

11 CLIMATE (DAYLIGHT & SUNLIGHT)

11.1 INTRODUCTION

Digital Dimensions have been commissioned to assess any potential effect on the Daylight and Sunlight of neighbouring properties. This section has been prepared by John Healy - Diploma Architectural Technology, M.Sc Environmental Design of Buildings, PG Dip Digital Media. John has experience of working as a Daylight and Sunlight consultant for in excess of 15 years.

An assessment model was produced based on the drawings of Burke Kennedy Doyle Architects.

11.2 ASSESSMENT METHODOLOGY

11.2.1 Daylight

11.2.1.1 Standards and Guidelines

The following documents have been used in preparation of this chapter of the report.

- Building Research Establishment (BRE) BR209: 2022 "Site Layout Planning for Daylight and Sunlight" (Third Edition), also referred to as the BRE guidelines.
- Guidelines on the information to be contained in Environmental Impact Assessment Reports. Environmental Protection Agency 2022
- Environmental Impact Assessment of Projects European Commission 2017

11.2.1.2 Defining a baseline

Preliminary assessment of the site and its environs is undertaken through mapping software, topographical survey, architectural models and drawings, photographic studies and the Local Authority planning portal. The project is examined in plan form to establish which sites and buildings would have the possibility to experience an impact on their Daylight as a result of the proposed development.

Establishing if a building or land may be impacted through proximity.

A proposed development could potentially have a negative effect on the level of Daylight that a neighbouring property receives, if the obstructing building is large in relation to its distance from the existing property.

BR209:2022 states that: *"Loss of light to existing windows need not be assessed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window. In these cases, the loss of light will be small."*

In this chapter we refer to this area as the Zone of Influence.

This preliminary assessment records the building and land use, height, mass, window position, in the sites and structures within and around the Zone of Influence. This information is added to the digital model.

11.2.1.3 BRE Guidelines (2022) Appendix H: Environmental Impact Assessment

The BRE guidelines sets out criteria for classification for assessment of impact where a new development affects a number of existing buildings or open spaces in relation to an Environmental Impact Assessment. The guide does not give a specific range or percentages but sets out parameters set out below.

"Where the loss of skylight or sunlight fully meets the guidelines in this book, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within

the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.

Where the loss of skylight or sunlight does not meet the guidelines in this book, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:

- only a small number of windows or limited area of open space are affected*
- the loss of light is only marginally outside the guidelines*
- an affected room has other sources of skylight or sunlight*
- the affected building or open space only has a low level requirement for skylight or sunlight*
- there are particular reasons why an alternative, less stringent, guideline should be applied.*

Factors tending towards a major adverse impact include:

- a large number of windows or large area of open space are affected*
- the loss of light is substantially outside the guidelines*
- all the windows in a particular property are affected*
- the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, eg a living room in a dwelling or a children's playground.*

Beneficial impacts occur when there is a significant increase in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space. Beneficial impacts should be worked out using the same principles as adverse impacts. Thus a tiny increase in light would be classified as a negligible impact, not a minor beneficial impact."

11.2.2 Sunlight

11.2.2.1 Standards and Guidelines

As 11.2.1.1 above.

11.2.2.2 Defining a baseline

Preliminary assessment of the site and its environs is undertaken through mapping software, topographical survey, architectural models and drawings, photographic studies and the Local Authority planning portal. The project is examined in plan form to establish which sites and buildings would have the possibility to experience an impact on their sunlight as a result of the proposed development.

A proposed development could potentially have a negative effect on the level of sunlight that a neighbouring property receives, if the obstructing building is large in relation to its distance from the existing property.

Establishing if a building may be impacted through proximity.

BR209:2022 states that:

"Where a large building is proposed that may affect a number of gardens or open spaces it is often illustrative to plot a shadow plan showing the location of shadows at different times of day and year.

Where there are existing buildings as well as the proposed one, 'before' and 'after' shadow plots showing the difference that the proposed building makes may be helpful. In interpreting the impact of such differences, it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing of a space is to be expected."

11.2.2.3 Shadow Study

Shadow diagrams are a visual aid to understand where possible shading may occur. The use of shadow diagrams as an assessment method should be taken over the course of the day, not a specific time, due to the transient nature of the sun and the shade caused by obstructions. The BRE guidelines does not specify criteria for quantifying the effect of additional shadowing. It states that is illustrative to prepare a shadow plan at different times of the day or year.

BR209:2022 states that:

"If a space is used all year round, the equinox (21 March) is the best date for which to prepare shadow plots as it gives an average level of shadowing. Lengths of shadows at the autumn equinox (21 September) will be the same as those for 21 March, so a separate set of plots for September is not required.

Shadow plots should state clearly whether the time of the plot is in Greenwich Mean Time (GMT) or BST. If a local clock time is used outside the UK, this should also be stated.

As an optional addition, plots for summertime (for example 21 June) may be helpful as they will show the reduced shadowing then, although it should be borne in mind that 21 June represents the best case of minimum shadow, and that shadows for the rest of the year will be longer. Conversely if winter shadows (e.g. 21 December) are plotted, even low buildings will cast long shadows. In a built-up area, it is common for large areas of the ground to be in shadow in December."

11.2.2.4 Detailed assessment of internal sunlight in dwellings and buildings with a requirement for sunlight.

BR209:2022 states that:

"The guideline is met provided either of the following is true:

- *If the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window (note: obstructions within 90° of due north of the existing window need not count here).*
- *The window wall faces within 90° of due south and no obstruction, measured in the section perpendicular to the window wall, subtends an angle of more than 25° to the horizontal. Again, obstructions within 90° of due north of the existing window need not be counted."*

11.2.2.5 Detailed assessment of the potential impact on the sunlight received by an area of amenity.

An assessment of Sun on the Ground is used for sunlight analysis on external spaces. BR209:2022 states that:

"For an area to appear adequately sunlit throughout the year, at least half of the 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."

11.2.2.6 BRE Guidelines (2022) Appendix H: Environmental Impact Assessment

As 11.2.1.3 above.

11.3 RECEIVING ENVIRONMENT

11.3.1 Proposed Development

The proposed development is located at lands in the Townlands of Newtownbalregan, Castletown and Farrandreg, at Mount Avenue, Castletown, Dundalk, Co. Louth. The site is a large area of undulating greenfields, with road boundaries on Greyacre Road, Castletown Road and Mount Avenue. The site boundary is to the rear of one residential property on Greyacre Road, a number of residential properties along Castletown Road and Mount Avenue. There are greenfields to the south and west.

11.3.2 Cumulative Developments

LCC Reg. Ref. 18156/ ACP Ref. 303188

Permission granted by An Coimisiún Pleanála for proposed development comprising the demolition of an existing light industrial unit (995sqm) and development of an 88 bed nursing home and all necessary support facilities.

LCC Reg. Ref. 18943

Permission granted on 18 January 2019 for proposed development of 80 no. dwellings are proposed comprising 50no. houses in detached, semi-detached and terraced format and ranging in height from 1 to 2 storeys and 30 no.apartments accommodated in two linked 3 storey no. apartment buildings and associated site works at Farndreg, Mount Avenue and Headford , Dundalk, Co. Louth and Mount Avenue, Dundalk. Co. Louth.

LCC Reg. Ref. 20210

Permission granted on 19 October 2020 for proposed development consisting of 47 no. dwellings comprising a mix of semi-detached and detached dwellings (including 4 no. bungalows) in a variety of types and sizes that range in height from 1 no. to 2 no. storeys. At lands at Farndreg, Mount Avenue/Headford, Dundalk, Co Louth

LCC. Reg. Ref. 20211

Permission granted on 19 October 2020 for proposed development consisting of 67 no. dwellings comprising a mix of both houses and apartment/duplex units at Farndreg/Mount Avenue/Headford, Dundalk, Co Louth.

LCC Reg. Ref. 2360190

Planning permission granted on 11 August 2023 for revisions to 25 no. dwellings that form part of the permitted residential development to be known as "Hearthfield" granted under P.A. Ref. No. 18/943 (An Bord Pleanala Ref.No. 303628-19) at Farndreg, Mount Avenue, Headford, Dundalk, Co. Louth.

LCC Reg. Ref. 2460240

Permission granted on 19 September 2024 for revisions to phases 2 and 3 of the permitted development at "Hearthfield"; (LCC. Reg. Ref. 20210) at Farndreg, Mount Avenue, Headford, Dundalk, Co. Louth.

LCC Reg. Ref. 211173

Permission granted on 11 January 2022 for proposed development of 93 no. residential units and all associated/ancillary works on lands at Mount Avenue, Dundalk, Co. Louth

LCC Reg. Ref. 2460792

Further information submitted to Louth County Council on 28 July 2025 for 63 no. houses in semi-detached and terraced format and ranging in height from 2 -3 no. storeys at Mount Avenue, Farrandreg, Dundalk, Co. Louth

LCC Reg. Ref. 18985

Permission granted on 31 May 2019 for proposed demolition of existing commercial units and the construction of 7 no. dwellings in 3 sets of semi-detached dwellings and 1 no. detached dwelling at Mill Road, Dundalk Co. Louth

LCC Reg. Ref. 2360406

Permission granted on 12 January 2024 for the construction of new two-storey dwelling, new site entrance and associated site works at Castletown Cross, Castleblaney Road, Dundalk, Co. Louth

LCC Reg. Ref. 20711

Permission granted on 05 November 2020 for a proposed dormer style dwelling house and all associated site works at Castletown Cross, Newtownbalregan, Dundalk, Co Louth

11.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

11.4.1 Proposed Development

The proposed development comprises of 1,058no. dwellings (765no. houses, 150no. duplex units, and 143no. apartments) including 2no. duplexes with an option to accommodate a childcare facility at ground floor level; a local centre comprising ground floor retail units, a medical unit, and mobility hub; provision of a c.194 place childcare facility; all in buildings ranging in height from 1 to 6 storeys. All associated and ancillary site development and infrastructural works, hard and soft landscaping and boundary treatment works, including public, communal and private open space; public lighting; surface car parking spaces; bicycle parking; ESB substations; bin stores; provision of a foul sewage pumping station; laying a foul rising main along Castletown Road from the proposed new access to the development eastward to the Castletown Road and Bellewsbridge Road Junction. The proposed development will be accessed from two new combined vehicular, cyclist and pedestrian junction at Castletown and at Mount Avenue. A separate pedestrian and cyclist access is also provided at Mount Avenue. A Heritage Park (c.5.44Ha), a playing pitch (c. 1.2Ha) and a site reserved for a future educational/school facility (c. 1.35Ha) are also being provided.

11.4.1.1 Construction Stage

The proposed site is currently vacant; there is no demolition phase. Construction works will involve hoarding, scaffolding and crane equipment.

11.4.1.2 Operational Stage

On completion the development will be a housing estate of 1,058 dwellings. This is not projected to change over the operational stage of the development.

11.5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

This section assessed the potential impact of the proposed development on the existing environment and the suitability of the proposed development to create and maintain a comfortable environment for existing and future inhabitants of the locality.

11.5.1 Daylight

11.5.1.1 Proposed Development

Zone of Influence in plan

The development was subject to preliminary assessment as recommended in the BRE guidelines, BR209:2022. It states that loss of light to existing windows need not be assessed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window. This area is referred to as the 'Zone of Influence' and it is plotted in

our diagrams in yellow. As the site is large, the overview is shown in Figure 11.1 below. Where the zone of influence lies close to residential properties, detailed plans are shown in Figures 11.2, 11.4 and 11.6. Corresponding sectional analysis to these detail areas are shown in Figures 11.3, 11.5 and 11.7.

Sectional analysis of relevant neighbouring properties

If a relevant building with windows facing the proposed obstruction falls within the Zone of Influence described above, then BR209:2022 directs that the following assessment for an impact on daylight that window can receive is made:

“draw a section in a plane perpendicular to each affected main window wall of the existing building. Measure the angle to the horizontal subtended by the new development at the level of the centre of the lowest window. If this angle is less than 25° for the whole of the development, then it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. If, for any part of the new development, this angle is more than 25°, a more detailed check is needed to find the loss of skylight to the existing building.”

In the sectional analysis diagrams below the proposed development is noted in green.



Figure 11.1: Entire siteplan showing the Zone of Influence from the buildings close to the boundary, on the daylight of neighbouring properties.

11.5.1.2 Comment on Preliminary Assessment of the Proposed Development – Entire Site

The preliminary analysis shown in plan in Figure 11.1 indicates that the projection of 3 times the height of the proposed development (Zone of Influence), does not reach the window wall of any existing dwelling or building which requires an assessment for daylight, along most of the boundary.

Where the zone of influence does not extend to a wall with a window, in a dwelling or building which requires an assessment for daylight, the effect of the proposed development on the daylight of those buildings will be neutral.

Greyacre Road

The zone of influence does not extend to a wall with a window, in a dwelling or building which requires an assessment for daylight on any building on Greyacre Road. The effect of the proposed development on the daylight of those buildings will be neutral.

Preliminary Assessment of the Proposed Development Detail Plan 1 - Castletown Road

The zone of influence extends to the front elevation of the dwellings, at locations A and B, on Castletown Road. This area is shown in Figures 11.2 detailed plan 1 below and corresponding sectional analysis in Figure 11.3.

The zone of influence extends to the dwelling at location C, however the windows serving habitable rooms are perpendicular to the proposed development. They are not within 45° of the proposed structures in plan. The effect on the daylight received by the windows serving habitable rooms at Location C will be neutral. No further assessment is required.



Figure 11.2: Detail plan 1 showing the Zone of Influence from the buildings close to the boundary, on the daylight of neighbouring properties.

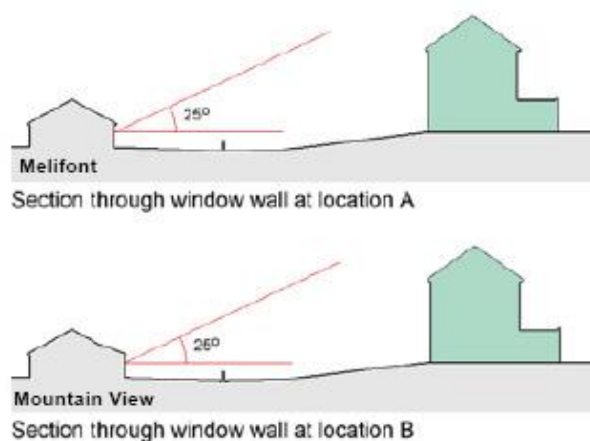


Figure 11.3: Sectional analysis relating to detail plan 1, at neighbouring properties, locations A and B.

Comment on Sectional Analysis at Detail Plan 1

In both sections at locations A and B, a line projected at 25°, through the ground floor window, would not be subtended by the proposed development. The effect on the daylight received by this window will be neutral. No further assessment is required.

Comment on Preliminary Assessment of the Proposed Development at Detail Plan 1

Preliminary analysis in plan and section indicates that the effect of the proposed development on the daylight of adjacent buildings will be neutral.

Comment on Preliminary Assessment of the Proposed Development Detail Plan 2 – Castletown Road and Mount Avenue

The preliminary analysis shown in detail plan 2, Figure 11.4 below, indicates that the zone of influence does not reach the window wall of any existing dwelling or building which requires an assessment for daylight.

This includes the site of a cumulative development Reg. Ref.: 20711, a dwelling that has not commenced.

The closest dwelling to the zone of influence, location D, has been subject to sectional analysis in Figure 11.5.



Figure 11.4: Detail plan 2 showing the Zone of Influence from the buildings close to the boundary, on the daylight of neighbouring properties.

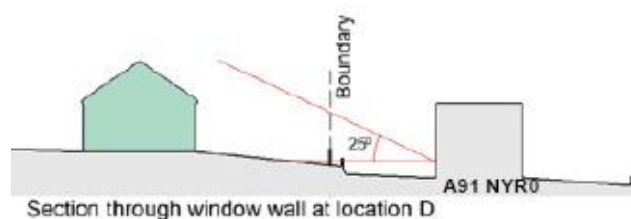


Figure 11.5: Sectional analysis relating to detail plan 2, at neighbouring property, location D.

Comment on Sectional Analysis at Detail Plan 2

In the section at location D, a line projected at 25°, through the ground floor window, would not be subtended by the proposed development. The effect on the daylight received by this window will be neutral. No further assessment is required.

Comment on Preliminary Assessment of the Proposed Development at Detail Plan 2

Preliminary analysis in plan and section indicates that the effect of the proposed development on the daylight of neighbouring buildings will be neutral.

Comment on Preliminary Assessment of the Proposed Development Detail Plan 3 – Mount Avenue

The preliminary analysis shown in detail plan 3, Figure 11.6 below, indicates that the zone of influence does not reach the window wall of any existing dwelling or building which requires an assessment for daylight.

This includes the site of a cumulative development Reg. Ref.: 20711 that has not commenced.

The closest dwelling to the zone of influence, location E, has been subject to sectional analysis in Figure 11.7.



Figure 11.6: Detail plan 3 showing the Zone of Influence from the buildings close to the boundary, on the daylight of neighbouring properties.

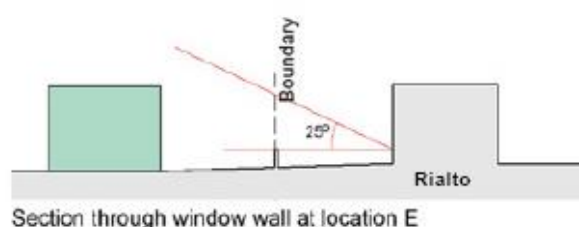


Figure 11.7: Sectional analysis relating to detail plan 2, at neighbouring property, location D.

Comment on Sectional Analysis at Detail Plan 3

In the section at location E, a line projected at 25°, through the ground floor window, would not be subtended by the proposed development. The effect on the daylight received by this window will be neutral. No further assessment is required.

Comment on Preliminary Assessment of the Proposed Development at Detail Plan 3

Preliminary analysis in plan and section indicates that the effect of the proposed development on the daylight of neighbouring buildings will be neutral.

11.5.1.3 Construction Stage

The construction of the residential development is planned in phases. The site will evolve from the baseline scenario to the completed massing, which represents the greatest level of obstruction in terms of effecting daylight in neighbouring properties. The likely effects on daylight would steadily increase over the construction phase to meet that of the completed development.

The presence of a crane or bore equipment would be considered imperceptible due to their slender size and temporary nature. The effects during construction will be less than the completed development.

11.5.1.4 Operational Stage

The effect on daylight from the complete structures represents the greatest mass on site, and this is not projected to change over the operational stage of the development.

11.5.1.5 Do Nothing Impact

If the proposed development was not constructed there would be no daylight effects.

11.5.2 Sunlight

This section assessed the potential impact of the proposed development on the existing environment and the suitability of the proposed development to create and maintain a comfortable environment for existing and future inhabitants of the locality.

11.5.2.1 Comment on Preliminary Assessment of the Proposed Development – Entire Site

As with a potential impact on daylight, proximity is the main determinant of impact on sunlight. This is a large site; in discussing the varying experience of sunlight in the neighbouring residential properties, the whole site is shown in Figure 11.1 above. In areas where the proposed structures are close to neighbouring properties, detailed plans are shown in Figures 11.2, 11.4 and 11.6 above. Sectional analysis is also relevant in determining an impact on sunlight that a neighbouring window receives. These are shown in Figures 11.3, 11.5 and 11.7 above.

Comment on Preliminary Assessment by a Shadow Study

All buildings and boundaries in the residential development will create shadow. A shadow study was conducted and is attached in Appendix 11.1, Section 1.2. This shadow study shows the baseline scenario and the proposed development.

Greyacre Road

On the 21st of March, the shadow study in Appendix 11.1 shows that there is no additional shadow on any building or amenity area on Greyacre Road. At an average level of shadow over the course of the year, the effects from shadows of the proposed development are unlikely and neutral.

Castletown Road

In the properties not within the Detail Area 1, on the 21st of March, the shadow study in Appendix 11.1 shows that there is no additional shadow on any building or amenity area. At an average level of shadow over the course of the year, the effects from shadows of the proposed development are unlikely and neutral.

Detail Area 1 – Castletown Road

On the 21st of March, the shadow study shows that there is no additional shadow on any building or private amenity area on the opposite side Castletown Road. At an average level of shadow over the course of the year, the effects from shadows of the proposed development are unlikely and neutral.

On the 21st of March, there is minor additional shadow at 17.00 to the adjacent properties on Castletown Road. This is close to sunset at 17.30 on the 21st of March. At an average level of shadow over the course of the year, the effects from shadows of the proposed development are brief and not significant.

Detail Area 2 – Castletown Road and Mount Avenue

On the 21st of March, the shadow study shows that there is no additional shadow on any building or private amenity area, north of the proposed development on Castletown Road. This includes the site of the cumulative development Reg. Ref.:20711. In this area, at an average level of shadow over the course of the year, the effects from shadows of the proposed development are brief and not significant.

On the 21st of March, the shadow study shows that there is additional shadow at 17.00 to the adjacent properties on Mount Avenue. This is close to sunset at 17.30 on the 21st of March. At an average level of shadow over the course of the year, the effects from shadows of the proposed development are brief with slight effects.

Mount Avenue

In the properties not within the Detail Area 3, on the 21st of March, the shadow study in Appendix 11.1 shows that there is no additional shadow on any building or amenity area. At an average level of shadow over the course of the year, the effects from shadows of the proposed development are unlikely and neutral.

Detail Area 3 – Mount Avenue

On the 21st of March, the shadow study shows that there is additional shadow at 17.00 to the adjacent properties on Mount Avenue. This is close to sunset at 17.30 on the 21st of March. At an average level of shadow over the course of the year, the effects from shadows of the proposed development are brief and not significant.

Conclusion of Assessment of Overshadowing by Shadow Study All the buildings and boundaries in the residential development will create shadow. A shadow study was conducted and is attached in Appendix 11.1 of this document. This appendix contrasts the baseline scenario with that of the proposed residential development.

This is a large site, the effect on sunlight of the vast majority of neighbouring properties are unlikely and neutral. In the areas noted in Detail Plan 1 and Detail Plan 3, the effects from shadows of the proposed development are brief and not significant. In Detail Plan 2 the effects from shadows of the proposed development are brief and slight.

11.5.2.2 Assessment of the Potential Impact on Sunlight Received by an Area of Amenity

The amenity spaces north of the proposed development, shown in detail area 1, and the spaces with the highest level of overshadowing, in detail area 2 are examined in detail, with a calculation of 'Sun on the Ground'. Existing and proposed generated analysis are shown in Figure 11.8, the results are shown in Table 11.1 below.



Figure 11.8: Existing & proposed radiation map of closest private amenity areas, showing available sunlight on 21st March. The scale represents the sunlight received from 0 - 8 hours.

Sunlight on the Ground - Neighbouring Properties					
No.	Location	% Area receiving 2 hours sunlight on 21st March		Ratio	Meets criteria of >50% area Or if <50% then target >80% Existing Value
		Existing	Proposed	Proposed: Existing	
L1	Edgemount House	97.2%	97.2%	100.0%	Meets Criteria
L2	Bartres	95.1%	95.1%	100.0%	Meets Criteria
L3	A91 XF59	94.9%	94.9%	100.0%	Meets Criteria
L4	A91 X2C7	95.7%	95.7%	100.0%	Meets Criteria
L5	A91 W56T	88.3%	83.9%	95.0%	Meets Criteria
L6	A91 NYR0	64.4%	61.5%	95.5%	Meets Criteria
L7	A91 R9WT	90.1%	90.1%	100.0%	Meets Criteria

Table 11.1: Calculation of Sun on the Ground to Neighbouring Amenity Areas

Conclusion to an Assessment of the Potential Impact on Sunlight Received by an Area of Amenity

The private amenity spaces in neighbouring properties were assessed for sunlight, in accordance with the recommendations set out in BR209:2022. On the 21st March, all the amenity spaces will retain 2 hours sunlight over 50% of the area or will not be reduced below 80% of the existing levels. The proposed development meets the recommendations for sunlight in the BRE guidelines BR209:2022 (third edition).

11.5.2.3 Sunlight to Neighbouring Habitable Rooms

The proposed development will have a neutral effect on dwellings which are beyond the zone of influence shown in Figure 11.2 above. In the detailed areas 1 – 3, sectional analysis shown in Figures 11.3, 11.5 and 11.7 above is examined. In each case, a section is taken through a ground floor window of the closest house.

Conclusion to an Assessment of Internal Sunlight in Dwellings

In all three cases, a line projected at 25°, would not be subtended by the proposed development. The effect on the sunlight received by the closest windows will be neutral. The effect on structures further away, will be less than those assessed in this section.

11.5.2.4 Construction Stage

Residential development

The construction of the residential development is planned in phases. The site will evolve from the baseline scenario to the completed massing, which represents the greatest level of obstruction. The likely effects on sunlight and overshadowing of neighbouring properties would steadily increase over the construction phase to meet that of the completed development.

The presence of cranes or bore equipment would be considered imperceptible due to their slender size and temporary nature. The effects during construction will be less than the completed development.

11.5.2.5 Operational Stage

The effect on sunlight and overshadowing from the complete structures represents the greatest mass on site, and this is not projected to change over the operational stage of the development.

11.5.2.6 Do Nothing Impact

If the proposed development was not constructed there would be no sunlight or overshadowing effects.

11.5.3 Cumulative- Daylight

11.5.3.1 Comment on Preliminary Assessment of the Cumulative Developments.

LCC Reg. Ref. 18156/ ACP Ref. 303188

Regarding issues of daylight, developments to the east of Mount Avenue are remote from the proposed development. There is no cumulative impact on daylight from the construction of the proposed development and the permitted developments to the east of Mount Avenue.

LCC Reg. Ref. 18943, LCC Reg. Ref. 20210, LCC. Reg. Ref. 20211 and LCC Reg. Ref. 2360190

Regarding issues of daylight, developments to the east of Mount Avenue are remote from the proposed development. There is no cumulative impact on daylight from the construction of the proposed development and the permitted developments to the east of Mount Avenue.

LCC Reg. Ref. 211173

Regarding issues of daylight, developments to the east of Mount Avenue are remote from the proposed development. There is no cumulative impact on daylight from the construction of the proposed development and the permitted developments to the east of Mount Avenue.

LCC Reg. Ref. 2460792

Regarding issues of daylight, developments to the east of Mount Avenue are remote from the proposed development. There is no cumulative impact on daylight from the construction of the proposed development and the permitted developments to the east of Mount Avenue.

LCC Reg. Ref. 18985

Regarding issues of daylight, developments on Mill Road are remote from the proposed development. There is no cumulative impact on daylight from the construction of the proposed development and the permitted developments on Mill Road.

LCC Reg. Ref. 2360406

This permitted new dwelling at Castletown Cross, Newtownbalregan, is adjacent to the 'Lilac Cottage'. Regarding issues of daylight, Lilac Cottage is remote from the proposed development. The zone of influence from the proposed development does not extend to Lilac Cottage. It will also not extend to the structure of the permitted dwelling. There will be no impact on the daylight of the permitted development from the proposed development.

The zone of influence from the permitted development will not interact with the zone of influence of the proposed development. There is no cumulative impact on daylight from the construction of the proposed development and the permitted development.

LCC Reg. Ref. 20711

The site of this permitted new dwelling can be noted in Figure 11.3 Detail Plan 2. When constructed it will be adjacent to No.2 Castletown Cross and Woodbine House, Mount Avenue. Regarding issues of daylight, No.2 Castletown Cross and Woodbine House are remote from the proposed development. The zone of influence from the proposed development does not extend to No.2 Castletown Cross and /or Woodbine House. It will also not extend to the structure of the permitted dwelling. There will be no impact on the daylight of the permitted development from the proposed development.

The zone of influence from the permitted development will not interact with the zone of influence of the proposed development. There is no cumulative impact on daylight from the construction of the proposed development and the permitted development.

11.5.3.2 Conclusion of Preliminary Assessment of the Cumulative Developments.

Preliminary analysis indicates that the zone of influence from the proposed development will not extend to the potential zone of influence from the cumulative developments. When the applications are assessed together, the effect on all relevant buildings will be neutral and will not be cumulative.

11.5.3.3 Construction Stage

As per section 11.5.2.5 above.

11.5.3.4 Operational Stage

As per section 11.5.2.6 above.

11.5.3.5 Do-Noting Impact

As per section 11.5.2.7 above.

11.5.4 Cumulative Developments

LCC Reg. Ref. 18156/ ACP Ref. 303188

Regarding issues of sunlight, developments to the east of Mount Avenue are remote from the proposed development. There is no cumulative impact on sunlight from the construction of the proposed development and the permitted developments to the east of Mount Avenue.

LCC Reg. Ref. 18943, LCC Reg. Ref. 20210, LCC. Reg. Ref. 20211 and LCC Reg. Ref. 2360190

Regarding issues of sunlight, developments to the east of Mount Avenue are remote from the proposed development. There is no cumulative impact on sunlight from the construction of the proposed development and the permitted developments to the east of Mount Avenue.

LCC Reg. Ref. 211173

Regarding issues of sunlight, developments to the east of Mount Avenue are remote from the proposed development. There is no cumulative impact on sunlight from the construction of the proposed development and the permitted developments to the east of Mount Avenue.

LCC Reg. Ref. 2460792

Regarding issues of sunlight, developments to the east of Mount Avenue are remote from the proposed development. There is no cumulative impact on sunlight from the construction of the proposed development and the permitted developments to the east of Mount Avenue.

LCC Reg. Ref. 18985

Regarding issues of sunlight, developments on Mill Road are remote from the proposed development. There is no cumulative impact on sunlight from the construction of the proposed development and the permitted developments on Mill Road.

LCC Reg. Ref. 2360406

This permitted new dwelling at Castletown Cross, Newtownbalregan, is adjacent to 'Lilac Cottage'. Regarding issues of sunlight, Lilac Cottage is remote from the proposed development. The shadow from the proposed development does not traverse the boundary with Lilac Cottage. It does not traverse the boundary with the site of the permitted development. There will be no impact on the sunlight of the permitted development from the proposed development.

The shadow from the permitted development will not interact with the shadow from the proposed development. There is no cumulative impact on sunlight from the construction of the proposed development and the permitted development.

LCC Reg. Ref. 20711

The site of this permitted new dwelling can be noted in Figure 11.10 Detail Plan 2. When constructed it will be adjacent to No.2 Castletown Cross and Woodbine House, Mount Avenue. Regarding issues of sunlight, No.2 Castletown Cross and Woodbine House are remote from the proposed development. The shadow from the proposed development does not traverse the boundary with No.2 Castletown Cross and /or Woodbine House. It does not traverse the boundary with the site of the permitted development. There will be no impact on the sunlight of the permitted development from the proposed development.

The shadow from the permitted development will not interact with the shadow from the proposed development. There is no cumulative impact on sunlight from the construction of the proposed development and the permitted development.

11.5.4.1 Conclusion of Assessment of Sunlight of the Proposed and Cumulative Developments.

The shadow from the permitted developments will not interact with the shadow from the proposed development. There is no cumulative impact on sunlight from the construction of the proposed development and the permitted developments.

11.6 MITIGATION MEASURES (AMELIORATIVE, REMEDIAL OR REDUCTIVE MEASURES)

11.6.1 Proposed Development

No significant adverse effects will be experienced from the completion of the proposed development. No mitigation measures will be required.

11.6.1.1 Construction Stage

No significant adverse effects will be experienced during the construction of the proposed development. No mitigation measures will be required.

11.6.1.2 Operational Stage

The effect on daylight and sunlight to neighbouring buildings is not projected to change over the operational phase of the development. No mitigation measures will be required.

11.6.2 Cumulative

No significant adverse effects will be experienced from the completion of the proposed development. No mitigation measures will be required.

11.7 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT

11.7.1 Proposed Development

During the design process the position and mass of the buildings, the finished floor level, and ridge and eaves levels were technically assessed to reduce any potential effect on the daylight and sunlight of adjacent properties. This informed the final design. Any residual effect on the daylight of the neighbouring properties is neutral.

11.7.1.1 Construction Stage

During the construction phase all scaffolding, hoarding and cranes will only be in use for as long as necessary to facilitate the construction of the proposed development. The effect of these is considered temporary and imperceptible.

11.7.1.2 Operational Stage

The effect on daylight to neighbouring buildings is not projected to change over the operational phase of the development.

11.7.1.3 Worst Case Impact

There are no 'Worst Case' effects projected from completion of this proposed development.

11.7.2 Cumulative

Any residual effect on the daylight of the neighbouring buildings from the cumulative developments is neutral.

11.7.2.1 Construction Stage

The effect of any hoarding or construction equipment, on the cumulative development sites, is considered temporary and imperceptible.

11.7.2.2 Operational Stage

The effect on daylight to neighbouring buildings is not projected to change over the operational phase of the cumulative developments.

11.7.2.3 Worst Case Impact

There are no 'Worst Case' effects projected from completion of the cumulative developments.

11.8 MONITORING

This is not relevant to this chapter of the EIAR. No monitoring measures are required.

11.9 REINSTATEMENT

This is not relevant to this chapter of the EIAR.

11.10 DIFFICULTIES ENCOUNTERED

There were no difficulties encountered in reducing the residual effect of the proposed development.