REPORT

16-20 OLD CASTLE HILL ROAD

CASTLE HILL, NSW

SOLAR REFLECTION ANALYSIS

RWDI #2409879

16 December 2025

SUBMITTED TO

Urban Property Group
Suite 110, Level 1
180 186 Burwood Road
Burwood NSW 2134

SUBMITTED BY

RWDI Australia Pty Ltd
Suite 602, Level 6, 80 William Street,
Woolloomooloo, NSW 2011
ABN 86 641 303 871

DOCUMENT CONTROL

Version	Status	Date	Prepared By	Reviewed By
A	Initial	4 December 2025	TYT	YCY / GEL
B	Final	16 December 2025	TYT	GEL

NOTE

RWDI

RWDI is a team of highly specialised consulting engineers and scientists working to improve the built environment through three core areas of practice: building performance, climate engineering, and environmental engineering. More information is available at www.rwdi.com.

EXECUTIVE SUMMARY

RWDI Australia Pty Ltd. (RWDI) has been engaged by Urban Property Group to investigate the impact of solar reflections emanating from the proposed development at 16-20 Old Castle Hill Road, Castle Hill ("the Project") in support of a Significant State Development Application (SSDA), namely SSD-85238209. The results and conclusions of the study are summarised as follows:

Visual Glare Impact on Public Realm

As with any glazed building, drivers travelling in the vicinity of the Project were predicted to experience reflections emanating from it. The screening simulations predicted reflections to be falling along Old Castle Hill Road, McMullen Avenue, Old Northern Road, Pennant Street and Garthowen Crescent. Based on the detailed analysis results, all studied driver receptors were predicted to achieve reflections below the veiling luminance threshold of 500 cd/m^2. The impacts are considered acceptable for the purpose of this application.

Additional details on when reflections were predicted to occur at the receptors, as well as predicted durations and intensities, can be found in Appendix B.

TABLE OF CONTENTS

LIST OF APPENDICES

1 INTRODUCTION

This report supports a State Significant Development Application, namely **SSD-85238209 ('Main Works') and Concurrent Rezoning (SSDA)** being lodged with the Department of Planning, Housing and Infrastructure (DPHI) for site establishment works facilitating a residential development including affordable housing at 16-20 Old Castle Hill Road, Castle Hill (the site). The proponent for the SSDA is UPG Castle Corner Pty Ltd (UPG).

State Environmental Planning Policy (Planning Systems) 2022 (Planning Systems SEPP) identifies development which is declared to be State Significant. The site was declared SSD pursuant to State Significant Declaration Order 2025 (No 7) (the Order) issued on 13 May 2025.

The 'Main Works' SSDA and Concurrent Rezoning seeks approval for the built form aspects of the residential flat building.

The proposal aims to:

- Facilitate transport-oriented development within an area of high amenity, promoting increases to both market and affordable housing supply proximate to public transport, open space, and employment.
- Respond to the housing challenges facing NSW through boosting the delivery of housing in an area of growth.
- Align with the NSW Government's strategic ambitions to deliver 23,300 homes in The Hills by 2029.
- Deliver affordable housing in accordance with the in-fill affordable housing provisions of State Environmental Planning Policy (Housing) 2021.
- Deliver a built form that relates to the surrounding context and respects the character of its environs.

RWDI Australia Pty Ltd. (RWDI) has been engaged by Urban Property Group to investigate the impact of solar reflections emanating from the proposed development at 16-20 Old Castle Hill Road, Castle Hill ("the Project") in support of a Significant State Development Applications (SSDA), namely SSD-85238209. This report provides the computer modelling results of reflected sunlight from the Project, as shown in Figure 1 below. It is RWDI's understanding that the development will be surrounded by typical urban spaces such as busy roadways and other buildings.

This analysis was conducted in two parts. First, a 'screening' simulation estimated the frequency of occurrence of reflections which may cause glare for a broad area around the development. This was done in order to understand the potential for visual impacts on people due to the reflections. Note that the screening analysis intentionally assumed a very conservative direction in which the viewer is facing (horizontal, but directly towards the building).

Since reflections were predicted on sensitive spaces, the 'detailed' analysis phase was undertaken. This investigated the potential for glare at select locations in greater temporal detail and also included the effect of the direction viewers are likely to be facing.

1.1 Site Description

The site is situated at 16-20 Old Castle Hill Road, Castle Hill, within The Hills Local Government Area (LGA). It is well located, being approximately 250m from Castle Hill Metro Station which provides services to Rouse Hill, Macquarie Park, Chatswood and the Sydney CBD. It is equally proximate to Castle Towers shopping centre, a major regional retail hub. The site has ready access to public open space being less than 100m from Arthur Whitling Park and Eric Fenton Reserve.

The site is located at the corner of Old Castle Hill Road and McMullen Avenue comprising an area of 3,180.4m^2. It comprises 4 lots in an irregular configuration, legally described as:

- Lot 10 in DP 881332
- Lot 11 in DP 881332
- Lot 20 in DP 222257
- Lot 1 in DP 204335

A Site Aerial is provided in Figure 1Error! Reference source not found. below.

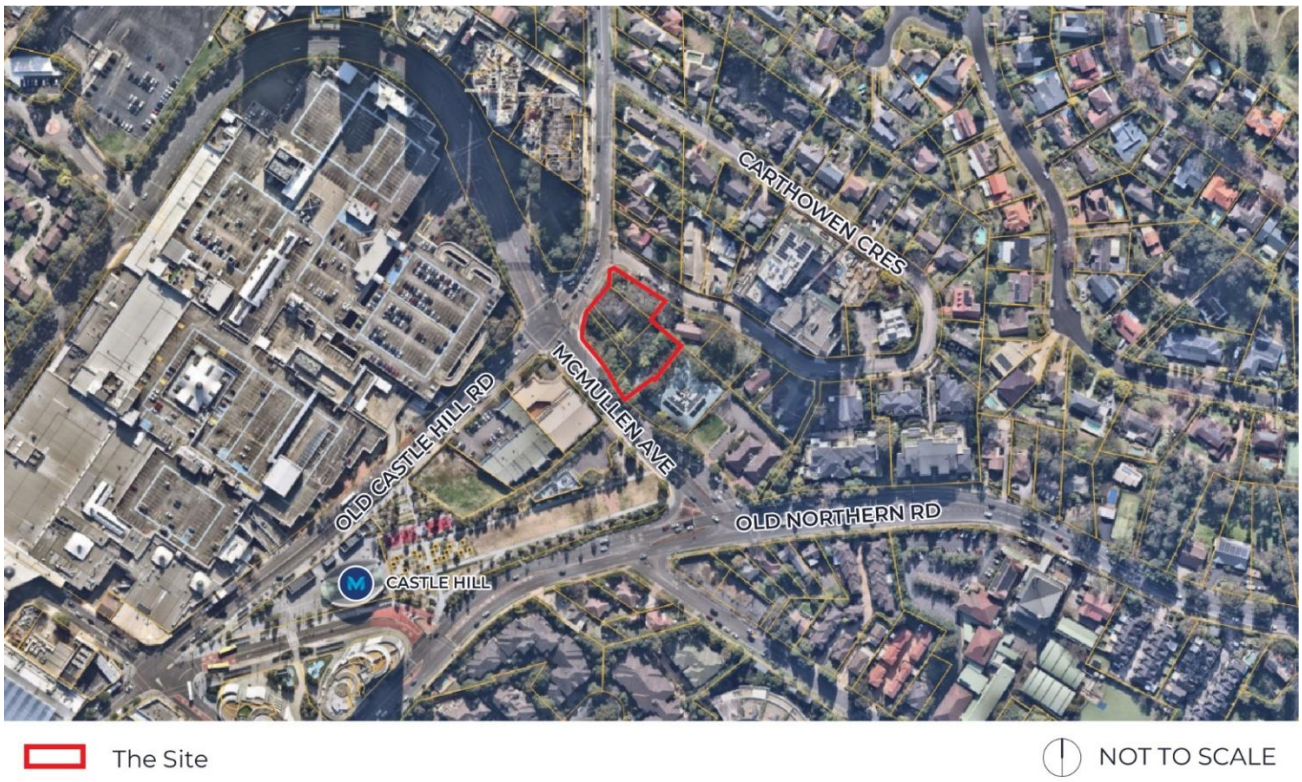

Figure 1: Development Site in Red (Source: NearMap, annotated by the Client)

The site currently contains development comprising two detached residential dwellings located on 18 and 20 Castle Hill Road. There is currently no development on 16 Castle Hill Road. The site as a whole is covered in dense vegetation and has a steep slope upwards from the north-west to the south-east.

1.2 Overview of Proposed Development

A high-level summary of the proposed development is described below, with further details provided within the Environmental Impact Assessment and Rezoning Report (EIS).

Main Works SSDA

The SSDA seeks approval for:

- The construction and operation of an 40-storey residential flat building, comprising the following:
  - Market and affordable housing units;
  - Basement parking; and
  - Communal open space;
- Associated landscaping and public domain works.

1.3 Secretary's Environmental Assessment Requirements

In accordance with section 4.39 of the Environmental Planning & Assessment Act 1979 (EP&A Act), Secretary's Environmental Assessment Requirements (SEARs) for SSD-85238209 have been issued. This report has been prepared to respond to the issued SEARs, as set out in table below.

Table 1: SSD-85238209 SEARs

SEARs	Response / Location in Report
7. Environmental Amenity Assess amenity impacts on the surrounding locality, including solar access, visual privacy, view loss and view sharing, as well as wind, lighting and **reflectivity** impacts. A high level of environmental amenity for any surrounding residential or other sensitive land uses must be demonstrated.	Section 3

1.4 Guidance for Concurrent Rezoning Report

This report does not address any items specified in the issued Guidance for Concurrent Rezoning Report for SSD-85238209, as those requirements applying to applications for concurrent rezonings accompanying SSD Housing applications are not relevant to a reflectivity study.

1.5 Mitigation Measures

Table 3: SSD-85238209 SEARs Mitigation Measures

Project Stage	Mitigation Measure	Response / Location in Report
D	This report predicted reflections emanating from the Project are not expected to cause glare to drivers travelling in public realm. No mitigation was proposed in this report.	Section 3

2 BACKGROUND

2.1 Understanding Urban Reflections

While a common occurrence, solar reflections from buildings can lead to numerous visual issues, which can:

- Impair the vision of motorists and others who cannot easily look away from the source;
- Cause nuisance to pedestrians or occupants of nearby buildings; and
- Create undesirable patterns of light throughout the urban fabric.

However, the level of impact of these issues on people and property will be influenced by many other factors that are unique to the reflecting surface(s), the individual(s)/object(s) exposed to reflections and the environment around them. In a complex urban space, these factors are often difficult to reasonably predict, if they can be predicted at all.

As such, it must be acknowledged that there is an element of uncertainty and subjectivity to any reflection analysis, particularly when it comes to visual glare which is inherently a subjective experience and lacks a universally agreed upon quantifiable definition. The metric and threshold used by RWDI (detailed in Appendix A) are based on industry standard approaches in Australia, but as noted above, are subject to a degree of uncertainty/subjectivity. This means that the possibility of reflection impacts from a building can never be completely ruled out through simulation.

RWDI's approach is to instead provide a suitably conservative analysis of the potential effects of reflected sunlight and contextualise how the Project's reflections compare to other projects studied by RWDI, and if any predicted impacts would be considered atypical given the Project's context. Regulation and enforcement of performance requirements are the responsibility of others.

2.2 Methodology

The analysis was conducted using RWDI's in-house proprietary *Eclipse* simulation engine. The first phase was a 'Screening Analysis' which predicted the frequency of occurrence of reflections from the Project for every hour of a full calendar year. These values were computed on 'presentation surfaces' located approximately 1.5 m above grade-level within an approximately 350 m radius of the Project (Figure 2). Note that this analysis included the existing surrounding context and excluded proposed developments that are currently under assessment or approved (i.e. not yet under construction). Note that the screening analysis intentionally assumed a very conservative direction in which the viewer is facing (horizontal, but directly towards the building).

Should the potential for glare exist on roadways or other sensitive spaces, multiple 'receptor points' are selected to undergo the second 'Detailed Analysis' phase. This analysis works similarly to the screening simulation, except glare is tested at one-minute increments and a direction of view is explicitly prescribed. This yielded detailed predictions at specific locations of when reflections can occur, how long they can occur for and the locations of problematic glare sources. The detailed study also provides the level of reflectivity reduction required to comply with local criteria.

As reflections were predicted on sensitive spaces, the detailed assessment was undertaken for this Project. Note that the detailed analysis was not intended to be an exhaustive investigation of all locations where reflections are possible. It was instead intended to provide an understanding of the range of possible reflection characteristics from the Project.

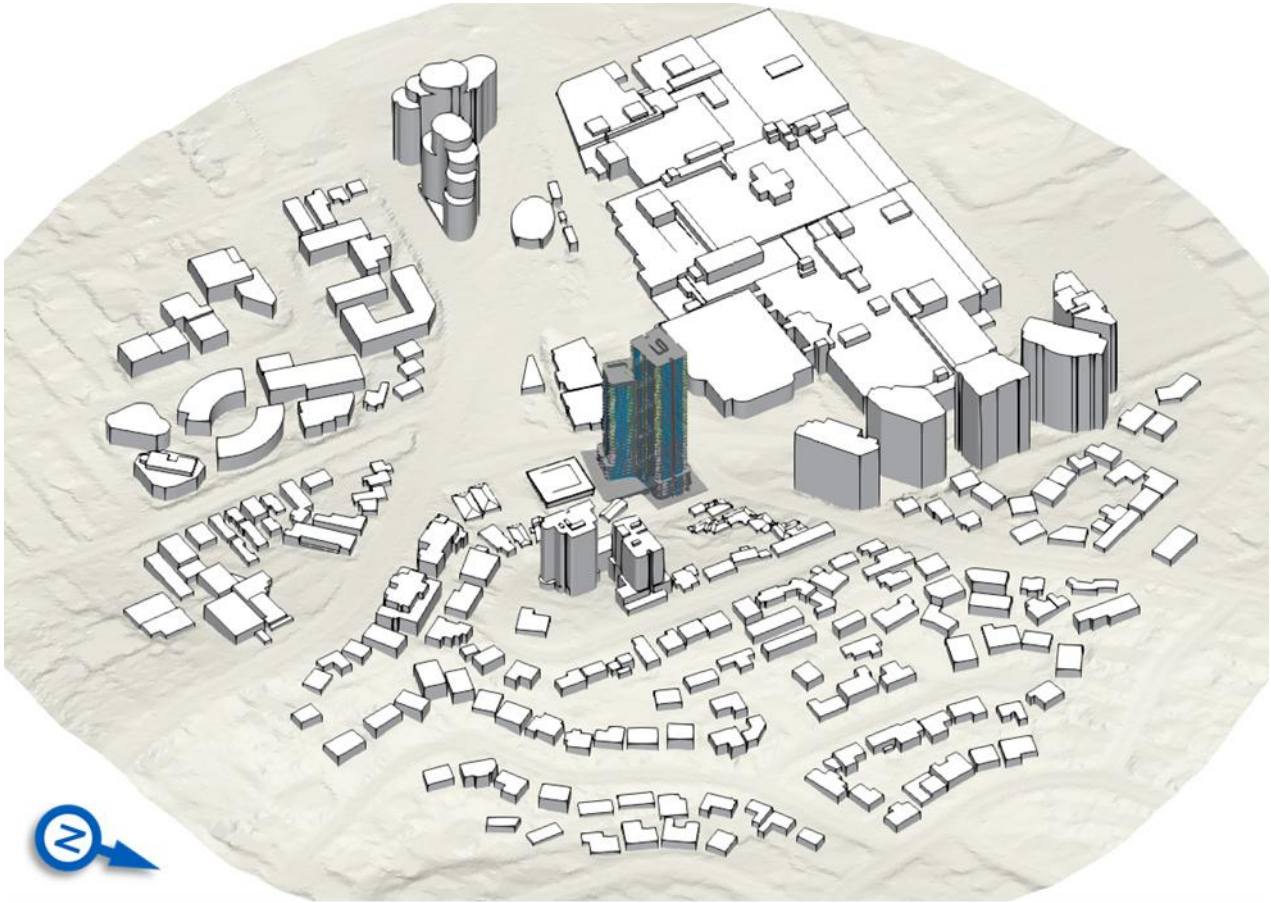

Figure 2: 3D Computer Model of the Project and Surrounding Context

2.3 Assumptions and Limitations

2.3.1 Meteorological Data

This analysis used 'clear sky' solar data computed at the location of Sydney Olympic Park Archery, using the method promulgated by the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE). This approach used mathematical algorithms to derive solar intensity at a given location, ignoring the localised effects of cloud cover. This provides a 'worst case' scenario showing the full extent of when and where glare could ever occur.

2.3.2 Radiation Model

RWDI's analysis is only applicable to the visual impacts of solar radiation (i.e. visible wavelengths only) on people, including drivers in the vicinity of the development. It did not consider the impact of the building related to any other forms of radiation, such as thermal energy, cellular telephone signals, RADAR arrays, etc.

2.3.3 Study and Surrounds Models

The analysis was conducted based on a 3D model in conjunction with 2D drawings of the Project provided by Urban Property Group to RWDI up to 12 November 2025.

The surrounding model was generated based on publicly available data, client information and previous RWDI projects in the area. This analysis included the existing surroundings and excluded proposed developments that are currently under assessment or approved (i.e. not yet under construction), as this would be conservative on the reflections falling on the public realm. All data sources were cross-checked against LiDAR data published by the NSW Department of Finance, Services, and Innovation. This dataset was also used to generate the ground surface and has a stated vertical and horizontal accuracy of 0.3m and 0.8m, respectively (both at a 95% confidence interval).

Potential reductions of solar reflections due to the presence of vegetation or other non-architectural obstructions (such as railings) were not included, nor were reflections from other buildings, per standard industry practice. Light that has reflected off several surfaces was assumed to have a negligible impact. As such, only a single reflection from the Project was included in the analysis.

This analysis assumed that all reflective elements are in their as-designed condition, (i.e. clean, free from damage, degradation, distortion, etc.) and that the building envelopes of all buildings are complete and uncompromised (i.e. any elements of the walls/roofs that are not designed to be exposed to sun, are shielded).

The results presented in this report are highly dependent on both the form and materiality of the Project. Should there be any changes to the design, it is recommended that RWDI be contacted and requested to review their potential effects on the findings of this report.

2.3.4 Facade Material Reflectance

All glazing has been assumed to have a nominal 20% reflectivity for visible light, which increases with the angle of incidence as the rays approach perpendicular to the surface. While the nominal reflectivity values of the IGUs are noted above, the reflectivity of glass will increase exponentially as light strikes it at increasingly glancing angles. This effect was included in the simulations.

RWDI also notes that only the glazing panels specified through the 3D model and 2D drawings received up to 12 November 2025 have been studied, and all other building/facade elements were assumed to be non-reflective.

The locations of the reflective materials and porous screens on the facades are illustrated in Figure 3.

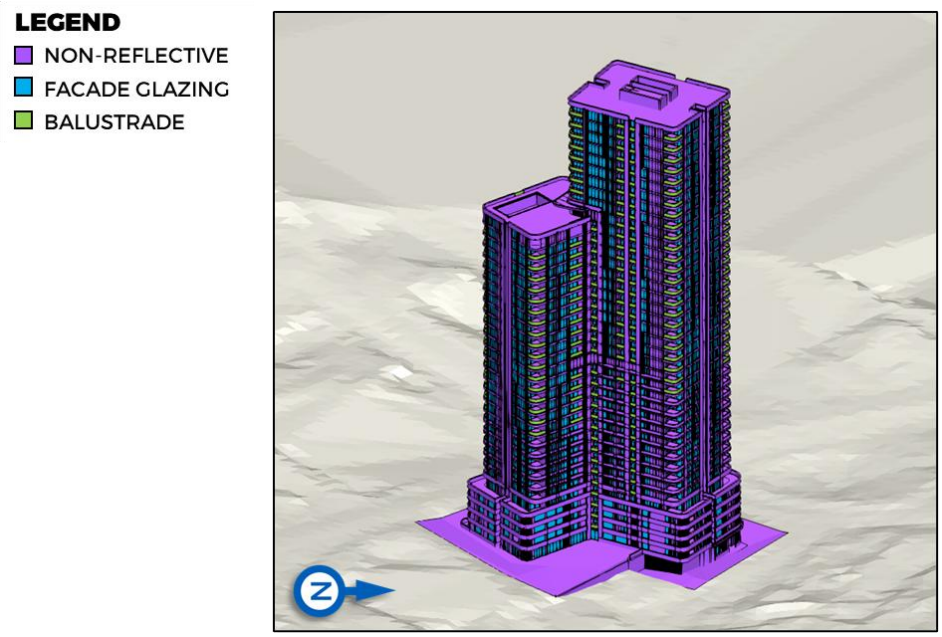

Figure 3: Locations of Reflective Building Elements (Surrounding Context removed for Clarity)

2.3.5 Human Factors

This analysis also assumes reasonable and responsible behaviour on the part of people in the vicinity of the development. A reasonable and responsible person would not purposely look towards a bright reflection, purposely prolong their exposure to reflected light, or otherwise intentionally try to cause discomfort/harm to themselves or others and/or damage to the property.

3 RESULTS AND DISCUSSION

3.1 Screening-Level Analysis

3.1.1 Presentation of Results

This section presents the screening results pertaining to the solar impacts of the Project on the surrounding urban area.

The **Percentage of Time Above the Veiling Luminance Threshold** plot (Figure 4) identifies the percentage of day-time hours where the veiling luminance was predicted to exceed the 500 cd/m² limit proposed by Hassall. *Note that, as a conservative assumption, at each location, it is assumed that the viewer is always facing horizontally towards the source of any reflection that can reach them.*

The veiling luminance-based results present predictions for a 62-year-old viewer. This represents approximately the 80th percentile age of the residents of New South Wales, which means that veiling luminance will be lower than these predictions for 80% of the population.

It is important to understand that the figures do not show a specific moment in time, but rather present aggregated reflection predictions for an entire year.

In order to attain a complete understanding of the impact that reflections may have on people, other factors must be considered, including the duration of the reflections, when they occur and where the viewer is looking. The following plot serves to illustrate the general characteristics of reflections from the Project and informed the locations of the receptor points selected for the detailed phase of work, which analysed these factors in greater detail.

3.1.2 Results

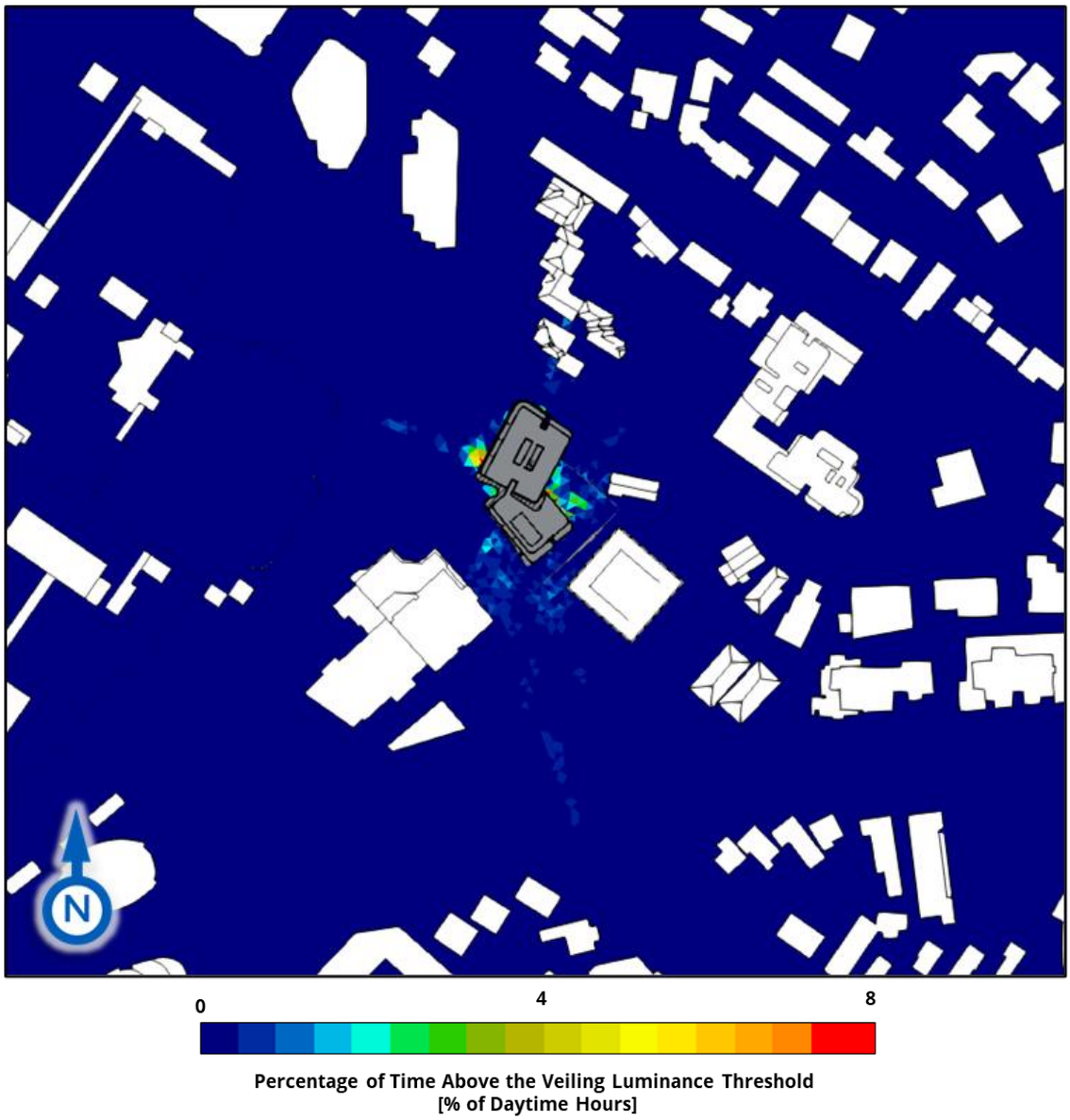

Figure 4: Frequency (% of Daylit Hours) Where Veiling Luminance Above Threshold were Predicted at Pedestrian Height for an 80th Percentile Resident (Age 62).

3.2 Detailed Analysis

3.2.1 Receptor Locations

Based on the findings of the Screening Analysis, 8 representative points were selected for the Detailed Analysis. These points are described in Table 2 and illustrated in Figure 5. Unless otherwise indicated, all points are located at a height of 1.5 m above local grade.

Table 2: Receptor Descriptions

Receptor Number	Receptor Description
D1	Southbound drivers on Old Castle Hill Rd, approaching the junction with Garthowen Cres
D2	Westbound drivers on Garthowen Cres
D3	Southbound drivers on Pennant St, turning left at the junction to Old Castle Hill Rd
D4	Southbound drivers on Pennant St, continue southwards to McMullen Ave
D5	Eastbound drivers on Old Castle Hill Rd, turning right onto McMullen Ave
D6	Northbound drivers on McMullen Ave, moving into the right-turn lane
D7	Eastbound drivers on Old Northern Rd, turning left onto McMullen Ave
D8	Northbound drivers exiting the Old Northern Rd-McMullen Ave junction

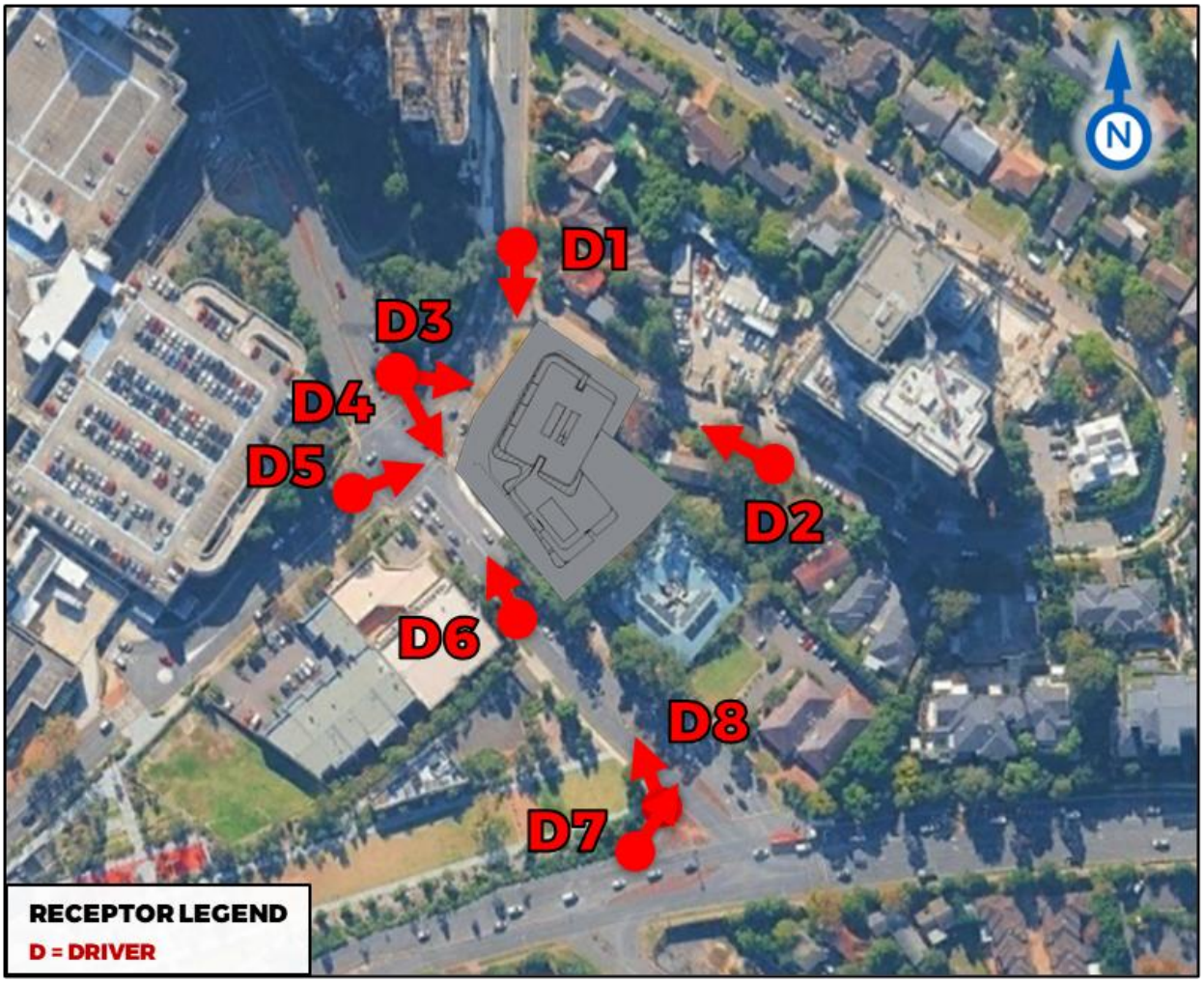

Figure 5: Receptor Locations (Map Underlay Credit: Google Earth)

3.2.2 Presentation of Results

Table 3 below summarises the level of visual impact predicted at each of the studied receptors based on the simulation results. The minute-by-minute results for each point are presented as 'Annual Reflection Impact Diagrams' which distil an entire year's worth of data into a single diagram. The diagrams for each receptor, as well as an explanation for how to read the diagrams, are provided in Appendix B.
Additional details of RWDI's criteria are found in Appendix A.

Table 3: Summary of Overall Predicted Impacts on Receptors

Receptor Number	Receptor Type	Max Veiling Luminance (cd/m^2)	Duration / Total Number of Minutes with High Impact Reflection (Veiling Luminance > 500 cd/m^2)	% of High Impacts Where the Sun Is Also Visible
D1	Driver	56	N/A	N/A
D2	Driver	327	N/A	N/A
D3	Driver	221	N/A	N/A
D4	Driver	62	N/A	N/A
D5	Driver	82	N/A	N/A
D6	Driver	137	N/A	N/A
D7	Driver	20	N/A	N/A
D8	Driver	227	N/A	N/A

3.3 Overall Observations and Conclusions

1. Like any contemporary building, the reflective surfaces of the Project are naturally causing solar reflections in the surrounding area.
2. The screening analysis generally predicted a low potential for visual glare within the surrounding roads, even with its highly conservative assumption that the viewer would always be looking horizontally towards the source of the reflection. The most frequent reflections on the public roads were predicted to be confined to the area along McMullen Avenue immediately west of the Project (up to 2.3% of the daytime hours annually). We would remind that due to the conservative view assumption, this frequency of glare potential would only be possible if drivers were looking unsafely toward the source of the reflection (e.g., at the Project) rather than the road ahead.
3. The detailed analysis, which accounted for more realistic view directions and operated at one-minute increments, predicted that all studied receptors have the potential to be exposed to reflections emanating from the Project. However, none of these reflections were predicted to exceed the veiling luminance threshold of 500 cd/m^2.
4. In conclusion, the reflections from the Project are not anticipated to pose a potential risk of glare to the public realm. The impacts are considered acceptable for the purpose of this application.
5. For further details, refer to the visual impact diagrams for all receptors (D1-D8) as shown in Appendix B.
6. Given the safety risks associated with glare impacts on drivers, RWDI's analysis is intentionally conservative. It assumed clear skies for all daytime hours and ignored the effects of any landscaping, the use of sunglasses, as well as obstructions to reflected light due to the car body.
7. The results presented in this report are highly dependent on both the form and materiality of the Project. Should there be any changes to the design, it is recommended that RWDI be contacted and requested to review their potential effects on the findings of this report.

4 GENERAL STATEMENT OF LIMITATIONS

This report, entitled *16-20 Old Castle Hill Road, Castle Hill - Solar Reflection Analysis,* dated 16 December 2025, was prepared by RWDI Australia Pty Ltd ("RWDI") for Urban Property Group ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared.

Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilise the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

APPENDIX A

RWDI REFLECTION CRITERIA

APPENDIX A: RWDI REFLECTION CRITERIA

Visual Glare

RWDI has extensive experience in the analysis and assessment of the impacts of sunlight and solar energy reflected from buildings[1].

This assessment was conducted in response to the requirements outlined in the Secretary's Environmental Assessment Requirements (SEARs) under Environmental Amenity as reproduced below:

"Assess amenity impacts on the surrounding locality, including solar access, visual privacy, view loss and view sharing, as well as wind, lighting and reflectivity impacts. A high level of environmental amenity for any surrounding residential or other sensitive land uses must be demonstrated. "

However, the SEARs does not provide a description around what constitutes a reflectivity impact or what would be considered a dangerous level of glare from the Project.

In light of the context described above, we have adopted the typical Australian criteria put forth by Hassall[2], which defines glare as occurring when the veiling luminance of a reflection exceeds 500 cd/m^2.

Veiling luminance was computed using the CIE General Disability Glare Equation[3]. This equation is a more robust formulation of the classical Stiles-Holladay glare equation that accounts for the effects of age and eye colour when predicting veiling luminance. This formulation remains valid for light sources between 0.1° and 100° away from the direction of view.

RWDI conservatively assumed a light-blue eye colour (pigmentation factor of 1.2) and an observer age of 62 years old for this work. Based on the most recent Australian Census, this age represents approximately the 80th percentile age for the residents of New South Wales. This means that in reality, veiling luminance would be lower than these predictions for 80% of the population.

It should be noted that the 500 cd/m^2 limit assumes an adaptation luminance corresponding to a dawn or dusk time frame and may be overly conservative during brighter parts of the day.

APPENDIX A: RWDI REFLECTION CRITERIA

References

1. Danks, R., Good, J., & Sinclair, R., “Assessing reflected sunlight from building facades: A literature review and proposed criteria.” *Building and Environment*, 103, 193-202, 2016.

2. Hassall, D., “Reflectivity: Dealing with Rogue Solar Reflections” *University of New South Wales, 1991*.

3. Vos, J., et al. "CIE equations for disability glare." *CIE TC Report CIE 146* (2002): 2002.

APPENDIX B

ANNUAL REFLECTION IMPACT DIAGRAMS

Presentation of Results

Results are illustrated using “annual impact diagrams”. These plots condense the minute-by-minute annual dataset into a single image. The vertical axis represents the time of the day, and the horizontal axis indicates the day of the year. A sample of such a diagram is shown in Figure B1.

Please note that the referenced times are in local standard time. When Daylight Saving Time is observed, the time should be shifted by an hour when appropriate.

The colours on this plot indicate when all reflections falling on a specific point were predicted and if the predicted veiling luminance exceeds the disability glare threshold (500 cd/m²) for an 80th percentile resident (62 years old) for New South Wales. Hatching (i.e., dark green areas) indicates when the sun would be within 30° of a motorist’s direction of view.

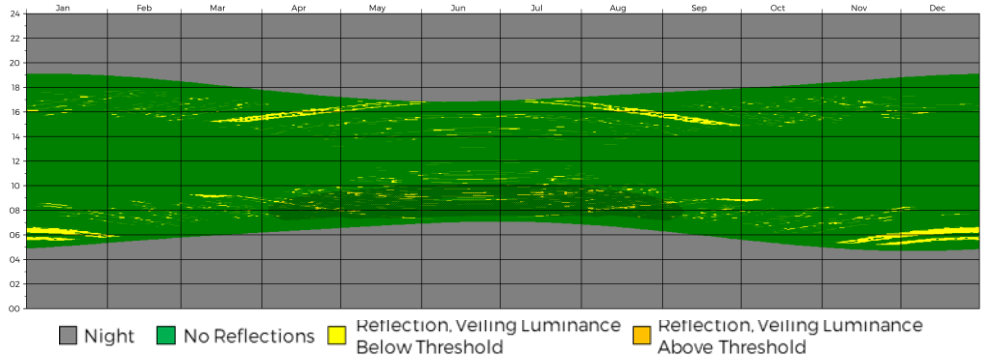

Figure B1: Annual Reflection Impact Diagram for Driver Receptor D7

Driver Receptor D1

Receptor D1 was chosen to assess the visual impact associated with solar reflections affecting southbound drivers on Old Castle Hill Road, approaching the junction with Garthowen Crescent.

The simulations indicated that intermittent reflections may fall on this point during the following periods:

Mid-September through March

- 6:45 am to 2:30 pm AEST

The maximum veiling luminance predicted was 56 cd/m².

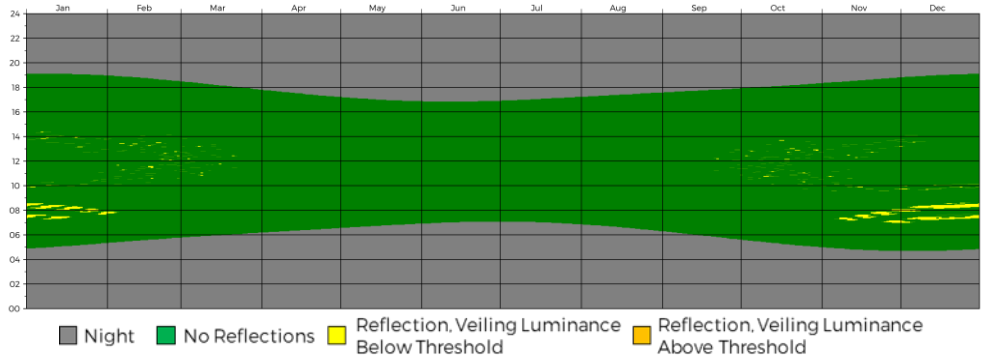

Figure B2: Annual Reflection Impact Diagram for Driver Receptor D1

Driver Receptor D2

Receptor D2 was chosen to assess the visual impact associated with solar reflections affecting westbound drivers on Garthowen Crescent.

The simulations indicated that intermittent reflections may fall on this point during the following periods:

Throughout the year

- 6:45 am to 3:30 pm AEST

The maximum veiling luminance predicted was 327 cd/m².

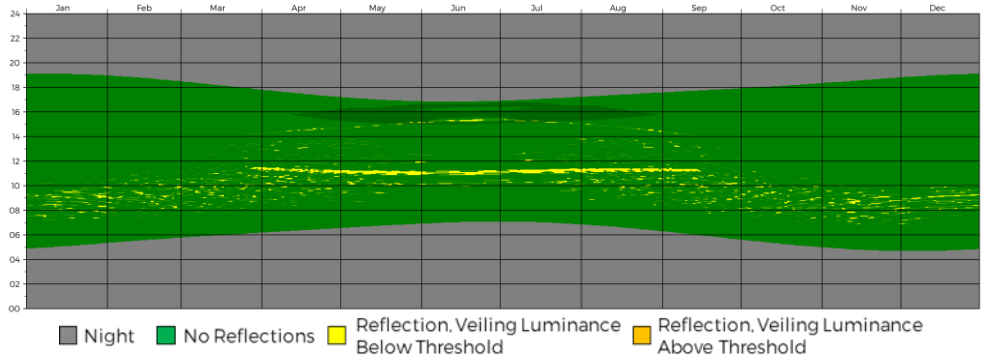

Figure B3: Annual Reflection Impact Diagram for Driver Receptor D2

Driver Receptor D3

Receptor D3 was chosen to assess the visual impact associated with solar reflections affecting southbound drivers on Pennant Street, turning left at the junction to Old Castle Hill Road.

The simulations indicated that intermittent reflections may fall on this point during the following periods:

Throughout the year

- 12:00 pm to 4:45 pm AEST

The maximum veiling luminance predicted was 221 cd/m².

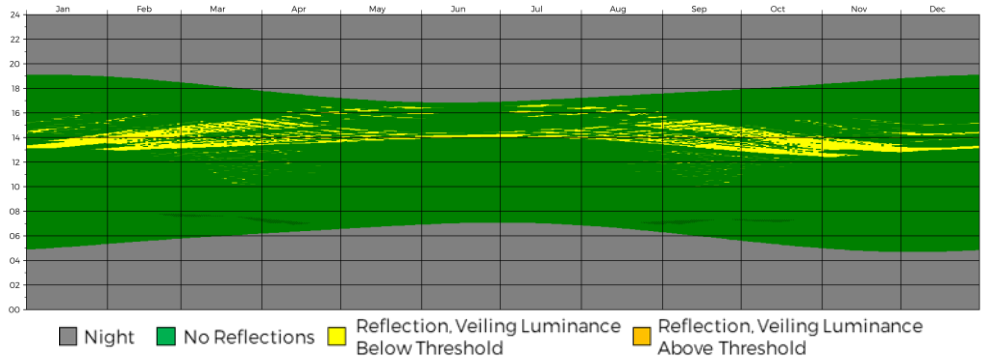

Figure B4: Annual Reflection Impact Diagram for Driver Receptor D3

Driver Receptor D4

Receptor D4 was chosen to assess the visual impact associated with solar reflections affecting southbound drivers on Pennant Street, continue southwards to McMullen Avenue.

The simulations indicated that intermittent reflections may fall on this point during the following periods:

Throughout the year

- 12:00 pm to 4:45 pm AEST

The maximum veiling luminance predicted was 62 cd/m².

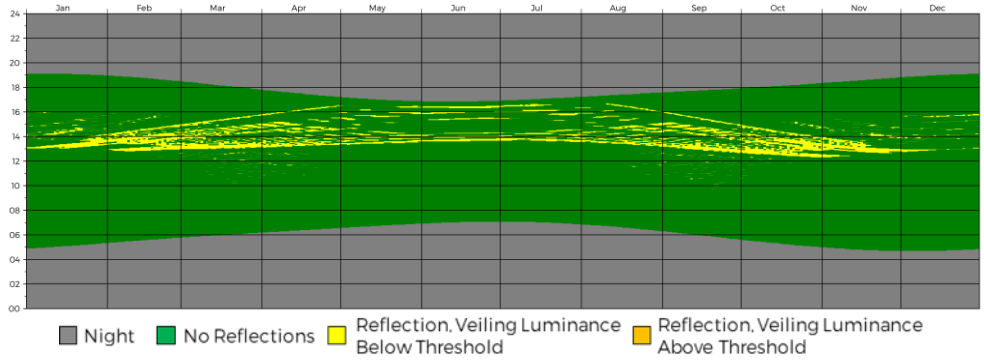

Figure B5: Annual Reflection Impact Diagram for Driver Receptor D4

Driver Receptor D5

Receptor D5 was chosen to assess the visual impact associated with solar reflections affecting eastbound drivers on Old Castle Hill Road, turning right onto McMullen Avenue.

The simulations indicated that intermittent reflections may fall on this point during the following periods:

Throughout the year

- 9:15 am to 4:15 pm AEST

The maximum veiling luminance predicted was 82 cd/m².

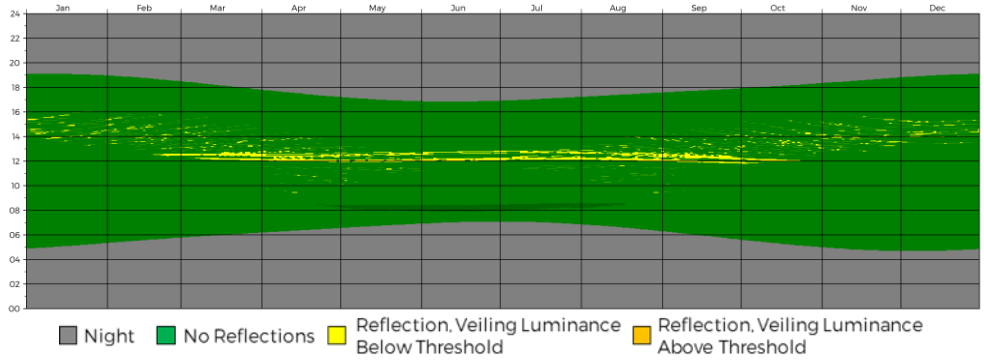

Figure B6: Annual Reflection Impact Diagram for Driver Receptor D5

Driver Receptor D6

Receptor D6 was chosen to assess the visual impact associated with solar reflections affecting northbound drivers on McMullen Avenue, moving into the right-turn lane.

The simulations indicated that intermittent reflections may fall on this point during the following periods:

September through mid-April

- 1:00 pm to 6:45 pm AEST

The maximum veiling luminance predicted was 137 cd/m².

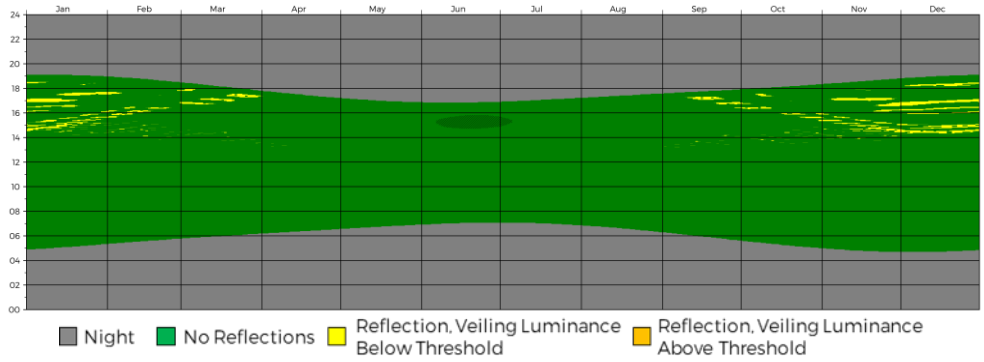

Figure B7: Annual Reflection Impact Diagram for Driver Receptor D6

Driver Receptor D7

Receptor D7 was chosen to assess the visual impact associated with solar reflections affecting eastbound drivers on Old Northern Road, turning left onto McMullen Avenue.

The simulations indicated that intermittent reflections may fall on this point during the following periods:

Throughout the year

- 5:00 am to 12:15 pm AEST
- 1:00 pm to 6:00 pm AEST

The maximum veiling luminance predicted was 20 cd/m².

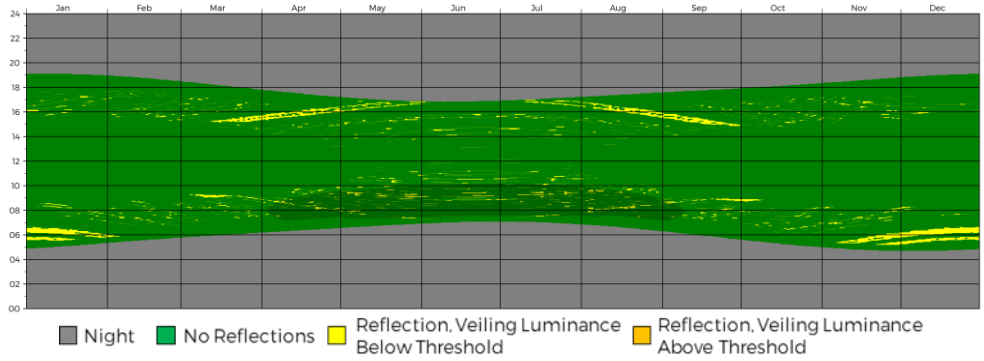

Figure B8: Annual Reflection Impact Diagram for Driver Receptor D7

Driver Receptor D8

Receptor D8 was chosen to assess the visual impact associated with solar reflections affecting northbound drivers exiting the Old Northen Road-McMullen Avenue junction.

The simulations indicated that intermittent reflections may fall on this point during the following periods:

Throughout the year

- 5:00 am to 12:15 pm AEST
- 2:00 pm to 6:00 pm AEST

The maximum veiling luminance predicted was 227 cd/m².

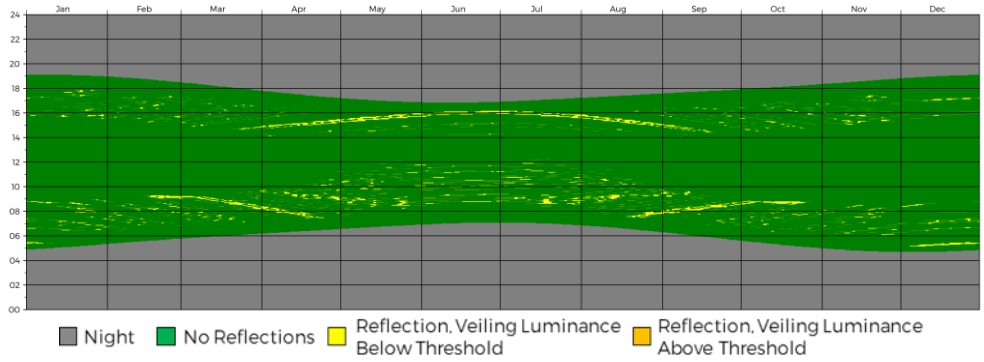

Figure B9: Annual Reflection Impact Diagram for Driver Receptor D8