

GLINT & GLARE STATEMENT

26th February 2026

Horsham District Council
Planning Service

Planning Reference: TBC
Ineco Energy Reference: IE-RH503

Dear Horsham District Council Planning Service,

RE: Prior Notification/Approval Application; Sainsbury's Horsham Superstore

Description of Proposed Works

The proposed development is to install solar PV panels to the rooftops upon Sainsbury's Horsham Superstore, SS1 1PL. An installation of a 655kWp solar PV system - 1,424 solar PV modules - on a non-domestic flat rooftop, to produce low carbon renewable energy for the site. This system will offset 136 tonnes of CO₂e carbon annually.

Glint & Glare

Glint & Glare refers to the potential effects from light reflected off surfaces (light reflection). Glint and Glare give the same effect, yet differ in duration of effect. Glint is an effect of momentary bright light flash, typically from a moving receptor/reflector. Glare is an effect of continuous bright light, typically from static a receptor/reflector.

Typically considered surfaces that reflect light are; shiny/glossy material, glass and bodies of water.

Established understanding of Solar Panels and Glint & Glare

Solar panels are an established material in the built environment and are acceptably sited in close proximity to areas considered sensitive, such as; conservation areas, highways, railways and airports/air traffic control towers/aerodomes. Figure 1 below compares reflectivity of common surfaces - solar panels have less than 5% reflectivity. There is no evidence that glint and glare from solar panels results in significant impairment on aircraft safety.

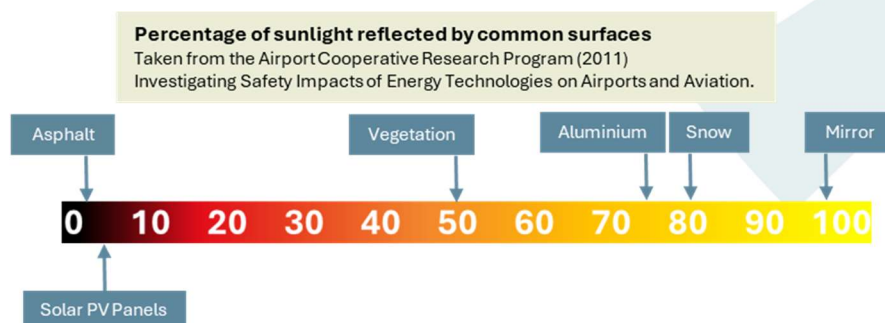


Figure 1; Comparative reflectivity of common surfaces¹

Solar Panels in relation to Glint & Glare

It is scientifically impossible to totally eliminate reflection from any object, however solar panels do minimise reflection to levels lower than other common objects used in the built & natural environment. Whilst a solar panel can reflect light - the reflection is less intense by a considerable magnitude than the direct sunlight - due to the amount of light absorbed by the solar panel. Solar panels are designed to absorb light as much as possible for efficiency reasons, as absorbed light generates electricity and any left over reflected light cannot be converted into electricity. Solar panels have at least one layer of anti-reflective coating to reduce light reflection.

Glint and glare from solar panels are a transient effect dependant on; angle of light, time of day, time of year, weather condition, cloud cover, location siting, surroundings, obstructions, reflector/receptor height differences, reflector azimuth, reflector pitch, receptor distance and receptor view angle. Larger separation distances reduce the proportion of a receptors affected field of view and impacts disperse further and become less significant at greater distances. Therefore, there are only specific locations where glint and glare effects can occur. If you cannot see the face of the solar panel, then no glint and glare effects are possible.

Site in relation to Glint & Glare

The proposal would not disrupt the characteristics of the existing buildings or the character of its existing surroundings because the area is utilitarian in its appearance, set within an existing built up area with existing commercial usage. The rooftops can be visible from certain heights, however, would not be prominently visible from the public realm or street scene due to the area being shielded from view by the location, azimuth & building height. There is a substantial degree of separation between the host building and neighbouring properties. Therefore, the proposal aligns with the existing character of the area, and would not appear out of surrounding-character.



Figure 2; Google Earth image of Site & Surroundings³

Direction in relation to Glint & Glare

The direction reflected light takes is dependant on the direct sunlight incident angle. The direct sunlight incident angle is determined from the sun's position (altitude & azimuth) and alters as the sun moves across the sky and from various times of the year; altitude ranges from 0 degrees to 60 degrees and azimuth ranges from 50 degrees to 310 degrees. The incident angle is at its highest altitude around noon where the sun is overhead, and is at peripheral altitude ranges at dawn and at dusk. The incident angle has more impact on ground receptors on higher elevations in peripheral ranges, has more impact on skyward receptors in middle ranges, and vice versa. The direction of reflected light

A typical incident angle in winter (lowest) can be around 15 degrees. A typical incident angle at noon in summer (highest) can be around 60 degrees. Considering this, as shown below, the range of potential reflections upon the solar panels are directed skyward.

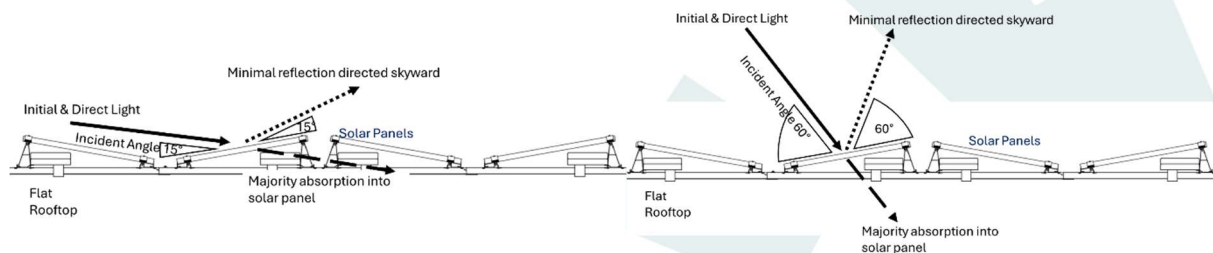


Figure 3; Direction of reflection that isn't already majority absorbed

Design in relation to Glint & Glare

The solar PV equipment will be positioned, as far as reasonably practicable, to minimize its visual impact of the building's exterior and will maintain the overall aesthetic of the surrounding area. The setback of the solar PV panels from the site boundaries provide considerable separation within the site from neighbouring properties. The proposal would not be prominently visible from the street scene - as the solar panels are set well up from the eaves level. The solar panels would be visible from certain heights, however, would not be prominently visible from the public realm or street level due to the nature of the rooftop height. The solar panels won't directly face head-on forward to neighbouring properties.

The solar panels are sited on a grey-coloured flat rooftop. The solar panels are sited on roof aspects that face 120° and 300° azimuths. Given basic light reflectivity theory, the angle of potential reflective light is most likely to be directed sufficiently skyward and away from neighbouring receptors.



Figure 4; Building, building height & rooftop

The dark colour and a matt material finish of the chosen solar panels are designed to absorb light and minimise potential occurrences of reflected light, reducing the likelihood that glare conditions could be created from the panels themselves. The chosen solar panel have at least one layer of anti-reflective technology. For further information, the chosen solar panel datasheet is included within the application.

The equipment would be removed as soon as reasonably practicable if no longer needed, however, it is envisaged that the PV equipment will be needed for the foreseeable future to meet the energy demands.

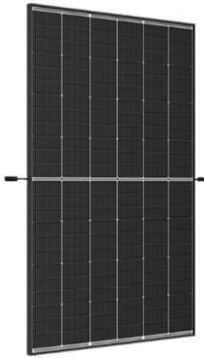


Figure 5; solar panel equipment

Conclusion

The designed solar panels absorb light and minimise occurrences of reflected light, reducing the likelihood that glare conditions could be created from the panels themselves. The angle of reflected light is most likely to be directed sufficiently skyward that it would go over the tops of surrounding structures. Combined with the separation distance to potential offsite receptors and angling of the panels significantly limits occurrences & magnitude of receptive light reflection. Given the; design, direction, site & material considerations stated - the potential impact from glint and glare effects is geometrically possible however any impact is considered to be small to such extent that further mitigation is not required, and overall considered low impact.

Should you require any further information or clarifications, please do not hesitate to contact me – thank you thank you

Yours sincerely,

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References

- ¹ Airport Cooperative Research Program (2011) Investigating Safety Impacts of Energy Technologies on Airports and Aviation, [access link](#)
- ² Combined Aerodrome Safeguarding Team (2024) Advice Note 5 - Renewable Energy Developments, [access link](#)
- ³ Google Earth