# APPENDIX E

# Operational noise assessment train location assumptions



Idle (stabled)
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None

Client: Jacobs Project: MTMS Wollongong Stabling Yard

Description: Operational noise assessment Existing - Night (Stabled) (~2:30am)

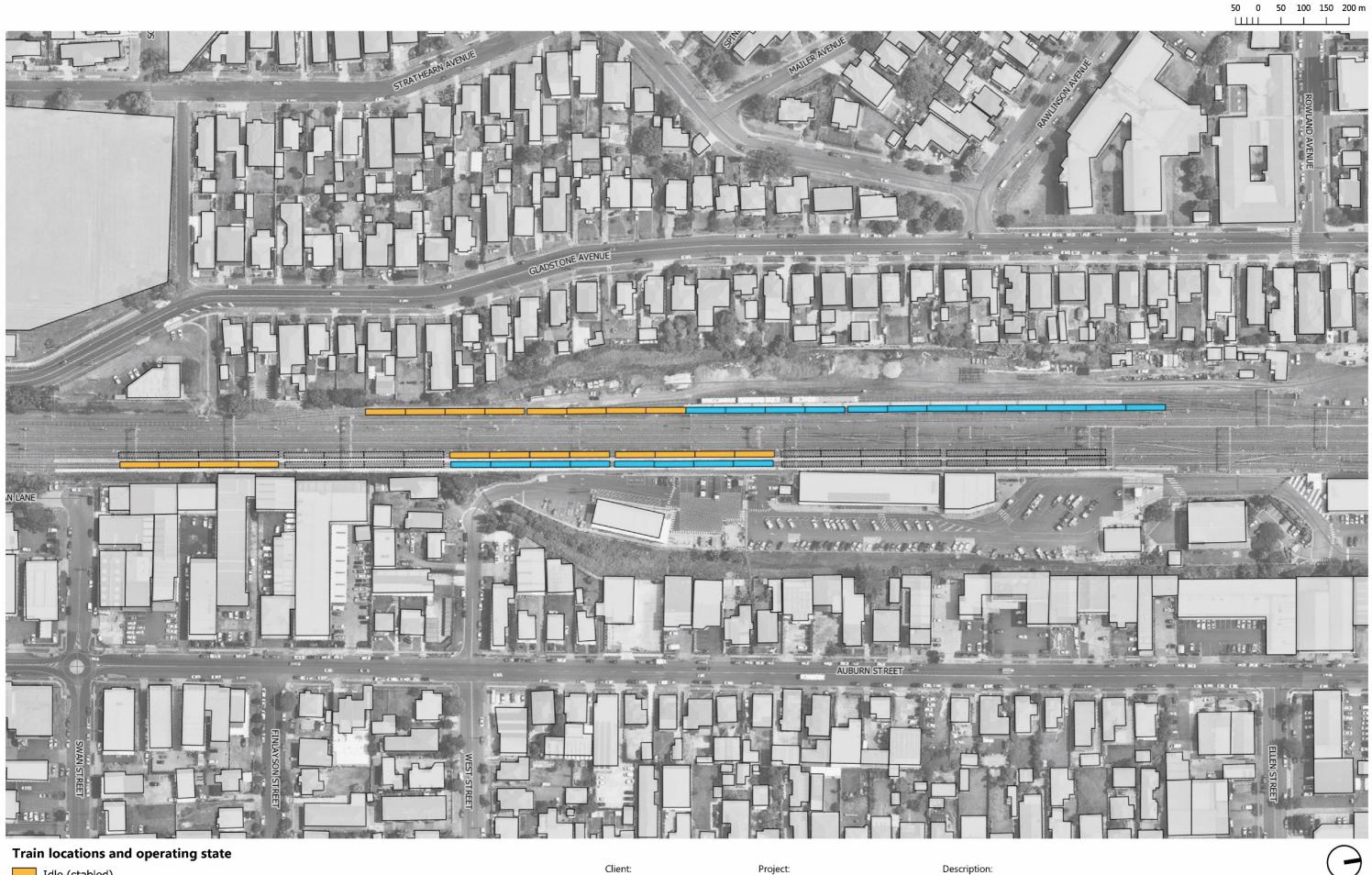
Notes 1. Existing train locations are approximate and have been based upon the current stabling markers as per July 2019. Locations on individual trains can change vary based upon the requirements of an individual night. 2. Future LNIF locations based upon drawings MTMS-LNS-KBR-CV-TR-DRG-011131 to MTMS-LNS-KBR-CV-TR-DRG-011134, Revision B.

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Created by: ALE Figure No: TK877-01 6 1 2 B2-007-1 (r4) 05-08-2019 Date: 1:1750 @ A3 Scale:



in an operating state			
Idle (stabled)	Client: Jacobs	Project: MTMS	Descripti Operat
Preparation	Jacobs	Wollongong Stabling Yard	Existing
None None	2019. Locations on individual trains can o	and have been based upon the current stabling markers as per July hange vary based upon the requirements of an individual night.	

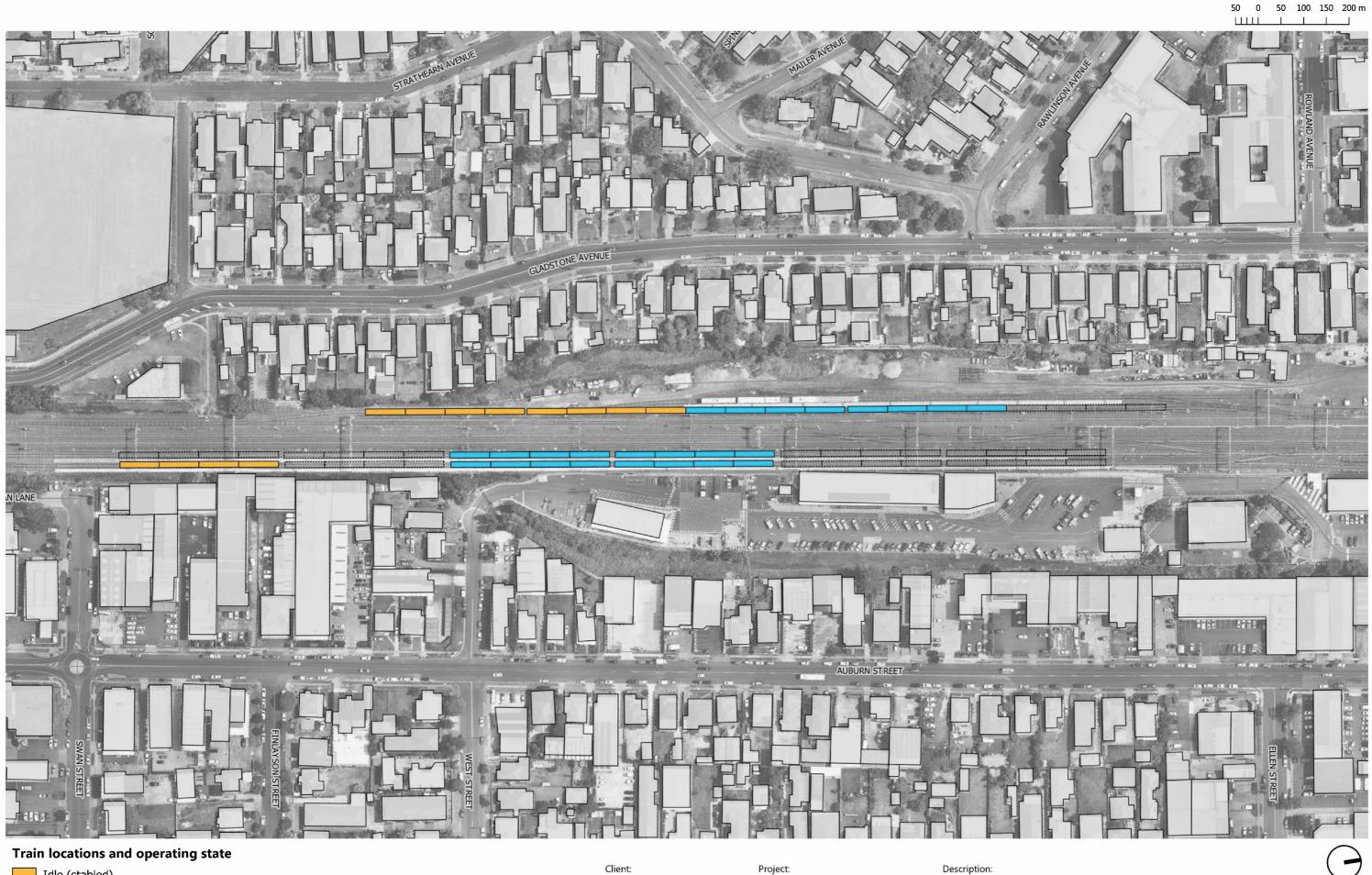
2. Future LNIF locations based upon drawings MTMS-LNS-KBR-CV-TR-DRG-011131 to MTMS-LNS-KBR-CV-TR-DRG-011134, Revision B.

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iption: rational noise assessment ing - Night (Preparation) (~3:30am)



Created by: ALE Figure No: TK877-01 6 1 2 B2-007-1 (r4) Date: 05-08-2019 1:1750 @ A3 Scale:



Idle (stabled) Preparation	Client: Jacobs	Project: MTMS Wollongong Stabling Yard	Description: Operational Existing - N
None	Notes 1. Existing train locations are approximate and have t 2019. Locations on individual trains can change vary	been based upon the current stabling markers as per July	Existing

2. Future INIP focations based upon drawings MTMS-LNS-KBR-CV-TR-DRG-011131 to MTMS-LNS-KBR-CV-TR-DRG-011134, Revision B.

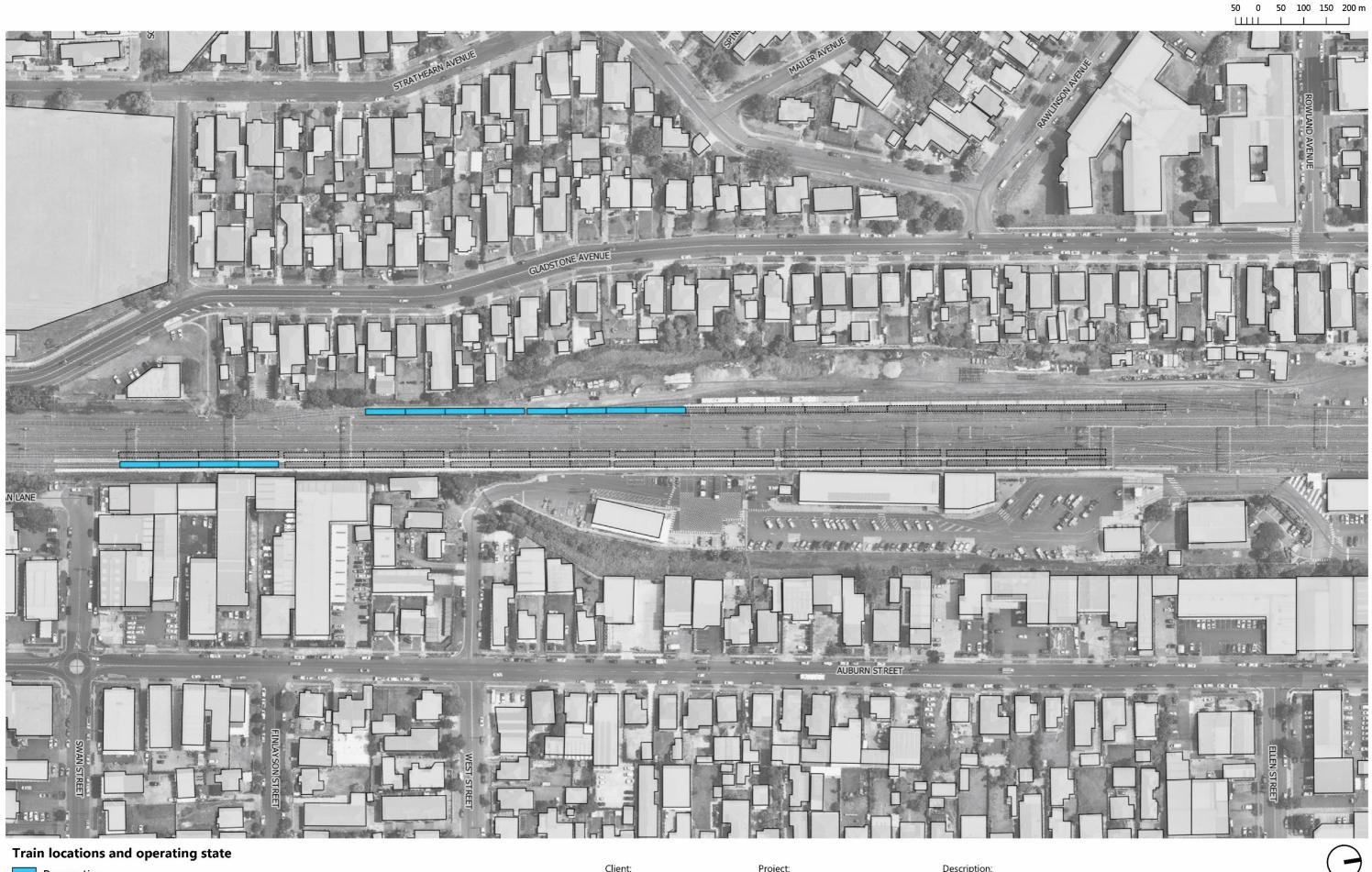
For information only and not for construction. This information is protected by copyright.

1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501

perational noise assessment xisting - Night (Preparation) (~4:30am)



Created by: ALE Figure No: TK877-01 6 1 2 B2-007-2 (r4) Date: 05-08-2019 1:1750 @ A3 Scale:



#### Preparation

None

Client: Jacobs Project: MTMS Wollongong Stabling Yard

Description: Operational noise assessment Existing - Night (Preparation) (~5:30am)

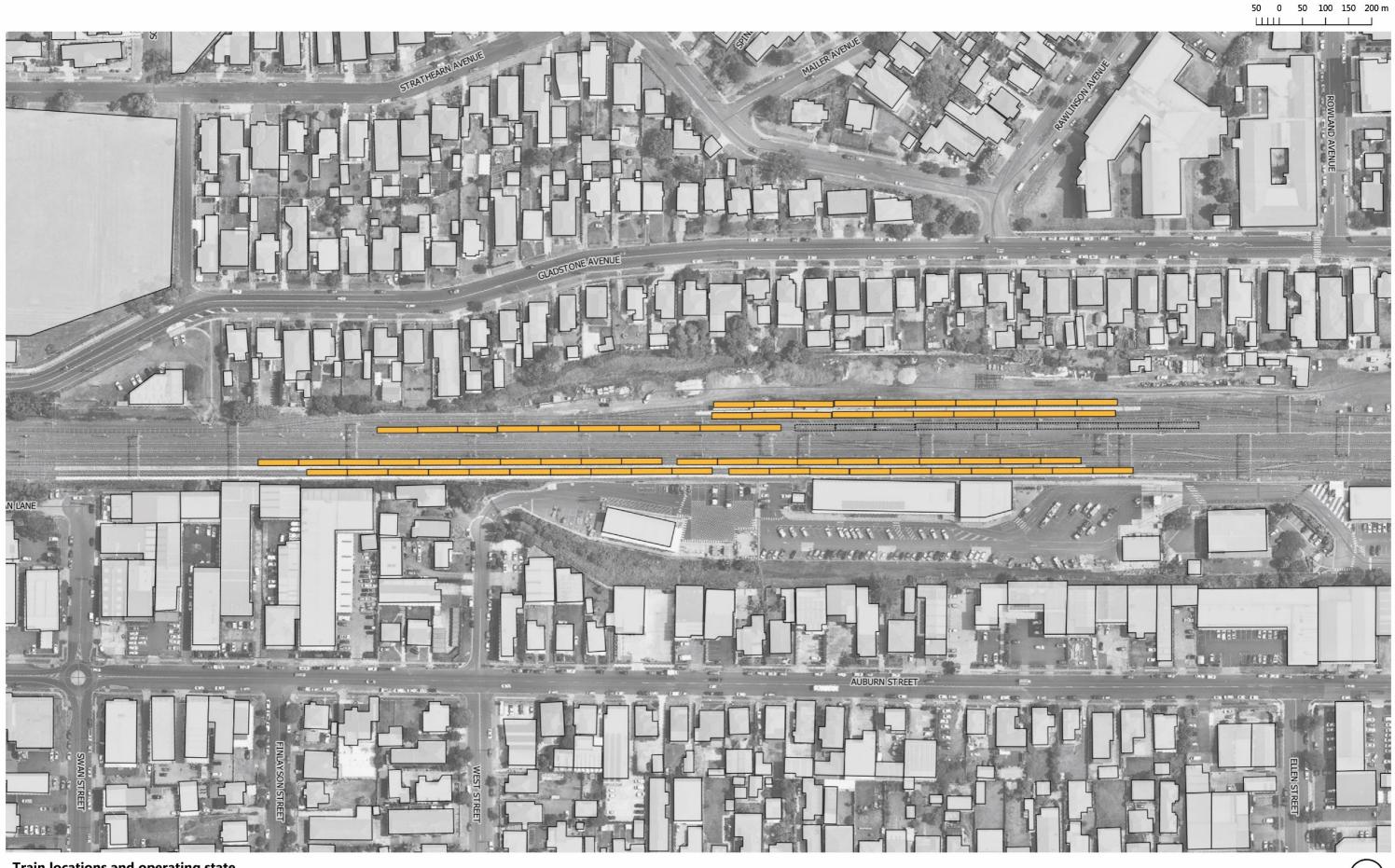
Notes 1. Existing train locations are approximate and have been based upon the current stabling markers as per July 2019. Locations on individual trains can change vary based upon the requirements of an individual night. 2. Future LNIF locations based upon drawings MTMS-LNS-KBR-CV-TR-DRG-011131 to MTMS-LNS-KBR-CV-TR-DRG-011134, Revision B.

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Created by: ALE Figure No: TK877-01 6 1 2 B2-007-3 (r4) 05-08-2019 Date: 1:1750 @ A3 Scale:



None

Client: Jacobs Project: MTMS Wollongong Stabling Yard

Description: Operational noise assessment

Notes 1. Existing train locations are approximate and have been based upon the current stabling markers as per July 2019. Locations on individual trains can change vary based upon the requirements of an individual night. 2. Future LNIF locations based upon drawings MTMS-LNS-KBR-CV-TR-DRG-011131 to MTMS-LNS-KBR-CV-TR-DRG-011134, Revision B.

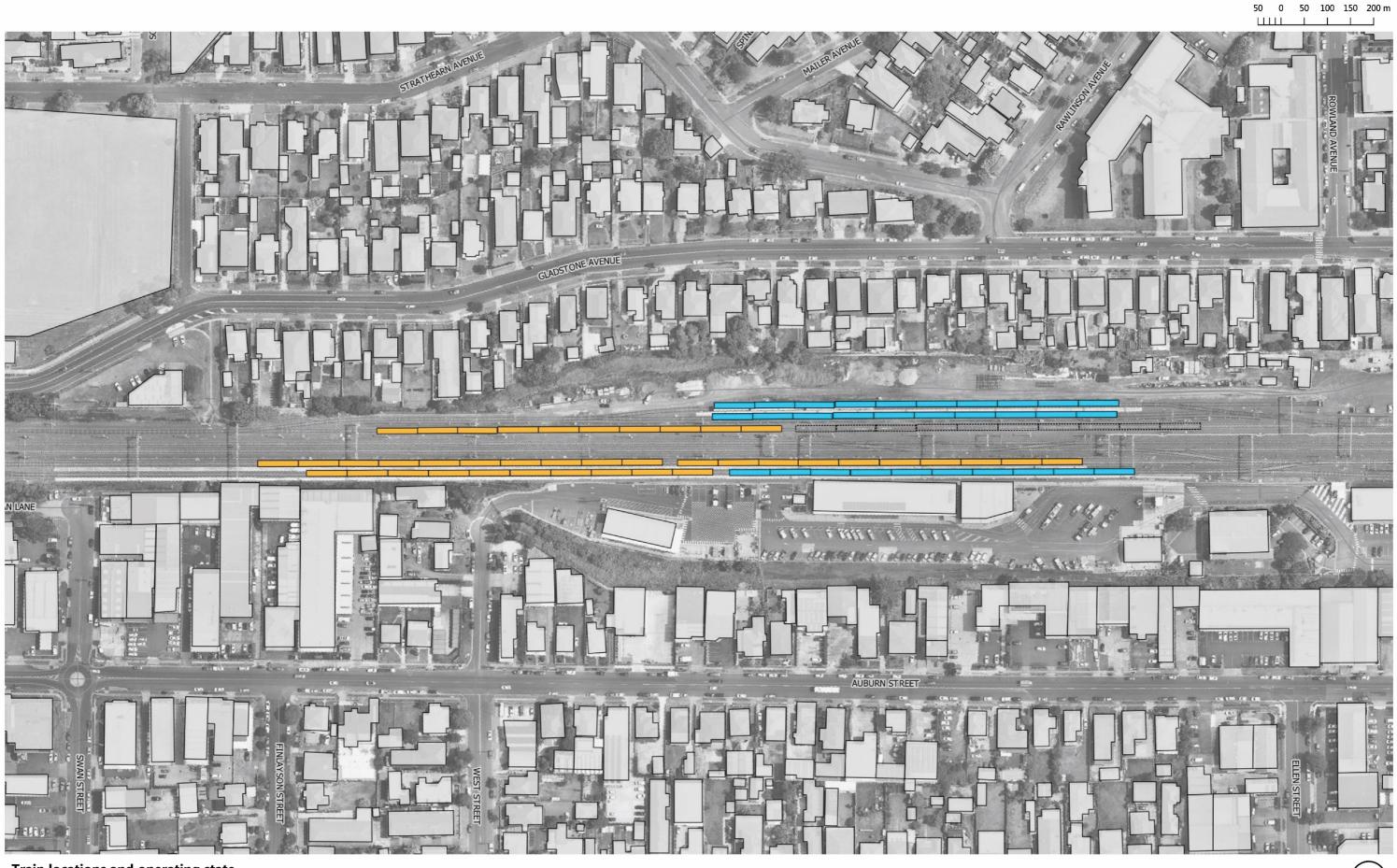
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Train locations - Future LNIF - Night (Stabled) (~2:30am)



Created by: ALE Figure No: TK877-01 6 1 2 B2-007-12 (r4) 05-08-2019 Date: 1:1750 @ A3 Scale:



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Idle (stabled)	Client:	Project:	Descri	
	Jacobs	MTMS	Opera	
Preparation		Wollongong Stabling Yard	Train	
None	Notes			
	<ol> <li>Existing train locations are approximate and have been based upon the current stabling markers as per July 2019. Locations on individual trains can change vary based upon the requirements of an individual night.</li> </ol>			
		2013. Executions on individual trains can change vary based upon the requirements of an individual hight.		

2. Future INIP focations based upon drawings MTMS-LNS-KBR-CV-TR-DRG-011131 to MTMS-LNS-KBR-CV-TR-DRG-011134, Revision B.

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ain locations - Future LNIF - Night (Preparation) (~3:30am)

Created by: ALE Figure No: TK877-01 6 1 2 B2-007-12 (r4) 05-08-2019 Date: 1:1750 @ A3 Scale:

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Idle (stabled)	Client:	Project:	Descripti	
Preparation	Jacobs	MTMS Wollongong Stabling Yard	Operat Train lo	
None	Notes 1. Existing train locations are approximate and have been based upon the current stabling markers as per July			
		2019. Locations on individual trains can change vary based upon the requirements of an individual night.		

2. Future INIP focations based upon drawings MTMS-LNS-KBR-CV-TR-DRG-011131 to MTMS-LNS-KBR-CV-TR-DRG-011134, Revision B.

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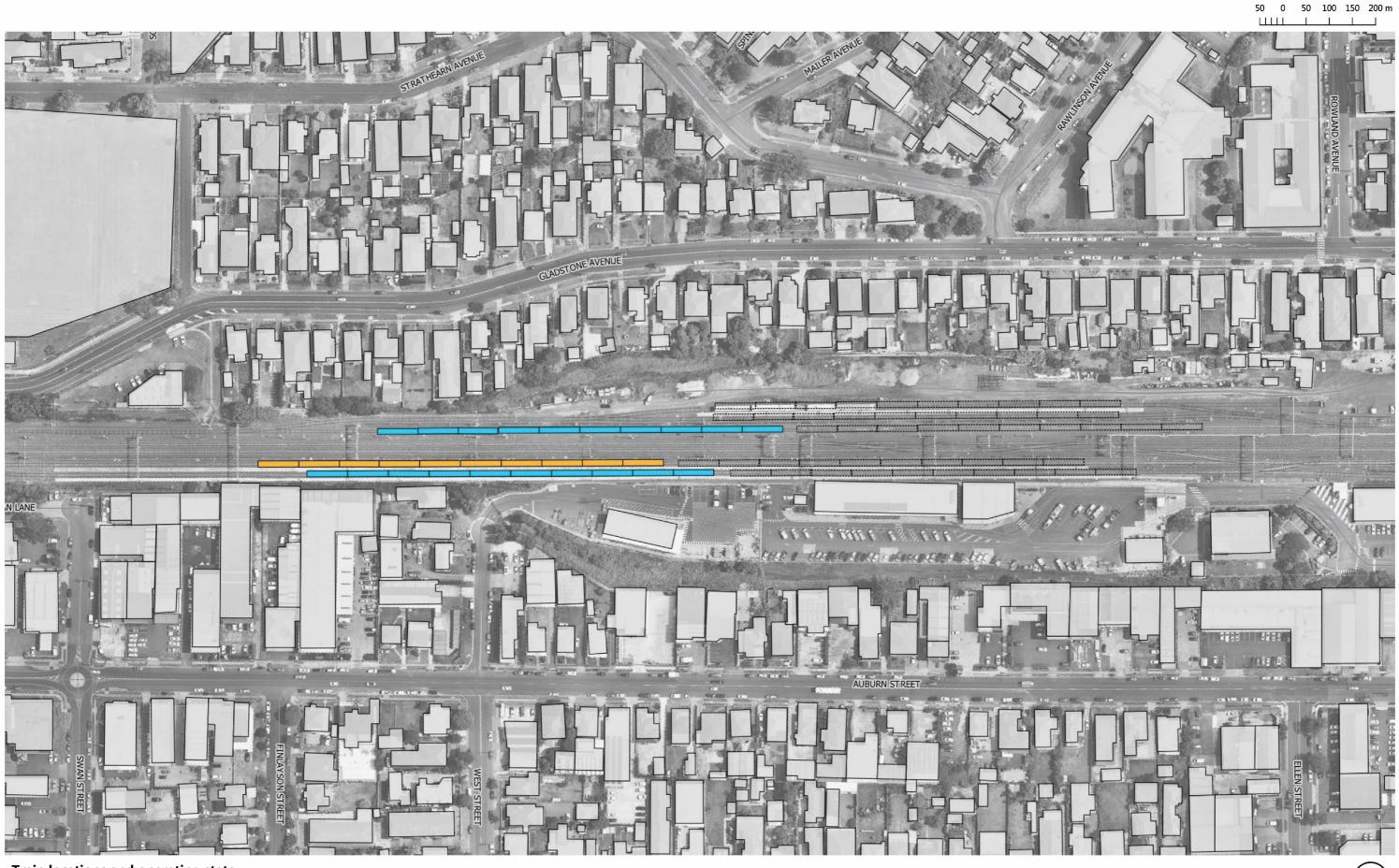
iption: rational noise assessment



locations - Future LNIF - Night (Preparation) (~4:30am)

Created by: ALE Figure No: TK877-01 6 1 2 B2-007-13 (r4) 05-08-2019 Date: 1:1750 @ A3 Scale:

)



Idle (stabled) Preparation	Client: Jacobs	<sup>Project:</sup> MTMS Wollongong Stabling Yard	Descript Operat Train le
None		nate and have been based upon the current stabiling markers as per July an change vary based upon the requirements of an individual night.	

2. Future INIP focations based upon drawings MTMS-LNS-KBR-CV-TR-DRG-011131 to MTMS-LNS-KBR-CV-TR-DRG-011134, Revision B.

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ription: erational noise assessment



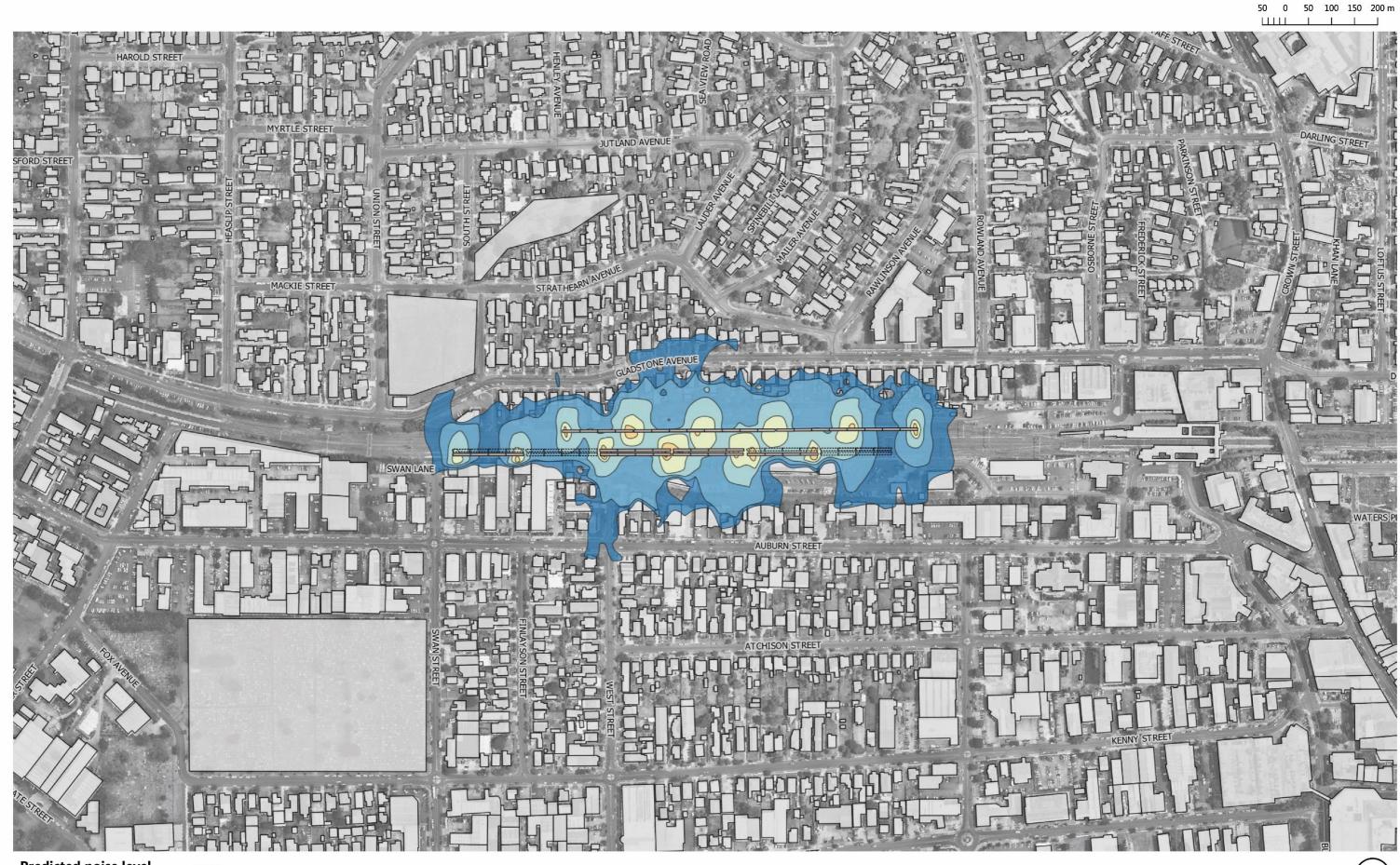
locations - Future LNIF - Night (Preparation) (~5:30am)

Created by: ALE Figure No: TK877-01 6 1 2 B2-007-14 (r4) Date: 05-08-2019 1:1750 @ A3 Scale:

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# APPENDIX F Predicted operational noise contours

#### F.1 Predicted operational noise levels (LAeq 15 minute) for the existing scenario



LAeq 15 minute, dB(A) 43 48 53 58 63 68

Stabling location within the Wollongong stabling yard

Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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Description: Operational noise assessment (~2:30am)

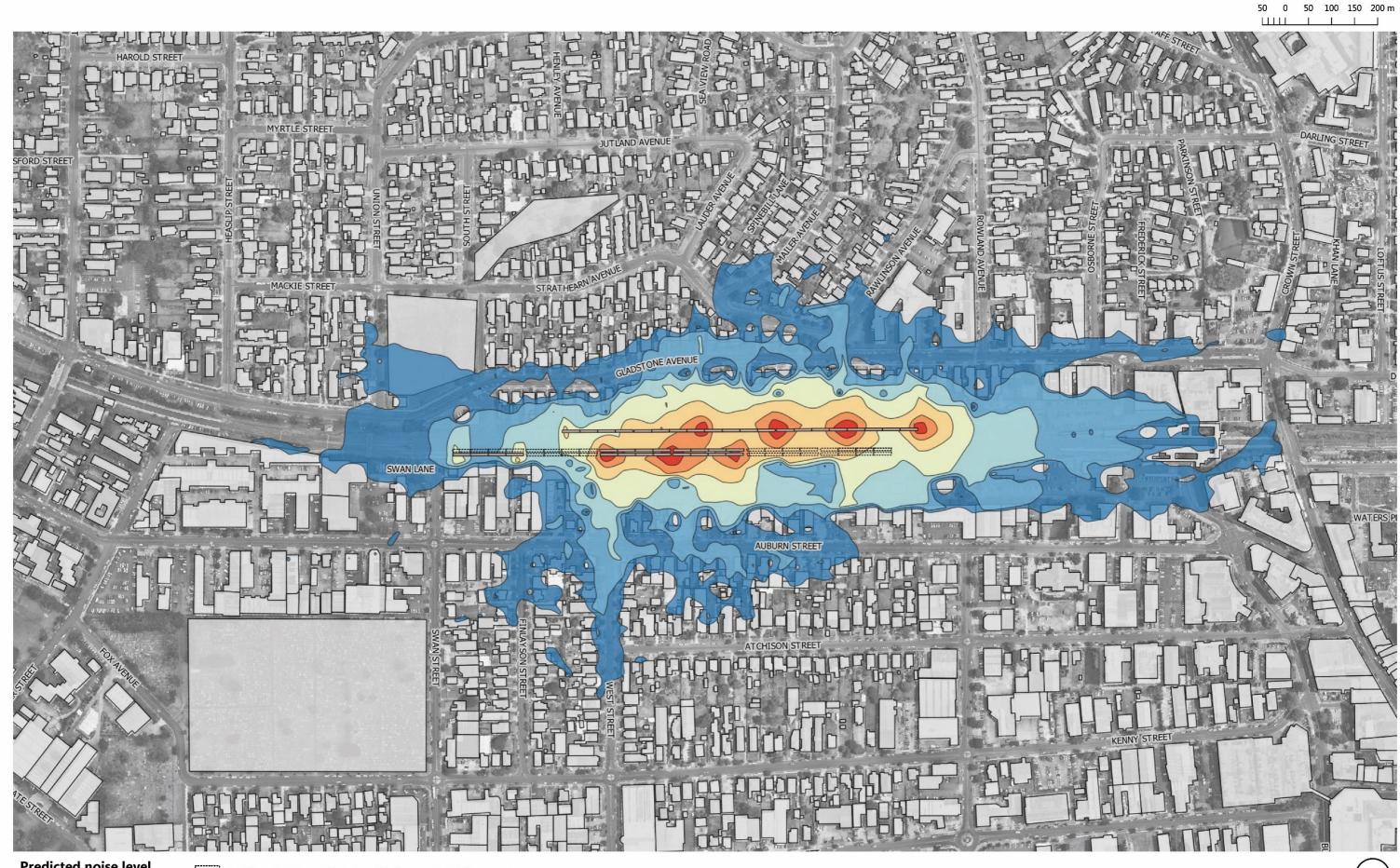


1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501

Operational noise levels (LAeq 15min) - Scenario 1 - Existing - Night (Stabled)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-4 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



LAeq 15 minute, dB(A) 43 48 53 58 63 68

73

Stabling location within the Wollongong stabling yard

Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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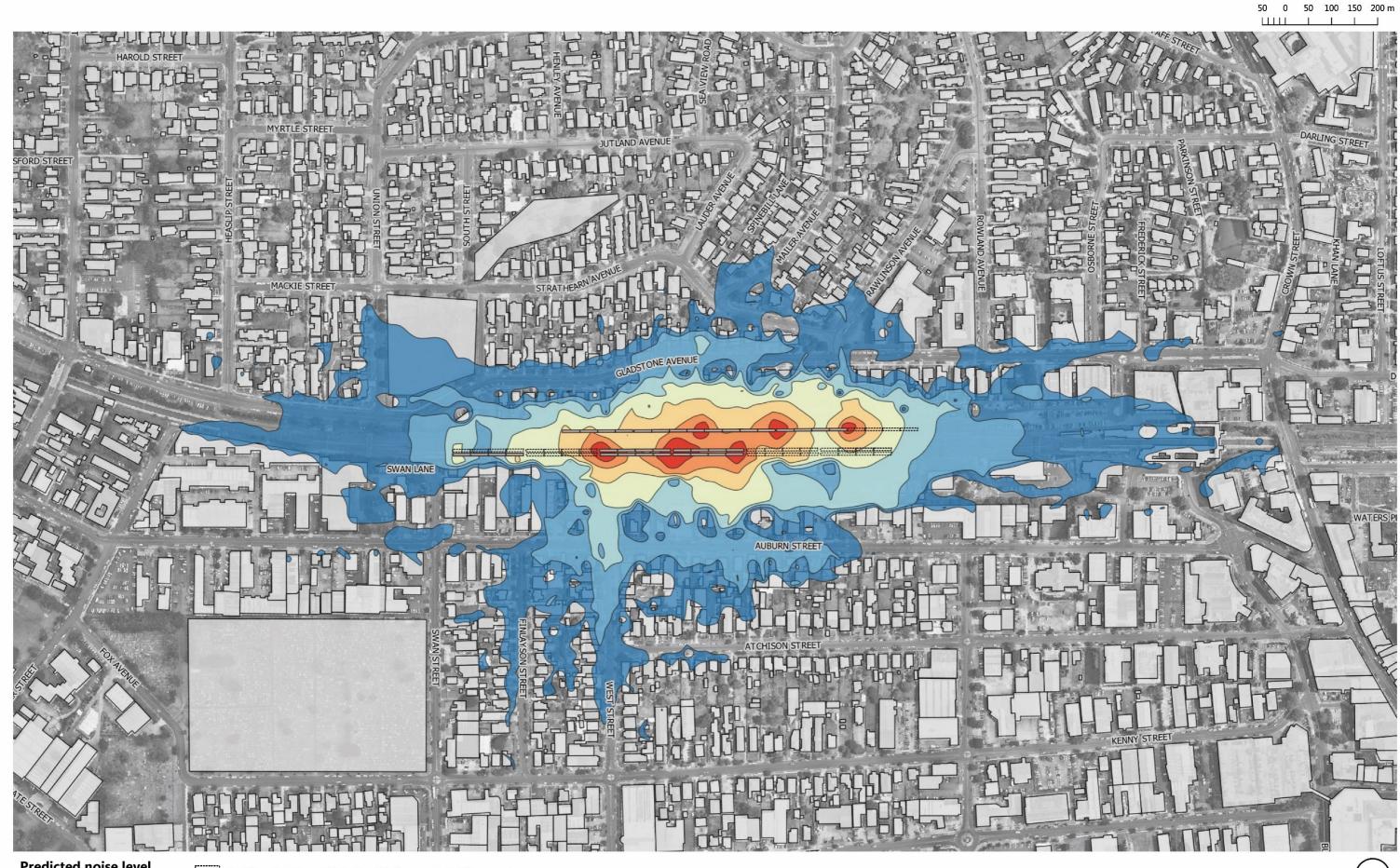
# Description: Operational noise assessment (~3:30am)



P: 02 8218 0500 F: 02 8218 0501

Operational noise levels (LAeq 15min) - Scenario 2 - Existing - Night (Prep)

Created by: ALE Figure No: TK877-01 6 1 2 B2-005-5 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



LAeq 15 minute, dB(A) 43 48 53 58 63 68 73

Stabling location within the Wollongong stabling yard Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

Description: Operational noise assessment (~4:30am)

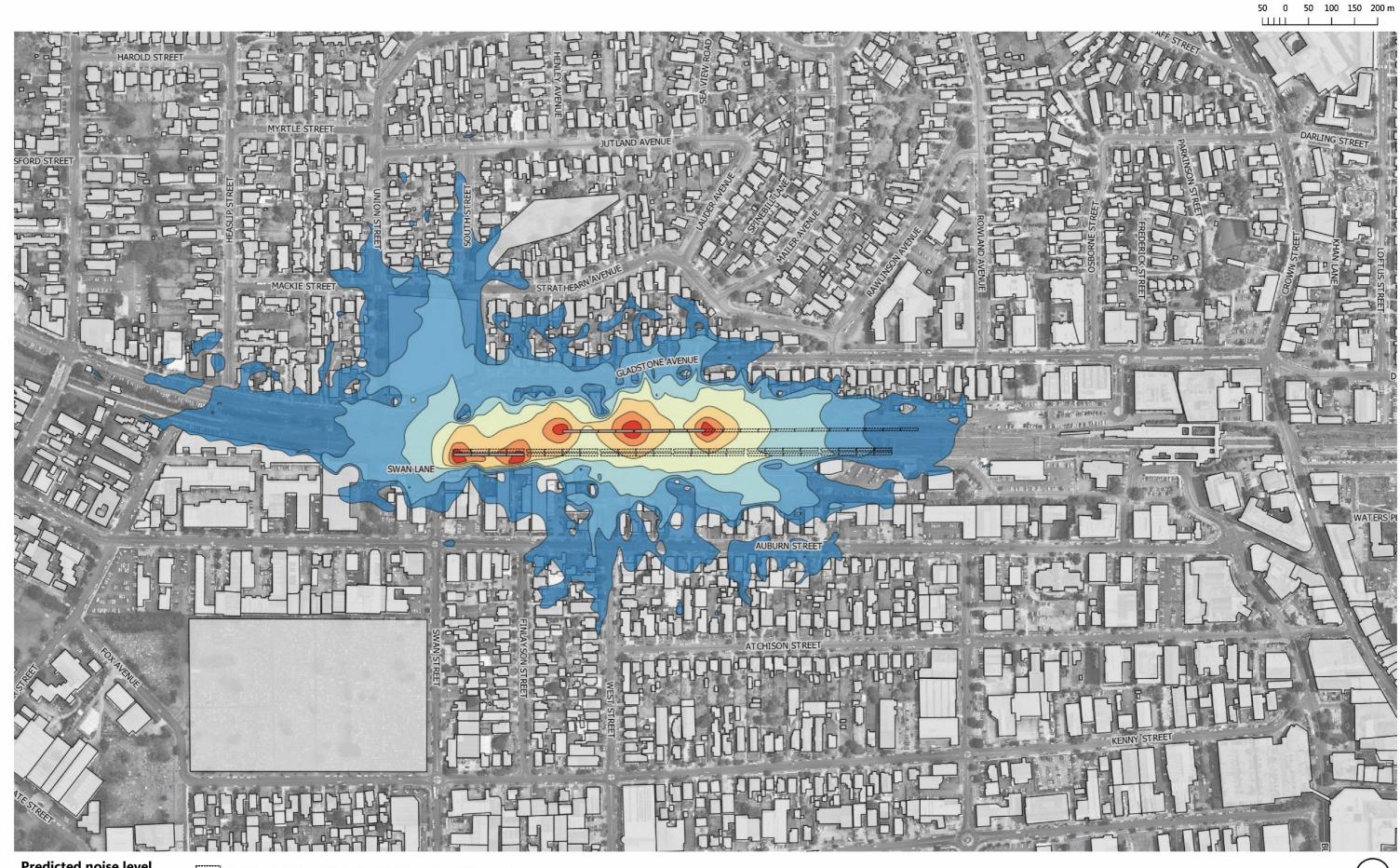
7[(0)]  $|||_{72(0)}$ & ASSOCIATES

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Operational noise levels (LAeq 15min) - Scenario 3 - Existing - Night (Prep)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-6 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



LAeq 15 minute, dB(A) 43 48 53 58 63 68 73

Stabling location within the Wollongong stabling yard Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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Description: Operational noise assessment (~5:30am)

& ASSOCIATES 1/418A Elizabeth Street, SURRY HILLS NSW 2010

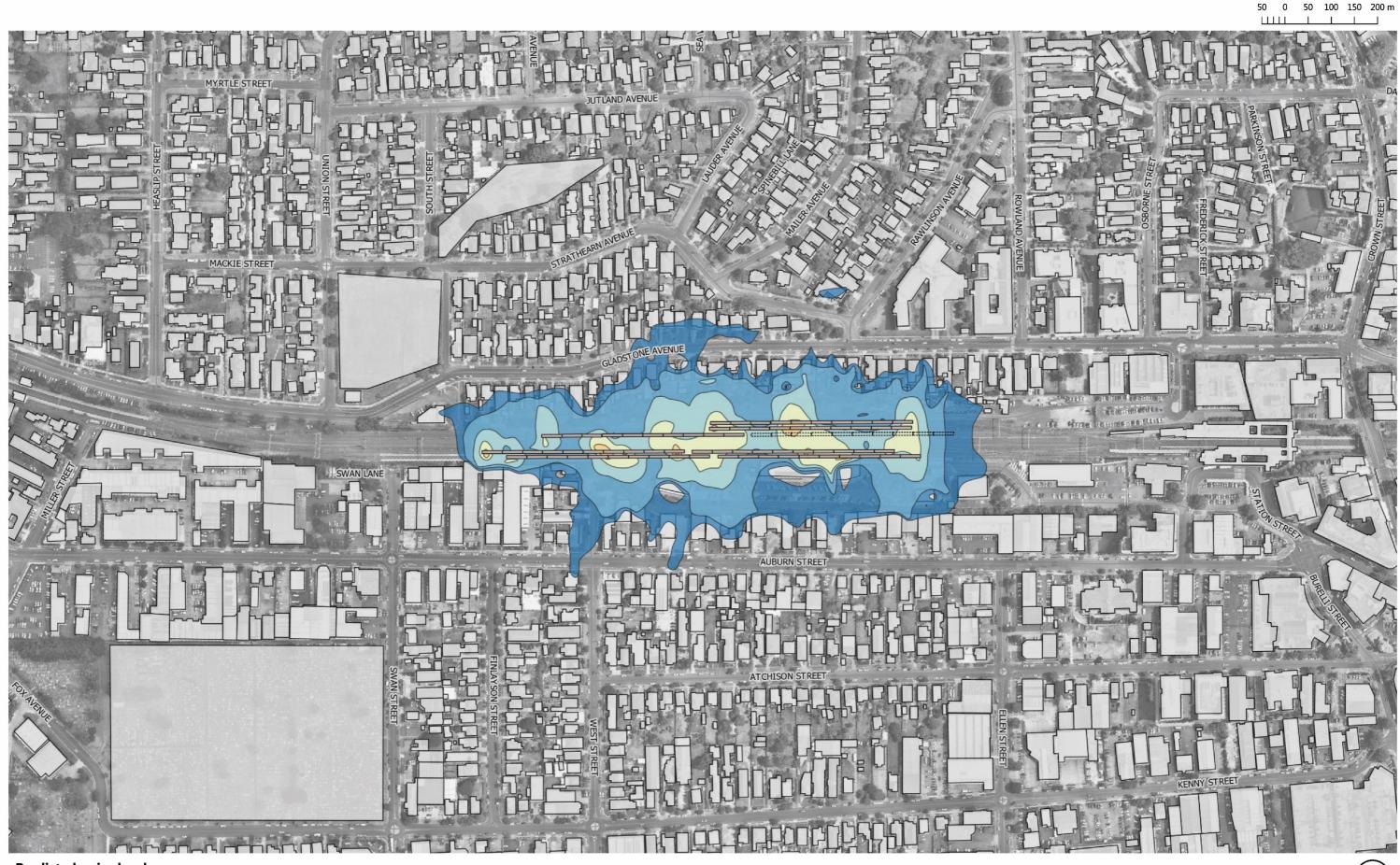
P: 02 8218 0500 F: 02 8218 0501

Operational noise levels (LAeq 15min) - Scenario 4 - Existing - Night (Prep)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-7 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:

### F.2 Predicted operational noise levels (LAeq 15 minute) for the future scenario



LAeq 15 minute, dB(A) 43 48

53

63

58

68

Train present at stabling location

Stabling location within the Wollongong stabling yard

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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Description: Operational noise assessment (~2:30am)

5|X|72(0) 7(0)|X||||X & ASSOCIATES 1/418A Elizabeth Street, SURRY HILLS NSW 2010

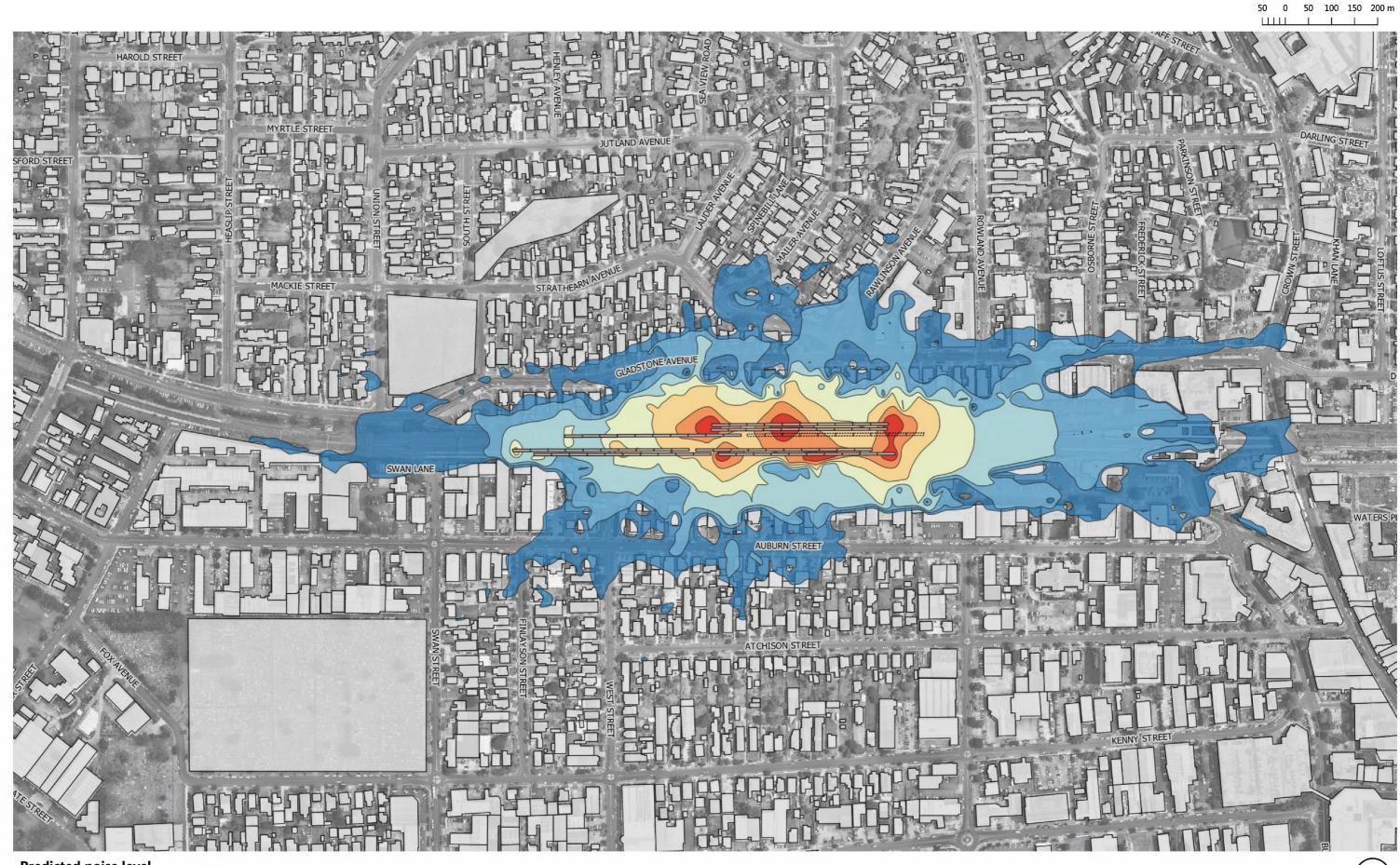
P: 02 8218 0500 F: 02 8218 0501

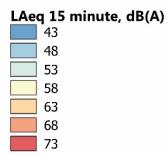
Operational noise levels (LAeq 15min) - Scenario 5 - Future LNIF - Night (Stabled)

-



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-15 (r4) 05-08-2019 Date: 1:3500 @ A3 Scale:





Stabling location within the Wollongong stabling yard

Train present at stabling location

Client: Jacobs

#### Project: MTMS Wollongong Stabling Yard

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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Description: Operational noise assessment (~3:30am)

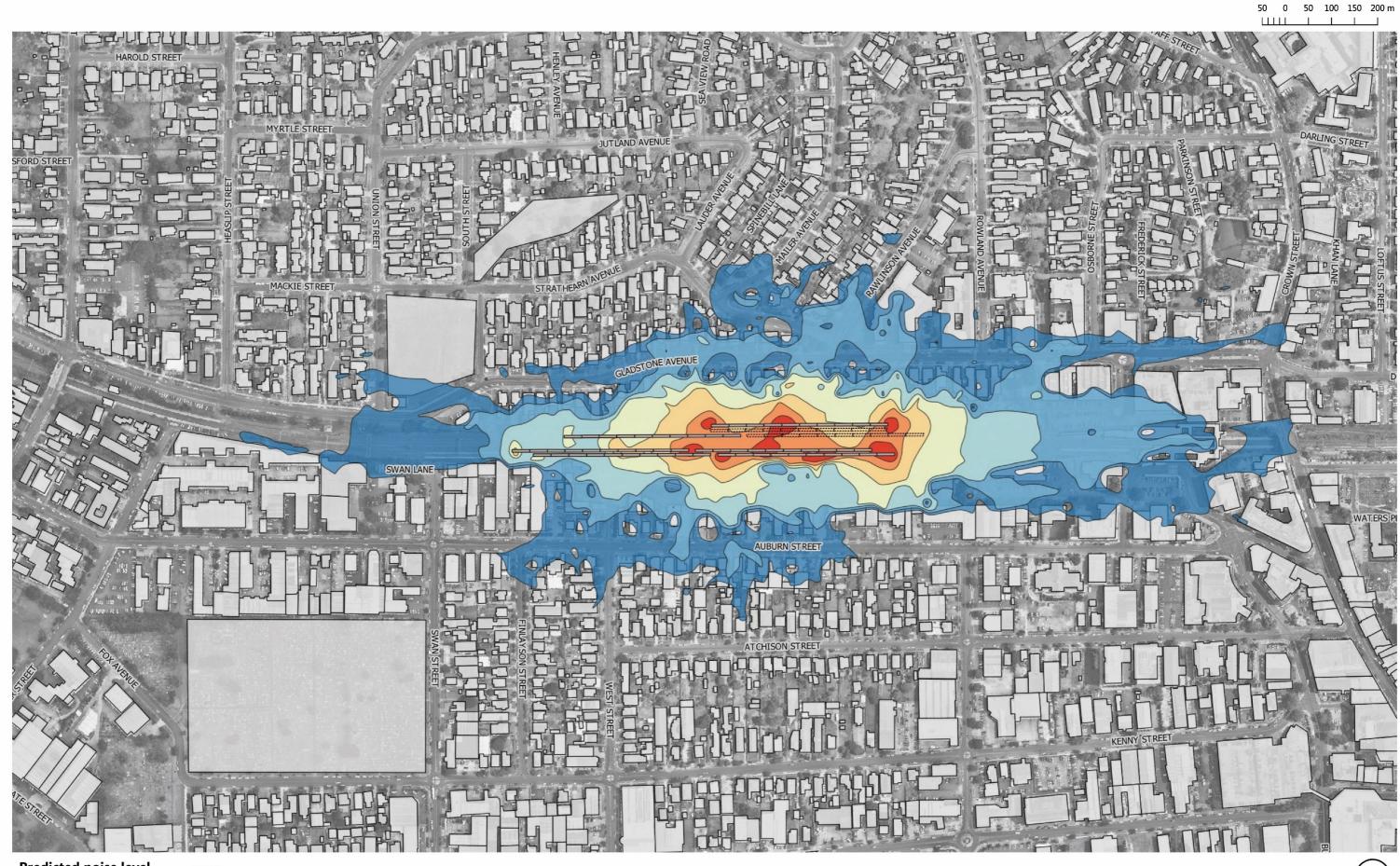
||X||72(0) 7(0)|X|| & ASSOCIATES

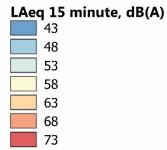
1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501

Operational noise levels (LAeq 15min) - Scenario 6 - Future LNIF - Night (Prep)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-16 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:





Stabling location within the Wollongong stabling yard Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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Description: Operational noise assessment (~4:30am)

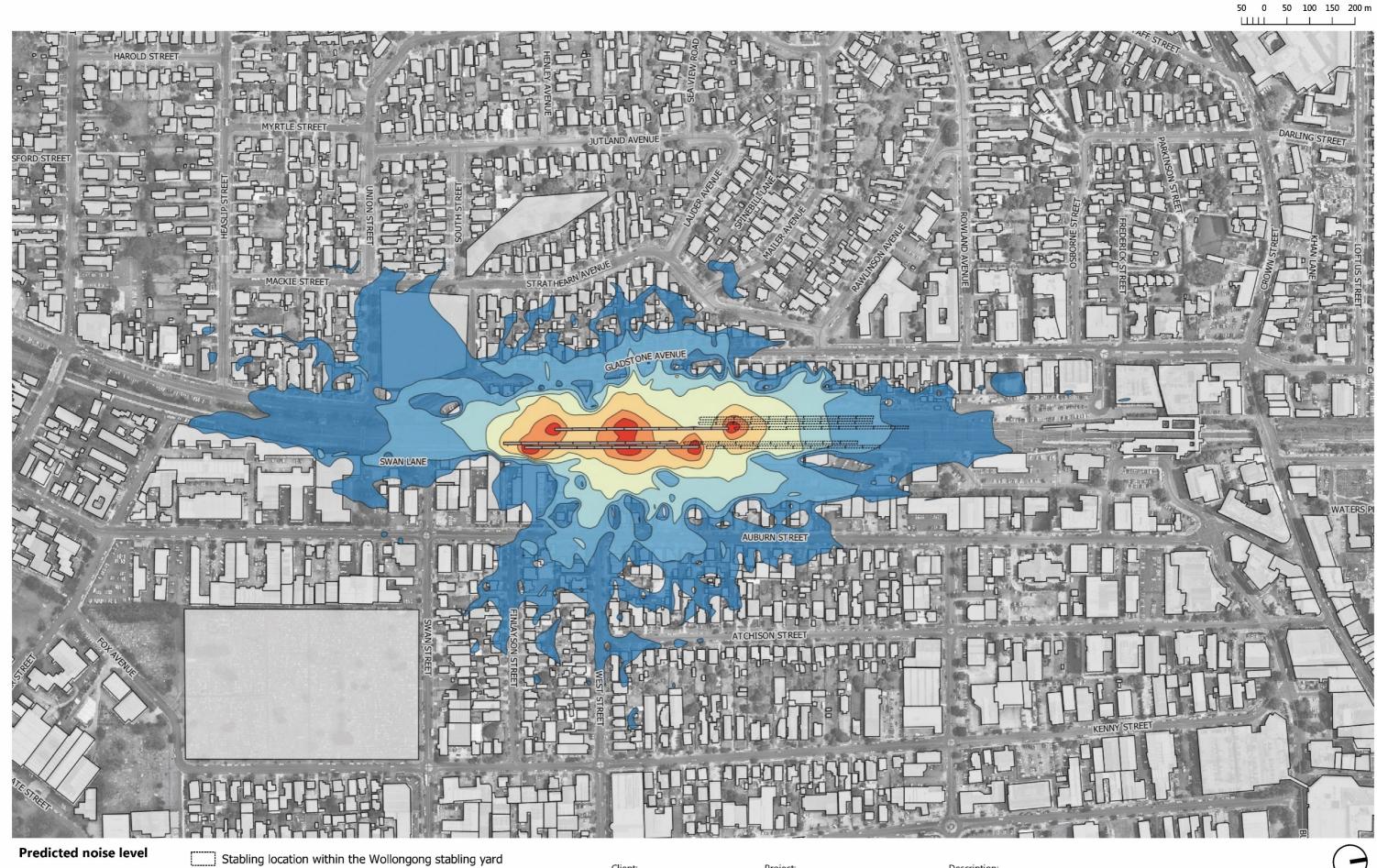
& ASSOCIATES 1/418A Elizabeth Street, SURRY HILLS NSW 2010

P: 02 8218 0500 F: 02 8218 0501

Operational noise levels (LAeq 15min) - Scenario 7 - Future LNIF - Night (Prep)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-17 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



LAeq 15 minute, dB(A) 43 48 53 58 63 68 73

Stabling location within the Wollongong stabling yard

Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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# Description: Operational noise assessment (~2:30am)

& ASSOCIATES 1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501

 $|||_{72(0)}$ 

Operational noise levels (LAeq 15min) - Scenario 8 - Future LNIF - Night (Stabled)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-18 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:

### F.3 Predicted operational noise levels (L<sub>Amax</sub>) for the existing scenario



Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes

Description: Operational noise assessment Operational noise levels (LAmax) - Scenario 1 - Existing - Night (Stabled) (~2:30am)



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Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-8 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

-Description: Operational noise assessment Operational noise levels (LAmax) - Scenario 2 - Existing - Night (Prep) (~3:30am)

Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

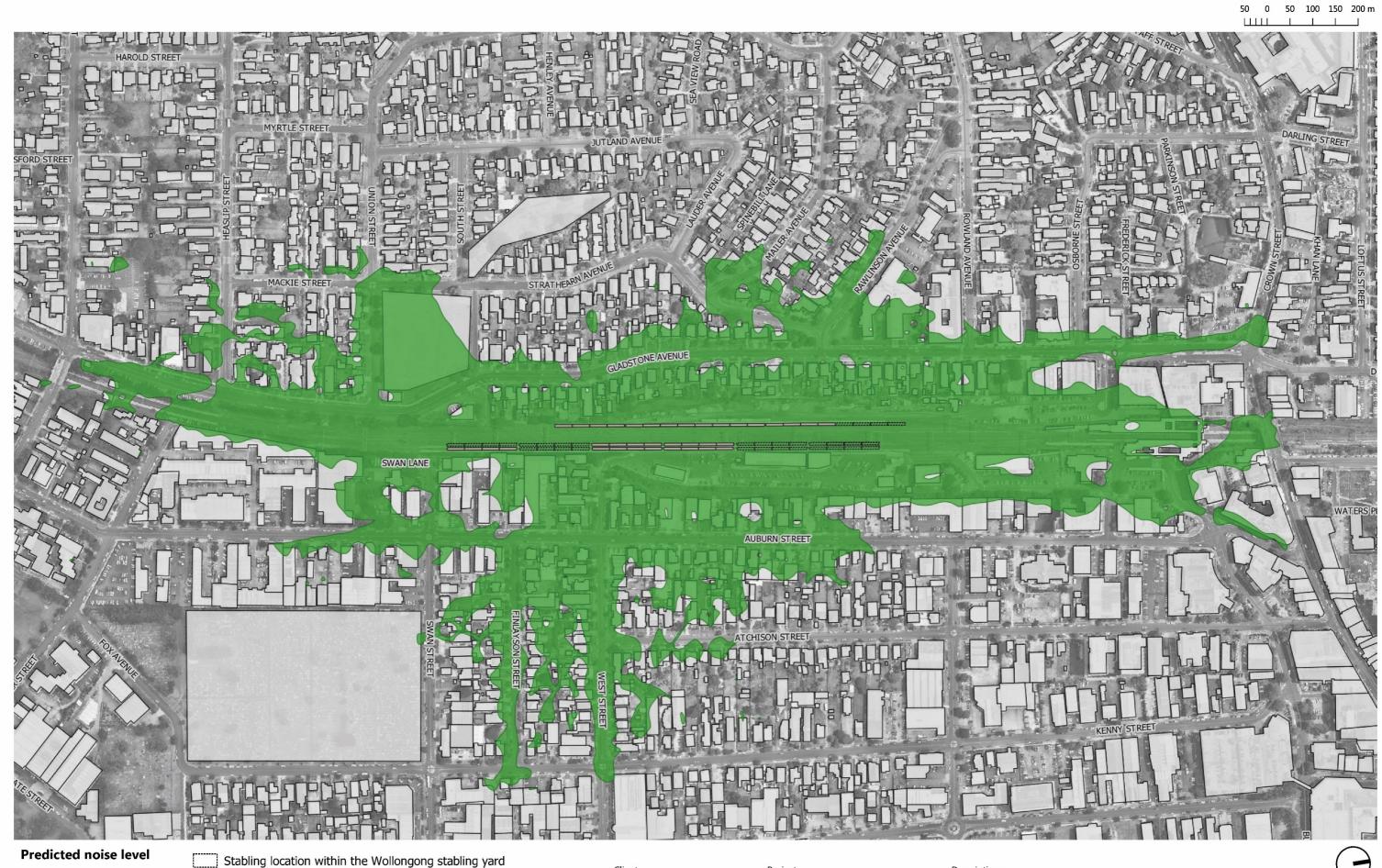
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& ASSOCIATES 1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501

72(0)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-9 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



Train present at stabling location

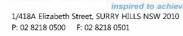
Client: Jacobs

Project: MTMS Wollongong Stabling Yard

-Description: Operational noise assessment Operational noise levels (LAmax) - Scenario 3 - Existing - Night (Prep) (~4:30am)

Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

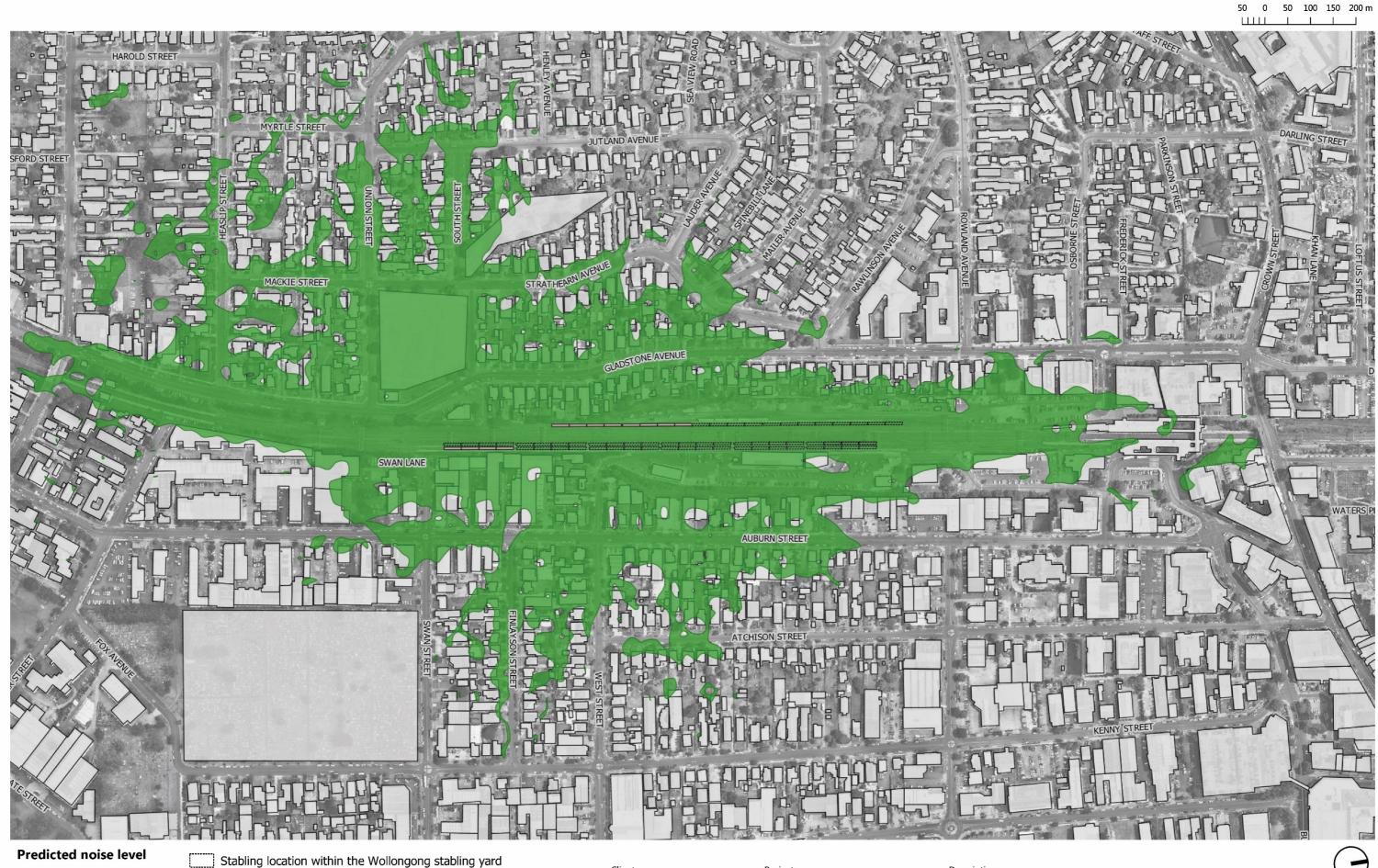
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72(0)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-10 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

-Description: Operational noise assessment Operational noise levels (LAmax) - Scenario 4 - Existing - Night (Prep) (~5:30am)

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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& ASSOCIATES 1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501

72(0)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-11 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:

### F.4 Predicted operational noise levels (L<sub>Amax</sub>) for the future scenario



Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Description: Operational noise assessment

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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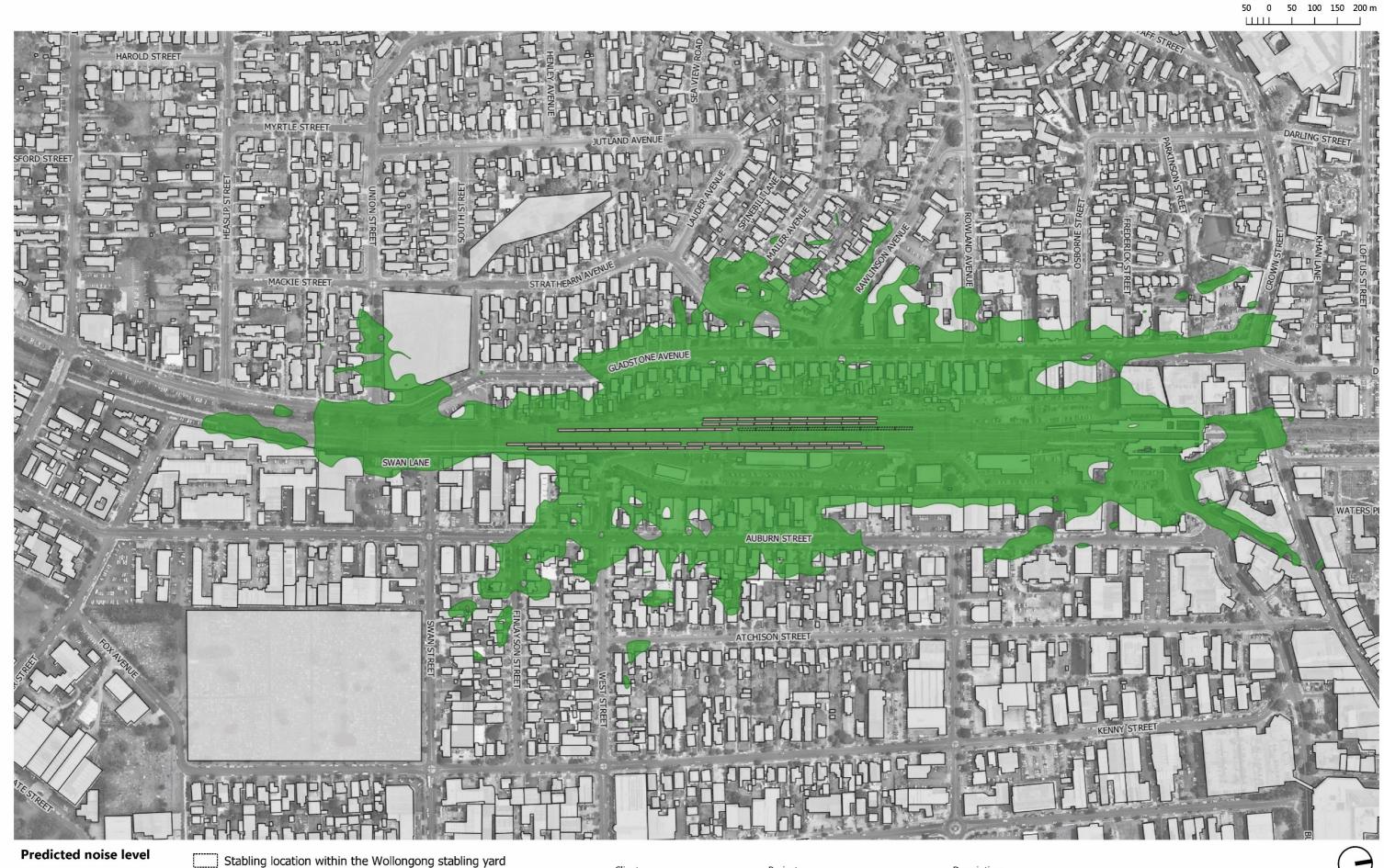
1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501

172(0)

Operational noise levels (LAmax) - Scenario 5 - Future - Night (Stabled) (~2:30am)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-19 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes

-Description: Operational noise assessment Operational noise levels (LAmax) - Scenario 6 - Future - Night (Prep) (~3:30am)

Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

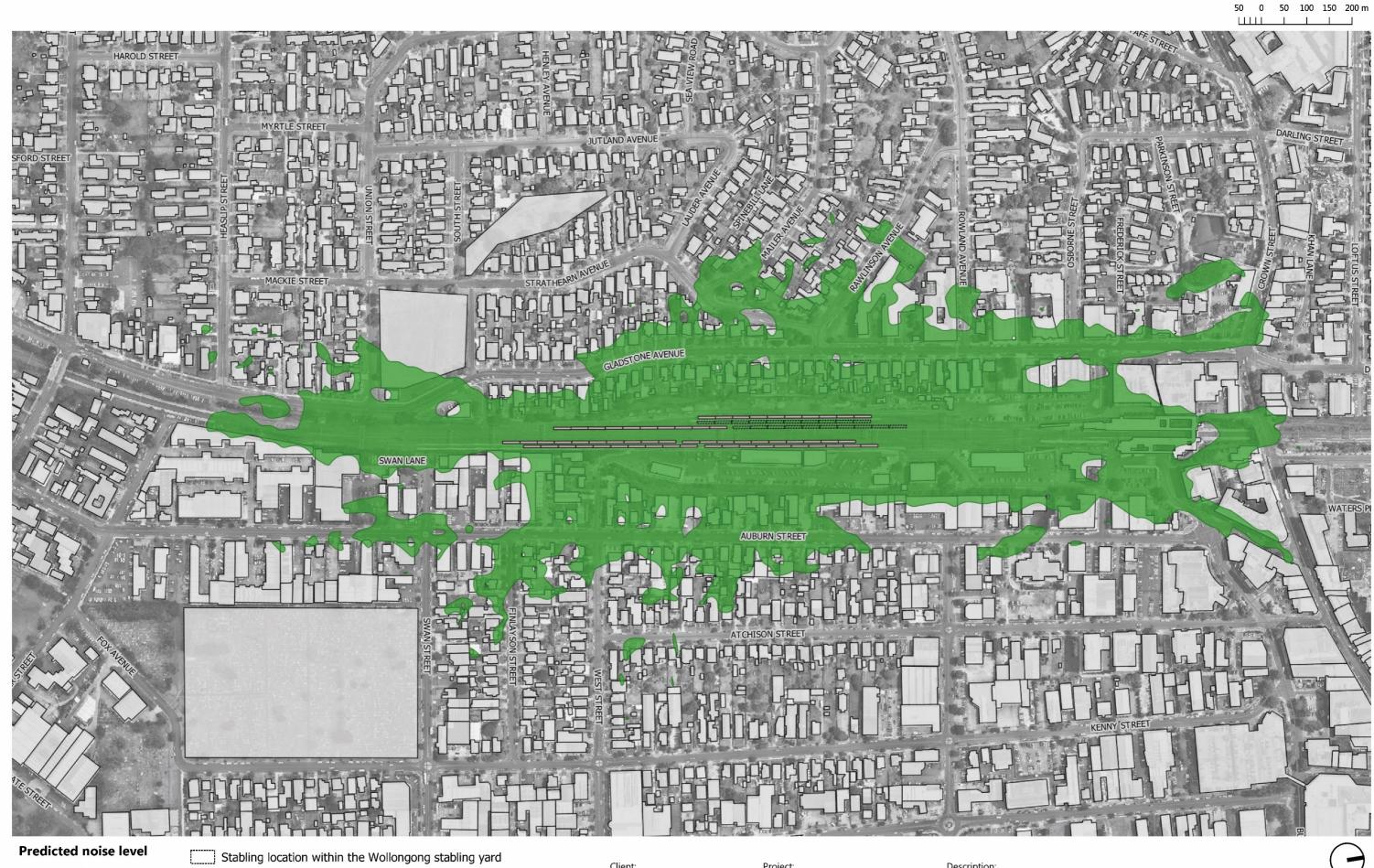
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72(0)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-20 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

Notes

Description: Operational noise assessment



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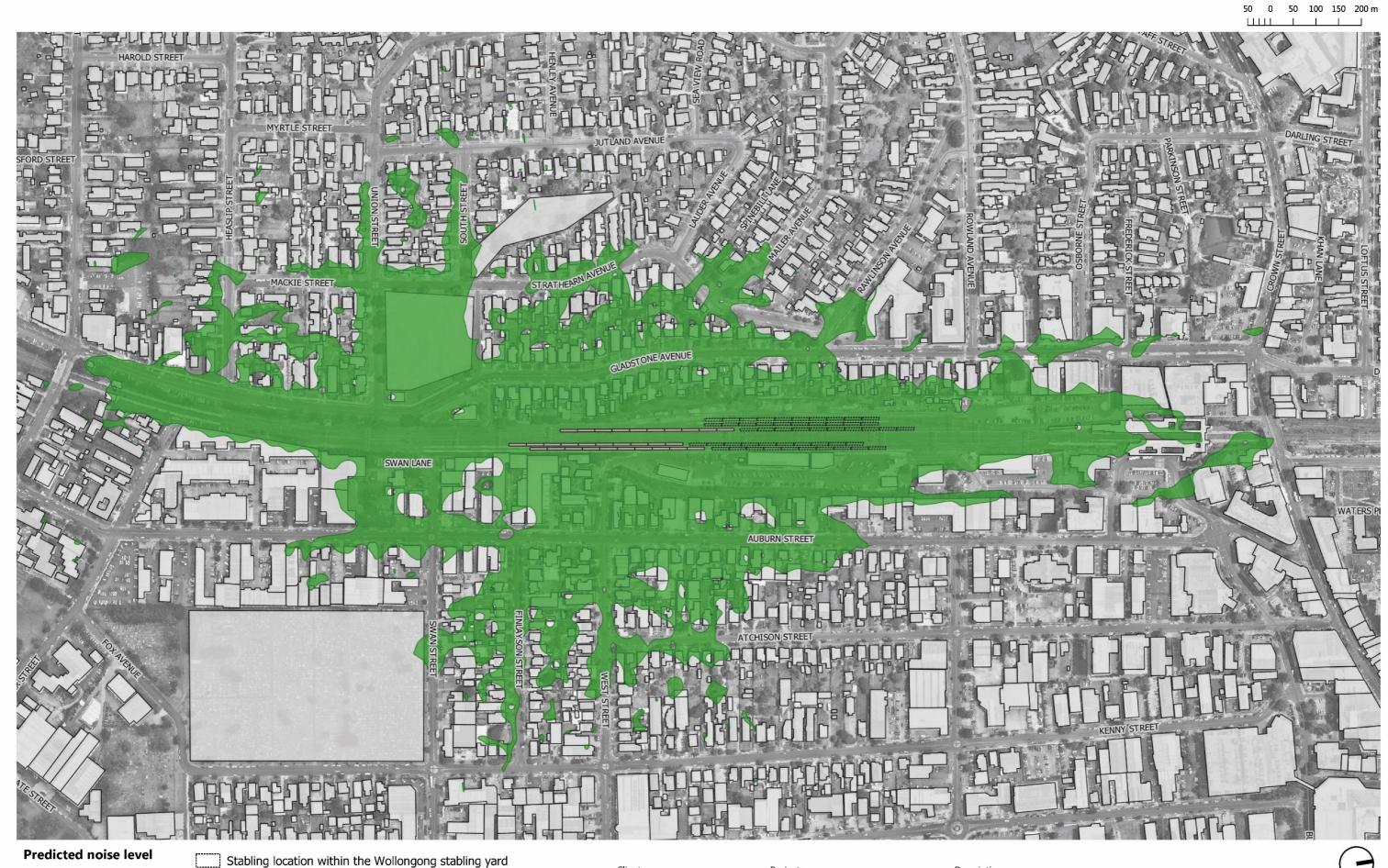
Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

1/418A Elizabeth Street, SURRY HILLS NSW 2010 P: 02 8218 0500 F: 02 8218 0501

Operational noise levels (LAmax) - Scenario 7 - Future - Night (Prep) (~4:30am)



Created by: ALE Figure No: TK877-01 6 1 2 B2-005-21 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale:



Train present at stabling location

Client: Jacobs

Project: MTMS Wollongong Stabling Yard

-Description: Operational noise assessment Operational noise levels (LAmax) - Scenario 8 - Future - Night (Prep) (~5:30am)

Notes Notes 1. Noise Levels are approximate due to interpolation of contours and should be used for reference only 2. Noise contours are predicted at 1.5m above the local ground level

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P: 02 8218 0500 F: 02 8218 0501

Created by: ALE Figure No: TK877-01 6 1 2 B2-005-22 (r4) 05-08-2019 Date: 1:4000 @ A3 Scale: