



Technical and Approvals Consultancy
Services: Parkes to Narromine
Flood Study Report Volume 2

December 2018

3-0001-240-IHY-00-RP-0004



Appendix A

Existing Conditions Flood Maps

A01 - Existing Flood Depth 18% AEP

A02 – Existing Flood Depth 5% AEP

A03 – Existing Flood Depth 2% AEP

A04 – Existing Flood Depth 0.05% AEP

A05 – Existing Flood Velocity 18% AEP

A06 – Existing Flood Velocity 5% AEP

A07 – Existing Flood Velocity 2% AEP

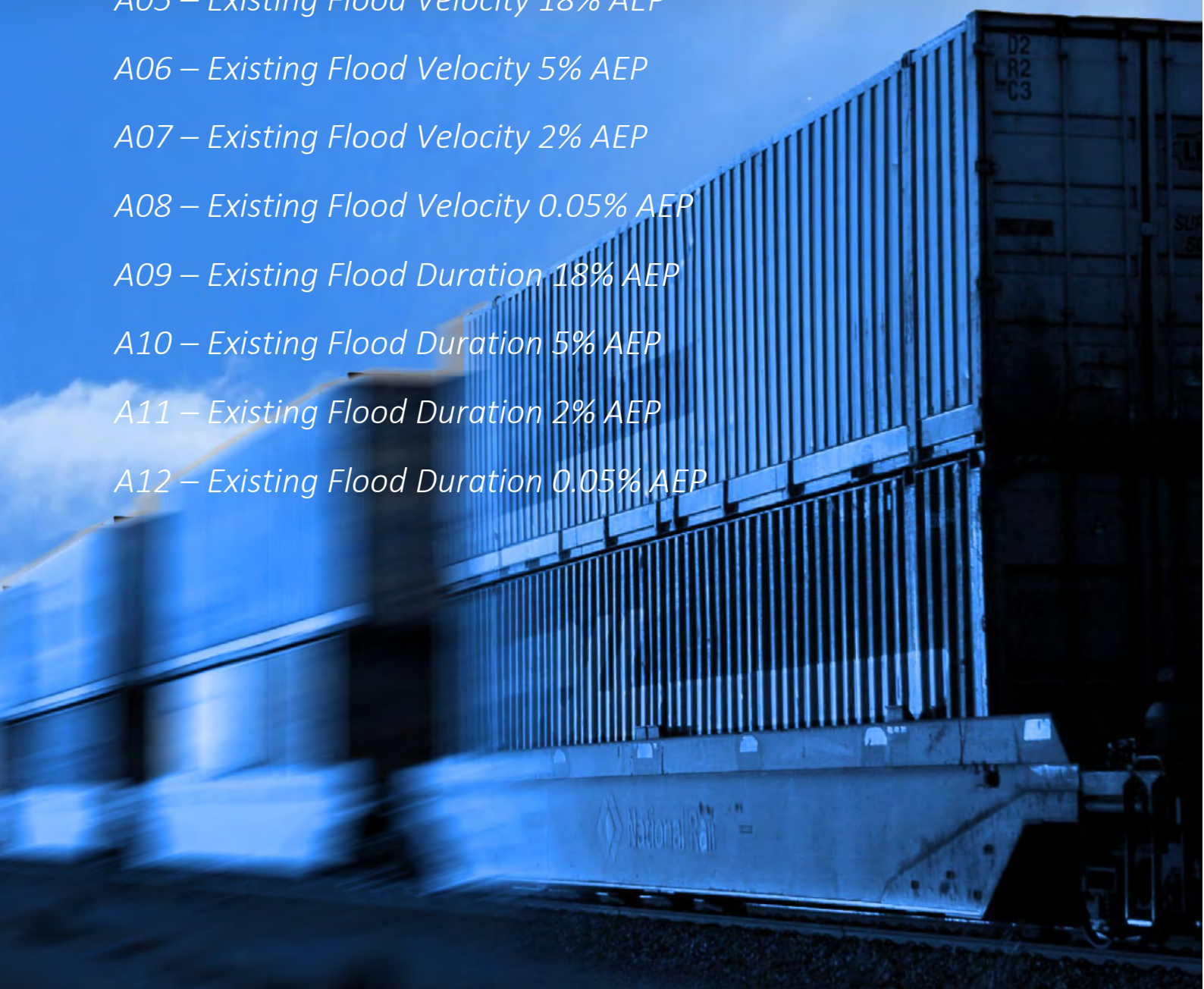
A08 – Existing Flood Velocity 0.05% AEP

A09 – Existing Flood Duration 18% AEP

A10 – Existing Flood Duration 5% AEP

A11 – Existing Flood Duration 2% AEP

A12 – Existing Flood Duration 0.05% AEP





Date: 19/10/2018

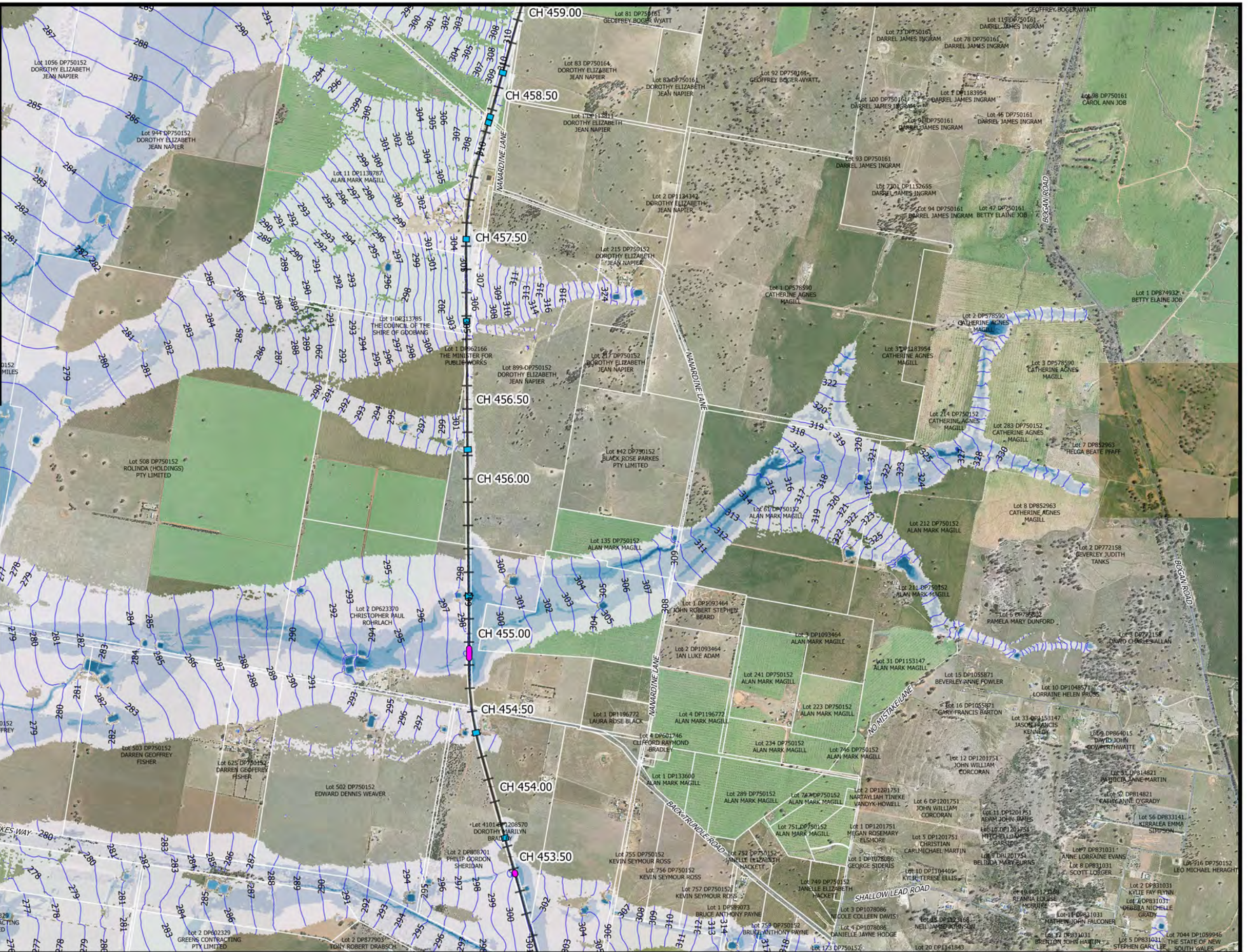
Rev: B

Prepared By: YeohM



Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX0.05L1
0.05% AEP Existing Flood Depths and Levels - CH 450.00



Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Flood Contours (m AHD)

Existing Flood Depth (m):

- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		<p>Date: 19/10/2018</p> <p>Rev: B</p> <p>Prepared By: YeohM</p>	<p>Parkes to Narromine</p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L2</p> <p><i>0.05% AEP Existing Flood Depths and Levels - CH 455.00</i></p>
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Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Flood Contours (m AHD)

Existing Flood Depth (m):

- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

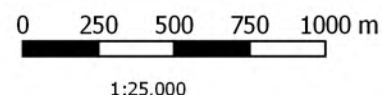
Date: 17/7/2018

Rev: A

Prepared By: YeohM

Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX0.05L3
0.05% AEP Existing Flood Depths and Levels - CH 460.00



Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3





Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- ≤ 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

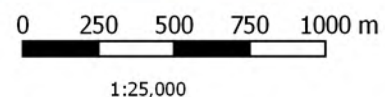
Date: 17/7/2018

Rev: A

Prepared By: YeohM

Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX0.05L4
0.05% AEP Existing Flood Depths and Levels - CH 465.00



Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3





Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Flood Contours (m AHD)

Existing Flood Depth (m):

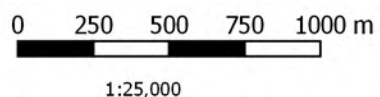
- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		<p>Date: 17/7/2018</p>	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L5 <i>0.05% AEP Existing Flood Depths and Levels - CH 470.00</i></p>
	<p>Rev: A</p>		<p>Prepared By: YeohM</p>	



Legend

- +— Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- ≤ 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0



Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3



Date: 17/7/2018

Rev: A

Prepared By: YeohM

Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX0.05L6
0.05% AEP Existing Flood Depths and Levels - CH 472.00



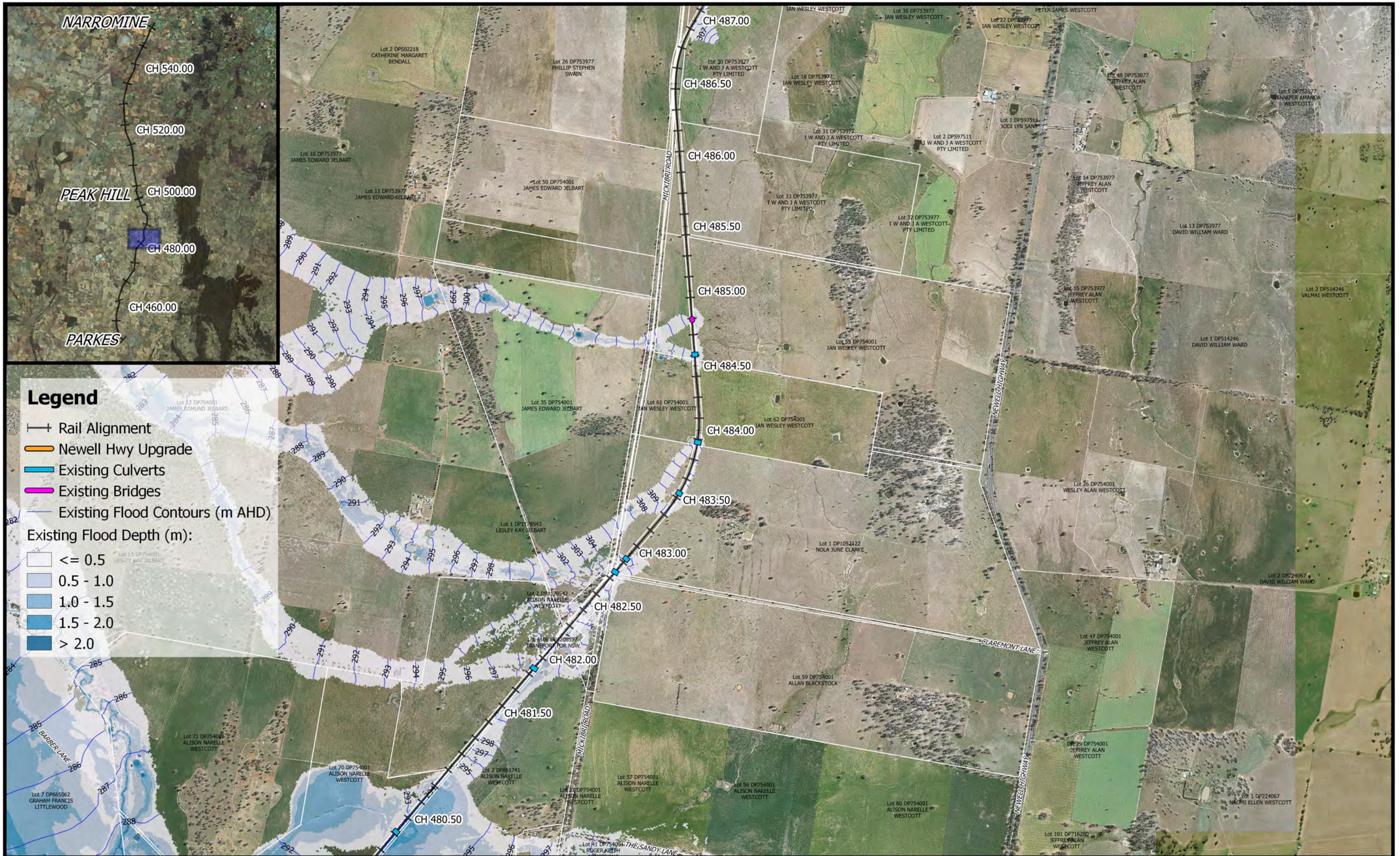
	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55</p> <p>Scale ratio correct when printed at A3</p>		Date: 17/7/2018	<p align="center">Parkes to Narromine</p> <p align="center">DD100% - Cross Drainage Flood Impact Assessment Results</p> <p align="center">Figure EX0.05L7</p> <p align="center"><i>0.05% AEP Existing Flood Depths and Levels - CH 475.00</i></p>
			Rev: A	
			Prepared By: YeohM	



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

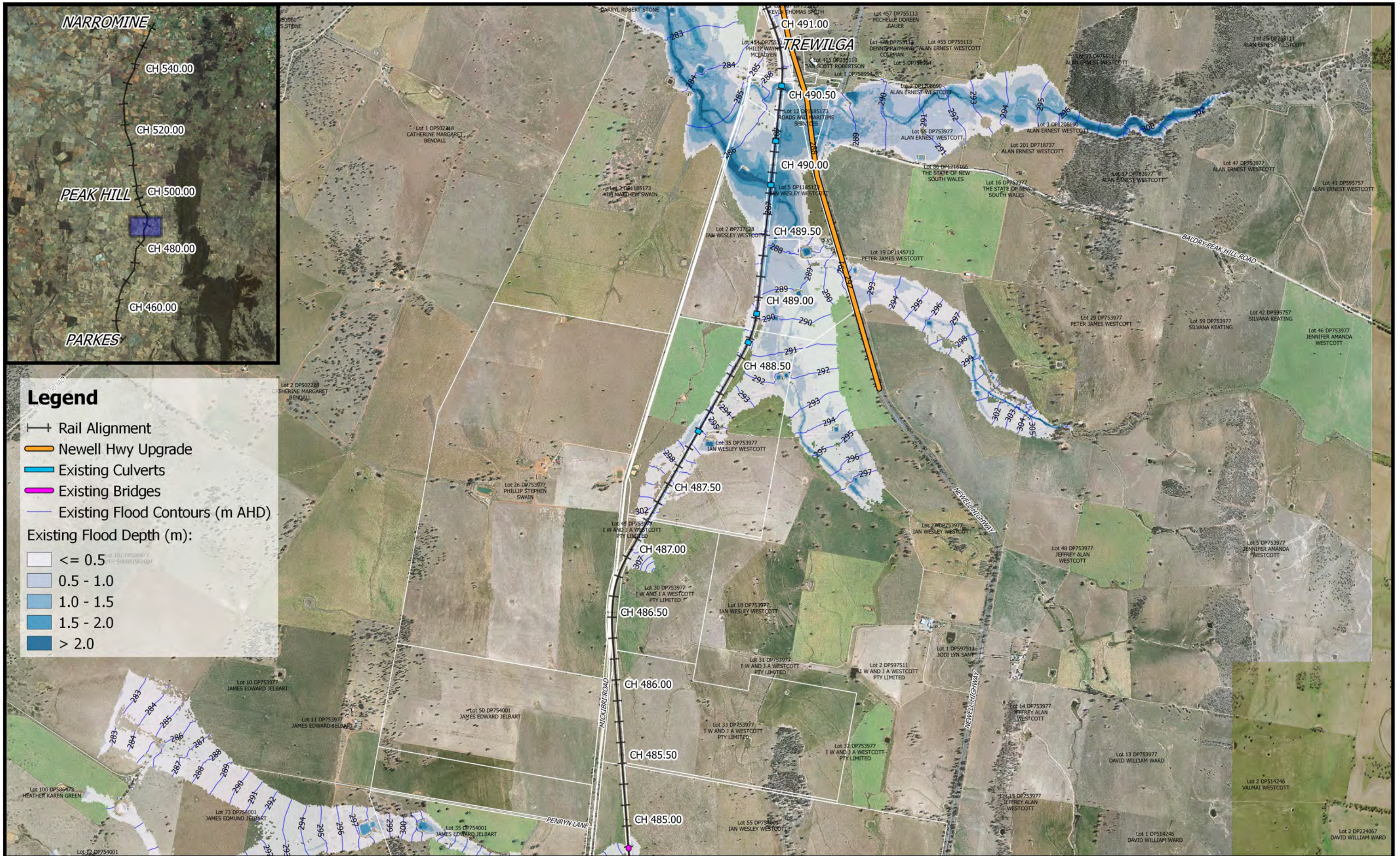
	<p>1:25,000</p>		Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L8 <i>0.05% AEP Existing Flood Depths and Levels - CH 480.00</i></p>	
	<p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Rev: A		
			Prepared By: YeohM		



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p>		Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L9 <i>0.05% AEP Existing Flood Depths and Levels - CH 485.00</i></p>	
	<p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Rev: A		
	<p>Prepared By: YeohM</p>				



	 1:25,000 Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Date: 17/7/2018	Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results Figure EX0.05L10 <i>0.05% AEP Existing Flood Depths and Levels - CH 490.00</i>
			Rev: A	
			Prepared By: YeohM	



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

	<p>1:25,000</p>		Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L11 <i>0.05% AEP Existing Flood Depths and Levels - CH 492.00</i></p>	
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A		
			Prepared By: YeohM		



Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Flood Contours (m AHD)

Existing Flood Depth (m):

- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

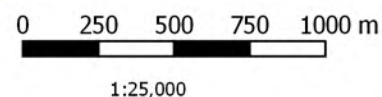
Date: 17/7/2018

Rev: A

Prepared By: YeohM

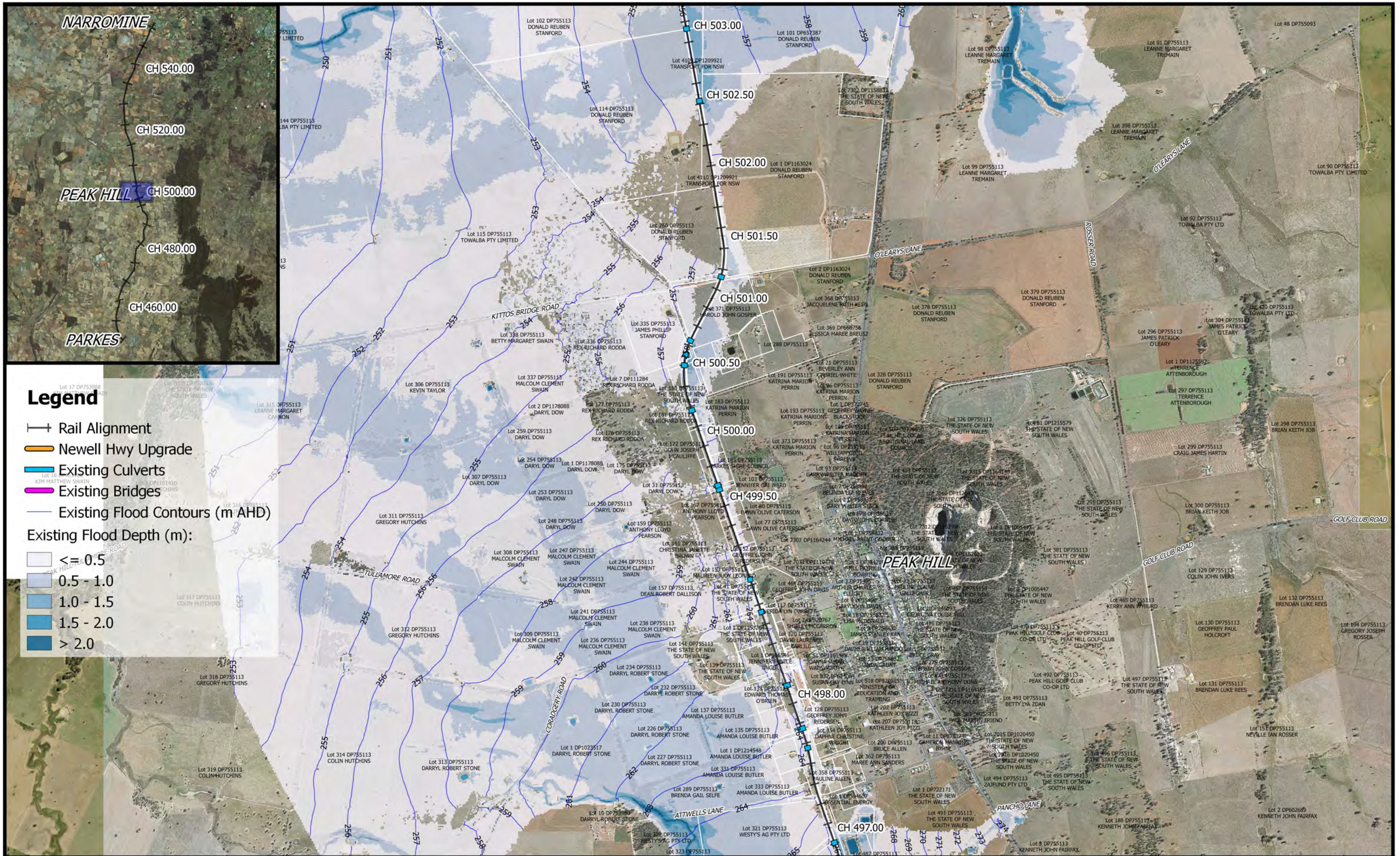
Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

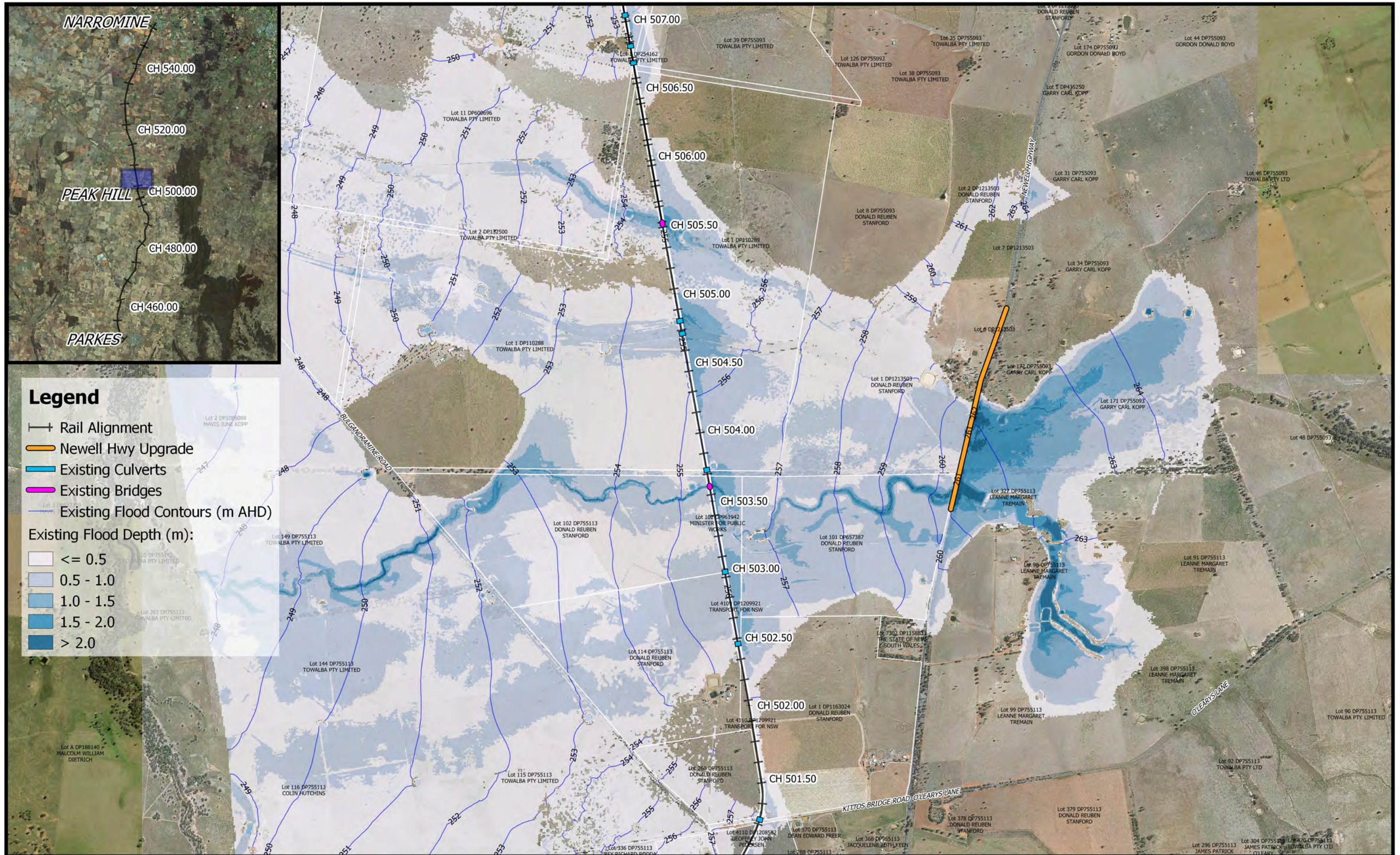
Figure EX0.05L12
0.05% AEP Existing Flood Depths and Levels - CH 495.00



Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3







Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Flood Contours (m AHD)

Existing Flood Depth (m):

- ≤ 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

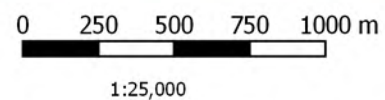
Date: 17/7/2018

Rev: A

Prepared By: YeohM

Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX0.05L14
0.05% AEP Existing Flood Depths and Levels - CH 505.00

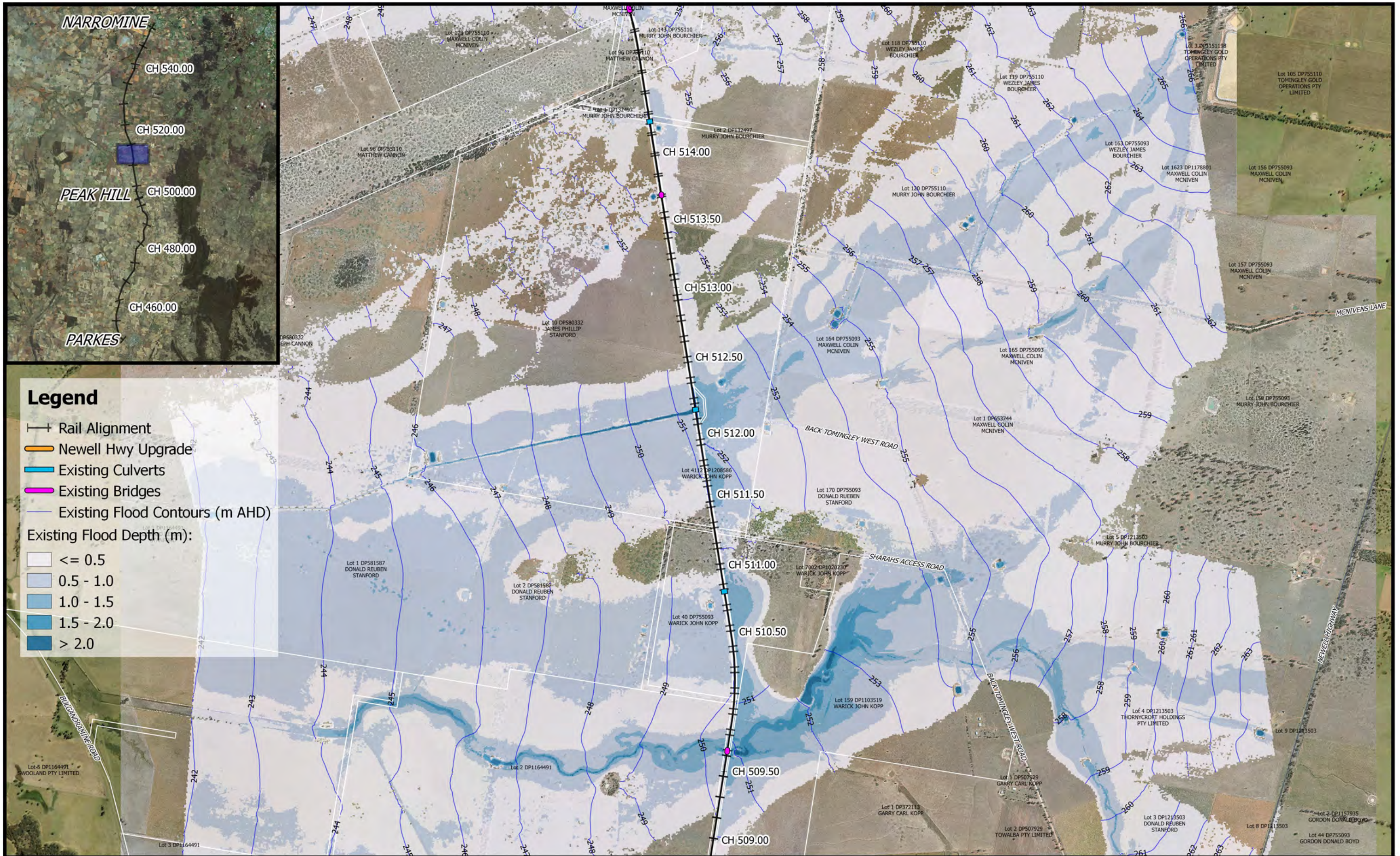


Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3





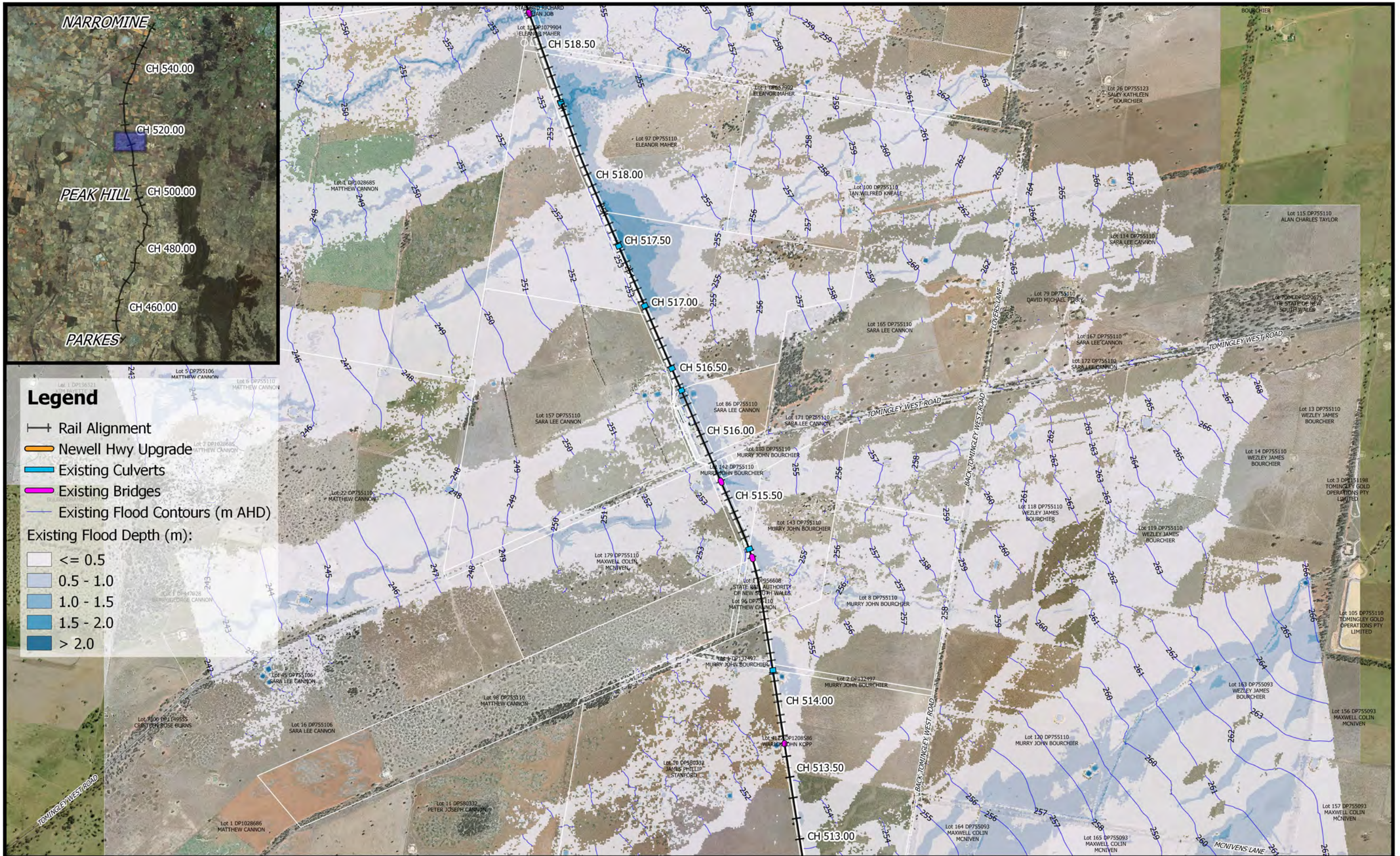
	 1:25,000 Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Date: 17/7/2018	Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results Figure EX0.05L15 <i>0.05% AEP Existing Flood Depths and Levels - CH 510.00</i>
			Rev: A	
			Prepared By: YeohM	



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L16 <i>0.05% AEP Existing Flood Depths and Levels - CH 512.00</i></p>
	Rev: A			
			Prepared By: YeohM	



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>	<p>M MOTT MACDONALD</p>	<p>Date: 17/7/2018</p> <p>Rev: A</p> <p>Prepared By: YeohM</p>	<p>Parkes to Narromine</p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L17</p> <p><i>0.05% AEP Existing Flood Depths and Levels - CH 515.00</i></p>
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Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

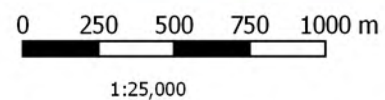
Date: 17/7/2018

Rev: A

Prepared By: YeohM

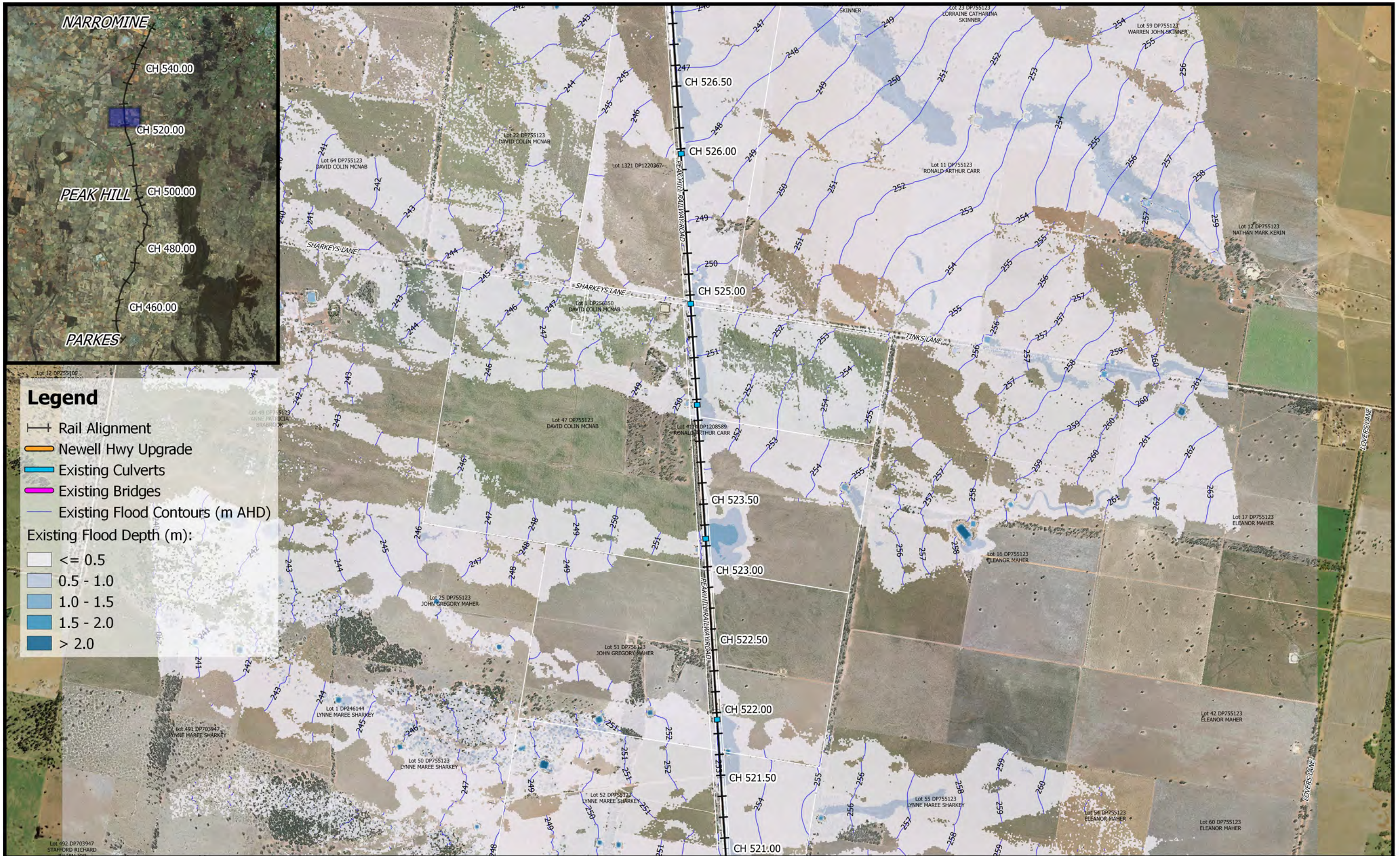
Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX0.05L18
0.05% AEP Existing Flood Depths and Levels - CH 520.00



Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3





Legend

- +— Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- ≤ 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

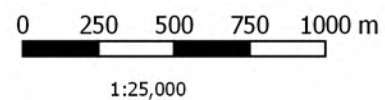
Date: 17/7/2018

Rev: A

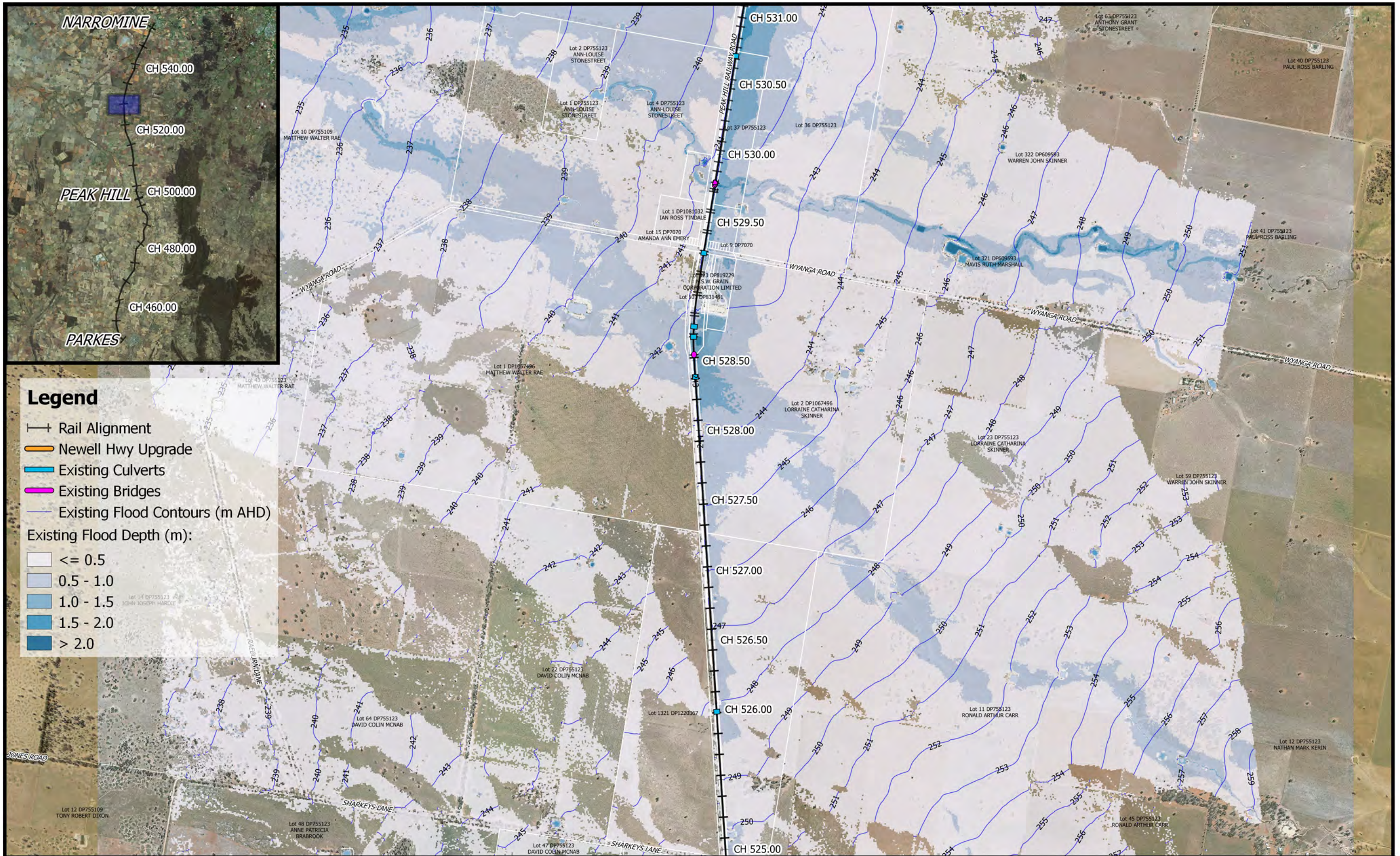
Prepared By: YeohM

Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX0.05L19
0.05% AEP Existing Flood Depths and Levels - CH 525.00



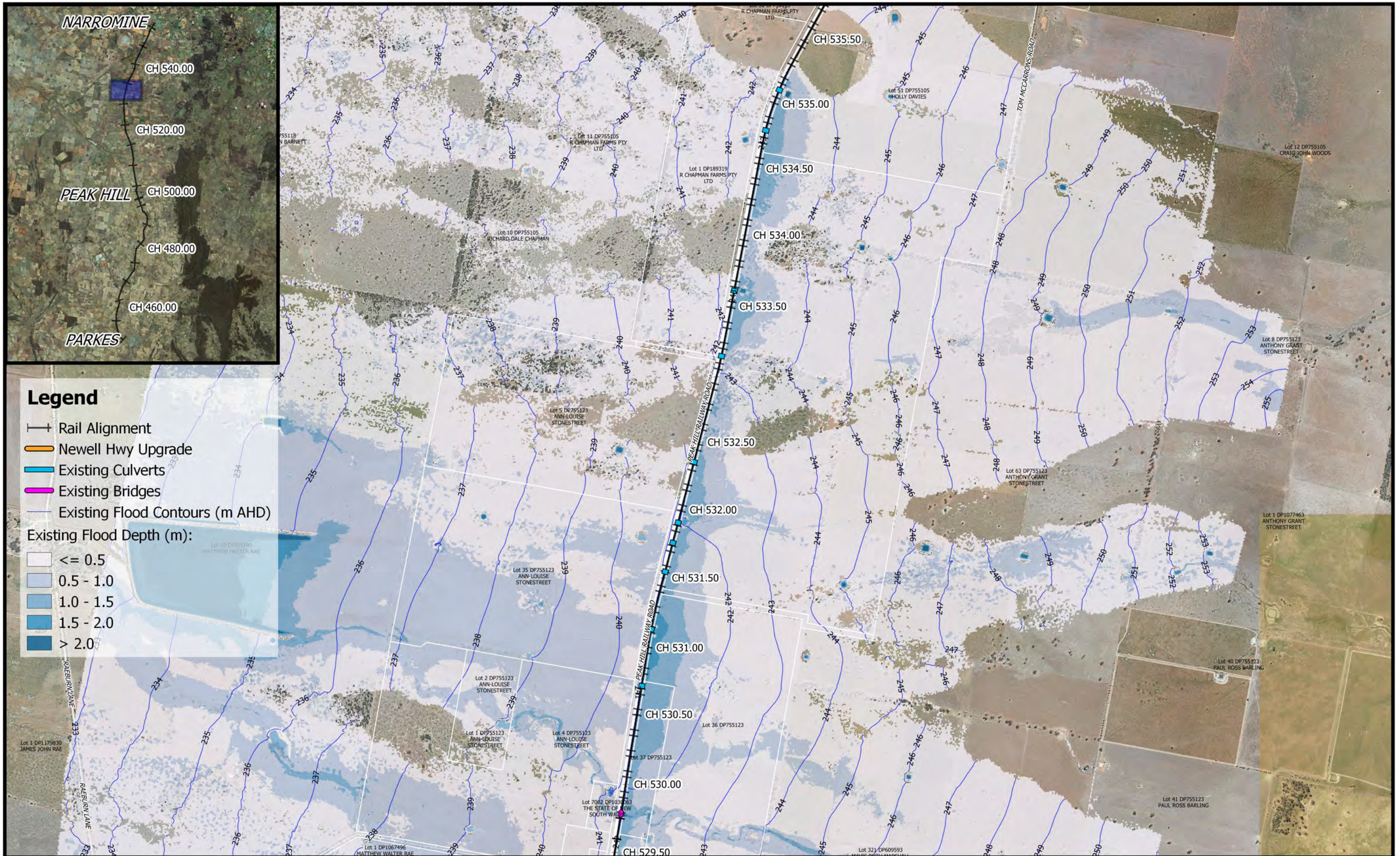
Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p>		Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L20 <i>0.05% AEP Existing Flood Depths and Levels - CH 530.00</i></p>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>	<p>M M MOTT MACDONALD</p>	Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L21 <i>0.05% AEP Existing Flood Depths and Levels - CH 533.00</i></p>
	Rev: A			
	Prepared By: YeohM			



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
 - Existing Flood Contours (m AHD)
- Existing Flood Depth (m):
- <= 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L22 <i>0.05% AEP Existing Flood Depths and Levels - CH 535.00</i></p>
	Rev: A			
	Prepared By: YeohM			



Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Flood Contours (m AHD)

Existing Flood Depth (m):

- ≤ 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>1:25,000</p>	<p>M MOTT MACDONALD</p>	Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L23 <i>0.05% AEP Existing Flood Depths and Levels - CH 540.00</i></p>
	<p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		<p>Prepared By: YeohM</p>	



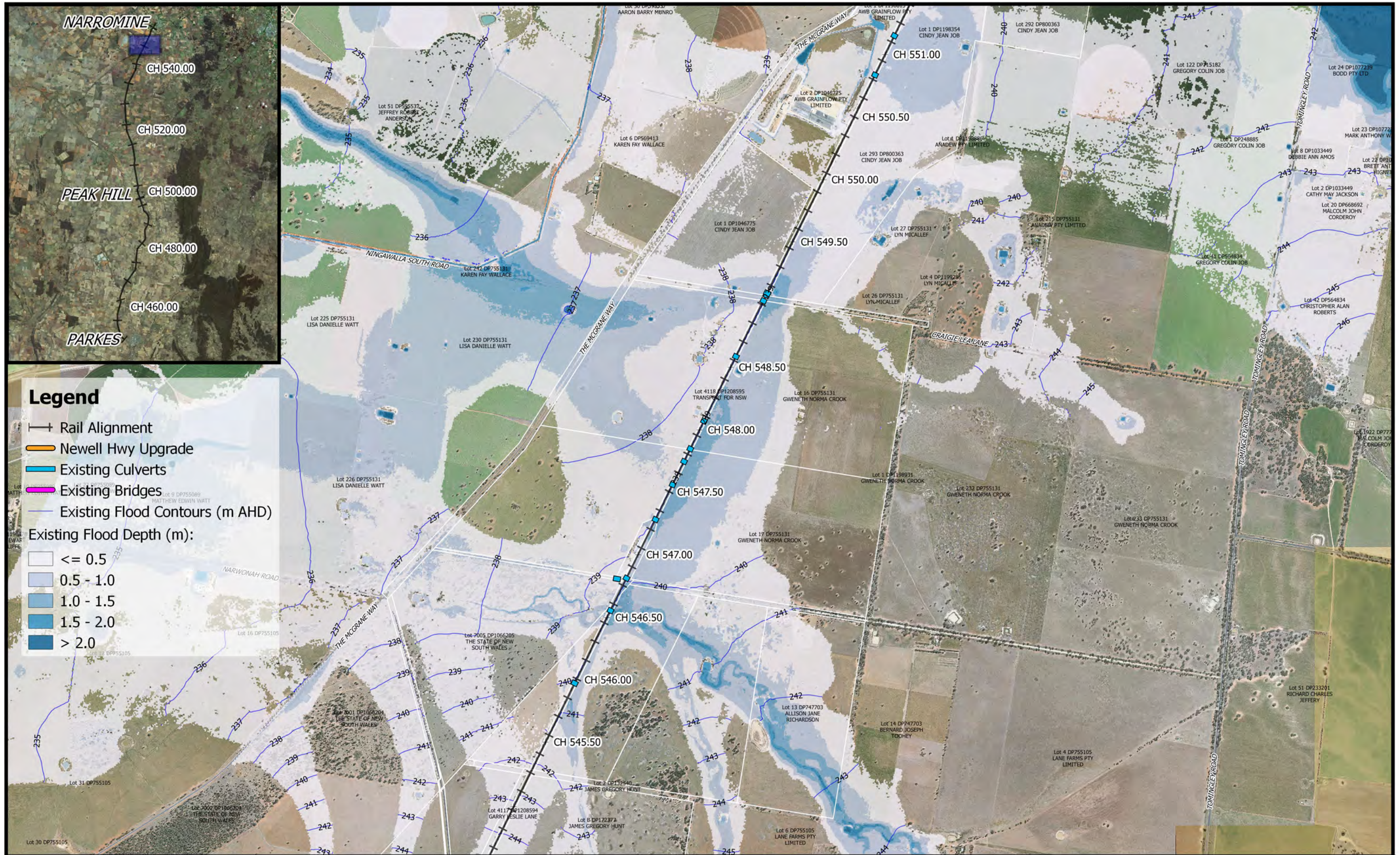
Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Flood Contours (m AHD)

Existing Flood Depth (m):

- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 17/7/2018	<p>Parkes to Narromine</p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L24</p> <p><i>0.05% AEP Existing Flood Depths and Levels - CH 545.00</i></p>
	Rev: A		Prepared By: YeohM	



Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Flood Contours (m AHD)

Existing Flood Depth (m):

- ≤ 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>0 250 500 750 1000 m</p>	<p>M M MOTT MACDONALD</p>	Date: 17/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX0.05L25 <i>0.05% AEP Existing Flood Depths and Levels - CH 550.00</i></p>
	1:25,000		Rev: A	
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Prepared By: YeohM	