

Appendix 12

Lighting Impact Assessment

14 May 2025

Our ref: 560 Timbrell-2 Issue A



15-17 Regatta Road Fivedock NSW 2046

Timbrell Park

Lighting Impact Assessment

This Lighting Impact Assessment evaluates the extent of visual impacts that will occur along Henley Marine Drive as a result of the fields floodlighting upgrade.

The resultant visual impacts of the floodlighting upgrade are compared with the existing lighting conditions.

Project description

Timbrell Park is located on the Paramatta River in the Five Dock suburb bordered by Timbrell Drive, Henley Marine Drive and Dobroyd Parade. Iron Cove Creek separates Dobroyd Parade and Timbrell Park along the southern border. Timbrell Drive runs between Timbrell Park and the Paramatta River to the east.

Timbrell Park playing fields are roughly 40-50 m distant from the Paramatta River.



The proposed lighting upgrade is considered an essential component of the project to provide safe and compliant lighting for all the playing fields.

Existing Conditions

The existing floodlighting was installed in two stages; stage 1 around 2006 and stage 2 in 2010.

Existing ambient lighting along Henley Marine Drive includes network street lighting. Vehicular traffic although occasional does impart some obtrusive light.

The existing field lighting consists of 34 x 2kW asymmetric metal halide floodlights installed on a total of eleven poles ranging in heights of 30m and 25m.

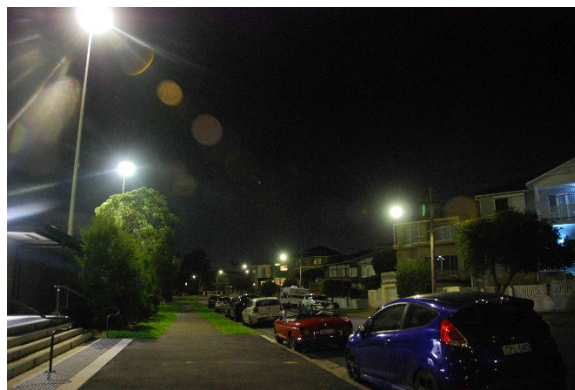
The existing horizontal lighting at ground level across the playing fields does not comply with current sports lighting standards. The centre areas are well below standards requirements. The existing pole heights are below the required heights to achieve acceptable lighting at the central areas of the site.

The age of the existing metal halide lamps is unknown. Metal halide lamps depreciate reasonably quickly after installation. Their average life is generally 6,000 – 9,000 hours to 50% failure rate i.e. 50% of the installed lamps will have failed at the end of their average life. The lamp lumen output can depreciate to 60% of their initial value prior to failure. Lighting designs for metal halide had to allow for lamp depreciation which resulted in additional floodlights to ensure field compliance at the end of life. The age of the existing lamps is unknown therefore we must assume there has been some depreciation in their lumen output. Measures of existing obtrusive light levels at property boundaries are likely to be less than the initial lumen output of the lamps.

The photos below illustrate the combined effect of the field lighting and street lighting along Henley Marine Drive. By itself the street lighting has reasonable impact on the property building boundaries. The field lighting adds to the obtrusive lighting.

When measuring the obtrusive impact of the field lighting the street lighting was shielded from the light meter sensor. The results are considered close but indicative only as reflectance's from road, building and vegetation cannot be eliminated.

Existing floodlighting viewed from Henley Marine Drive:





Floodlighting Upgrade

The new field lighting provides 100 lux across all field combinations for touch and soccer.

There are eleven new 32m poles. There is a total of 54 new LED floodlights distributed between the eleven poles.

The new floodlighting has been designed to reduce obtrusive light levels to the minimum possible rather than the maximum allowable along residential front boundaries. The floodlights selected for this project are considered to have superior optics to others on the market to ensure low obtrusive light levels and reliable performance.

Refer to drawing 560E7 A that provides a compliance statement and compares the obtrusive lighting of the existing and proposed floodlighting.

The existing obtrusive vertical light levels along Henley Marine Drive were measured at a height of 1.5m along the roadside property boundaries facing the fields.

The existing vertical light levels range from around 0.5 lux up to 4.4 lux. As mentioned, this is likely to be lower than the initial light level with new lamps due to lamp and dirt depreciation down to potentially 60% of initial output.

The new lighting design provides an initial maximum obtrusive vertical light level of 1.7 lux at a similar location to the existing maximum level of 4.4 lux.

Compliance statement

The proposed new floodlighting installation will comply with the following Australian Standards:

1. AS/NZS 2560.2-2021 Sports lighting Part 2.6 Football all codes
2. AS/NZS 4282-2023 Control of the obtrusive effects of outdoor lighting.