

THE STAR ENTERTAINMENT GROUP

Modification 14 Planning Submission

COMMENTS ON DOPE RESPONSES TO
SUSTAINABILITY

FEBRUARY 2017

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The Star Entertainment Group

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Dear Clare

**Modification 14 Planning Submission
Comments on DoPE Responses to Sustainability**

In response to the Modification 14 Planning Submission comments provided by the DoPE, please find this addendum report.

This report is to be read in conjunction with The Star, Sydney Modification 14 Sustainability Report by WSP | Parsons Brinckerhoff revision 02 dated 15/09/2016, that already form part of the Modification 14 application submission.

Yours sincerely

Sean Holmes
Senior Sustainability Consultant

cc: The Star Entertainment Group - Scott Harrison
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TABLE OF CONTENTS

1.1	Background	1
1.2	Report submission.....	1
1.3	Current achievements.....	1
1.4	Commitments to sustainability	2
1.4.1	Construction Management	2
1.4.2	Energy	3
1.4.3	Water.....	3
1.4.4	Materials	3
1.4.5	Transport	4

1.1 Background

The Star Entertainment Group Limited (SEGL) is a leading operator of integrated resorts catering to both local and international visitors, and is the operator of The Star. The Star is embarking on a five year redevelopment journey to create a landmark, exemplary integrated resort within the City of Sydney. The Star is proposing to attain the highest standard of built form outcomes for the site through the proposed redevelopment by encouraging innovation and best practice approaches in order to achieve an environmentally sustainable development that positively contributes to the overall architecture of both Pymont and the City of Sydney.

This report responds to submission reports, and issues raised by The Department of Planning and Environment, The City of Sydney Council and other agencies.

1.2 Report submission

SEGL have engaged WSP | Parsons Brinckerhoff to provide sustainability consulting services across their portfolio of assets, including The Star, Jupiters and Queens Wharf, and aim to achieve sustainability excellence across the portfolio through design, construction and operation phases of their assets. As part of this process, The Star, Sydney Modification 14 Sustainability Report by WSP | Parsons Brinckerhoff revision 02 dated 15/09/2016, has been submitted to The Department of Planning and Environment. This memorandum serves to elaborate and expand on the Report, based on feedback from the submission to clarify and remove any ambiguity with respect to commitments to sustainability.

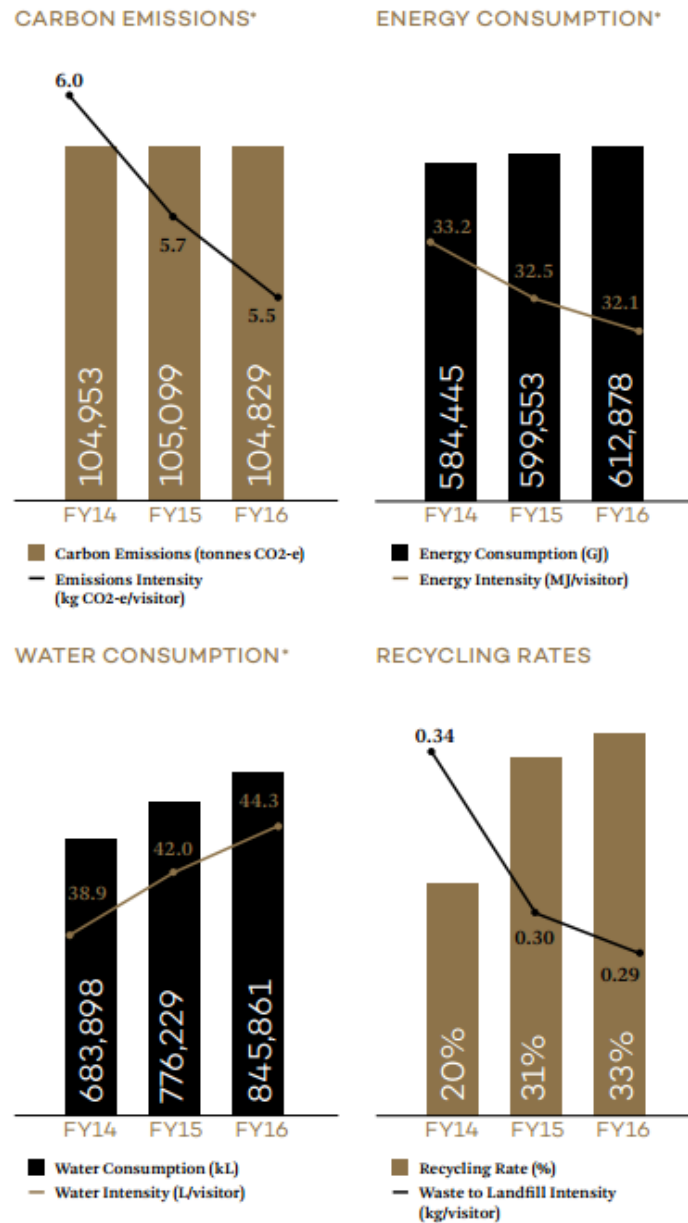
1.3 Current achievements

SEGL is proud to be recognised for its sustainability achievements in being named the global leader for the Casinos and Gaming sector in the latest annual assessment of the Dow Jones Sustainability Index. The company is also a member of the FTSE4GOOD and a national member of the CitySwitch energy saving program. SEGL was awarded 'New Signatory of the Year' NSW and national award in 2015 for its involvement in the CitySwitch energy saving program. The Star engaged with the City of Sydney's Smart Green Business Program to audit water consumption and waste generation. As a result The Star installed 70% of water flow restrictors.

SEGL also conduct rigorous reporting and transparency for sustainability performance. The 2016 Annual Report is publically available and benchmarked the sustainability performance of the group across the following themes:

- Managing resources
- Energy and carbon emissions
- Water management
- Recycling and waste diversion
- Sustainable procurement

The Report demonstrated improvements in operational performance in 2016 across key metrics as shown below:



*0.49% of 2016 utility accounts were unbilled at time of reporting. The missing usage has been estimated as 0.02% (18,266 kWh) for electricity, 0.74% (1,438,076 MJ) for gas, and 6.70% (56,641 kL) for water.

1.4 Commitments to sustainability

As part of SEGL's commitment to sustainability for Modification 14, and to continue sustainability excellence in operation, SEGL will incorporate the following into Modification 14 developments:

1.4.1 Construction Management

- The Star will require the successful contractor to achieve a 90% diversion from landfill recycling rate during all works associated with the project including and demolition, construction and fit out works.
- The contractor will be required to recover redundant furniture, fixtures and equipment where practicable and donate to one of The Star's charity partners in accordance with SEGL's Sustainable Design Technical Guidelines.

1.4.2 Energy

- Minimisation of operational greenhouse gas emissions, consistent with SEGL Sustainable Design Guideline, Sustainability Strategy and Annual Reporting
- Continued in use operational energy monitoring to support continuous energy performance improvements and feed into the SEGL Annual Reporting
- On new works, provision of a high performance façade to provide improved thermal comfort, reduced thermal loads resulting in improved air conditioning energy consumption
- High Visual Light Transmittance façade, allowing for excellent daylight penetration. Daylight harvesting technology will be implemented along perimeter zones, enabling reduced lighting energy consumption
- Implementation of LED lighting technology. The low power density lighting technology firstly reduced energy consumption from lighting, but secondly reduces the thermal loads in the space, reducing air conditioning energy consumption
- Future lighting upgrades will be to high efficiency LED lighting technology and comply with Table J6.2a Maximum Illumination Power Density of the National Construction Code 2016
- Lighting zoning and addressable lighting, allowing appropriate switching based on the usage of a space, and also allowing for reprogramming of lighting zoning in the space for future fit outs or changed area operations. Programmable lighting allows for unnecessary lighting to be switched off when not in use.
- High efficiency HVAC plant, including the following measures:
 - Fans sized to have as higher efficiency as possible
 - Pumps sized to have as higher efficiency as possible
 - All ductwork and pipework to sized to have low pressure drops and free flowing
 - Full economy cycle enabled
 - Demand controlled ventilation, reducing outside air volumes when not fully occupied
 - Connection to sites centralised chiller and heating network, including connection to the existing harbour heat rejection system

1.4.3 Water

- Integration with the site's existing rainwater system
- Highly efficient fixtures and fittings to back of house areas including the following minimum performance levels:
 - Toilets – 4 Star WELS rating
 - Urinals – 1 Star WELS rating
 - Taps – 4 Star WELS rating
 - Showers – 3 Star (7.5 – 9L/min) WELS rating
 - Dishwashers 4.5 Star WELS rating
- Low irrigation landscaping to be selected for green roof
- Connection to existing harbour heat rejection system, enlarging the waterless heat rejection in operation

1.4.4 Materials

- Timber products (including concrete formwork) are to be either:
 - Certified by a forest certification scheme; or
 - From a reused source

- Permanent formwork, pipes, flooring, blinds and cable to be either:
 - Free from Polyvinyl chloride (PVC)
 - Meet industry best practice levels of PVC
- Paints, Adhesives Sealants and Carpets to have low levels of total volatile organic compounds (VOCs)
- Engineered wood products to have low levels or be free from formaldehyde emissions
- The following products are to be prioritised for sustainability and transparency purposes:
 - Reused products
 - Products with recycled content
 - Products with environmental product declarations (EPDs)
 - Products with third party certification
 - Products with stewardship programs
- Product selections will be considered through the process of completing a whole of life cost analysis to achieve better sustainability outcomes

1.4.5 Transport

- The design will encourage and support the implementation of a Green Travel Plan. The Green Travel Plan sets targets for sustainable transport, bringing reduced carbon, and health benefits to commuters, the staff targets include:
 - A 300% increase in cycling transport mode by 2019
 - A 10% increase in walking, public transport, car pooling and motor cycling modes by 2019
- Continued support for the plug in electric vehicle market penetration through electric vehicle charging availability.