



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*

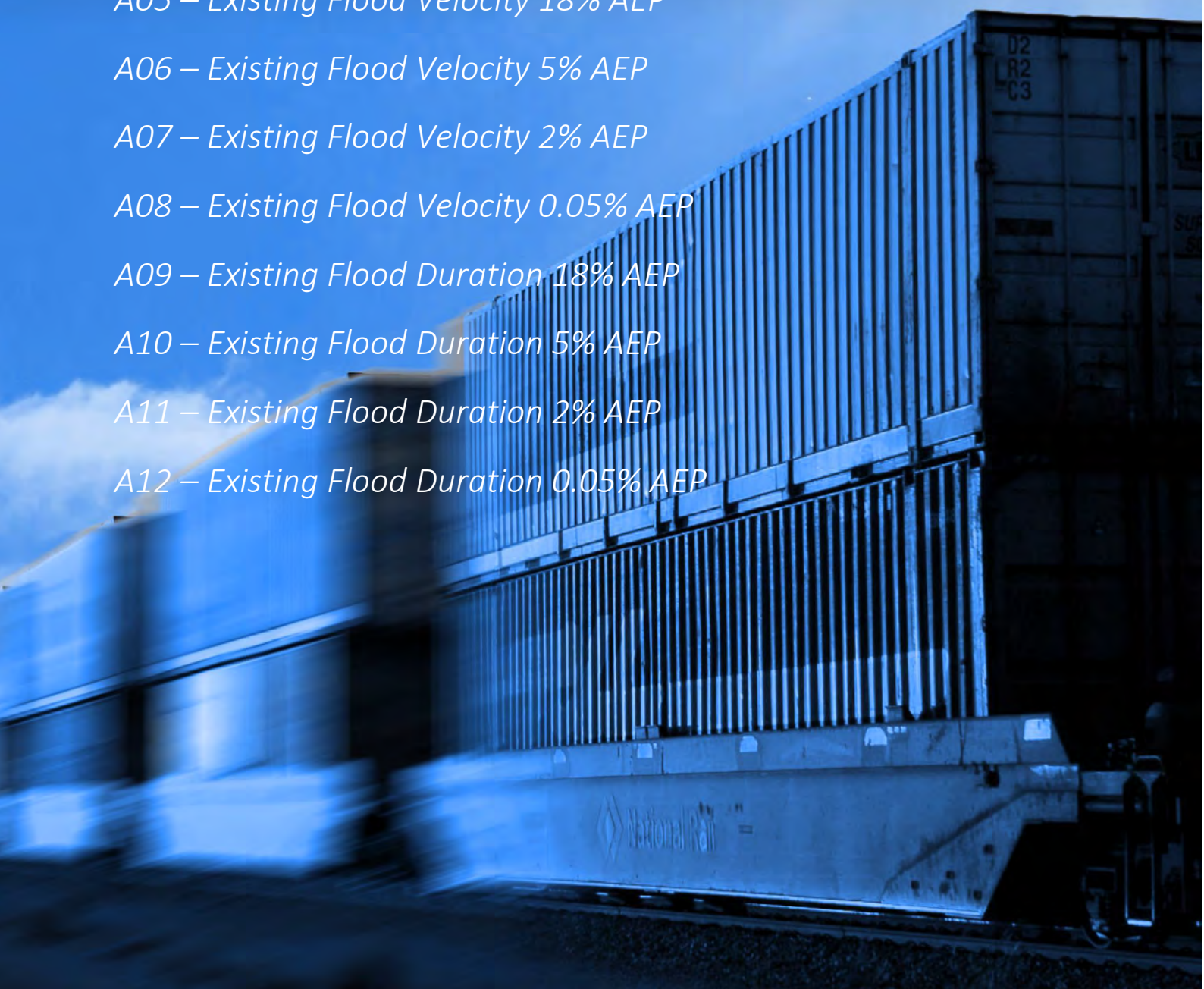
*A08 – Existing Flood Velocity 0.05% AEP*

*A09 – Existing Flood Duration 18% AEP*

*A10 – Existing Flood Duration 5% AEP*

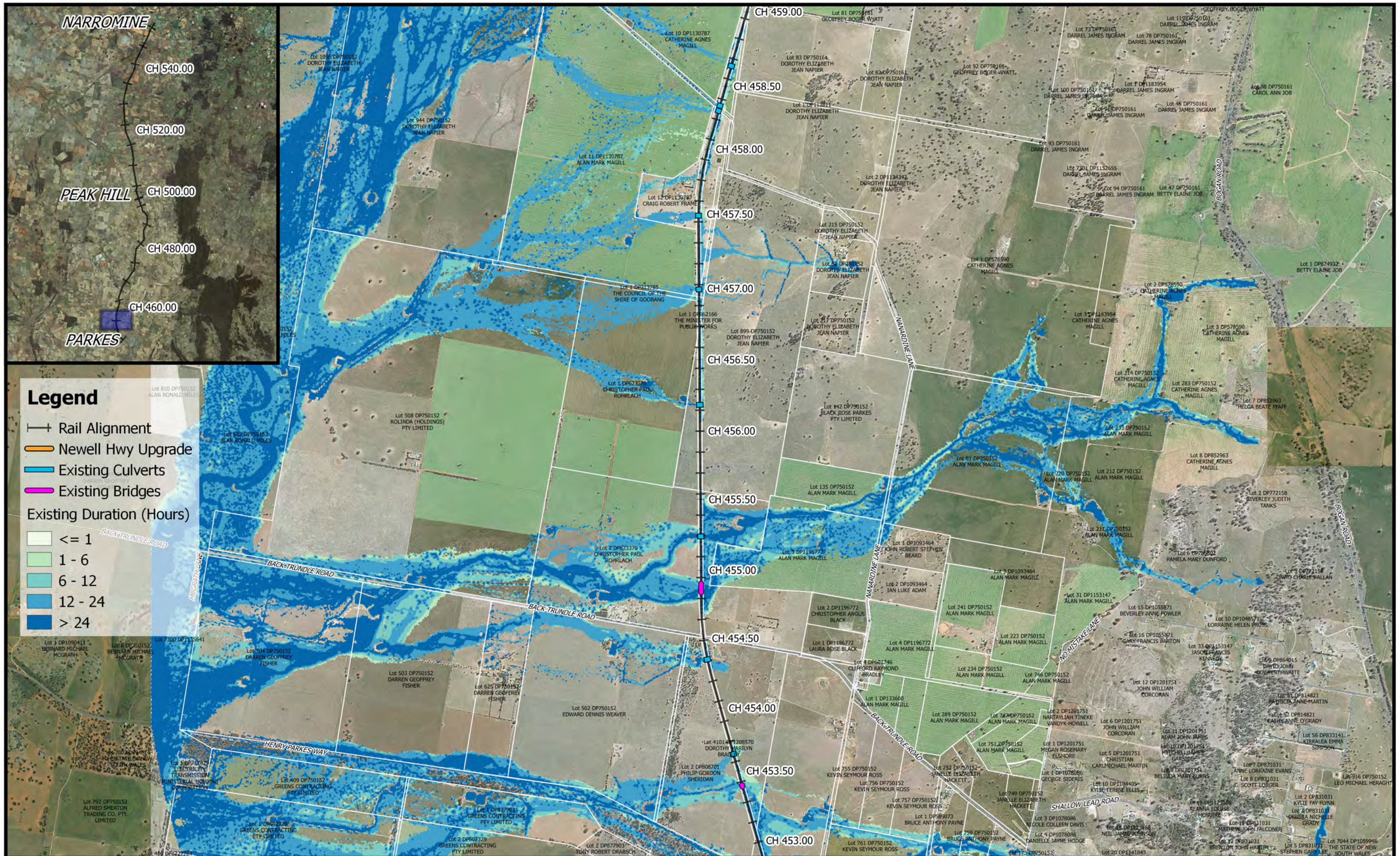
*A11 – Existing Flood Duration 2% AEP*

*A12 – Existing Flood Duration 0.05% AEP*





	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 18/10/2018	<p><b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D1</b> 5% AEP Existing Flood Duration - CH 450.00</p>
	Rev: B			
	Prepared By: YeohM			



**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

**Existing Duration (Hours)**

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

Date: 18/10/2018

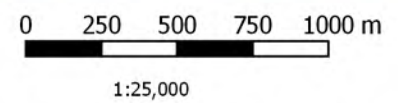
Rev: B

Prepared By: YeohM



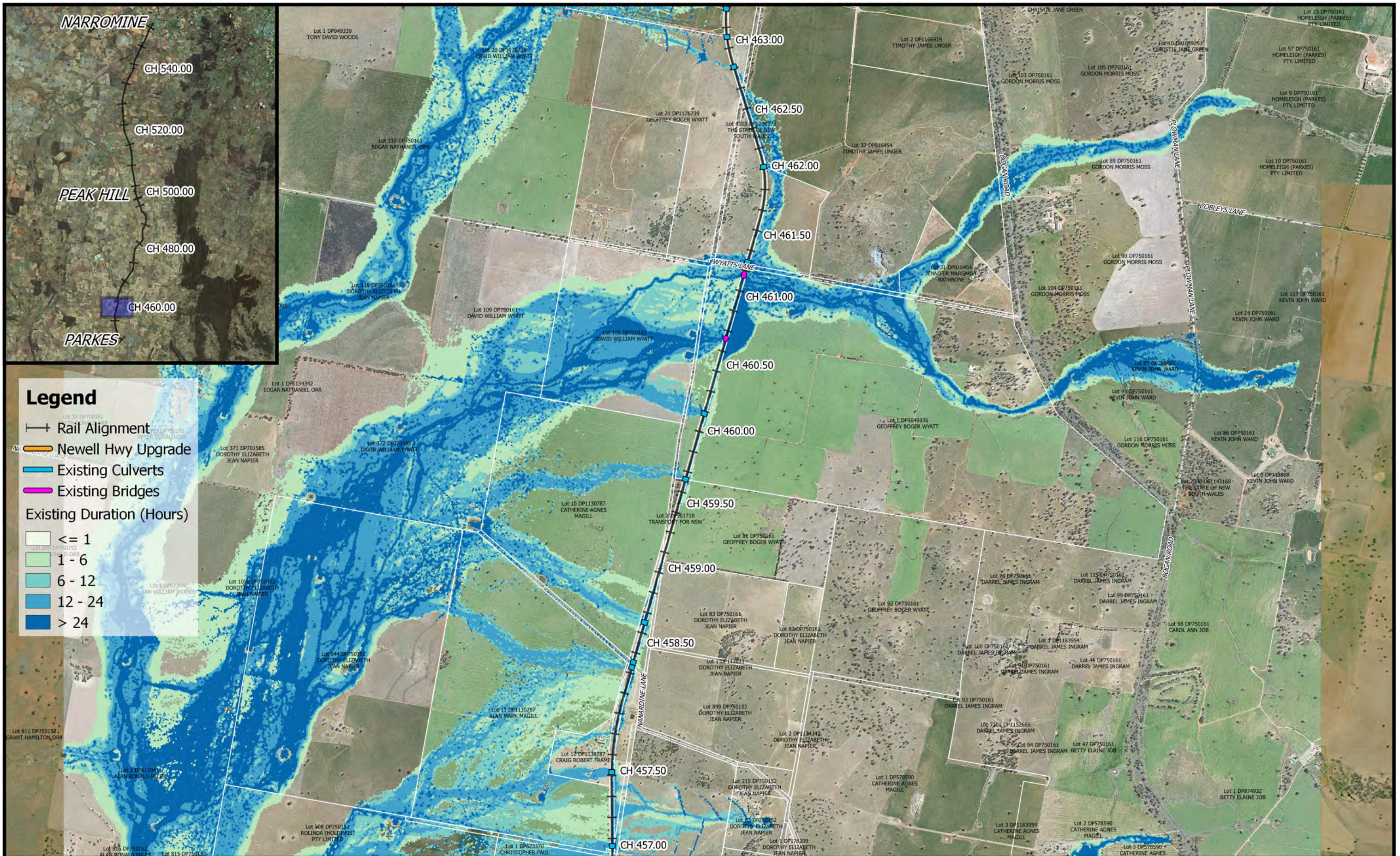
**Parkes to Narromine**  
DD100% - Cross Drainage Flood Impact Assessment Results

**Figure EX5D2**  
5% AEP Existing Flood Duration - CH 455.00



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





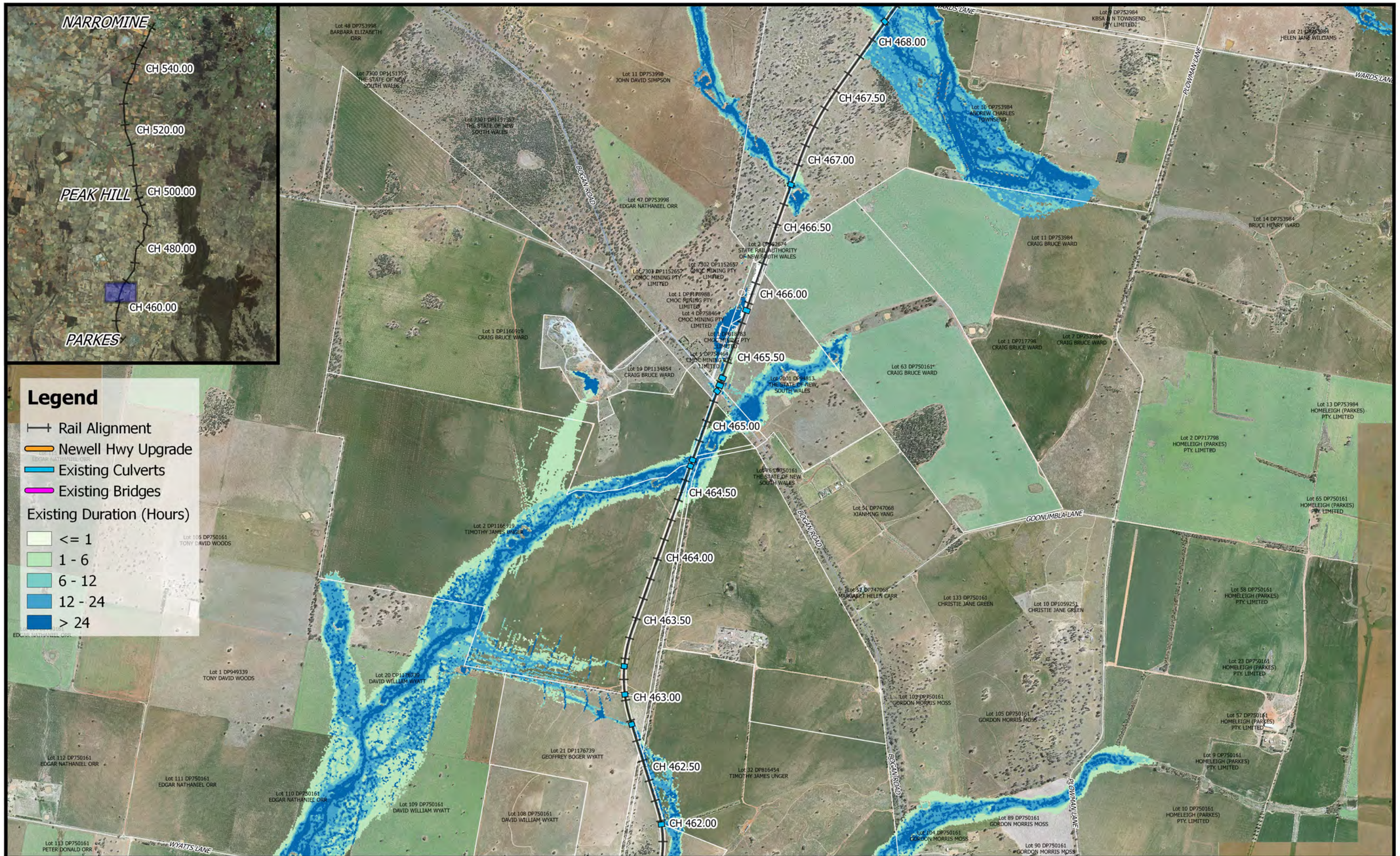
**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

**Existing Duration (Hours)**

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<p>1:25,000</p>		Date: 18/7/2018	<p><b>Parkes to Narromine</b></p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D3</b></p> <p><i>5% AEP Existing Flood Duration - CH 460.00</i></p>
	Coordinate system: GDA 1994 MGA Zone 55		Rev: A	
	Scale ratio correct when printed at A3		Prepared By: YeohM	



**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

**Existing Duration (Hours)**

- $\le 1$
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

Date: 18/7/2018

Rev: A

Prepared By: YeohM

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

**Figure EX5D4**  
5% AEP Existing Flood Duration - CH 465.00



0 250 500 750 1000 m  
1:25,000

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





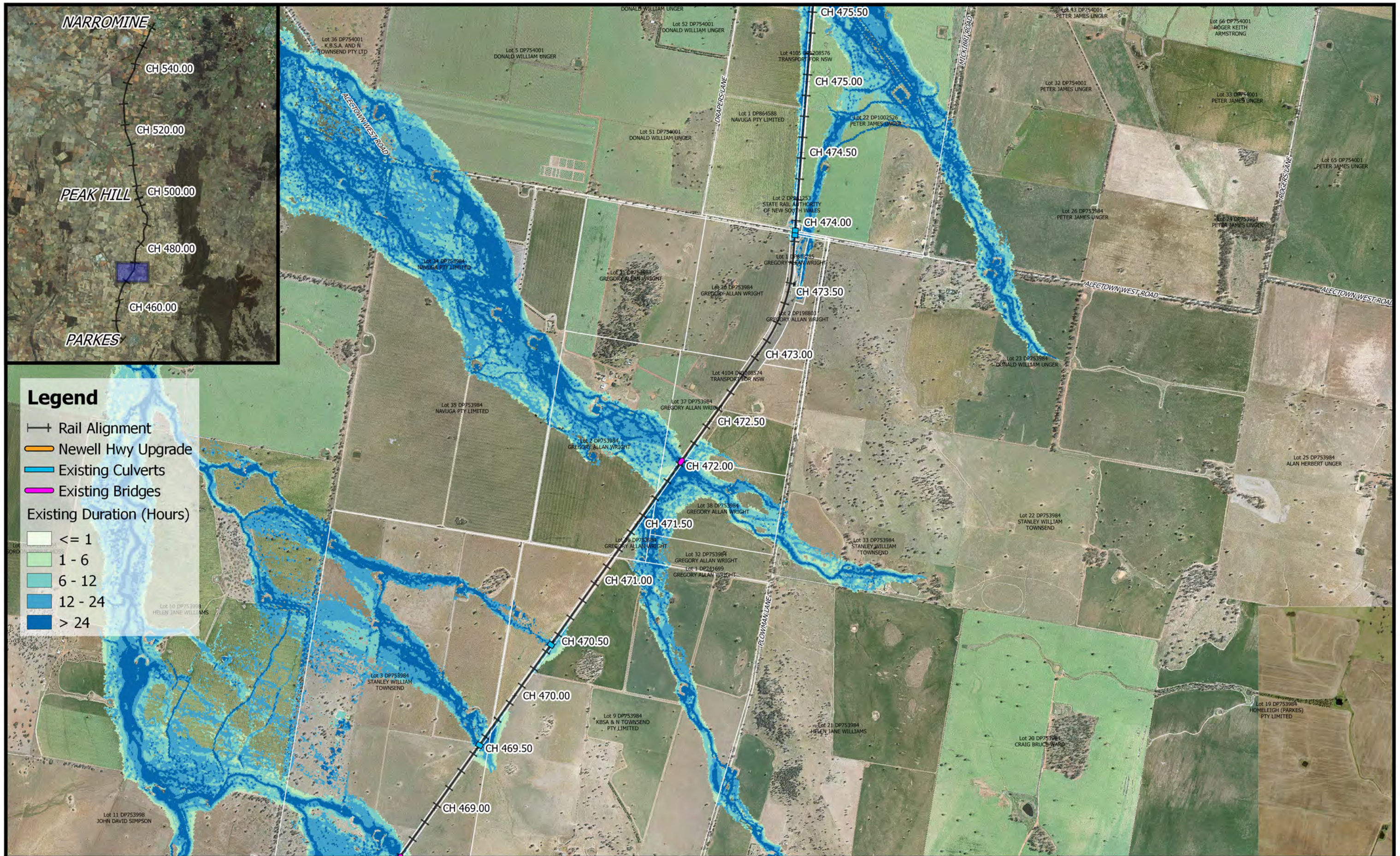
**Legend**

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- ≤ 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<p>1:25,000</p>		Date: 18/7/2018	<p><b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D5</b> 5% AEP Existing Flood Duration - CH 470.00</p>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



**Legend**

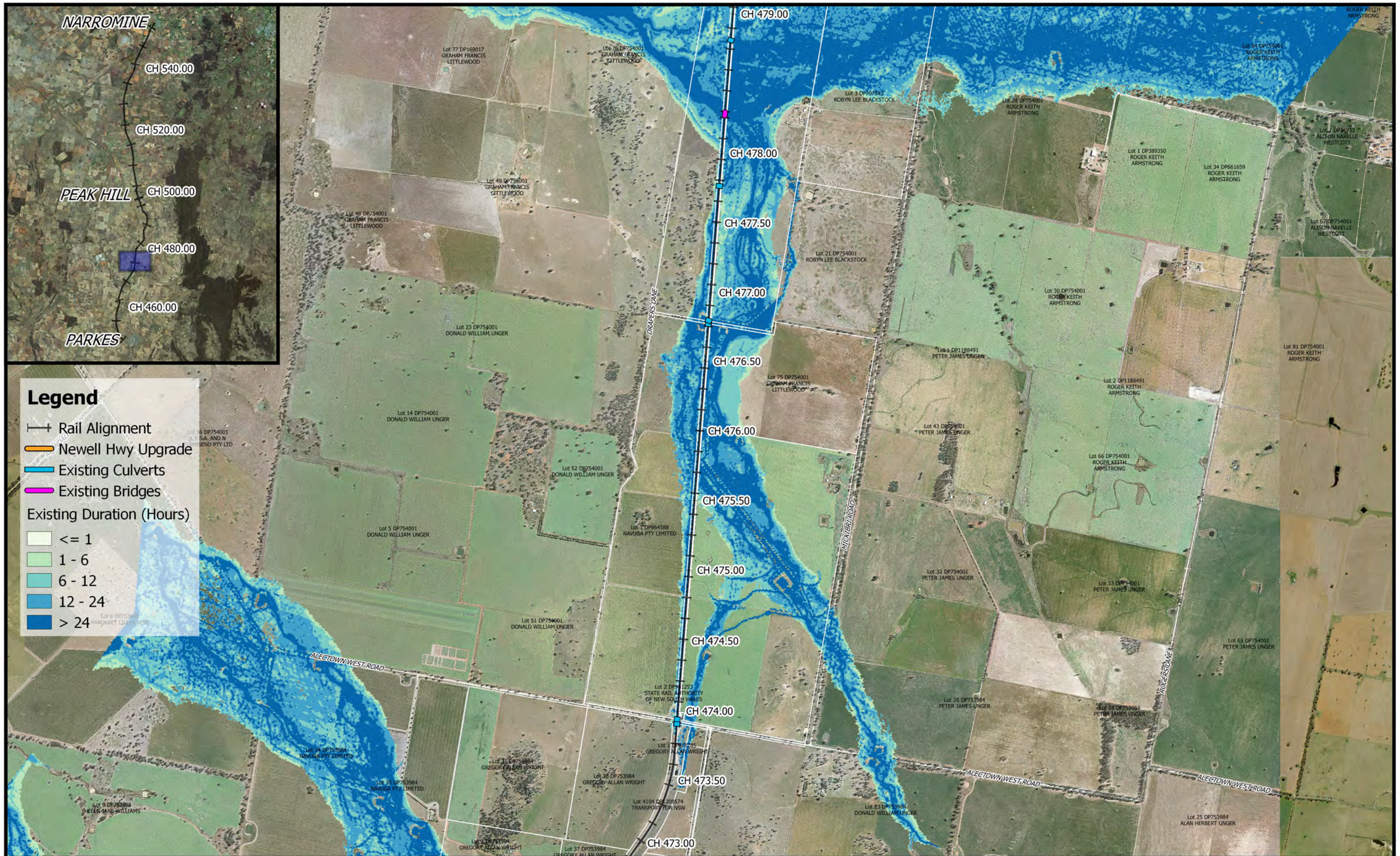
- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 18/7/2018	<p><b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D6</b> <i>5% AEP Existing Flood Duration - CH 472.00</i></p>
	Rev: A		Prepared By: YeohM	





**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

Date: 18/7/2018

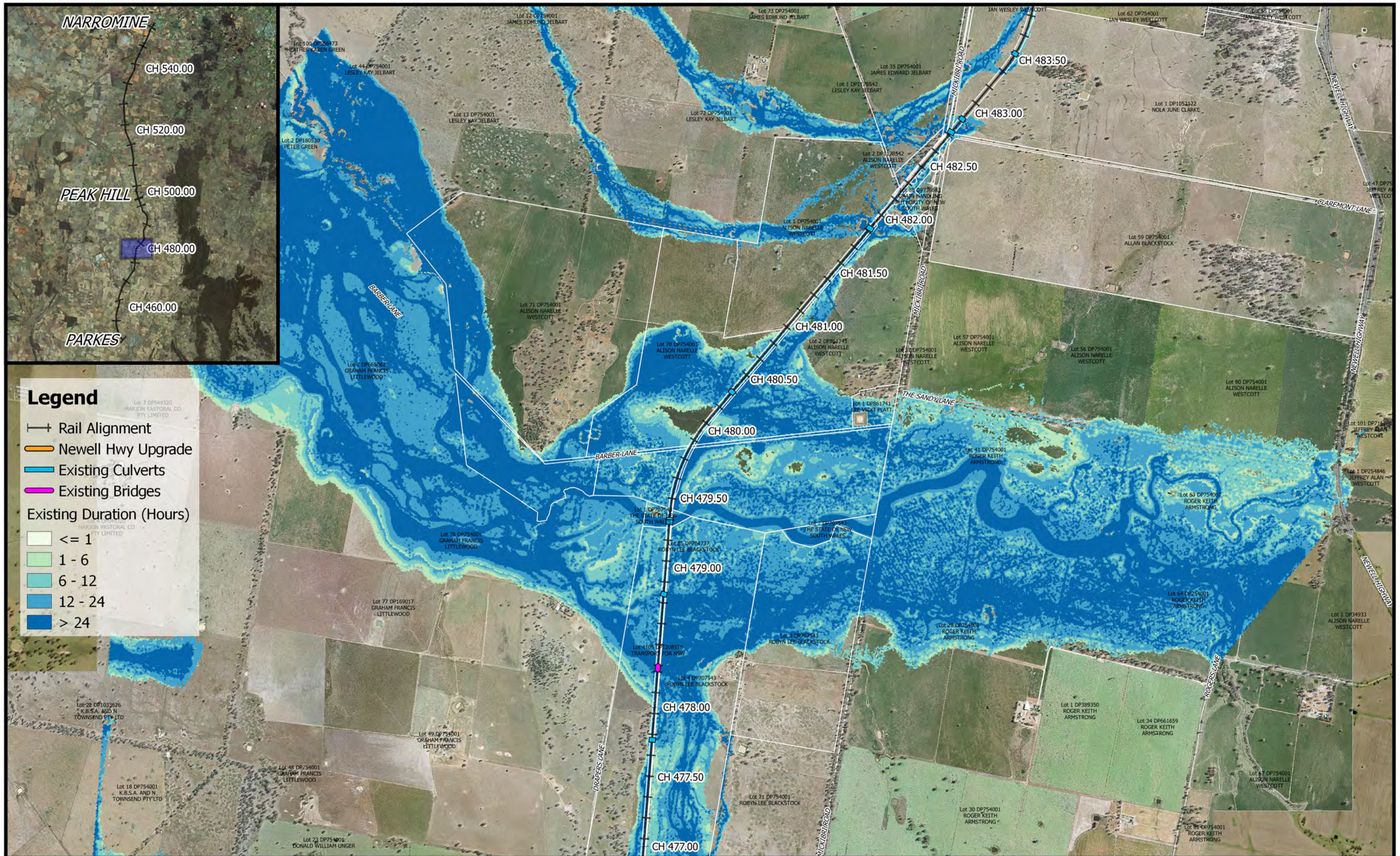
Rev: A

Prepared By: YeohM



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

**Figure EX5D7**  
5% AEP Existing Flood Duration - CH 475.00



	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 18/7/2018	<p align="center"><b>Parkes to Narromine</b></p> <p align="center">DD100% - Cross Drainage Flood Impact Assessment Results</p> <p align="center"><b>Figure EX5D8</b></p> <p align="center">5% AEP Existing Flood Duration - CH 480.00</p>
			Rev: A	
			Prepared By: YeohM	



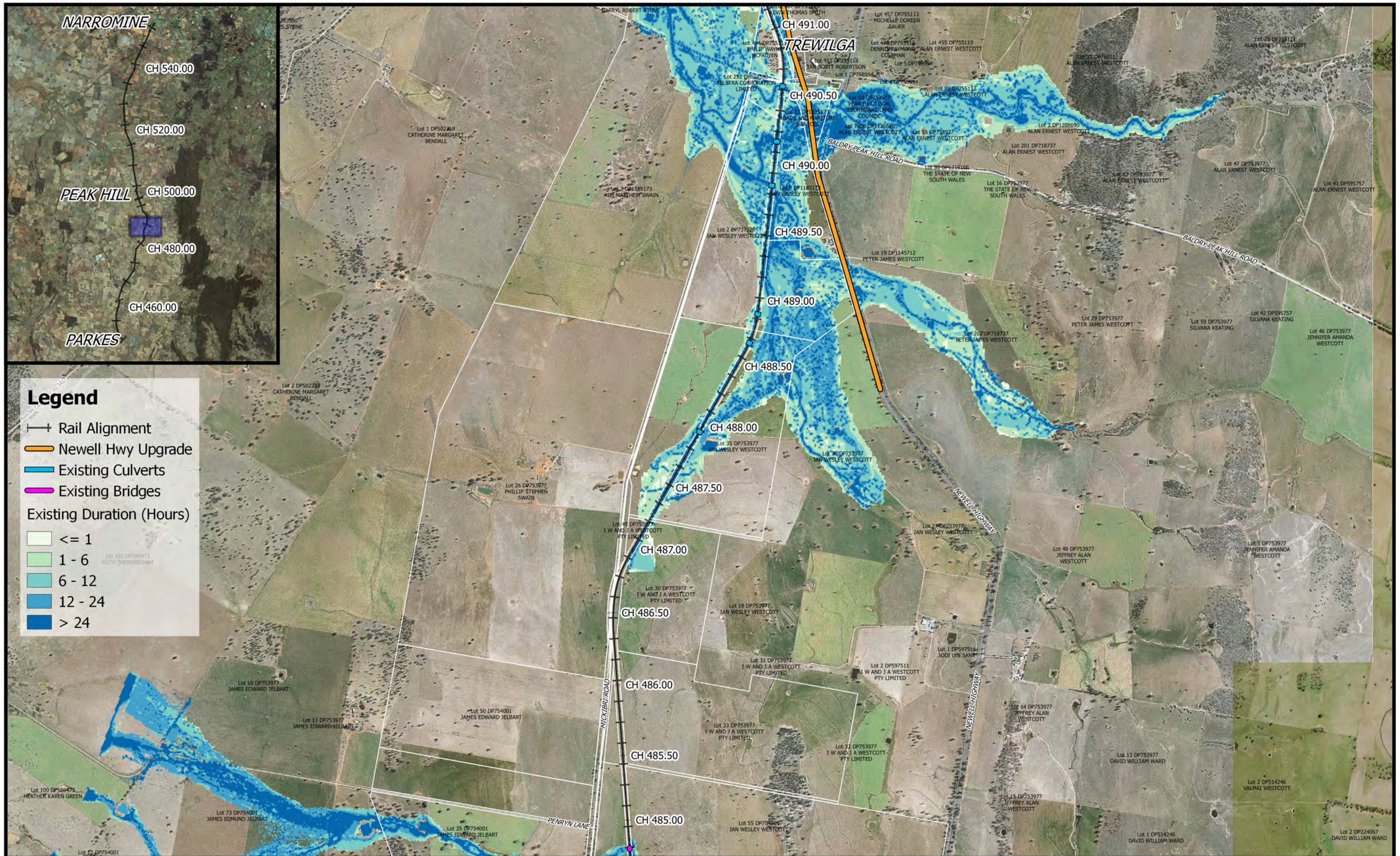
**Legend**

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- ≤ 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	 1:25,000		Date: 18/7/2018	<b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results  <b>Figure EX5D9</b> <i>5% AEP Existing Flood Duration - CH 485.00</i>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



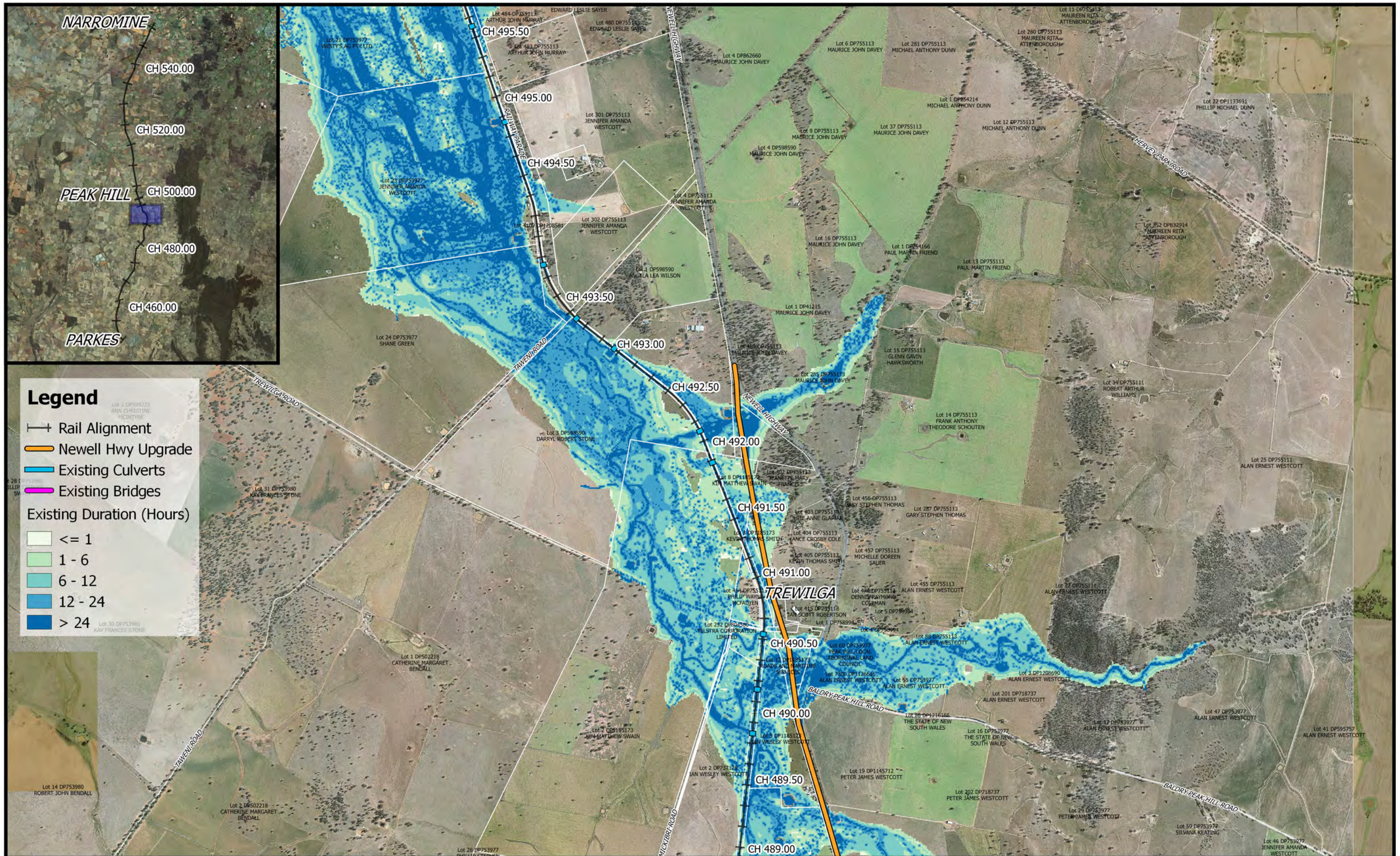
**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<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><b>M</b> MOTT MACDONALD</p>	<p>Date: 18/7/2018</p> <p>Rev: A</p> <p>Prepared By: YeohM</p>	<p><b>Parkes to Narromine</b></p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D10</b></p> <p>5% AEP Existing Flood Duration - CH 490.00</p>
--	---	--	--	--



**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

**Existing Duration (Hours)**

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24



0 250 500 750 1000 m

1:25,000

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



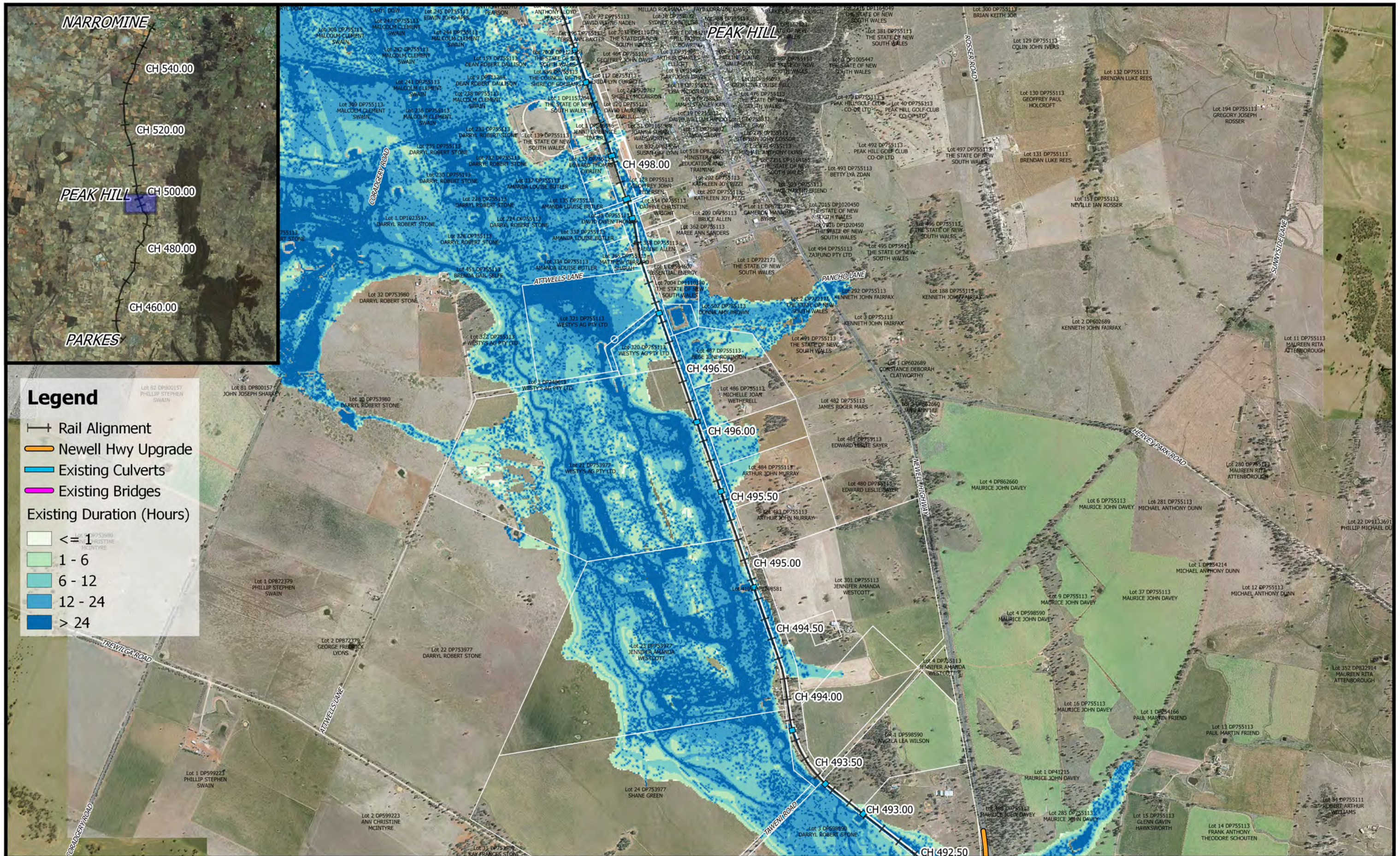
Date: 18/7/2018

Rev: A

Prepared By: YeohM

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

**Figure EX5D11**  
5% AEP Existing Flood Duration - CH 492.00

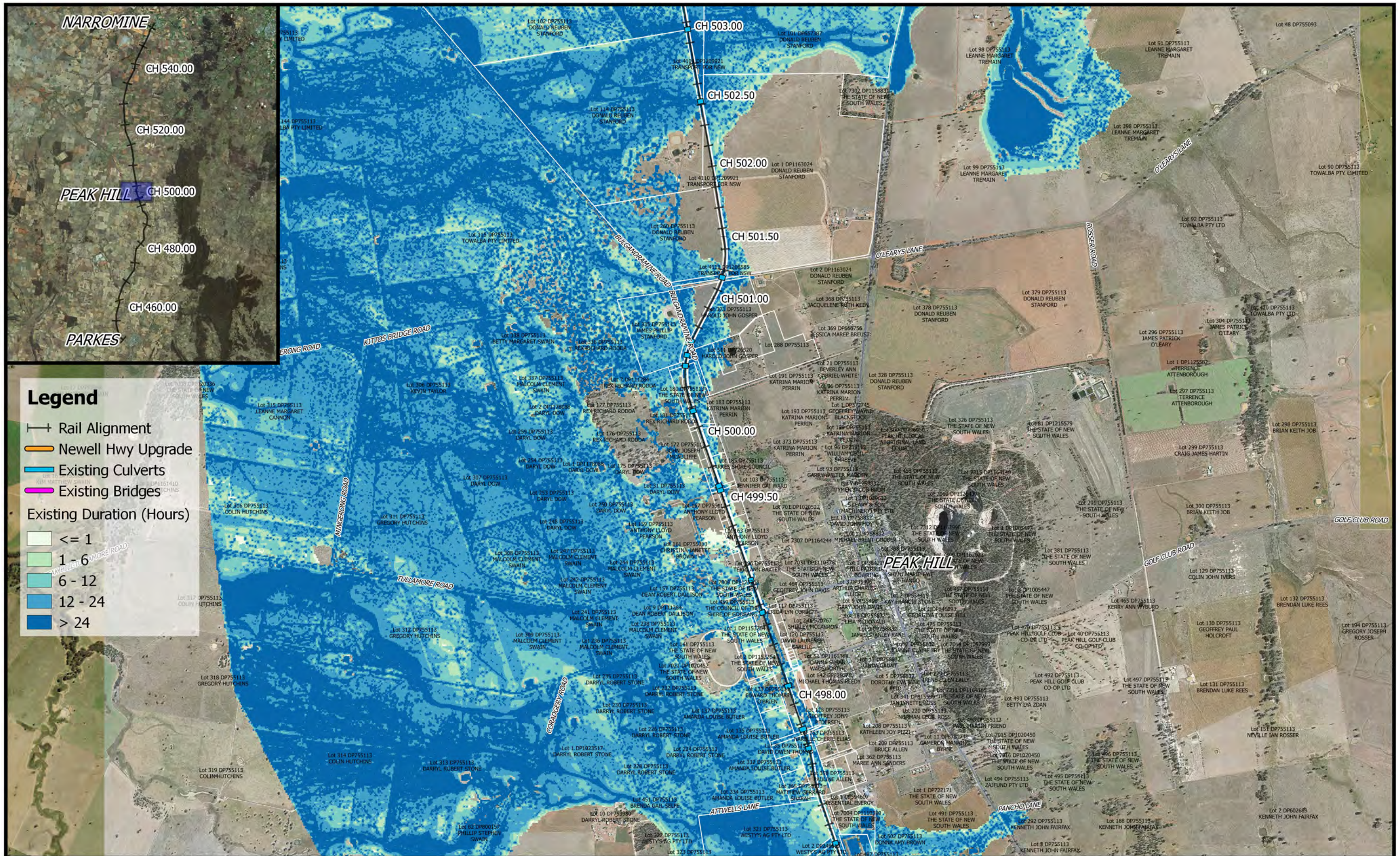


**Legend**

- Rail Alignment
  - Newell Hwy Upgrade
  - Existing Culverts
  - Existing Bridges
- Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>	<p><b>M M</b> MOTT MACDONALD</p>	<p>Date: 18/7/2018</p> <p>Rev: A</p> <p>Prepared By: YeohM</p>	<p><b>Parkes to Narromine</b></p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D12</b></p> <p><i>5% AEP Existing Flood Duration - CH 495.00</i></p>
--	---	--	--	---



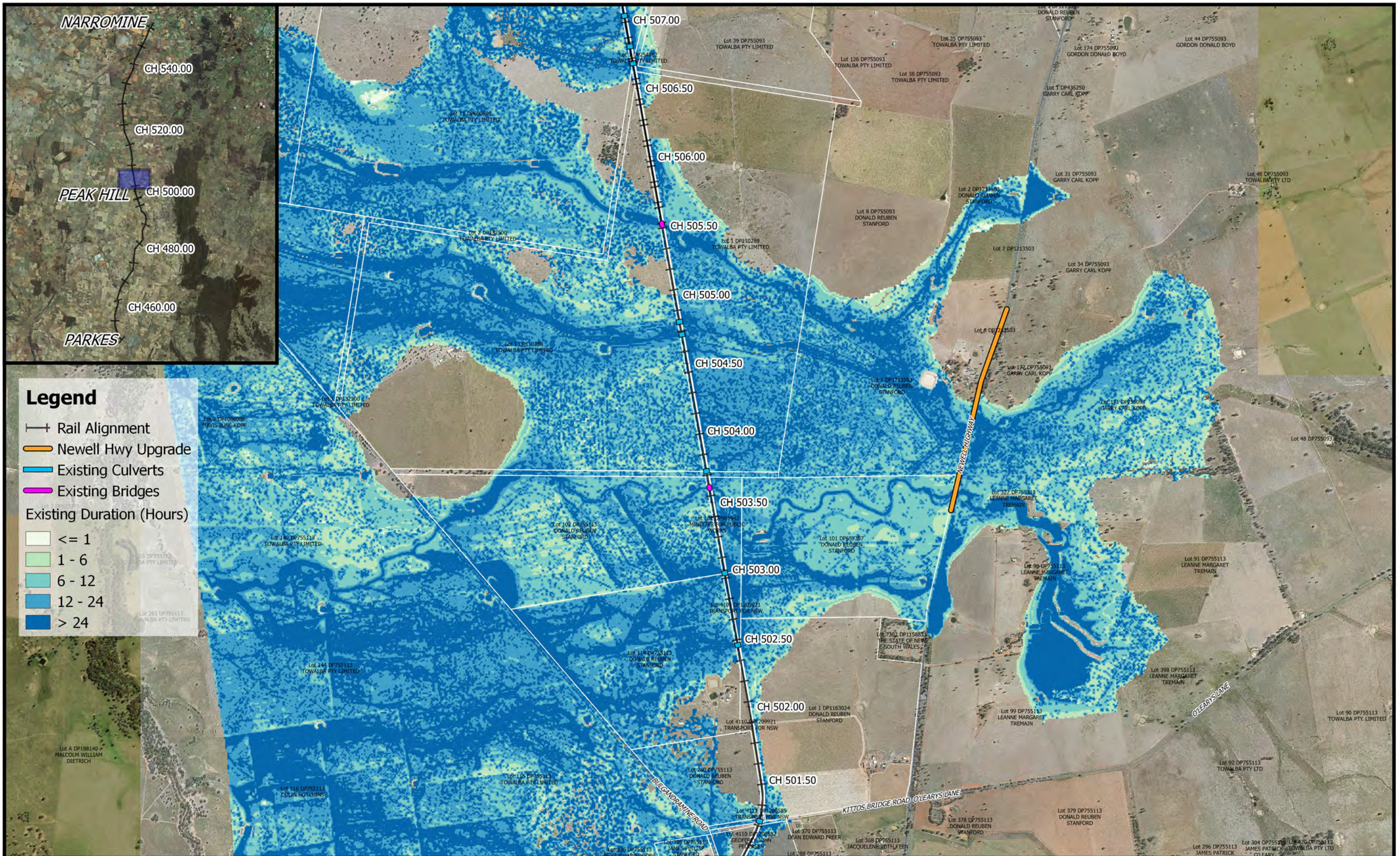
**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

**Existing Duration (Hours)**

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<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><b>M M</b> MOTT MACDONALD</p>	<p>Date: 18/7/2018</p> <p>Rev: A</p> <p>Prepared By: YeohM</p>	<p><b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D13</b> 5% AEP Existing Flood Duration - CH 500.00</p>
--	---	--	--	--



**Legend**

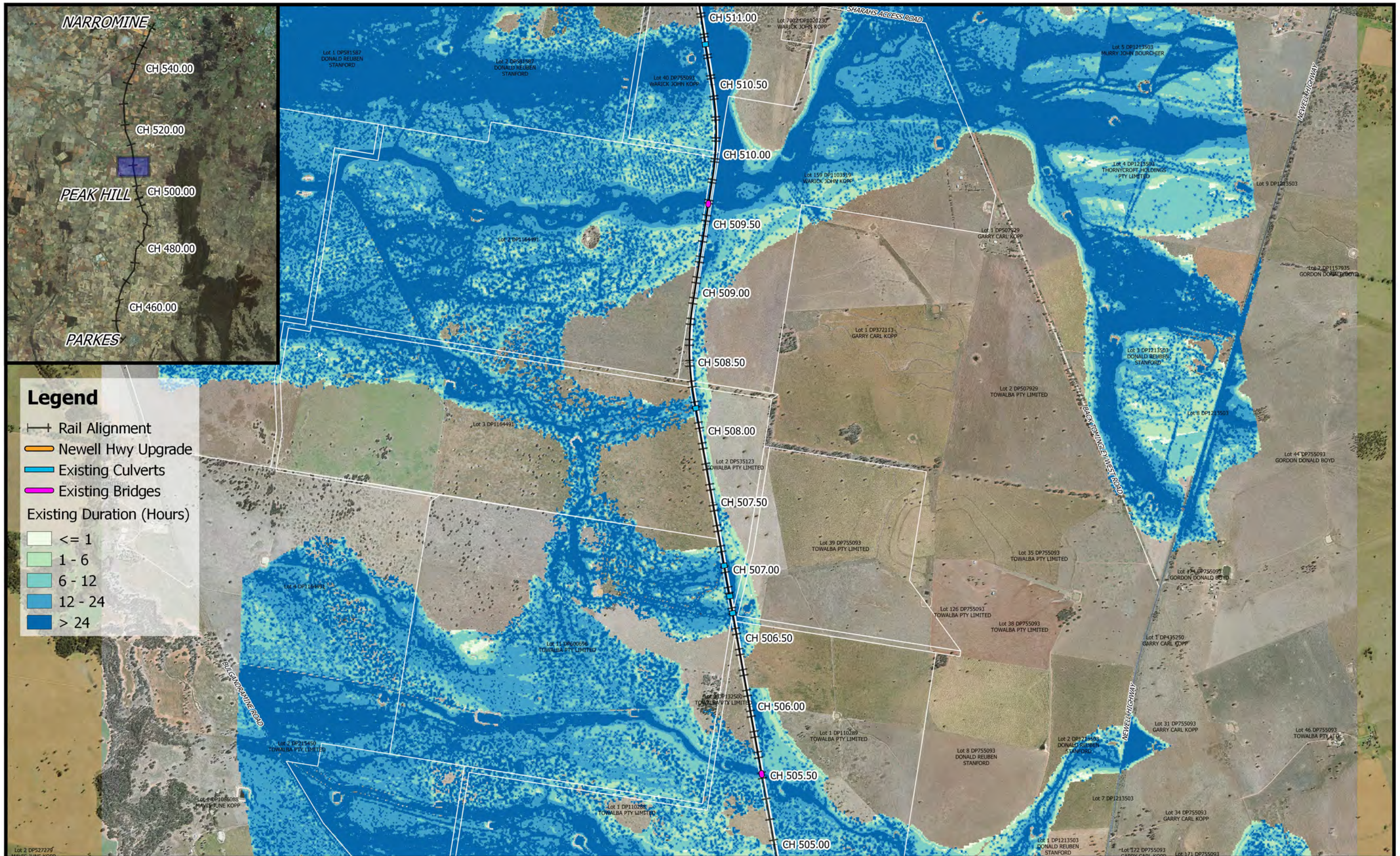
- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	 1:25,000		Date: 18/7/2018	<p style="margin: 0;"><b>Parkes to Narromine</b></p> <p style="margin: 0;">DD100% - Cross Drainage Flood Impact Assessment Results</p> <p style="margin: 0;"><b>Figure EX5D14</b></p> <p style="margin: 0;"><i>5% AEP Existing Flood Duration - CH 505.00</i></p>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			





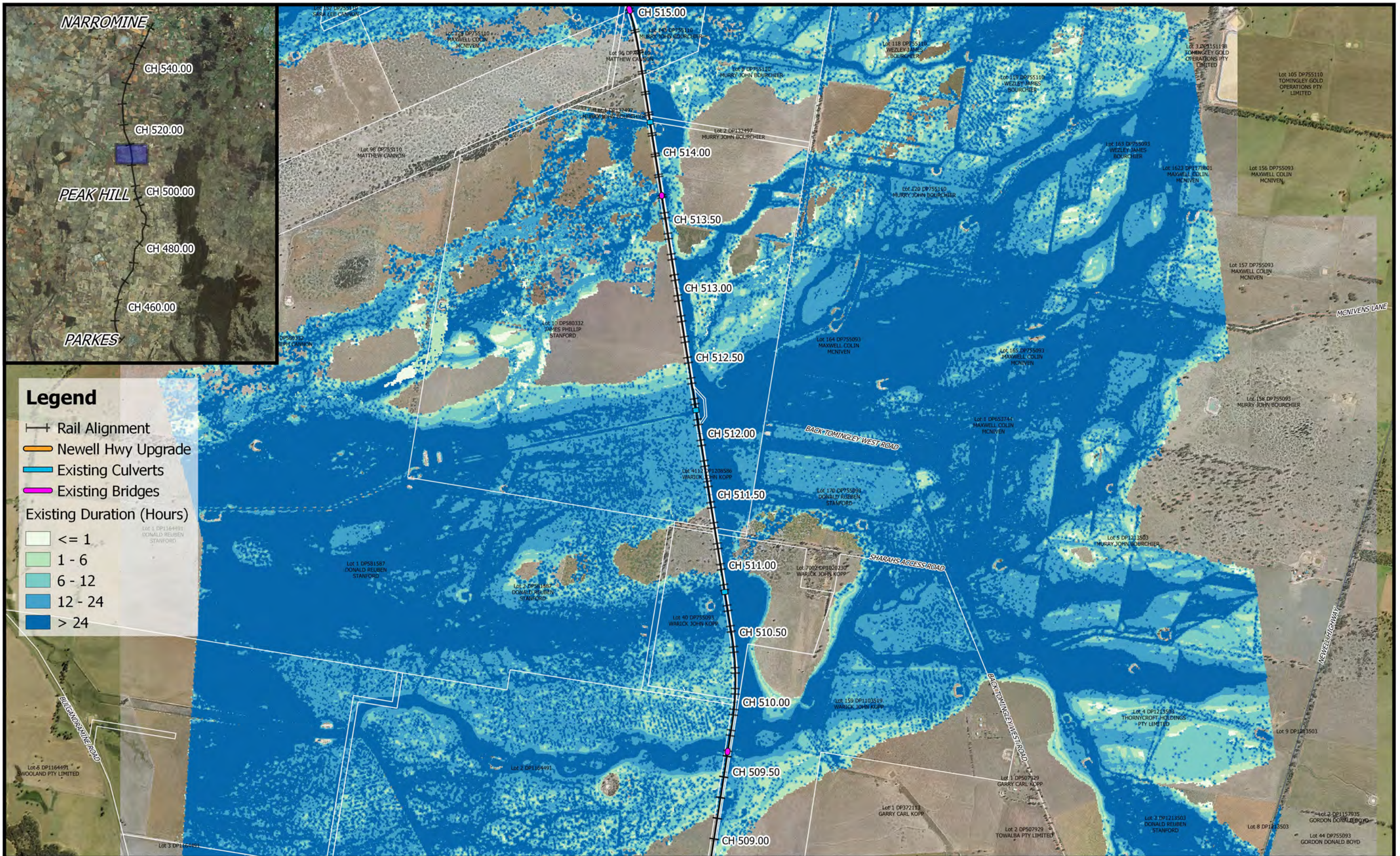
**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<p>1:25,000</p>		Date: 18/7/2018	<p><b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D15</b> 5% AEP Existing Flood Duration - CH 510.00</p>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			

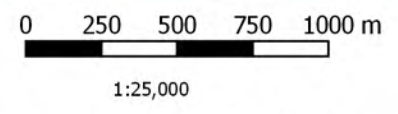


**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

**Existing Duration (Hours)**

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24



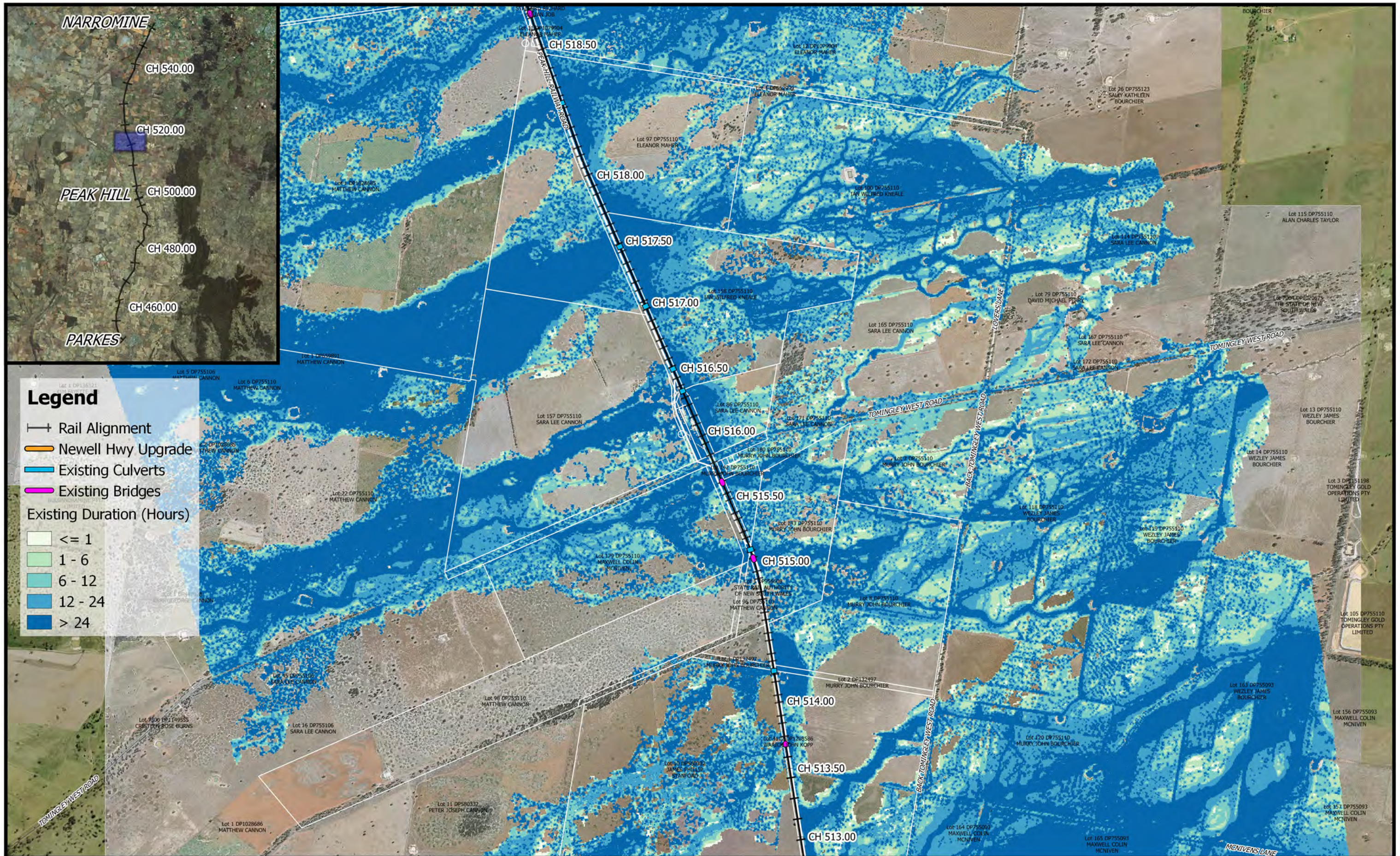
Coordinate system: GDA 1994 MGA Zone 55  
Scale ratio correct when printed at A3



Date: 18/7/2018  
Rev: A  
Prepared By: YeohM

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

**Figure EX5D16**  
5% AEP Existing Flood Duration - CH 512.00



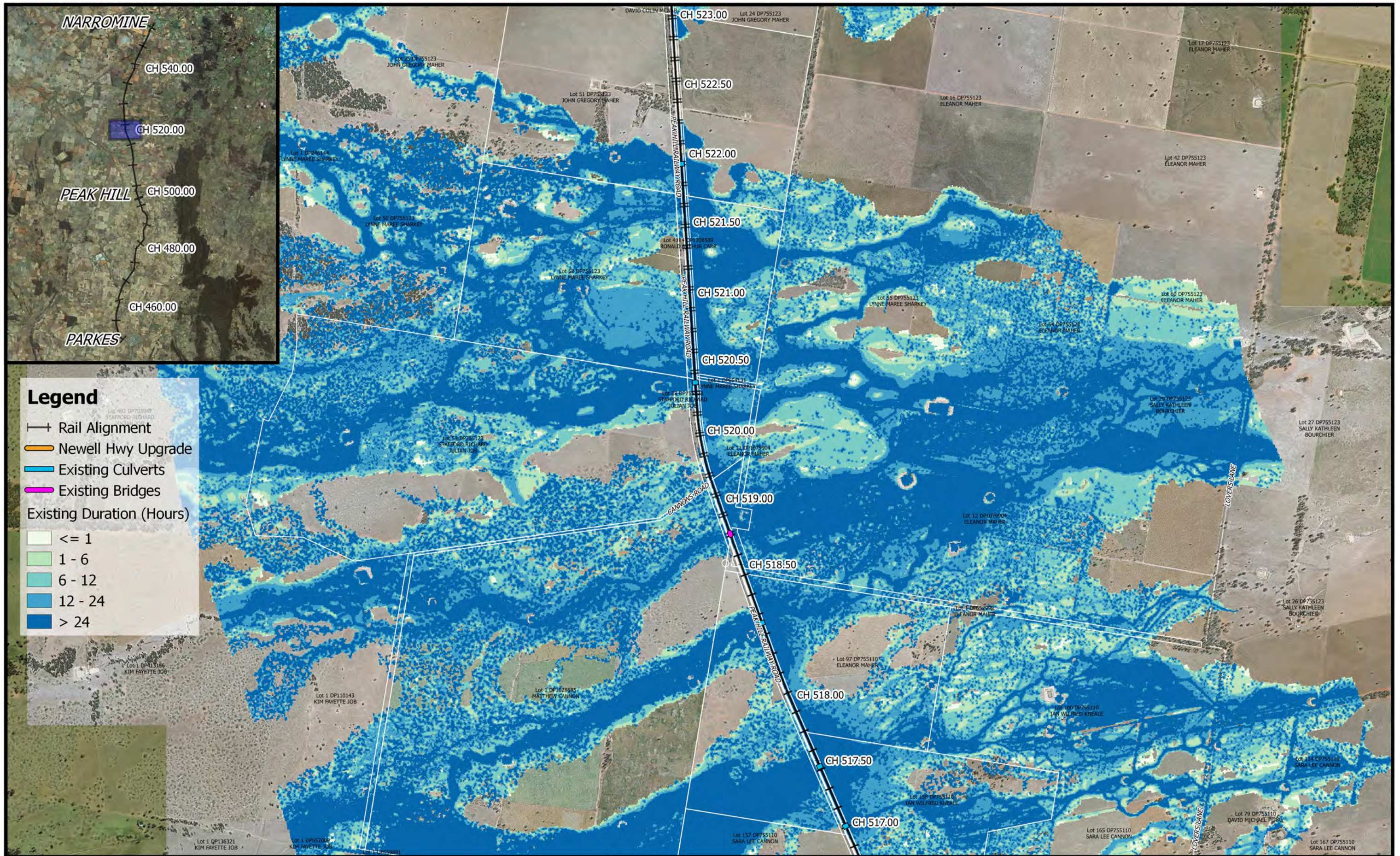
**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

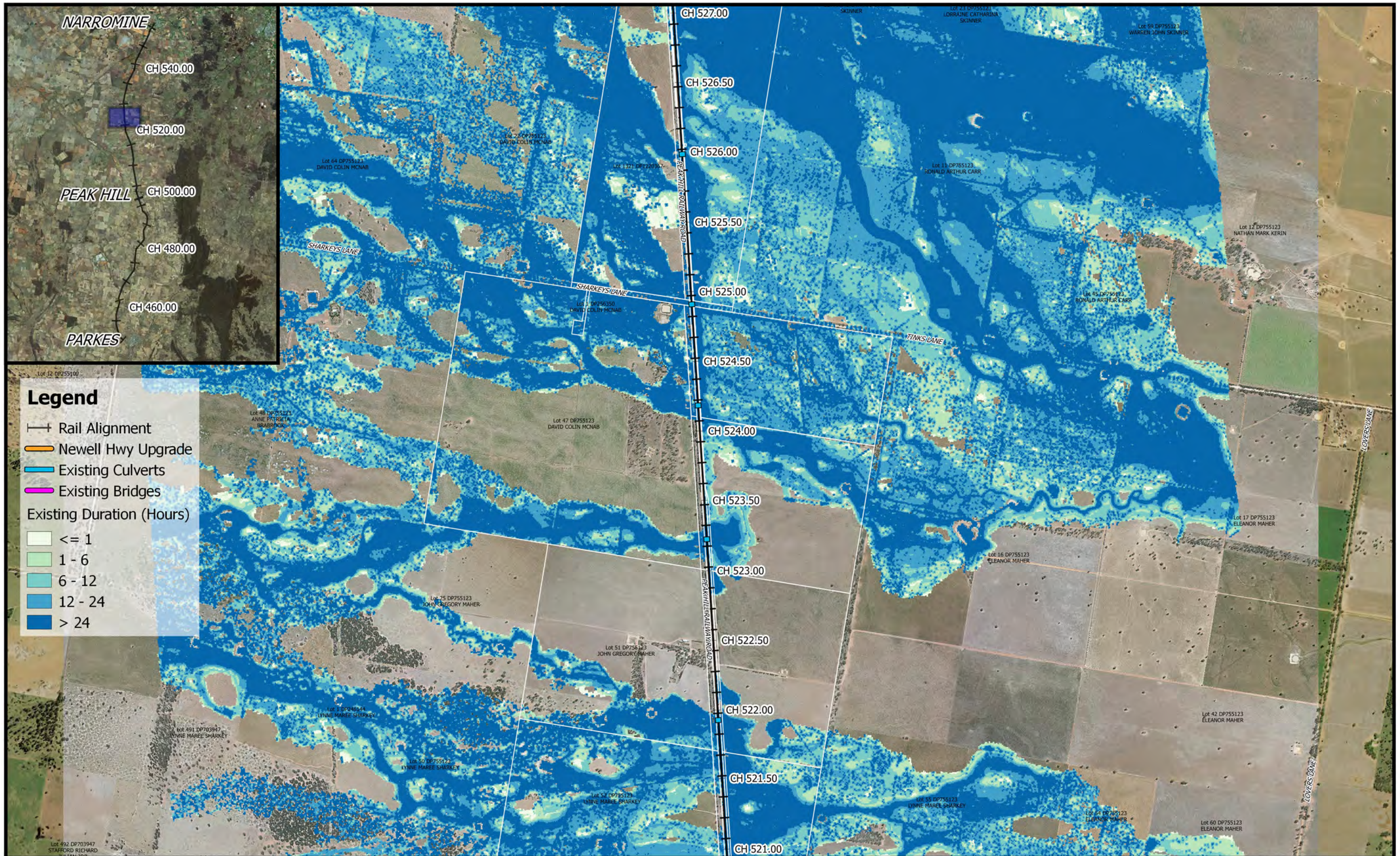
Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<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: 18/7/2018	<p><b>Parkes to Narromine</b></p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D17</b></p> <p><i>5% AEP Existing Flood Duration - CH 515.00</i></p>
	Rev: A			
	Prepared By: YeohM			



	 1:25,000 Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Date: 18/7/2018	<b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results <b>Figure EX5D18</b> 5% AEP Existing Flood Duration - CH 520.00
			Rev: A	
			Prepared By: YeohM	



**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges
- Existing Duration (Hours)
- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24



0 250 500 750 1000 m  
1:25,000

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



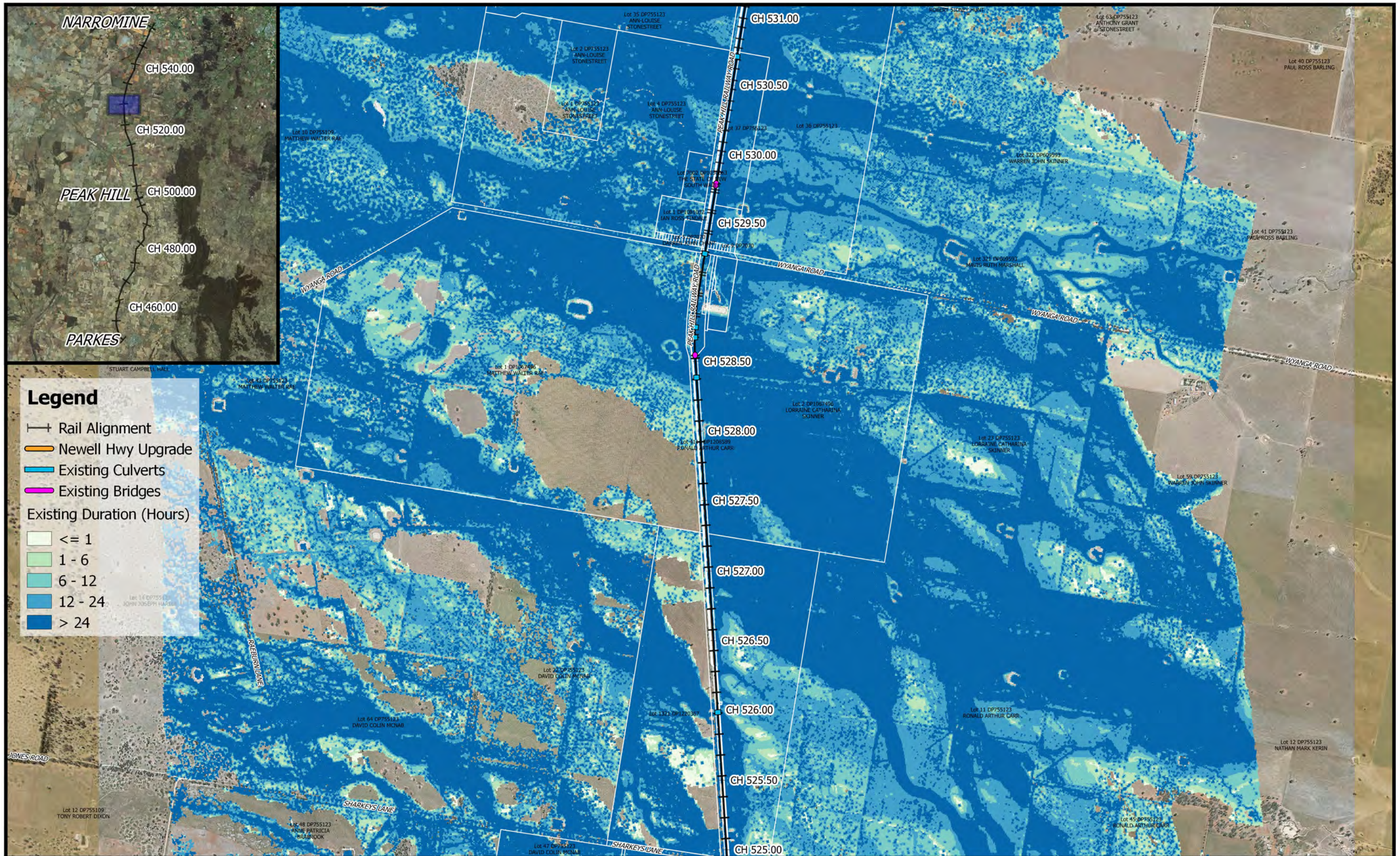
Date: 18/7/2018

Rev: A

Prepared By: YeohM

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

**Figure EX5D19**  
5% AEP Existing Flood Duration - CH 525.00



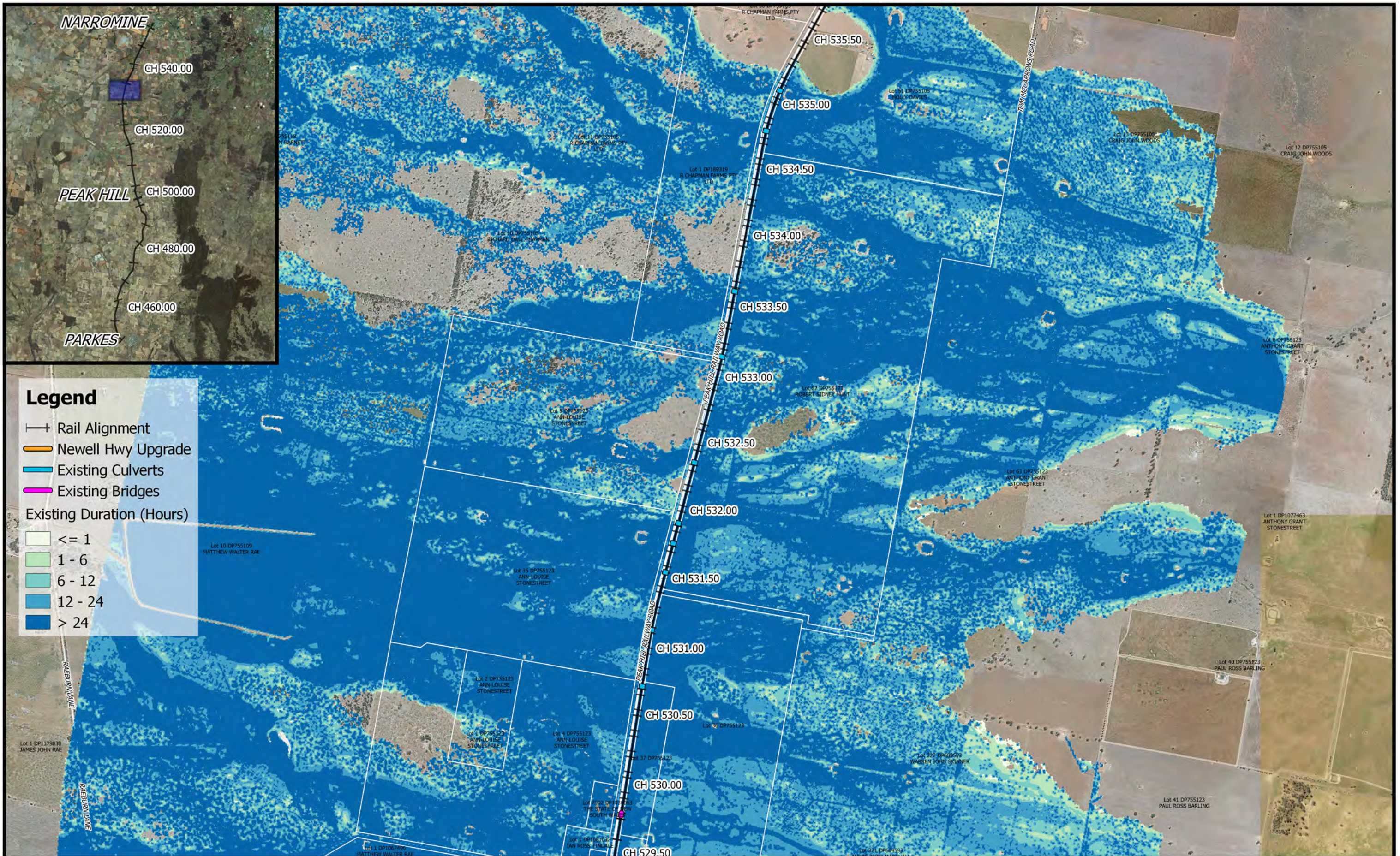
**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

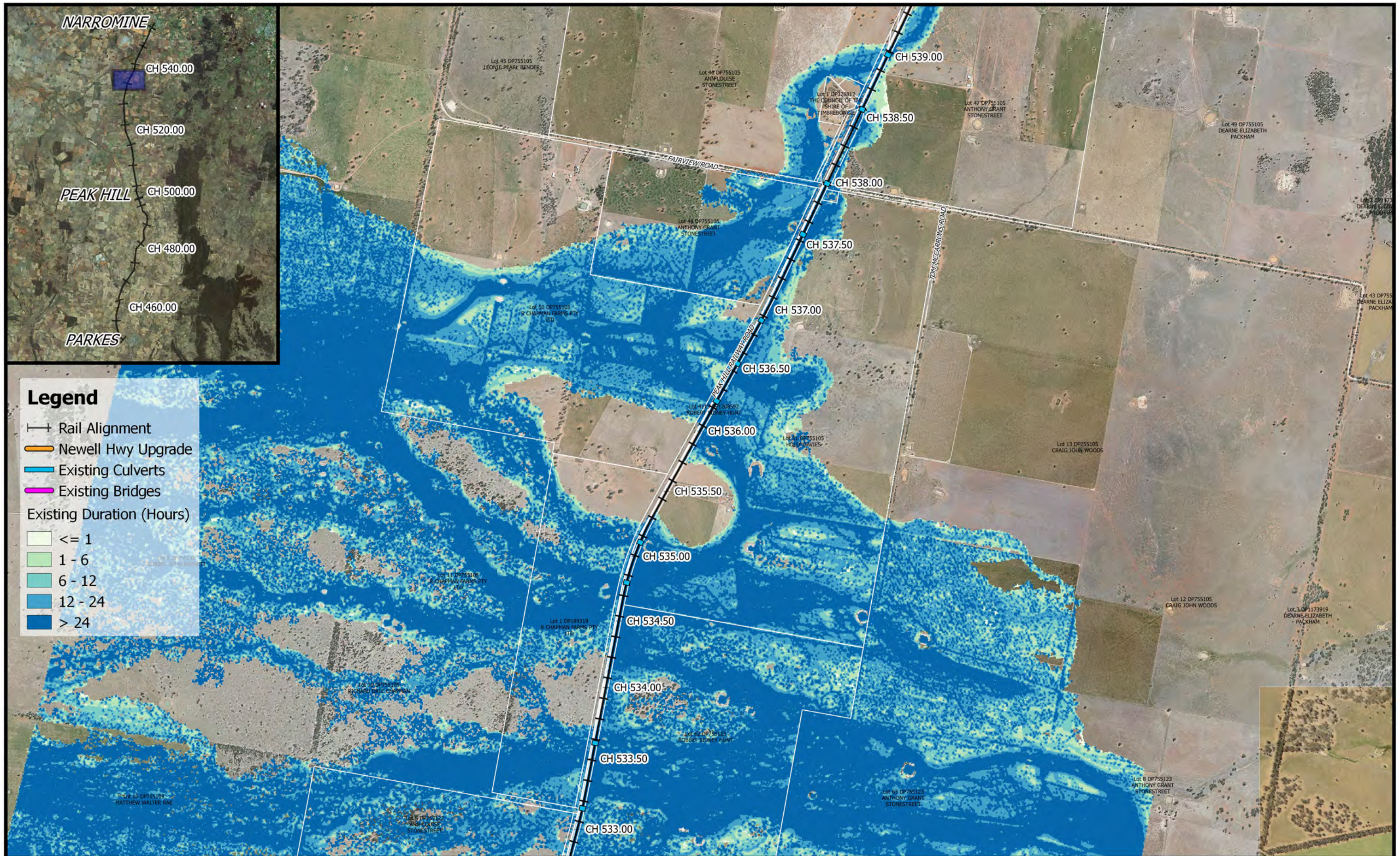
Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	<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: 18/7/2018	<p><b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D20</b> 5% AEP Existing Flood Duration - CH 530.00</p>
	Rev: A			
	Prepared By: YeohM			

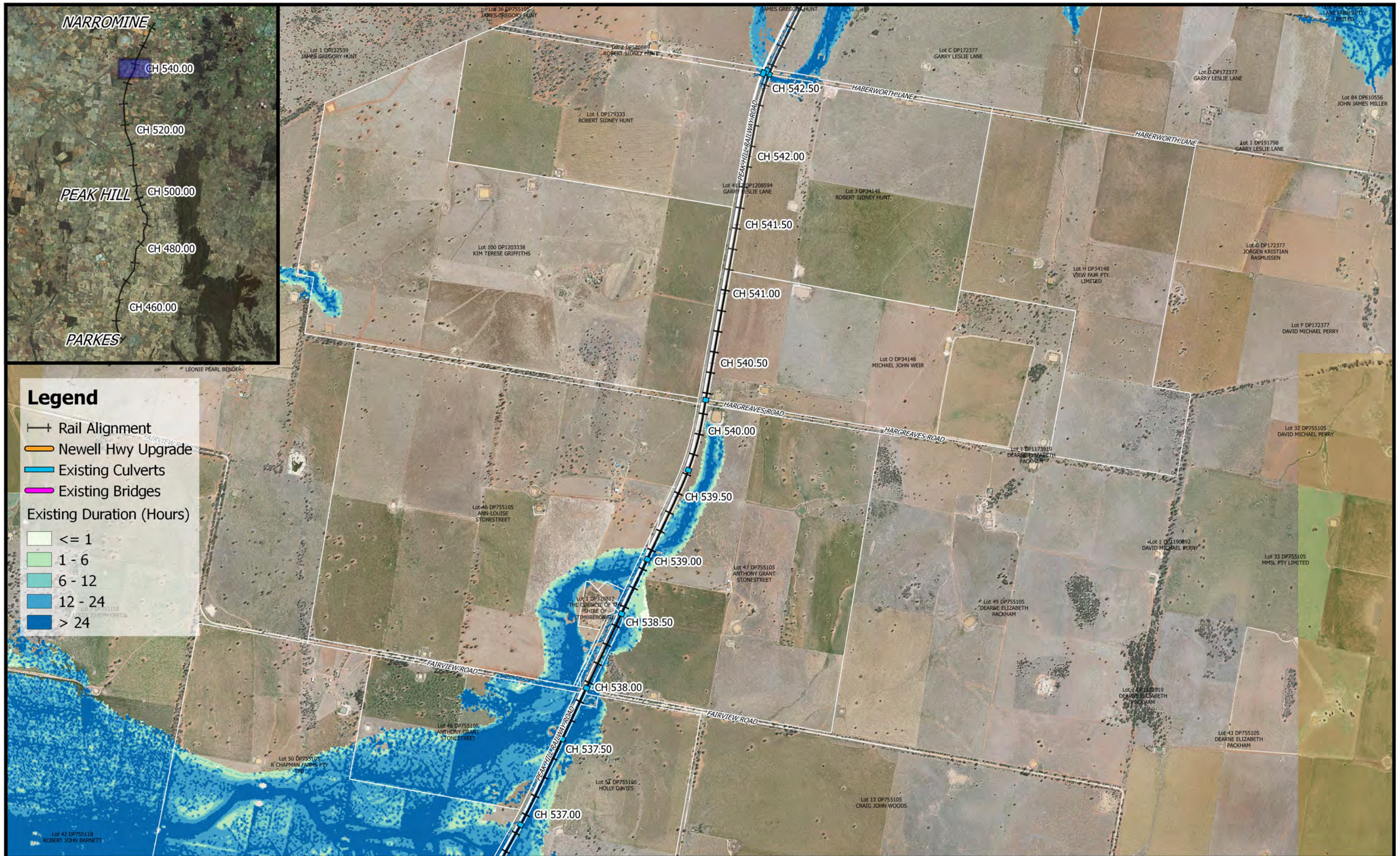


	0 250 500 750 1000 m 1:25,000 Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Date: 18/7/2018	<b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results <b>Figure EX5D21</b> 5% AEP Existing Flood Duration - CH 533.00
	Rev: A			
	Prepared By: YeohM			



	 1:25,000 Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Date: 18/7/2018	<b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results <b>Figure EX5D22</b> 5% AEP Existing Flood Duration - CH 535.00
			Rev: A	
			Prepared By: YeohM	





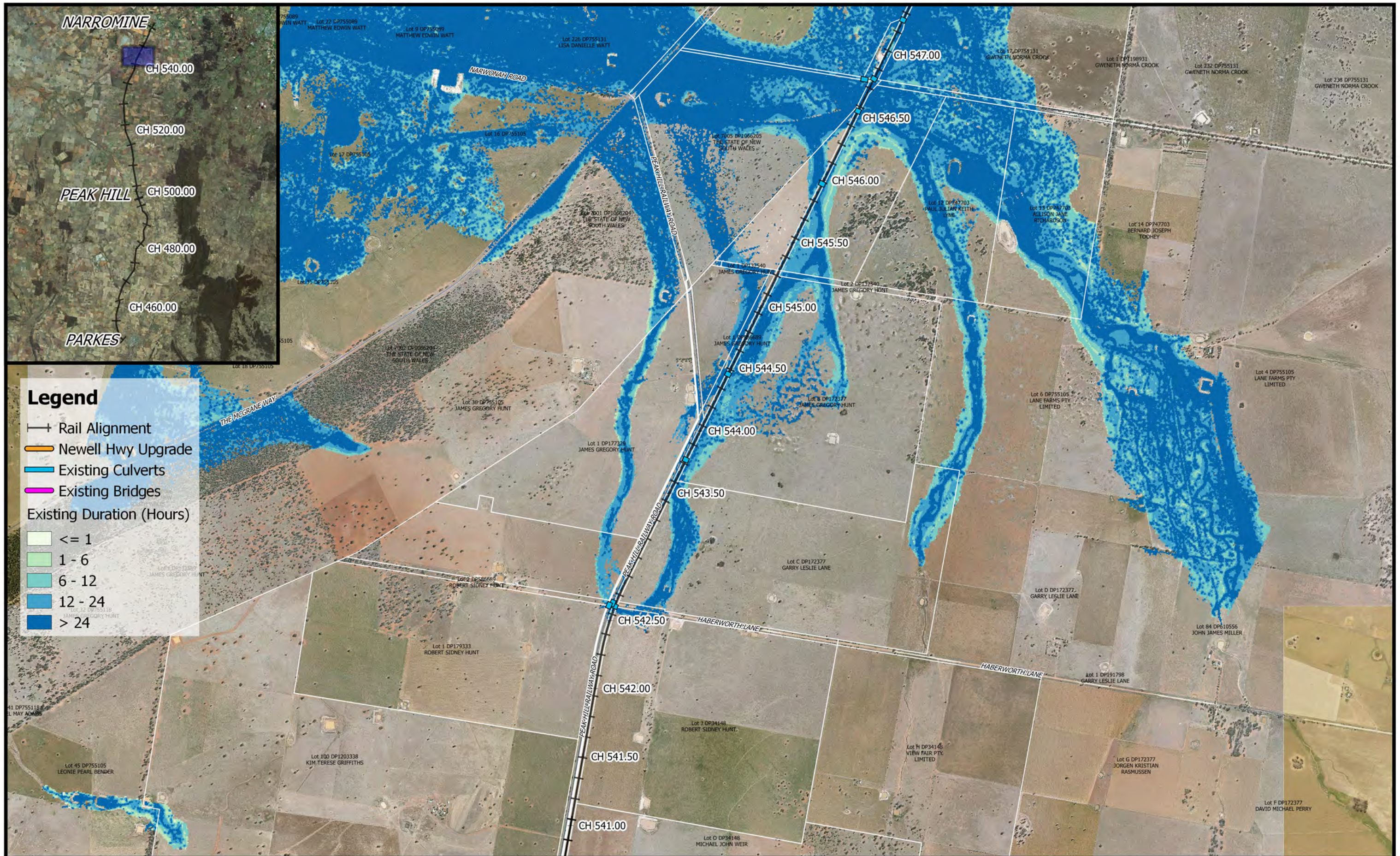
**Legend**

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	 1:25,000 Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Date: 18/7/2018 Rev: A Prepared By: YeohM	<p><b>Parkes to Narromine</b>          DD100% - Cross Drainage Flood Impact Assessment Results</p> <p><b>Figure EX5D23</b>          5% AEP Existing Flood Duration - CH 540.00</p>
--	---	--	---	--



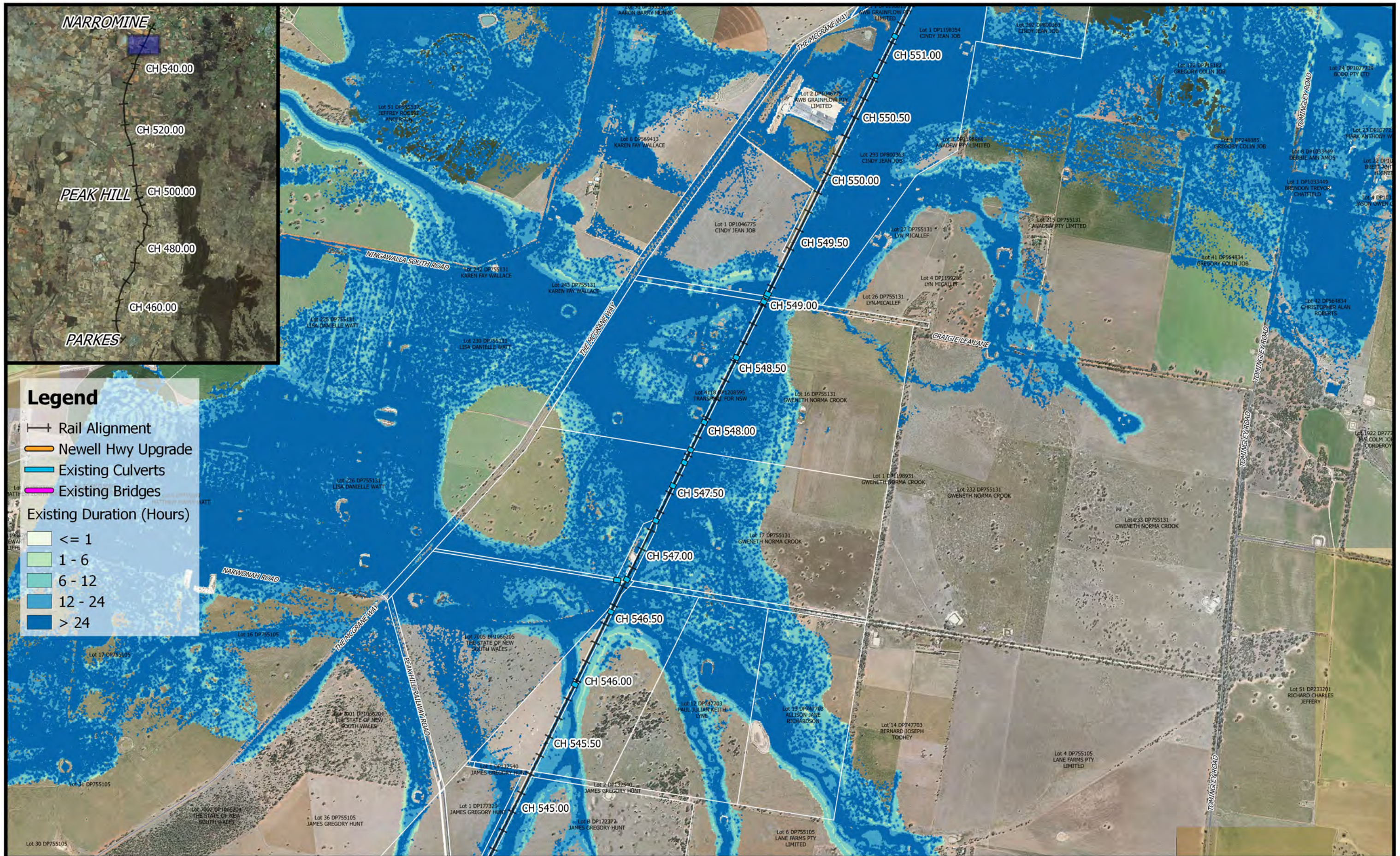
**Legend**

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Duration (Hours)

- <= 1
- 1 - 6
- 6 - 12
- 12 - 24
- > 24

	 1:25,000 Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Date: 18/7/2018 Rev: A Prepared By: YeohM	<b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results <b>Figure EX5D24</b> 5% AEP Existing Flood Duration - CH 545.00
--	---	--	---	---



	 1:25,000		Date: 18/7/2018	<b>Parkes to Narromine</b> DD100% - Cross Drainage Flood Impact Assessment Results <b>Figure EX5D25</b> 5% AEP Existing Flood Duration - CH 550.00
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			