



2 September 2020

Minister for Planning
Department of Planning, Industry and Environment
12 Darcy Street
Parramatta NSW 2150

Attention: Bruce Zhang

Dear Minister

SSD10397, OAKDALE WEST STAGE 2 – CONDITION B21: CONSTRUCTION HOURS UPDATE REQUEST

I write on behalf of Goodman, the applicant to SSD10397 (Oakdale West Estate – Stage 2), to lodge a request to vary hours of construction for the Lot 2B at Oakdale West (SSD10397) pursuant to Condition B21 of the consent:

NOISE

Hours of Work

B21. The Applicant must comply with the hours detailed in **Table 2**, unless otherwise agreed in writing by the Planning Secretary.

Table 2 Hours of Work

Activity	Day	Time
Construction	Monday – Sunday	6 am to 10 pm
Concrete works (internal to building only)	Monday – Sunday	3 am to 10 pm
Operation	Monday – Sunday (including public holidays)	24 hours

Note: Concrete works (internal to building only) include concrete pours inside Building 2B, following the installation of all building walls and the building roof.

Condition B21 permits the Planning Secretary to vary the permitted hours of construction, if satisfactory justification is provided. This letter seeks to vary the hours of construction as follows:

Fit out works (internal to building only): Monday to Sunday 6am to 2am

See attached **Appendix A**, acoustic assessment prepared by Wilkinson Murray, which assesses the noise impacts resulting from the proposed internal construction works.

AU02-11-794\0.1 Goodman Group

Goodman Limited | ABN 69 000 123 071

Goodman Funds Management Limited | ABN 48 067 796 641 | AFSL Number 223621
as responsible entity of Goodman Industrial Trust | ARSN 091213 839

Level 17, 60 Castlereagh Street, Sydney NSW 2000 | GPO Box 4703, Sydney NSW 2001 Australia
Tel +61 2 9230 7400 | Fax +61 2 9230 7444

Goodman Logistics (HK) Limited | Company No. 1700359 | ARBN 155 911 149 | a Hong Kong company with limited liability
Suite 2008, Three Pacific Place, 1 Queen's Road East, Hong Kong | Tel +852 2249 3100 | Fax +852 2525 2070

info-au@goodman.com | www.goodman.com

Construction hours update

Condition B21 of SSD 10397 currently permits general construction to take place between **6am** and **10pm**, seven days a week, with internal works (specifically concrete works allowed to occur from 3am). The consent also permits construction works to occur outside of these approved timeframes if the works are inaudible or if agreed by the Planning Secretary.

The hours of construction for internal fit-out works are proposed to be extended to permit construction from **6am to 2am** to accommodate fit-out works including installation of steelwork, installation of conveyors, electrical works, logistics preparation and commissioning & testing. These works would be undertaken over a timeframe of approximately six months, currently expected between March to September 2021, and generally across two shifts (non over lapping) between the hours of 10.00 pm to 2.00 am.

The proposal also includes set down area outside the warehouse but on the opposing elevation to that facing the sensitive southern receivers (refer to location in Fig.2 of **Appendix A**).

Justification

In operation the facility will house extensive conveyor, automated material handling and robotic equipment across all four floors of the building (customer fit out). The building construction will be running through to September 2021 which will comprise heavy construction and major base building services works. The requested extended hours will allow the construction of the customer fit out works to occur within the building envelope at times of the day when the base building construction activities have ceased. This will allow the 'whole of project' target dates to be achieved and for the fit out works to be undertaken in a safer environment, unencumbered by the base build construction activities.

The extended hour works would only commence only once the Lot 2B warehouse structure is completed, with external cladding, windows and full roof in place. This would ensure the warehouse is weathertight prior to the works commencing, which also enhance acoustic insulation.

Detailed modelling has been completed by Wilkinson Murray (**Appendix A**) which has confirmed that the works are within the Noise criteria set for N5, being the nursing home. All other receivers are covered by Noise Agreements and the schools will not be in occupation throughout the extended hours.

In addition to enabling the target dates to be achieved, the noise assessment has shown that any additional noise impacts resulting from the extended hours and proposed works are acceptable to the surrounds and are within the set criteria.

Acoustic Impacts

The acoustic assessment prepared by Wilkinson Murray (**Appendix B**), considered the noise impacts resulting from the proposed additional construction hours. This assessment concludes:

"The predictions indicate that the identified Construction Noise Management Levels may be met at the Emmaus Village aged care facility (N1), during the fit-out works undertaken between 10.00 pm to 2.00 am. Additionally, maximum construction noise levels would not be expected to trigger the sleep disturbance trigger levels recognised by the NPfI."

On this basis, it is considered that proposed fit-out works would not be expected to result in any material noise impacts. This assumes no other coinciding construction activities are occurring on the OWE site between 10.00 pm to 2.00 am which is consistent with the current approval and strategy for the site."

As the additional construction hours are not anticipated to result in any material noise impacts and are consistent with the current approval, the environmental impacts resulting from this update are considered satisfactory.

Pursuant to Condition B21 of SSD10397, and considering the justification provided above, we request the that the Planning Secretary permit internal fitout works as follows:

Fit out works (internal to building only): Monday to Sunday 6am to 2am

Yours sincerely

A handwritten signature in black ink, appearing to read "Guy Smith", with a stylized flourish at the end.

Guy Smith
Planning Manager

20 August 2020

WM Project Number: 19440
Our Ref: OWE_MOD3_19440_20082020
Email: stephanie.partridge@goodman.com

Stephanie Partridge
Goodman Property Services (Australia) Pty Ltd
Level 17, 60 Castlereagh St
SYDNEY NSW 2000

Dear Stephanie

**Re: OWE - SSD 10397 Stage 2 DA - Lot 2B Out of Hours Fit-Out Works
- Assessment of Noise Impacts**

Introduction

It is understood fit-out works within the Lot 2B warehouse of the Oakdale West Estate (OWE) are proposed to be undertaken outside of standard construction hours, generally between the hours 10.00 pm to 2.00 am. The works would be undertaken over a timeframe of approximately six months (currently expected between March to September 2021).

The fit-out would commence only once the Lot 2B warehouse structure is completed, with external cladding, windows, and full roof in place, to ensure the warehouse is weathertight prior to the works commencing. For clarity, the entire warehouse including roof structure and wall cladding will be enclosed prior to any fit-out works occurring. All fit-out works are to occur within the warehouse area only (with the exception of the lay-down area) discussed further below.

Based on details provided by fit-out contractors Vanderlande, Wilkinson Murray (WM) has undertaken detailed assessment of the potential construction noise impacts on the Emmaus Village aged care facility (Receiver N1) that may be expected to arise during the proposed fit-out works.

All other sensitive residential receivers have noise agreements in place and the school to the west of the site (Receiver N2) would be unoccupied during the proposed works.

As part of this assessment WM has reviewed the data obtained from the existing Sentinex real-time noise and weather monitoring station located at the OWE boundary adjacent to Emmaus Village to determine Rating Background noise Levels (RBLs) and Construction Noise Management Levels (CNMLs) on an hourly basis, according with the proposed timeframes for the works.

Measured Noise Levels and Out of Hours Construction Noise Criteria

The location of the Sentinex real-time noise & weather monitoring system is shown in Figure 1.

To determine the long-term background and ambient noise levels, one full month of data, collected in February 2020, has been considered.

Review of the wind and rainfall data indicated several periods for which weather effects may have influenced the measured noise levels. Noise levels potentially affected by adverse weather or likely extraneous noise were excluded from the dataset prior to calculating the long-term noise levels. The

long-term levels were derived in accordance with the methods described by the *NSW Noise Policy for Industry (NPfI)*.

The resultant hourly background and ambient noise levels are set out in Table 1 alongside the CNMLs determined in accordance with the provisions of the *NSW Interim Construction Noise Guideline (ICNG)*. Additionally, the sleep disturbance trigger levels recognised by the *NPfI* are shown.

Figure 1 Sentinex Real-Time Noise & Weather Monitoring Station Location



Table 1 Long-Term Noise Levels at N1 Site Boundary (1–29 February 2020)

Time	Measured Noise Levels		Construction Noise Criteria	
	Rating Background Level - RBL	Ambient Noise Level	ICNG Construction Noise Criteria	Sleep Disturbance Noise Level
	(L_{A90} , dBA)	(L_{Aeq} , dBA)	$L_{Aeq,15min}$ (dBA)	$L_{A1,1min}$ (dBA)
10.00pm-11.00pm	34	38	39	52
11.00pm-12.00am	34	36	39	52
12.00am-1.00am	34	36	39	52
1.00am-2.00am	34	36	39	52
2.00am-3.00am	34	36	39	52

It is noted that the background noise levels and subsequent *ICNG* criteria shown in Table 1 for the hours prior to 6.00am are 1-2 dB lower than those applied in the SSD Stage2 DA noise assessment, based on noise monitoring undertaken by SLR (as set out in the SLR report 610.15617-R2).

Fit-Out Works Methodology

The internal fit-out works will involve the installation of steelwork, installation of conveyors, electrical works, logistics preparation and commissioning & testing. The works would be undertaken over a timeframe of approximately six months (currently expected between March to September 2021) and generally across two shifts (non over lapping) between the hours of 10.00 pm to 2.00 am. Additionally, during the full commissioning & testing of the system it may be required to carry out the testing works on a 24/7 basis.

Table 2 sets out the anticipated fit-out work phases, the construction equipment requirements and likely personnel requirements, as provided by Vanderlande. Equipment sound power levels sourced from Wilkinson Murray's internal sound power level database are also shown in the table.

The identified works would commence only once the Lot 2B warehouse structure is completed and fully enclosed to ensure weathertightness prior to the works commencing.

Materials would be delivered to the site generally during approved hours, prior to 10.00 pm and set down within the material laydown area that would be established to the east of the Lot 2B warehouse. Figure 2 identifies the on-site route and location of materials laydown area.

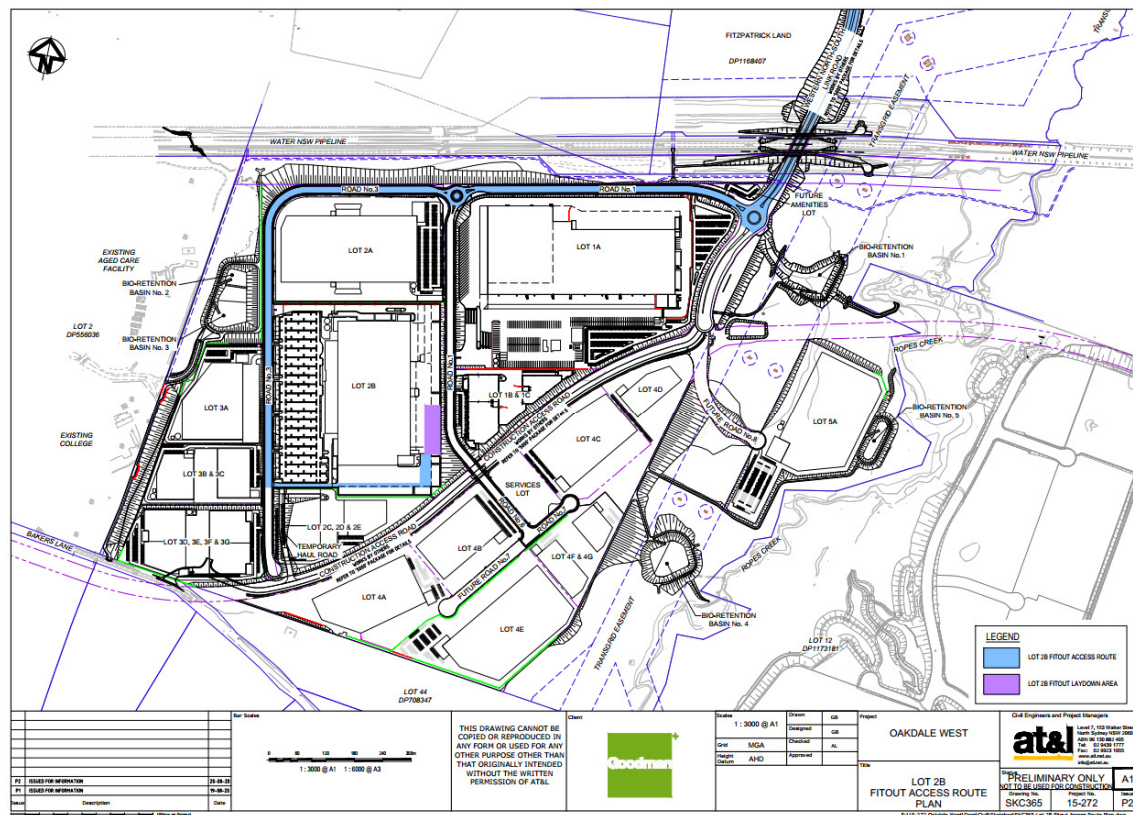
The location of the laydown area has been selected such that the Lot 2B warehouse would provide optimum acoustic shielding to the Emmaus Village. To minimise night activity within the materials laydown area, Vanderlande proposes to relocate materials from the laydown area to within the warehouse generally prior to 10.00 pm.

Whilst it is intended to minimise activities external to the warehouse after 10.00 pm, to provide some contingency, this assessment assumes up to two forklift movements per hour may occur within the materials laydown area and up to four heavy deliveries could occur in any hour. Additionally, based on the maximum personnel numbers shown in Table 2, up to 24 light vehicle movements within any hour has been assumed. It is understood the likelihood of these activities and vehicle movements occurring is very low, but they have been included for the purposes of proving a conservative assessment.

Table 2 Fit-Out Works, Construction Equipment and Personnel

Category	Activity	Description / Details	Equipment Used	Sound Power Level per Item		No. of Work Crews	Personnel per Crew	Total Personnel
				L _{Aeq} (dBA)	L _{A1} (dBA)			
Steelwork	Installation of steelwork (Catch up to schedule)	Lifting and securing of steelwork & bolting structures in place	2 x Forklift (or)	93	123	2 to 3	4	12
			1 x Crane	90				
			2 x Scissor Lift	90				
			Up to 3 Rattle Guns	114				
			1 x Hammer drill	110				
Mechanical	Installation of conveyors	Assembly, lifting in place conveyors and securing to ceiling/ground	1 x Hammer Drill/Impact Drill	110	123	4 to 5	3 to 4	20
			2 x Rattle Guns	114				
			1 x Forklift	93				
Electrical	Electrical works	Installation of cable trays, wiring etc.	1 x Angle grinder (5 inch)	109	123	5 to 6	3 to 4	24
			1 x Impact Drill	110				
			1 x Rattle Gun	114				
			1 x Scissor Lift	90				
Laydown Area	Logistics preparation	Movement of materials on-site for preparation of next day activity	1 X Forklift/Manitou	93	115	1	3	3
			1 x Truck Movement (Contingency)	105				
Commissioning	Power Up and Testing	Power of conveyor systems and running conveyors/systems	Equipment running	80-100	115	5 to 6	3	18
Note: Personnel numbers are indicative only. The size of the crew may fluctuate							Supervision	10
							Total	87

Figure 2 On-Site Delivery Vehicle and Personnel Route and Materials Laydown Area



Lot 2B Out of Hours Fit-Out Works Noise Predictions

The warehouse will be constructed with insulated wall panel facades and metal deck roofing with double glazed windows that comprise 6 mm panes separated by a 12 mm air-gap on the upper levels and 6 mm / 6.38 mm laminate panes separated by a 12 mm air-gap at ground level. Given its substantial structure, the warehouse envelope would be relatively effective in attenuating noise levels from within.

Additionally, given the siting of the laydown area, the warehouse would provide relatively effective acoustic screening of materials handling external to the warehouse with respect to the Emmaus Village.

For the proposed out of hours construction timeframes, this assessment considers the construction equipment and sound power levels set out in Table 2 and the conservative hourly vehicle movement assumptions identified above.

Predicted $L_{Aeq,15min}$ construction noise levels are compared with the *ICNG* criteria in Table 3.

Predicted $L_{A1,1min}$ maximum construction noise levels are set out in Table 4.

The predictions assume the western site boundary noise wall, as shown in Figure 1-1 of the SSD noise report is constructed prior to the fit-out occurring. The noise wall is targeted for completion by 31 October 2020.

Table 3 Predicted $L_{Aeq,15min}$ Construction Noise Levels at Emmaus Village – N1

Period (weather)	CNML	Predicted $L_{Aeq,15min}$ Noise Level (dBA)			
		Fit-Out Works at Lot 2B	Trucks on Access Road	Light Vehicles on Access Road	Fit-Out Works + Access Road
10.00pm-11.00pm (Standard Met)	39	<25	<25	<20	<30
10.00pm-11.00pm (Noise Enhancing Met)	39	<30	<30	<25	<35
11.00pm-12.00am (Standard Met)	39	<25	<25	<20	<30
11.00pm-12.00am (Noise Enhancing Met)	39	<30	<30	<25	<35
12.00am-1.00am (Standard Met)	39	<25	<25	<20	<30
12.00am-1.00am (Noise Enhancing Met)	39	<30	<30	<25	<35
1.00am-2.00am (Standard Met)	39	<25	<25	<20	<30
1.00am-2.00am (Noise Enhancing Met)	39	<30	<30	<25	<35
6.00am-7.00am (Standard Met)	44	<25	<25	<20	<30
6.00am-7.00am (Noise Enhancing Met)	44	<30	<30	<25	<35

Table 4 Predicted $L_{A1,1min}$ Maximum Construction Noise Levels at Emmaus Village – N1

Period (weather)	CNML	Predicted $L_{A1,1min}$ Noise Level (dBA)	
		Fit-Out Works at Lot 2B	Trucks on Access Road
10.00pm-11.00pm (Standard Met)	52	<30	45
10.00pm-11.00pm (Noise Enhancing Met)	52	<35	50
11.00pm-12.00am (Standard Met)	52	<30	45
11.00pm-12.00am (Noise Enhancing Met)	52	<35	50
12.00am-1.00am (Standard Met)	52	<30	45
12.00am-1.00am (Noise Enhancing Met)	52	<35	50
1.00am-2.00am (Standard Met)	52	<30	45
1.00am-2.00am (Noise Enhancing Met)	52	<35	50
6.00am-7.00am (Standard Met)	54	<30	45
6.00am-7.00am (Noise Enhancing Met)	54	<35	50

The predictions indicate that the identified CNMLs may be met at the Emmaus Village aged care facility (N1), during the fit-out works undertaken between 10.00 pm to 2.00 am. Additionally, maximum construction noise levels would not be expected to trigger the sleep disturbance trigger levels recognised by the *NPFI*.

On this basis, it is considered that proposed fit-out works would not be expected to result in any material noise impacts. This assumes no other coinciding construction activities are occurring on the OWE site between 10.00 pm to 2.00 am which is consistent with the current approval and strategy for the site.

I trust this information is sufficient. Please contact us if you have any further queries.

Yours faithfully

WILKINSON MURRAY



Sean Flaherty

Senior Acoustic Engineer

Note

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AAAC

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