35.96	0.38	1.05
R16/21	LIVINGROOM	W47/21	36.46	36.11	0.35	0.96
R16/21	LIVINGROOM	W48/21	36.48	36.13	0.35	0.96
R16/21	LIVINGROOM	W49/21	36.44	36.10	0.34	0.93
R9/22	BEDROOM	W27/22	36.49	35.26	1.23	3.37
R9/22	BEDROOM	W28/22	36.63	35.47	1.16	3.17

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R10/22	LIVINGROOM	W29/22	36.78	35.72	1.06	2.88
R10/22	LIVINGROOM	W30/22	36.84	35.84	1.00	2.71
R10/22	LIVINGROOM	W31/22	36.94	36.00	0.94	2.54
R11/22	LIVINGROOM	W32/22	36.99	36.09	0.90	2.43
R11/22	LIVINGROOM	W33/22	37.08	36.23	0.85	2.29
R11/22	LIVINGROOM	W34/22	37.13	36.34	0.79	2.13
R12/22	LIVINGROOM	W35/22	37.20	36.47	0.73	1.96
R12/22	LIVINGROOM	W36/22	37.26	36.58	0.68	1.83
R12/22	LIVINGROOM	W37/22	37.39	36.75	0.64	1.71
R13/22	BEDROOM	W38/22	37.44	36.82	0.62	1.66
R13/22	BEDROOM	W39/22	37.47	36.88	0.59	1.57
R13/22	BEDROOM	W40/22	37.47	36.92	0.55	1.47
R14/22	LIVINGROOM	W41/22	37.55	37.05	0.50	1.33
R14/22	LIVINGROOM	W42/22	37.56	37.09	0.47	1.25
R14/22	LIVINGROOM	W43/22	37.58	37.14	0.44	1.17
R15/22	BEDROOM	W44/22	37.63	37.20	0.43	1.14
R15/22	BEDROOM	W45/22	37.67	37.27	0.40	1.06
R15/22	BEDROOM	W46/22	37.70	37.32	0.38	1.01
R16/22	LIVINGROOM	W47/22	37.77	37.42	0.35	0.93
R16/22	LIVINGROOM	W48/22	37.81	37.48	0.33	0.87
R16/22	LIVINGROOM	W49/22	37.64	37.32	0.32	0.85
R9/23	BEDROOM	W27/23	37.44	36.30	1.14	3.04
R9/23	BEDROOM	W28/23	37.50	36.44	1.06	2.83
R10/23	LIVINGROOM	W29/23	37.60	36.64	0.96	2.55
R10/23	LIVINGROOM	W30/23	37.64	36.72	0.92	2.44
R10/23	LIVINGROOM	W31/23	37.68	36.82	0.86	2.28
R11/23	LIVINGROOM	W32/23	37.73	36.92	0.81	2.15
R11/23	LIVINGROOM	W33/23	37.79	37.01	0.78	2.06
R11/23	LIVINGROOM	W34/23	37.83	37.11	0.72	1.90
R12/23	LIVINGROOM	W35/23	37.87	37.21	0.66	1.74
R12/23	LIVINGROOM	W36/23	37.91	37.30	0.61	1.61
R12/23	LIVINGROOM	W37/23	37.95	37.37	0.58	1.53
R13/23	BEDROOM	W38/23	37.97	37.41	0.56	1.47
R13/23	BEDROOM	W39/23	38.01	37.48	0.53	1.39
R13/23	BEDROOM	W40/23	38.04	37.53	0.51	1.34
R14/23	LIVINGROOM	W41/23	38.08	37.62	0.46	1.21
R14/23	LIVINGROOM	W42/23	38.10	37.67	0.43	1.13
R14/23	LIVINGROOM	W43/23	38.12	37.71	0.41	1.08
R15/23	BEDROOM	W44/23	38.15	37.76	0.39	1.02

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R15/23	BEDROOM	W45/23	38.19	37.81	0.38	1.00
R15/23	BEDROOM	W46/23	38.20	37.85	0.35	0.92
R16/23	LIVINGROOM	W47/23	38.24	37.91	0.33	0.86
R16/23	LIVINGROOM	W48/23	38.26	37.96	0.30	0.78
R16/23	LIVINGROOM	W49/23	38.13	37.83	0.30	0.79
R9/24	BEDROOM	W22/24	37.26	36.26	1.00	2.68
R10/24	LIVINGROOM	W23/24	37.33	36.48	0.85	2.28
R10/24	LIVINGROOM	W24/24	37.28	36.50	0.78	2.09
R11/24	LIVINGROOM	W25/24	37.28	36.55	0.73	1.96
R11/24	LIVINGROOM	W26/24	37.44	36.78	0.66	1.76
R12/24	LIVINGROOM	W27/24	37.48	36.90	0.58	1.55
R12/24	LIVINGROOM	W28/24	37.40	36.88	0.52	1.39
R13/24	BEDROOM	W29/24	37.39	36.89	0.50	1.34
R13/24	BEDROOM	W30/24	37.59	37.13	0.46	1.22
R14/24	LIVINGROOM	W31/24	37.55	37.16	0.39	1.04
R14/24	LIVINGROOM	W32/24	37.46	37.09	0.37	0.99
R15/24	BEDROOM	W33/24	37.44	37.08	0.36	0.96
R15/24	BEDROOM	W34/24	37.65	37.33	0.32	0.85
R16/24	LIVINGROOM	W35/24	37.70	37.42	0.28	0.74
R16/24	LIVINGROOM	W36/24	37.47	37.20	0.27	0.72
R3/25		W7/25	21.26	21.26	0.00	0.00
R3/25		W9/25	23.45	23.45	0.00	0.00
R3/25		W11/25	21.68	21.68	0.00	0.00
R3/25		W12/25	61.48	61.48	0.00	0.00
R3/25		W13/25	64.42	64.42	0.00	0.00
R3/25		W14/25	25.63	25.63	0.00	0.00
R3/25		W15/25	68.38	68.38	0.00	0.00
R3/25		W16/25	73.08	73.08	0.00	0.00
R3/25		W17/25	70.17	70.17	0.00	0.00
R3/25		W18/25	23.62	23.62	0.00	0.00
R3/25		W19/25	26.86	26.86	0.00	0.00
R3/25		W20/25	27.80	27.80	0.00	0.00
R3/25		W21/25	25.53	25.53	0.00	0.00
R3/25		W22/25	72.19	72.19	0.00	0.00
R3/25		W23/25	28.84	28.84	0.00	0.00
R3/25		W24/25	26.66	26.66	0.00	0.00
R3/25		W25/25	73.93	73.93	0.00	0.00
R3/25		W26/25	29.49	29.49	0.00	0.00
R3/25		W27/25	27.65	27.65	0.00	0.00
R3/25		W28/25	28.51	28.51	0.00	0.00
R3/25		W29/25	73.35	73.35	0.00	0.00
R3/25		W30/25	29.87	29.87	0.00	0.00

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Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC
R3/25		W31/25	72.30	72.29	0.01	0.01
R3/25		W32/25	30.00	29.98	0.02	0.07
R3/25		W33/25	29.00	29.00	0.00	0.00
R3/25		W34/25	71.66	71.66	0.00	0.00
R3/25		W35/25	67.06	67.00	0.06	0.09
R3/25		W36/25	29.29	29.22	0.07	0.24
R3/25		W37/25	29.15	29.15	0.00	0.00
R3/25		W38/25	29.33	29.33	0.00	0.00
R3/25		W39/25	66.10	66.10	0.00	0.00
R3/25		W40/25	25.98	25.86	0.12	0.46
R3/25		W41/25	56.13	56.00	0.13	0.23
R3/25		W42/25	28.16	28.16	0.00	0.00
R3/25		W43/25	54.97	54.97	0.00	0.00
R3/25		W44/25	24.93	24.93	0.00	0.00
68 Oldham Road						
R1/31		W1/31	25.69	25.69	0.00	0.00
R1/31		W2/31	33.58	30.23	3.35	9.98
R1/31		W3/31	35.16	28.10	7.06	20.08
R1/32		W1/32	34.82	31.59	3.23	9.28
R1/32		W2/32	36.08	29.29	6.79	18.82
66 Oldham Road						
R3/31	LKD	W5/31	34.87	27.48	7.39	21.19
R3/31	LKD	W6/31	34.72	26.75	7.97	22.96
R3/32	LKD	W4/32	35.81	28.65	7.16	19.99
R3/32	LKD	W5/32	35.62	27.93	7.69	21.59
64 Oldham Road						
R4/31	LIVINGROOM	W7/31	34.24	25.60	8.64	25.23
R4/32	BEDROOM	W6/32	35.17	26.82	8.35	23.74
62 Oldham Road						
R7/31	LIVINGROOM	W10/31	33.31	24.00	9.31	27.95
R7/32	BEDROOM	W9/32	34.29	25.27	9.02	26.31
60 Oldham Road						
R8/31	LIVINGROOM	W11/31	31.95	22.68	9.27	29.01
R8/32	BEDROOM	W10/32	33.05	24.08	8.97	27.14
58 Oldham Road						

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R11/31	LIVINGROOM	W14/31	29.76	21.52	8.24	27.69
R11/32	BEDROOM	W13/32	30.99	23.08	7.91	25.52
56 Oldham Road						
R12/31	LIVINGROOM	W15/31	28.44	21.44	7.00	24.61
R12/32	BEDROOM	W14/32	29.98	23.29	6.69	22.31
R1/33	BEDROOM	W2/33	31.48	25.28	6.20	19.70
54 Oldham Road						
R15/31	LIVINGROOM	W18/31	26.85	21.92	4.93	18.36
R15/32	BEDROOM	W17/32	28.53	23.79	4.74	16.61
R2/33	BEDROOM	W3/33	30.20	25.77	4.43	14.67
52 Oldham Road						
R16/31	LIVINGROOM	W19/31	26.27	22.52	3.75	14.27
R16/32	BEDROOM	W18/32	27.69	24.07	3.62	13.07
50 Oldham Road						
R19/31	LIVINGROOM	W22/31	25.77	23.25	2.52	9.78
R19/32	BEDROOM	W21/32	27.17	24.73	2.44	8.98
48 Oldham Road						
R20/31	LIVINGROOM	W23/31	25.52	23.62	1.90	7.45
R20/32	BEDROOM	W22/32	26.90	25.05	1.85	6.88
46 Oldham Road						
R23/31	LIVINGROOM	W26/31	24.49	23.13	1.36	5.55
R24/31		W27/31	23.86	22.81	1.05	4.40
R25/31		W28/31	23.90	22.85	1.05	4.39
R26/31		W29/31	27.62	27.62	0.00	0.00
R26/31		W30/31	33.99	33.99	0.00	0.00
R27/31		W31/31	33.90	33.90	0.00	0.00
R23/32	BEDROOM	W25/32	25.81	24.47	1.34	5.19

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R24/32		W26/32	25.24	24.21	1.03	4.08
R25/32		W27/32	25.26	24.22	1.04	4.12
R26/32		W28/32	29.03	29.03	0.00	0.00
R26/32		W29/32	35.33	35.33	0.00	0.00
R27/32		W30/32	35.30	35.30	0.00	0.00
8-30 Oldham Road						
R1/53	BEDROOM	W2/53	34.57	34.51	0.06	0.17
R2/53	LKD	W1/53	34.18	34.11	0.07	0.20
R3/53	LKD	W3/53	16.63	16.63	0.00	0.00
R4/53	BEDROOM	W4/53	13.71	13.71	0.00	0.00
R5/53	BEDROOM	W5/53	35.44	35.38	0.06	0.17
R6/53	LKD	W6/53	35.55	35.50	0.05	0.14
R1/54	BEDROOM	W2/54	35.62	35.55	0.07	0.20
R2/54	LKD	W1/54	35.27	35.20	0.07	0.20
R3/54	LKD	W3/54	17.27	17.27	0.00	0.00
R4/54	BEDROOM	W4/54	14.77	14.77	0.00	0.00
R5/54	BEDROOM	W5/54	36.35	36.29	0.06	0.17
R6/54	LKD	W6/54	36.45	36.41	0.04	0.11
R1/55	BEDROOM	W2/55	36.55	36.48	0.07	0.19
R2/55	LKD	W1/55	36.25	36.18	0.07	0.19
R3/55	LKD	W4/55	17.81	17.81	0.00	0.00
R4/55	BEDROOM	W3/55	15.51	15.51	0.00	0.00
R5/55	BEDROOM	W5/55	37.16	37.10	0.06	0.16
R6/55	LKD	W6/55	37.23	37.18	0.05	0.13
R1/56	BEDROOM	W2/56	37.26	37.18	0.08	0.21
R2/56	LKD	W1/56	37.02	36.94	0.08	0.22

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R3/56	LKD	W3/56	19.90	19.90	0.00	0.00
R4/56	BEDROOM	W4/56	19.20	19.20	0.00	0.00
R5/56	BEDROOM	W5/56	36.69	36.64	0.05	0.14
R6/56	LKD	W6/56	36.99	36.94	0.05	0.14
R2/63	LKD	W2/63	36.21	36.18	0.03	0.08
R2/63	LKD	W3/63	27.01	27.01	0.00	0.00
R3/63	BEDROOM	W4/63	23.12	23.12	0.00	0.00
R4/63	BEDROOM	W5/63	26.12	26.10	0.02	0.08
R5/63	LKD	W6/63	27.58	27.57	0.01	0.04
R5/63	LKD	W7/63	15.37	15.36	0.01	0.07
R6/63	LKD	W8/63	8.54	8.54	0.00	0.00
R6/63	LKD	W9/63	28.49	28.48	0.01	0.04
R7/63	BEDROOM	W10/63	26.04	26.04	0.00	0.00
R8/63	LKD	W11/63	26.25	26.25	0.00	0.00
R9/63	BEDROOM	W12/63	36.96	36.94	0.02	0.05
R2/64	LKD	W2/64	37.02	36.99	0.03	0.08
R2/64	LKD	W3/64	27.40	27.40	0.00	0.00
R3/64	BEDROOM	W4/64	23.80	23.79	0.01	0.04
R4/64	BEDROOM	W5/64	26.65	26.64	0.01	0.04
R5/64	LKD	W6/64	18.17	18.16	0.01	0.06
R5/64	LKD	W7/64	28.12	28.11	0.01	0.04
R6/64	LKD	W8/64	28.99	28.98	0.01	0.03
R6/64	LKD	W9/64	9.04	9.03	0.01	0.11
R7/64	BEDROOM	W10/64	27.20	27.19	0.01	0.04
R8/64	LKD	W11/64	26.92	26.92	0.00	0.00
R9/64	BEDROOM	W12/64	37.70	37.69	0.01	0.03
R2/65	LKD	W2/65	37.72	37.69	0.03	0.08
R2/65	LKD	W3/65	27.94	27.94	0.00	0.00
R3/65	BEDROOM	W4/65	24.99	24.98	0.01	0.04
R4/65	BEDROOM	W5/65	27.64	27.62	0.02	0.07

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R5/65	LKD	W6/65	29.35	29.35	0.00	0.00
R5/65	LKD	W7/65	18.91	18.90	0.01	0.05
R6/65	LKD	W8/65	9.69	9.68	0.01	0.10
R6/65	LKD	W9/65	30.18	30.17	0.01	0.03
R7/65	BEDROOM	W10/65	28.19	28.18	0.01	0.04
R8/65	LKD	W11/65	27.82	27.82	0.00	0.00
R9/65	BEDROOM	W12/65	38.30	38.28	0.02	0.05
R2/66	LKD	W2/66	38.23	38.20	0.03	0.08
R2/66	LKD	W3/66	31.83	31.83	0.00	0.00
R3/66	BEDROOM	W4/66	33.26	33.25	0.01	0.03
R4/66	BEDROOM	W5/66	8.68	8.68	0.00	0.00
R5/66	LKD	W6/66	34.98	34.98	0.00	0.00
R6/66	LKD	W7/66	30.86	30.86	0.00	0.00
R7/66	BEDROOM	W8/66	34.00	33.99	0.01	0.03
R8/66	LKD	W9/66	35.45	35.45	0.00	0.00
R9/66	BEDROOM	W10/66	36.12	36.10	0.02	0.06
R9/66	BEDROOM	W11/66	13.36	13.36	0.00	0.00
8 Cable Street						
R1/80	BEDROOM	W1/80	26.56	26.56	0.00	0.00
R2/80	BEDROOM	W2/80	26.69	26.69	0.00	0.00
R3/80	LKD	W3/80	27.22	27.22	0.00	0.00
R3/80	LKD	W4/80	28.08	28.08	0.00	0.00
R3/80	LKD	W5/80	29.55	29.55	0.00	0.00
R1/81	BEDROOM	W1/81	31.68	31.68	0.00	0.00
R2/81	LKD	W2/81	31.91	31.91	0.00	0.00
R3/81	LKD	W3/81	32.19	32.19	0.00	0.00
R3/81	LKD	W4/81	32.57	32.57	0.00	0.00
R3/81	LKD	W5/81	33.22	33.22	0.00	0.00
R4/81	BEDROOM	W6/81	29.77	29.77	0.00	0.00
R4/81	BEDROOM	W7/81	30.65	30.65	0.00	0.00

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R1/82	BEDROOM	W1/82	34.38	34.38	0.00	0.00
R2/82	LKD	W2/82	34.70	34.70	0.00	0.00
R3/82	LKD	W3/82	34.90	34.90	0.00	0.00
R3/82	LKD	W4/82	35.06	35.06	0.00	0.00
R3/82	LKD	W5/82	35.28	35.28	0.00	0.00
R4/82	BEDROOM	W6/82	32.66	32.66	0.00	0.00
R4/82	BEDROOM	W7/82	32.94	32.94	0.00	0.00
R1/83	BEDROOM	W6/83	34.50	34.50	0.00	0.00
R1/83	BEDROOM	W7/83	34.32	34.32	0.00	0.00
R2/83	LKD	W1/83	35.69	35.69	0.00	0.00
R2/83	LKD	W2/83	35.90	35.90	0.00	0.00
R2/83	LKD	W3/83	36.04	36.04	0.00	0.00
R2/83	LKD	W4/83	36.16	36.16	0.00	0.00
R2/83	LKD	W5/83	36.31	36.31	0.00	0.00
32 Mason Street						
R4/119	LKD	W6/119	34.46	34.12	0.34	0.99
R4/119	LKD	W7/119	34.55	34.18	0.37	1.07
R4/119	LKD	W8/119	26.10	25.90	0.20	0.77
R5/120	BEDROOM	W9/120	35.53	35.10	0.43	1.21
R5/120	BEDROOM	W10/120	35.51	35.04	0.47	1.32
R6/120	BEDROOM	W11/120	35.55	35.08	0.47	1.32
R6/120	BEDROOM	W12/120	35.54	35.06	0.48	1.35
R9/120	LKD	W16/120	24.13	23.89	0.24	0.99
R10/120	LKD	W17/120	20.05	19.81	0.24	1.20
R5/121	BEDROOM	W7/121	36.60	36.15	0.45	1.23
R6/121	LKD	W8/121	36.53	36.06	0.47	1.29
R6/121	LKD	W9/121	30.56	30.31	0.25	0.82
R7/121	LKD	W10/121	27.20	26.97	0.23	0.85
R8/121	LKD	W11/121	23.94	23.72	0.22	0.92
R5/122	BEDROOM	W7/122	37.40	36.97	0.43	1.15
R6/122	LKD	W8/122	37.36	36.92	0.44	1.18
R6/122	LKD	W9/122	33.07	32.83	0.24	0.73
R7/122	LKD	W10/122	30.71	30.50	0.21	0.68

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R8/122	LKD	W11/122	28.40	28.19	0.21	0.74
R5/123	BEDROOM	W2/123	38.00	37.60	0.40	1.05
R6/123	LKD	W3/123	37.99	37.57	0.42	1.11
R6/123	LKD	W4/123	35.17	34.94	0.23	0.65
R7/123	LKD	W5/123	33.74	33.54	0.20	0.59
R8/123	LKD	W6/123	32.27	32.06	0.21	0.65
50 Goulden Street						
R1/131		W1/131	21.74	21.74	0.00	0.00
R2/131		W2/131	21.00	21.00	0.00	0.00
R3/131		W10/131	21.20	21.15	0.05	0.24
R4/131		W9/131	27.78	27.78	0.00	0.00
R5/131		W8/131	19.32	19.32	0.00	0.00
R6/131		W7/131	27.43	27.43	0.00	0.00
R7/131		W6/131	27.75	27.75	0.00	0.00
R8/131		W5/131	26.92	26.92	0.00	0.00
R9/131		W4/131	26.19	26.14	0.05	0.19
R10/131		W3/131	13.29	13.29	0.00	0.00
R1/132		W1/132	26.96	26.96	0.00	0.00
R2/132		W2/132	26.41	26.41	0.00	0.00
R3/132		W8/132	24.91	24.86	0.05	0.20
R4/132		W9/132	32.63	32.63	0.00	0.00
R5/132		W10/132	23.67	23.67	0.00	0.00
R6/132		W6/132	32.37	32.23	0.14	0.43
R7/132		W7/132	32.37	32.06	0.31	0.96
R8/132		W5/132	31.57	31.19	0.38	1.20
R9/132		W4/132	30.73	30.56	0.17	0.55
R10/132		W3/132	17.47	17.47	0.00	0.00

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R1/133		W1/133	33.05	33.05	0.00	0.00
R2/133		W2/133	32.61	32.61	0.00	0.00
R3/133		W10/133	37.24	36.87	0.37	0.99
R4/133		W9/133	37.01	36.72	0.29	0.78
R5/133		W8/133	36.40	36.10	0.30	0.82
R6/133		W7/133	36.33	35.96	0.37	1.02
R7/133		W6/133	35.96	35.57	0.39	1.08
R8/133		W5/133	35.55	35.16	0.39	1.10
R9/133		W4/133	35.08	34.82	0.26	0.74
R10/133		W3/133	32.67	32.67	0.00	0.00
R1/134		W1/134	13.54	13.54	0.00	0.00
R1/134		W2/134	14.94	14.94	0.00	0.00
R1/134		W3/134	19.68	19.44	0.24	1.22
R2/134		W6/134	19.65	19.31	0.34	1.73
R3/134		W5/134	14.17	13.83	0.34	2.40
R4/134		W4/134	18.78	18.42	0.36	1.92
34 Mason Street						
R1/139	LKD	W1/139	16.73	16.73	0.00	0.00
R1/139	LKD	W2/139	33.82	33.29	0.53	1.57
R1/140	LKD	W1/140	19.37	19.37	0.00	0.00
R1/140	LKD	W2/140	34.90	34.26	0.64	1.83
R1/140	LKD	W3/140	35.35	34.65	0.70	1.98
R1/141	LKD	W1/141	24.28	24.28	0.00	0.00
R1/141	LKD	W2/141	36.07	35.46	0.61	1.69
R1/141	LKD	W3/141	36.45	35.80	0.65	1.78
R1/142	LKD	W1/142	30.39	30.39	0.00	0.00
R1/142	LKD	W2/142	37.21	36.63	0.58	1.56
R1/142	LKD	W3/142	37.47	36.86	0.61	1.63
R1/143	LKD	W1/143	53.89	53.89	0.00	0.00
R1/143	LKD	W2/143	38.16	37.60	0.56	1.47
R1/144	BEDROOM	W1/144	89.47	89.47	0.00	0.00

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Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC
36 Mason Street						
R1/150	LKD	W1/150	35.63	34.89	0.74	2.08
R2/150	BEDROOM	W2/150	35.57	34.85	0.72	2.02
R1/151		W1/151	36.55	35.86	0.69	1.89
R2/151		W2/151	36.62	35.92	0.70	1.91
R3/151		W3/151	36.61	35.98	0.63	1.72
38 Mason Street						
R1/159	LKD	W1/159	34.29	33.55	0.74	2.16
R1/160	LKD	W1/160	31.11	30.39	0.72	2.31
R1/160	LKD	W2/160	28.16	27.47	0.69	2.45
R1/161	LKD	W3/161	34.17	33.54	0.63	1.84
R1/161	LKD	W4/161	36.64	35.99	0.65	1.77
R1/161	LKD	W5/161	32.96	32.87	0.09	0.27
R2/162	LKD	W3/162	37.65	37.06	0.59	1.57
R2/162	LKD	W4/162	37.75	37.14	0.61	1.62
R2/162	LKD	W5/162	33.83	33.74	0.09	0.27

Appendix 4: Baseline vs Proposed NSL Contour Plots

MULBURY NEW CROSS
MANCHESTER

DAYLIGHT DISTRIBUTION ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

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Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
The Detoxification Centre, Thompson Street						
R1/10	BEDROOM	125.2	118.2	118.2	0.0	0.0
R2/10	BEDROOM	116.0	109.0	109.0	0.0	0.0
R3/10	BEDROOM	119.3	112.6	112.6	0.0	0.0
R6/10	BEDROOM	120.9	119.2	119.2	0.0	0.0
R9/10		101.1	99.4	99.4	0.0	0.0
R10/10		189.8	166.6	166.6	0.0	0.0
R12/10	LD	555.7	554.9	553.3	1.6	0.3
R13/10		1311.1	1211.7	1211.7	0.0	0.0
R14/10		105.1	89.7	89.2	0.5	0.6
R15/10		91.5	80.7	80.5	0.1	0.1
R16/10		111.3	102.8	94.4	8.4	8.2
R17/10		118.0	112.6	101.2	11.4	10.1
R18/10		113.2	91.0	75.3	15.6	17.1
R19/10		92.8	91.2	91.2	0.0	0.0
R20/10		104.6	100.7	100.7	0.0	0.0
R1/11	BEDROOM	125.2	121.0	121.0	0.0	0.0
R2/11	BEDROOM	116.0	111.0	111.0	0.0	0.0
R3/11	BEDROOM	119.3	114.3	114.3	0.0	0.0
R6/11	BEDROOM	120.9	119.2	119.2	0.0	0.0
R8/11	BEDROOM	119.4	118.1	118.1	0.0	0.0
R9/11	BEDROOM	124.1	122.3	122.3	0.0	0.0
R12/11	SERVERY	134.3	123.5	123.5	0.0	0.0
R13/11	DINING	250.8	246.7	246.7	0.0	0.0
R14/11	LOUNGE	323.8	319.6	319.6	0.0	0.0
R15/11	MEETING RO(	274.0	272.1	272.1	0.0	0.0
R16/11	STAFF ROOM	266.8	257.5	257.5	0.0	0.0
R17/11	STAFF ROOM	168.6	153.7	153.7	0.0	0.0
R18/11		105.1	94.6	94.0	0.5	0.5
R19/11		91.5	84.0	83.9	0.1	0.1
R20/11		111.3	110.2	103.7	6.4	5.8
R21/11		117.7	112.2	101.9	10.3	9.2
R22/11		113.2	101.6	90.6	11.0	10.8
R23/11		92.8	91.2	91.2	0.0	0.0
R24/11		104.6	102.7	102.7	0.0	0.0
Victoria Square						
R1/21	BEDROOM	203.5	198.9	198.9	0.0	0.0
R2/21	LIVINGROOM	201.0	197.1	197.1	0.0	0.0
R3/21	LIVINGROOM	203.9	196.2	196.2	0.0	0.0
R4/21	BEDROOM	200.3	195.8	195.8	0.0	0.0
R5/21	LIVINGROOM	213.4	208.0	208.0	0.0	0.0
R1/22	BEDROOM	203.5	198.4	198.4	0.0	0.0
R2/22	LIVINGROOM	201.0	197.1	197.1	0.0	0.0
R3/22	LIVINGROOM	203.9	199.1	199.1	0.0	0.0
R4/22	BEDROOM	200.3	195.8	195.8	0.0	0.0
R5/22	LIVINGROOM	213.4	207.8	207.8	0.0	0.0
R1/23	BEDROOM	203.5	198.4	198.4	0.0	0.0
R2/23	LIVINGROOM	201.0	197.1	197.1	0.0	0.0
R3/23	LIVINGROOM	203.9	199.1	199.1	0.0	0.0
R4/23	BEDROOM	200.3	195.8	195.8	0.0	0.0
R5/23	LIVINGROOM	213.4	207.8	207.8	0.0	0.0

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Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
R1/24	BEDROOM	203.5	199.7	199.7	0.0	0.0
R2/24	LIVINGROOM	201.0	197.2	197.2	0.0	0.0
R3/24	LIVINGROOM	203.9	200.2	200.2	0.0	0.0
R4/24	BEDROOM	200.3	196.3	196.3	0.0	0.0
R5/24	LIVINGROOM	213.4	209.0	209.0	0.0	0.0
R6/21	LIVINGROOM	174.6	173.5	173.5	0.0	0.0
R7/21	KITCHEN	141.9	140.3	140.3	0.0	0.0
R8/21	BEDROOM	184.0	178.5	177.9	0.6	0.3
R6/22	LIVINGROOM	174.6	173.5	173.5	0.0	0.0
R7/22	KITCHEN	141.9	140.3	140.3	0.0	0.0
R8/22	BEDROOM	184.0	178.3	178.0	0.3	0.2
R6/23	LIVINGROOM	174.6	173.5	173.5	0.0	0.0
R7/23	KITCHEN	141.9	140.3	140.3	0.0	0.0
R8/23	BEDROOM	184.0	178.3	178.1	0.3	0.2
R6/24	LIVINGROOM	174.6	173.5	173.5	0.0	0.0
R7/24	KITCHEN	141.9	140.2	140.2	0.0	0.0
R8/24	BEDROOM	184.0	178.3	178.1	0.3	0.2
R1/25		245.1	242.0	242.0	0.0	0.0
R2/25		107.8	102.5	102.5	0.0	0.0
R9/21	BEDROOM	133.7	132.1	132.1	0.0	0.0
R10/21	LIVINGROOM	177.3	174.1	174.1	0.0	0.0
R11/21	LIVINGROOM	173.7	170.4	170.4	0.0	0.0
R12/21	LIVINGROOM	173.3	170.0	170.0	0.0	0.0
R13/21	BEDROOM	171.9	168.9	168.9	0.0	0.0
R14/21	LIVINGROOM	174.7	171.4	171.4	0.0	0.0
R15/21	BEDROOM	175.3	172.1	172.1	0.0	0.0
R16/21	LIVINGROOM	170.9	167.9	167.9	0.0	0.0
R9/22	BEDROOM	133.7	132.2	132.2	0.0	0.0
R10/22	LIVINGROOM	177.3	173.5	173.5	0.0	0.0
R11/22	LIVINGROOM	173.7	169.8	169.8	0.0	0.0
R12/22	LIVINGROOM	173.3	169.7	169.7	0.0	0.0
R13/22	BEDROOM	171.9	168.2	168.2	0.0	0.0
R14/22	LIVINGROOM	174.7	170.7	170.7	0.0	0.0
R15/22	BEDROOM	175.3	171.4	171.4	0.0	0.0
R16/22	LIVINGROOM	170.9	167.3	167.3	0.0	0.0
R9/23	BEDROOM	133.7	132.2	132.2	0.0	0.0
R10/23	LIVINGROOM	177.3	173.5	173.5	0.0	0.0
R11/23	LIVINGROOM	173.7	170.2	170.2	0.0	0.0
R12/23	LIVINGROOM	173.3	169.7	169.7	0.0	0.0
R13/23	BEDROOM	171.9	168.3	168.3	0.0	0.0
R14/23	LIVINGROOM	174.7	171.0	171.0	0.0	0.0
R15/23	BEDROOM	175.3	171.4	171.4	0.0	0.0
R16/23	LIVINGROOM	170.9	167.3	167.3	0.0	0.0
R9/24	BEDROOM	133.7	132.0	132.0	0.0	0.0
R10/24	LIVINGROOM	177.3	173.3	173.3	0.0	0.0
R11/24	LIVINGROOM	173.7	170.0	170.0	0.0	0.0
R12/24	LIVINGROOM	173.3	169.5	169.5	0.0	0.0
R13/24	BEDROOM	171.9	168.2	168.2	0.0	0.0
R14/24	LIVINGROOM	174.7	170.9	170.9	0.0	0.0
R15/24	BEDROOM	175.3	171.3	171.3	0.0	0.0
R16/24	LIVINGROOM	170.9	167.2	167.2	0.0	0.0
R3/25		44.5	44.5	44.5	0.0	0.0

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68 Oldham Road						
R1/31		182.7	181.6	180.9	0.7	0.4
R1/32		182.7	180.5	179.6	0.9	0.5
66 Oldham Road						
R3/31	LKD	195.4	185.4	184.0	1.4	0.8
R3/32	LKD	197.6	187.5	186.3	1.3	0.7
64 Oldham Road						
R4/31	LIVINGROOM	183.2	173.1	146.7	26.4	15.3
R4/32	BEDROOM	153.2	145.8	124.3	21.5	14.7
62 Oldham Road						
R7/31	LIVINGROOM	183.2	166.8	133.1	33.7	20.2
R7/32	BEDROOM	153.2	146.2	118.8	27.5	18.8
60 Oldham Road						
R8/31	LIVINGROOM	183.2	158.6	124.3	34.3	21.6
R8/32	BEDROOM	153.2	133.8	109.5	24.3	18.2
58 Oldham Road						
R11/31	LIVINGROOM	183.2	148.8	102.0	46.8	31.5
R11/32	BEDROOM	153.2	133.3	94.7	38.6	29.0
56 Oldham Road						
R12/31	LIVINGROOM	183.2	138.7	95.6	43.1	31.1
R12/32	BEDROOM	153.2	121.1	95.0	26.0	21.5
R1/33	BEDROOM	146.8	114.0	91.0	23.0	20.2
54 Oldham Road						
R15/31	LIVINGROOM	183.2	136.3	110.1	26.1	19.1
R15/32	BEDROOM	153.2	120.3	96.8	23.5	19.5
R2/33	BEDROOM	146.9	116.2	95.0	21.2	18.2
52 Oldham Road						
R16/31	LIVINGROOM	183.2	137.3	121.1	16.2	11.8
R16/32	BEDROOM	153.2	120.0	116.8	3.1	2.6

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Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
50 Oldham Road						
R19/31	LIVINGROOM	183.2	130.1	128.1	1.9	1.5
R19/32	BEDROOM	153.2	119.2	116.0	3.2	2.7
48 Oldham Road						
R20/31	LIVINGROOM	183.2	134.1	132.8	1.3	1.0
R20/32	BEDROOM	153.2	121.4	121.4	0.0	0.0
46 Oldham Road						
R23/31	LIVINGROOM	183.2	129.7	129.7	0.0	0.0
R24/31		111.8	68.7	68.7	0.0	0.0
R25/31		101.4	82.8	82.8	0.0	0.0
R26/31		139.4	137.7	137.7	0.0	0.0
R27/31		56.3	56.0	56.0	0.0	0.0
R23/32	BEDROOM	153.2	119.8	119.8	0.0	0.0
R24/32		113.8	70.3	70.3	0.0	0.0
R25/32		101.4	84.5	84.5	0.0	0.0
R26/32		139.4	137.7	137.7	0.0	0.0
R27/32		56.3	56.0	56.0	0.0	0.0
8-30 Oldham Road						
R1/53	BEDROOM	124.8	122.4	122.4	0.0	0.0
R2/53	LKD	258.8	257.0	257.0	0.0	0.0
R3/53	LKD	216.4	215.6	215.6	0.0	0.0
R4/53	BEDROOM	125.4	116.2	116.2	0.0	0.0
R5/53	BEDROOM	123.9	121.2	121.2	0.0	0.0
R6/53	LKD	273.8	267.6	267.6	0.0	0.0
R1/54	BEDROOM	124.8	122.4	122.4	0.0	0.0
R2/54	LKD	258.8	257.0	257.0	0.0	0.0
R3/54	LKD	216.4	215.6	215.6	0.0	0.0
R4/54	BEDROOM	125.4	118.4	118.4	0.0	0.0
R5/54	BEDROOM	123.9	121.8	121.8	0.0	0.0
R6/54	LKD	273.8	267.6	267.6	0.0	0.0
R1/55	BEDROOM	124.8	122.4	122.4	0.0	0.0
R2/55	LKD	258.8	257.0	257.0	0.0	0.0
R3/55	LKD	216.4	215.6	215.6	0.0	0.0
R4/55	BEDROOM	125.4	119.4	119.4	0.0	0.0
R5/55	BEDROOM	123.9	121.8	121.8	0.0	0.0
R6/55	LKD	273.8	267.6	267.6	0.0	0.0
R1/56	BEDROOM	124.8	122.4	122.4	0.0	0.0
R2/56	LKD	258.8	257.0	257.0	0.0	0.0
R3/56	LKD	216.4	215.6	215.6	0.0	0.0
R4/56	BEDROOM	125.4	124.3	124.3	0.0	0.0
R5/56	BEDROOM	123.9	115.2	115.2	0.0	0.0
R6/56	LKD	273.8	256.8	256.8	0.0	0.0
R2/63	LKD	269.5	258.1	258.1	0.0	0.0
R3/63	BEDROOM	140.1	136.0	136.0	0.0	0.0

Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
R4/63	BEDROOM	129.9	125.7	125.7	0.0	0.0
R5/63	LKD	270.6	268.4	268.4	0.0	0.0
R6/63	LKD	322.2	319.8	319.8	0.0	0.0
R7/63	BEDROOM	179.2	176.6	176.6	0.0	0.0
R8/63	LKD	410.3	407.9	407.9	0.0	0.0
R9/63	BEDROOM	243.3	231.9	231.9	0.0	0.0
R2/64	LKD	269.5	258.1	258.1	0.0	0.0
R3/64	BEDROOM	140.1	136.7	136.7	0.0	0.0
R4/64	BEDROOM	129.9	125.9	125.9	0.0	0.0
R5/64	LKD	270.6	267.8	267.8	0.0	0.0
R6/64	LKD	322.2	320.0	320.0	0.0	0.0
R7/64	BEDROOM	179.2	176.6	176.6	0.0	0.0
R8/64	LKD	410.3	407.9	407.9	0.0	0.0
R9/64	BEDROOM	243.3	231.9	231.9	0.0	0.0
R2/65	LKD	269.5	258.0	258.0	0.0	0.0
R3/65	BEDROOM	140.1	136.7	136.7	0.0	0.0
R4/65	BEDROOM	129.9	126.5	126.5	0.0	0.0
R5/65	LKD	270.6	268.5	268.5	0.0	0.0
R6/65	LKD	322.2	320.0	320.0	0.0	0.0
R7/65	BEDROOM	179.2	176.6	176.6	0.0	0.0
R8/65	LKD	410.3	407.9	407.9	0.0	0.0
R9/65	BEDROOM	243.3	231.9	231.9	0.0	0.0
R2/66	LKD	269.5	258.4	258.4	0.0	0.0
R3/66	BEDROOM	140.1	139.4	139.4	0.0	0.0
R4/66	BEDROOM	129.9	128.6	128.6	0.0	0.0
R5/66	LKD	270.6	270.5	270.5	0.0	0.0
R6/66	LKD	322.2	322.1	322.1	0.0	0.0
R7/66	BEDROOM	179.2	178.9	178.9	0.0	0.0
R8/66	LKD	384.3	383.3	383.3	0.0	0.0
R9/66	BEDROOM	142.7	142.7	142.7	0.0	0.0

8 Cable Street

R1/80	BEDROOM	153.5	127.0	127.0	0.0	0.0
R2/80	BEDROOM	111.4	108.5	108.5	0.0	0.0
R3/80	LKD	399.1	342.5	342.5	0.0	0.0
R1/81	BEDROOM	105.9	103.8	103.8	0.0	0.0
R2/81	LKD	330.4	257.3	257.3	0.0	0.0
R3/81	LKD	377.4	367.6	367.6	0.0	0.0
R4/81	BEDROOM	149.8	145.3	145.3	0.0	0.0
R1/82	BEDROOM	105.9	103.8	103.8	0.0	0.0
R2/82	LKD	330.4	271.5	271.5	0.0	0.0
R3/82	LKD	377.4	368.9	368.9	0.0	0.0
R4/82	BEDROOM	149.8	145.3	145.3	0.0	0.0
R1/83	BEDROOM	192.1	186.9	186.9	0.0	0.0
R2/83	LKD	960.0	947.9	947.9	0.0	0.0

32 Mason Street

R4/119	LKD	328.4	296.0	296.0	0.0	0.0
R5/120	BEDROOM	84.9	84.5	84.5	0.0	0.0
R6/120	BEDROOM	95.7	94.2	94.2	0.0	0.0
R9/120	LKD	415.8	361.8	361.8	0.0	0.0

Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
R10/120	LKD	417.1	218.1	218.1	0.0	0.0
R5/121	BEDROOM	94.8	94.6	94.6	0.0	0.0
R6/121	LKD	222.8	222.8	222.8	0.0	0.0
R7/121	LKD	247.7	236.5	236.5	0.0	0.0
R8/121	LKD	244.9	237.5	237.5	0.0	0.0
R5/122	BEDROOM	94.8	94.6	94.6	0.0	0.0
R6/122	LKD	222.8	222.8	222.8	0.0	0.0
R7/122	LKD	247.7	243.9	243.9	0.0	0.0
R8/122	LKD	244.9	244.3	244.3	0.0	0.0
R5/123	BEDROOM	94.8	94.6	94.6	0.0	0.0
R6/123	LKD	222.8	222.8	222.8	0.0	0.0
R7/123	LKD	247.7	247.4	247.4	0.0	0.0
R8/123	LKD	244.9	244.4	244.4	0.0	0.0
50 Goulden Street						
R1/131		154.4	54.6	54.6	0.0	0.0
R2/131		142.6	51.4	51.4	0.0	0.0
R3/131		203.3	195.5	195.5	0.0	0.0
R4/131		168.2	138.1	138.1	0.0	0.0
R5/131		200.5	195.3	195.3	0.0	0.0
R6/131		148.9	147.5	147.5	0.0	0.0
R7/131		153.0	146.3	146.3	0.0	0.0
R8/131		139.7	117.2	117.2	0.0	0.0
R9/131		134.6	95.2	95.2	0.0	0.0
R10/131		222.0	177.6	177.6	0.0	0.0
R1/132		154.4	79.1	79.1	0.0	0.0
R2/132		142.6	74.4	74.4	0.0	0.0
R3/132		203.3	203.1	203.1	0.0	0.0
R4/132		168.2	165.9	165.9	0.0	0.0
R5/132		200.5	199.7	199.7	0.0	0.0
R6/132		148.9	147.5	147.5	0.0	0.0
R7/132		153.0	151.5	151.5	0.0	0.0
R8/132		139.7	126.4	126.4	0.0	0.0
R9/132		134.6	107.2	107.2	0.0	0.0
R10/132		222.0	187.7	187.7	0.0	0.0
R1/133		154.4	152.2	152.2	0.0	0.0
R2/133		142.6	140.5	140.5	0.0	0.0
R3/133		203.3	202.0	202.0	0.0	0.0
R4/133		168.2	165.8	165.8	0.0	0.0
R5/133		200.5	199.3	199.3	0.0	0.0
R6/133		148.9	147.5	147.5	0.0	0.0
R7/133		153.0	151.5	151.5	0.0	0.0
R8/133		139.7	138.1	138.1	0.0	0.0
R9/133		134.6	133.9	133.9	0.0	0.0
R10/133		222.0	219.2	219.2	0.0	0.0
R1/134		268.7	268.7	268.7	0.0	0.0
R2/134		279.1	277.5	277.5	0.0	0.0
R3/134		154.4	152.6	152.6	0.0	0.0
R4/134		295.7	295.0	295.0	0.0	0.0

MULBURY NEW CROSS
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DAYLIGHT DISTRIBUTION ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
34 Mason Street						
R1/139	LKD	129.6	87.5	87.5	0.0	0.0
R1/140	LKD	142.7	142.2	142.2	0.0	0.0
R1/141	LKD	155.7	155.7	155.7	0.0	0.0
R1/142	LKD	155.9	154.8	154.8	0.0	0.0
R1/143	LKD	190.5	190.5	190.5	0.0	0.0
R1/144	BEDROOM	113.0	106.5	106.5	0.0	0.0
36 Mason Street						
R1/150	LKD	395.7	384.9	384.9	0.0	0.0
R2/150	BEDROOM	225.3	224.3	224.3	0.0	0.0
R1/151		202.0	201.6	201.6	0.0	0.0
R2/151		196.9	196.7	196.7	0.0	0.0
R3/151		218.2	217.5	217.5	0.0	0.0
38 Mason Street						
R1/159	LKD	356.4	325.5	325.5	0.0	0.0
R1/160	LKD	356.4	355.6	355.6	0.0	0.0
R1/161	LKD	500.1	482.8	482.8	0.0	0.0
R2/162	LKD	400.9	393.0	393.0	0.0	0.0

Appendix 5: Baseline vs Proposed APSH Results

MULBURY NEW CROSS
MANCHESTER

SUNLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room	Window	Room Use	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
The Detoxification Centre, Thompson Street								
R6/10	**W6/10**	BEDROOM	19	68	19	68	0.0	0.0
R9/10	**W9/10**		6	43	6	43	0.0	0.0
R12/10	**W17/10**	LD						
R12/10	**W18/10**	LD	14	74	12	68	14.3	8.1
R13/10	**W19/10**							
R13/10	**W20/10**							
R13/10	**W21/10**							
R13/10	**W22/10**							
R13/10	**W23/10**							
R13/10	**W47/10**		15	63	15	62	0.0	1.6
R14/10	**W24/10**		11	58	9	52	18.2	10.3
R15/10	**W25/10**		10	60	7	52	30.0	13.3
R16/10	**W26/10**		8	54	3	36	62.5	33.3
R17/10	**W27/10**		8	53	3	36	62.5	32.1
R18/10	**W28/10**		9	54	4	39	55.6	27.8
R6/11	**W6/11**	BEDROOM	23	67	23	67	0.0	0.0
R8/11	**W8/11**	BEDROOM	21	65	21	65	0.0	0.0
R9/11	**W9/11**	BEDROOM	20	64	20	64	0.0	0.0
R12/11	**W12/11**	SERVERY	21	65	21	65	0.0	0.0
R13/11	**W13/11**	DINING						
R13/11	**W14/11**	DINING	20	67	20	67	0.0	0.0
R14/11	**W15/11**	LOUNGE						
R14/11	**W16/11**	LOUNGE	17	65	17	65	0.0	0.0
R15/11	**W17/11**	MEETING ROOI						
R15/11	**W18/11**	MEETING ROOI	15	65	15	65	0.0	0.0
R16/11	**W19/11**	STAFF ROOM						
R16/11	**W20/11**	STAFF ROOM	15	66	15	64	0.0	3.0
R17/11	**W21/11**	STAFF ROOM	13	63	13	61	0.0	3.2
R18/11	**W22/11**		13	59	11	54	15.4	8.5
R19/11	**W23/11**		12	62	9	55	25.0	11.3

MULBURY NEW CROSS
MANCHESTER

SUNLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room	Window	Room Use	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R20/11	W24/11							
R20/11	W25/11		14	84	9	67	35.7	20.2
R21/11	W26/11		12	57	7	41	41.7	28.1
R22/11	W27/11		12	57	6	42	50.0	26.3
Victoria Square								
R8/21	W25/21	BEDROOM						
R8/21	W26/21	BEDROOM	20	63	20	61	0.0	3.2
R8/22	W25/22	BEDROOM						
R8/22	W26/22	BEDROOM	22	66	22	64	0.0	3.0
R8/23	W25/23	BEDROOM						
R8/23	W26/23	BEDROOM	22	66	22	64	0.0	3.0
R8/24	W20/24	BEDROOM						
R8/24	W21/24	BEDROOM	22	66	22	64	0.0	3.0
R2/25	W4/25		22	66	22	64	0.0	3.0
R3/25	W5/25							
R3/25	W6/25							
R3/25	W8/25							
R3/25	W10/25		26	80	26	80	0.0	0.0
R9/21	W27/21	BEDROOM						
R9/21	W28/21	BEDROOM	22	62	22	61	0.0	1.6
R10/21	W29/21	LIVINGROOM						
R10/21	W30/21	LIVINGROOM						
R10/21	W31/21	LIVINGROOM	21	63	21	63	0.0	0.0
R11/21	W32/21	LIVINGROOM						
R11/21	W33/21	LIVINGROOM						
R11/21	W34/21	LIVINGROOM	21	63	21	63	0.0	0.0
R12/21	W35/21	LIVINGROOM						
R12/21	W36/21	LIVINGROOM						
R12/21	W37/21	LIVINGROOM	22	64	22	64	0.0	0.0
R13/21	W38/21	BEDROOM						
R13/21	W39/21	BEDROOM						
R13/21	W40/21	BEDROOM	22	64	22	64	0.0	0.0
R14/21	W41/21	LIVINGROOM						
R14/21	W42/21	LIVINGROOM						
R14/21	W43/21	LIVINGROOM	22	64	22	64	0.0	0.0

MULBURY NEW CROSS
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SUNLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room	Window	Room Use	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R15/21	W44/21	BEDROOM						
R15/21	W45/21	BEDROOM						
R15/21	W46/21	BEDROOM	21	64	21	64	0.0	0.0
R16/21	W47/21	LIVINGROOM						
R16/21	W48/21	LIVINGROOM						
R16/21	W49/21	LIVINGROOM	22	65	22	65	0.0	0.0
R9/22	W27/22	BEDROOM						
R9/22	W28/22	BEDROOM	22	66	22	65	0.0	1.5
R10/22	W29/22	LIVINGROOM						
R10/22	W30/22	LIVINGROOM						
R10/22	W31/22	LIVINGROOM	22	66	22	66	0.0	0.0
R11/22	W32/22	LIVINGROOM						
R11/22	W33/22	LIVINGROOM						
R11/22	W34/22	LIVINGROOM	22	66	22	66	0.0	0.0
R12/22	W35/22	LIVINGROOM						
R12/22	W36/22	LIVINGROOM						
R12/22	W37/22	LIVINGROOM	22	65	22	65	0.0	0.0
R13/22	W38/22	BEDROOM						
R13/22	W39/22	BEDROOM						
R13/22	W40/22	BEDROOM	22	66	22	66	0.0	0.0
R14/22	W41/22	LIVINGROOM						
R14/22	W42/22	LIVINGROOM						
R14/22	W43/22	LIVINGROOM	22	65	22	65	0.0	0.0
R15/22	W44/22	BEDROOM						
R15/22	W45/22	BEDROOM						
R15/22	W46/22	BEDROOM	22	66	22	66	0.0	0.0
R16/22	W47/22	LIVINGROOM						
R16/22	W48/22	LIVINGROOM						
R16/22	W49/22	LIVINGROOM	22	66	22	66	0.0	0.0
R9/23	W27/23	BEDROOM						
R9/23	W28/23	BEDROOM	22	66	22	65	0.0	1.5
R10/23	W29/23	LIVINGROOM						
R10/23	W30/23	LIVINGROOM						
R10/23	W31/23	LIVINGROOM	22	66	22	66	0.0	0.0
R11/23	W32/23	LIVINGROOM						
R11/23	W33/23	LIVINGROOM						
R11/23	W34/23	LIVINGROOM	22	66	22	66	0.0	0.0

MULBURY NEW CROSS
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SUNLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

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Room	Window	Room Use	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R12/23	W35/23	LIVINGROOM						
R12/23	W36/23	LIVINGROOM						
R12/23	W37/23	LIVINGROOM	22	66	22	66	0.0	0.0
R13/23	W38/23	BEDROOM						
R13/23	W39/23	BEDROOM						
R13/23	W40/23	BEDROOM	22	66	22	66	0.0	0.0
R14/23	W41/23	LIVINGROOM						
R14/23	W42/23	LIVINGROOM						
R14/23	W43/23	LIVINGROOM	22	66	22	66	0.0	0.0
R15/23	W44/23	BEDROOM						
R15/23	W45/23	BEDROOM						
R15/23	W46/23	BEDROOM	22	66	22	66	0.0	0.0
R16/23	W47/23	LIVINGROOM						
R16/23	W48/23	LIVINGROOM						
R16/23	W49/23	LIVINGROOM	22	66	22	66	0.0	0.0
R9/24	W22/24	BEDROOM	22	62	22	61	0.0	1.6
R10/24	W23/24	LIVINGROOM						
R10/24	W24/24	LIVINGROOM	22	62	22	62	0.0	0.0
R11/24	W25/24	LIVINGROOM						
R11/24	W26/24	LIVINGROOM	22	62	22	62	0.0	0.0
R12/24	W27/24	LIVINGROOM						
R12/24	W28/24	LIVINGROOM	22	62	22	62	0.0	0.0
R13/24	W29/24	BEDROOM						
R13/24	W30/24	BEDROOM	22	62	22	62	0.0	0.0
R14/24	W31/24	LIVINGROOM						
R14/24	W32/24	LIVINGROOM	22	62	22	62	0.0	0.0
R15/24	W33/24	BEDROOM						
R15/24	W34/24	BEDROOM	22	62	22	62	0.0	0.0
R16/24	W35/24	LIVINGROOM						
R16/24	W36/24	LIVINGROOM	22	62	22	62	0.0	0.0
R3/25	W7/25							
R3/25	W9/25							
R3/25	W11/25							
R3/25	W12/25							
R3/25	W13/25							
R3/25	W14/25							
R3/25	W15/25							
R3/25	W16/25							

MULBURY NEW CROSS
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SUNLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room	Window	Room Use	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R3/25	W17/25							
R3/25	W18/25							
R3/25	W19/25							
R3/25	W20/25							
R3/25	W21/25							
R3/25	W22/25							
R3/25	W23/25							
R3/25	W24/25							
R3/25	W25/25							
R3/25	W26/25							
R3/25	W27/25							
R3/25	W28/25							
R3/25	W29/25							
R3/25	W30/25							
R3/25	W31/25							
R3/25	W32/25							
R3/25	W33/25							
R3/25	W34/25							
R3/25	W35/25							
R3/25	W36/25							
R3/25	W37/25							
R3/25	W38/25							
R3/25	W39/25							
R3/25	W40/25							
R3/25	W41/25							
R3/25	W42/25							
R3/25	W43/25							
R3/25	W44/25		25	92	25	91	0.0	1.1
46 Oldham Road								
R26/31	W29/31							
R26/31	W30/31		19	63	19	63	0.0	0.0
R27/31	W31/31		19	63	19	63	0.0	0.0
R26/32	W28/32							
R26/32	W29/32		19	63	19	63	0.0	0.0
R27/32	W30/32		20	64	20	64	0.0	0.0
8-30 Oldham Road								
R9/66	W10/66	BEDROOM						
R9/66	W11/66	BEDROOM	10	27	10	27	0.0	0.0
32 Mason Street								
R4/119	W6/119	LKD						
R4/119	W7/119	LKD						
R4/119	W8/119	LKD	23	69	23	69	0.0	0.0

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SUNLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room	Window	Room Use	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R5/120	W9/120	BEDROOM						
R5/120	W10/120	BEDROOM	22	69	22	69	0.0	0.0
R6/120	W11/120	BEDROOM						
R6/120	W12/120	BEDROOM	23	70	23	70	0.0	0.0
R5/121	W7/121	BEDROOM	22	69	22	69	0.0	0.0
R6/121	W8/121	LKD						
R6/121	W9/121	LKD	23	70	23	70	0.0	0.0
R5/122	W7/122	BEDROOM	22	68	22	68	0.0	0.0
R6/122	W8/122	LKD						
R6/122	W9/122	LKD	23	69	23	69	0.0	0.0
R5/123	W2/123	BEDROOM	22	68	22	68	0.0	0.0
R6/123	W3/123	LKD						
R6/123	W4/123	LKD	23	70	23	70	0.0	0.0
50 Goulden Street								
R1/131	W1/131		6	50	6	50	0.0	0.0
R2/131	W2/131		8	50	8	50	0.0	0.0
R3/131	W10/131		13	45	13	45	0.0	0.0
R4/131	W9/131		8	47	8	47	0.0	0.0
R5/131	W8/131		13	44	13	44	0.0	0.0
R6/131	W7/131		14	57	14	57	0.0	0.0
R7/131	W6/131		11	53	11	53	0.0	0.0
R8/131	W5/131		9	50	9	50	0.0	0.0
R9/131	W4/131		11	50	11	50	0.0	0.0
R10/131	W3/131		10	38	10	38	0.0	0.0
R1/132	W1/132		9	59	9	59	0.0	0.0
R2/132	W2/132		11	61	11	61	0.0	0.0
R3/132	W8/132		19	52	19	52	0.0	0.0
R4/132	W9/132		14	60	14	60	0.0	0.0

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SUNLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room	Window	Room Use	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R5/132	W10/132		18	51	18	51	0.0	0.0
R6/132	W6/132		18	64	18	64	0.0	0.0
R7/132	W7/132		16	61	16	61	0.0	0.0
R8/132	W5/132		16	61	15	60	6.3	1.6
R9/132	W4/132		18	64	17	63	5.6	1.6
R10/132	W3/132		14	48	14	48	0.0	0.0
R1/133	W1/133		18	70	18	70	0.0	0.0
R2/133	W2/133		18	70	18	70	0.0	0.0
R3/133	W10/133		24	71	24	71	0.0	0.0
R4/133	W9/133		24	71	24	71	0.0	0.0
R5/133	W8/133		20	67	20	67	0.0	0.0
R6/133	W7/133		22	69	21	68	4.5	1.4
R7/133	W6/133		21	68	20	67	4.8	1.5
R8/133	W5/133		23	70	22	69	4.3	1.4
R9/133	W4/133		22	69	21	68	4.5	1.4
R10/133	W3/133		21	73	21	73	0.0	0.0
R1/134	W1/134							
R1/134	W2/134							
R1/134	W3/134		24	48	23	47	4.2	2.1
R2/134	W6/134		17	34	17	34	0.0	0.0
R3/134	W5/134		14	24	14	24	0.0	0.0
R4/134	W4/134		15	33	14	32	6.7	3.0
34 Mason Street								
R1/139	W1/139	LKD						
R1/139	W2/139	LKD	17	62	17	62	0.0	0.0
R1/140	W1/140	LKD						
R1/140	W2/140	LKD						
R1/140	W3/140	LKD	18	71	17	70	5.6	1.4

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SUNLIGHT ANALYSIS
EXISTING BUILDINGS VS PROPOSED
BENDIX STREET SCHEME 25/11/19

NOV 2019

Room	Window	Room Use	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R1/141	W1/141	LKD						
R1/141	W2/141	LKD						
R1/141	W3/141	LKD	20	83	19	82	5.0	1.2
R1/142	W1/142	LKD						
R1/142	W2/142	LKD						
R1/142	W3/142	LKD	22	91	21	90	4.5	1.1
R1/143	W1/143	LKD						
R1/143	W2/143	LKD	26	97	25	96	3.8	1.0
R1/144	W1/144	BEDROOM	27	92	27	92	0.0	0.0
36 Mason Street								
R1/150	W1/150	LKD	21	68	20	67	4.8	1.5
R2/150	W2/150	BEDROOM	23	69	22	68	4.3	1.4
R1/151	W1/151		22	69	21	68	4.5	1.4
R2/151	W2/151		23	70	22	69	4.3	1.4
R3/151	W3/151		23	70	22	69	4.3	1.4
38 Mason Street								
R1/159	W1/159	LKD	23	68	21	66	8.7	2.9
R1/160	W1/160	LKD						
R1/160	W2/160	LKD	24	70	23	69	4.2	1.4
R1/161	W3/161	LKD						
R1/161	W4/161	LKD						
R1/161	W5/161	LKD	22	69	22	69	0.0	0.0
R2/162	W3/162	LKD						
R2/162	W4/162	LKD						
R2/162	W5/162	LKD	24	71	24	71	0.0	0.0